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COVID-19 Infection Risk and Vaccine Allocation Models: AI/ML and SAS Viya for Nursing Homes

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Roughly 40 percent of COVID-19 deaths have been among residents and staff of nursing homes and other long-term care facilities in the US. Roughly 787,000 people have been infected, resulting in at least 106,000 deaths as of December 4, 2020, with facilities housing higher proportions of Black and Hispanic residents experiencing more severe outbreaks and higher mortality rates from COVID-19.[1] Though vaccine distribution is well underway, facilities still need supplies to reduce infection spread such as masks, sanitizer, and gloves for those who are not yet vaccinated, cannot receive the vaccine or choose not to, and those who may become infected and experience symptoms despite being vaccinated ("breakthrough" cases).

This project aims to identify nursing homes at high-risk of future infection and mortality in order to both make recommendations regarding the allocation of resources for testing and personal protective equipment and operationalize equitable vaccine distribution strategies, through an interactive dashboard for health officials and CMS analysts.

The team constructed machine learning models to predict nursing home infection and mortality rates based on multiple data sets covering COVID-19 infections and mortality among nursing home residents and those in surrounding communities, nursing home resident demographics/acuity and community social vulnerability, and nursing home provider quality/staffing/deficiency data. The team applied natural language processing techniques to nursing homes' textual inspection reports, demonstrating that they have some predictive potential, and provide a streamlined way for investigators to review past reports.

The models ultimately did not provide enough predictive capability such that we felt confident staking a recommendation on their outputs, so the team constructed the interactive dashboard in SAS Visual Analytics using only the Group-Based Trajectory model that clusters historic infection trends (as opposed to a predictive model) and aligned each component with our three use cases of Targeting, Investigation, and Intervention.[2] This interactive dashboard combines all of our research into a practical, useful tool to visualize complex problems and identify actionable solutions in a rapidly changing environment.

We also produced what may be the only publicly available data processing pipeline that links COVID-19 in nursing homes with shares of Black and Hispanic residents, community social vulnerability, and any markers of Tribal affiliation or indigenous resident shares at the national level. Given COVID-19's disproportionate impact on these groups, these data processing and analysis tools are crucial for making equitable vaccine allocation decisions.

I. Introduction: Description of Problem and Context

Since the outbreak of COVID-19 in the United States, roughly 40 percent of COVID-19 deaths have been among residents and staff of nursing homes and other long-term care facilities in the US. As of December 4, 2020, COVID-19 has infected more than 787,000 people at some 28,000 facilities, resulting in at least 106,000 deaths.[3] Vaccine distribution is underway starting December 2020, but facilities still need supplies to reduce infection spread through the fall surge and beyond.

There are also stark racial disparities among nursing homes. A recent study from the Kaiser Family Foundation found that nursing homes with 20 percent or more Black or Hispanic residents reported more severe outbreaks and were more likely to have at least one COVID-19

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1 The New York Times, "About 38 percent of U.S. Coronavirus Deaths Are Linked to Nursing Homes," *New York Times*, 2020, accessed December 18, 2020, https://www.nytimes.com/interactive/2020/us/coronavirus-nursing-homes.html.

2 Bobby Jones and Daniel S. Nagin, "A Note on a Stata Plugin for Estimating Group-Based Trajectory Models," *Sociological Methods & Research* 42, no. 4 (November 2013): 608–13. https://doi.org/10.1177/0049124113503141.

3 The New York Times, "About 38 percent of U.S. Coronavirus Deaths Are Linked to Nursing Homes," *New York Times,* 2020, accessed December 18, 2020, https://www.nytimes.com/interactive/2020/us/coronavirus-nursing-homes.html.

death than facilities with lower proportions of Black or Hispanic residents.[4] The US healthcare system has long marginalized people of color. The COVID-19 pandemic is demonstrating deadly results among Black, Hispanic, American Indian, and Alaska Native populations, and certain Asian and Native Hawaiian/Pacific Islander populations groups who have disproportionately high rates of infection, hospitalization, and death.[5] Therefore we consider it our responsibility to integrate the disproportionate impact on nursing home residents of color into our analysis.

There is uncertainty about which nursing homes will have outbreaks and high COVID-19 infection rates in the near future, and which will face the highest mortality rates if residents are exposed. This makes it difficult for state and local governments to effectively target and prioritize the distribution of testing supplies and personal protective equipment (PPE) to the highest-risk facilities.

Vaccine allocation is set by state governments, while distribution and dose administration to nursing home residents are handled by private partner pharmacies, CVS and Walgreens, through a partnership with the Center for Disease Control. In many states, it is unclear whether officials have considered nursing home resident demographics or community social vulnerability when determining which facilities would receive vaccine doses first in the event of limited supply, which could potentially exacerbate racial/ethnic disparities.

This project is a proof of concept for approaching these issues using available data, tools, and technology to identify nursing homes at high-risk of infection and mortality to recommend priority distribution of testing supplies, PPE, and COVID-19 vaccines.

II. Objectives

After carefully examining the project timeline and the students' collective skill set, the team decided on three major project goals to accomplish. These

deliverables will be handed off to our client in the form of a data processing/Machine Learning pipeline and an interactive dashboard product powered by SAS Viya/ SAS Visual Analytics.

1. Targeting: The team will use machine learning techniques to identify nursing homes at high risk of COVID-19 infection and mortality to support them with resources such as testing supplies and PPE.

2. Investigation: The team will extract, analyze, and summarize information from past CMS inspection reports, including narrative text descriptions of nursing home conditions and investigations of deficiencies, for a more efficient review by CMS investigators and to explore nursing homes issues related to COVID-19 policymaking.

3. Intervention: The team will design and implement a web dashboard component that can operationalize equitable vaccine allocation strategies and visualize the results/recommendations from the Targeting and Investigation objectives.

III. Scope Summary

In order to reach the objectives and provide the proof of concept, we combined eight datasets to create machine learning models and the interactive dashboard. The machine learning models were made to target nursing home facilities most at risk of COVID-19 infection/mortality. The dashboard was made to facilitate real-time decision-making for allocation of vaccines and testing/PPE resources. The models and dashboard all reflect and align with the use cases of Targeting, Investigation, and Intervention. The project was conducted over the course of 4 months in the fall of 2020. The team consulted experts in their respective fields to address any limitations within the implementation framework.

Modeling was an iterative process – we started with simple algorithms and progressed to more advanced methods, but ultimately even the most complex models did not provide enough predictive capability that we felt confident staking a recommendation on their outputs. Therefore, we constructed our interactive dashboard in SAS Visual Analytics using the Group-Based Trajectory model that clusters historic infection trends (as opposed to a predictive model) and aligned each component with our three use cases.

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4 Priya Chidambaram, Tricia Neuman, and Rachel Garfield, "Racial and Ethnic Disparities in COVID-19 Cases and Deaths in Nursing Homes," Kaiser Family Foundation, October 27, 2020, accessed December 09, 2020, https://www.kff.org/coronavirus-covid-19/issue-brief/racial-and-ethnic-disparities-in-covid-19-cases-and-deaths-in-nursing-homes/.

5 Samanthat Artiga, Bradley Corallo, and Olivia Pham, "Racial disparities in covid-19: Key findings from available data and analysis," Kaiser Family Foundation, August 17, 2020, accessed April 06, 2021, https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-covid-19-key-findings-available-data-analysis/.

IV. Data Sources & Pipeline

1. CMS Facility COVID-19 (2020): The Centers for Medicare and Medicaid Services COVID-19 Nursing Home dataset is a publicly available dataset. The dataset provides weekly data on COVID-19 in each nursing home, including infections and deaths among residents and staff, COVID-19 resident admissions, testing capacity and the use of testing as surveillance and following suspected/confirmed infections, personal protective equipment supply, and staffing. The data was collected from May 24, 2020, through November 29, 2020, as of this paper's compilation. The lack of data before May 24 is a significant limitation of this dataset as we could not adequately assess patterns during the initial spring surge. In addition, much of the data collected was considered unreliable for longitudinal analysis because CMS flagged it for poor quality as nursing homes were adjusting to provide this level of data on a weekly basis. We followed CMS's data quality recommendation and separated out May 24, 2020 data in our modeling, feature engineering, and the dashboard. Some features were engineered using June 21, 2020 as a reference date for this reason (see "Notes on Dependent Variables and Dashboard Variables*" section. for details. Some missing values were also imputed (see "Hybrid Modeling – Combine Structured and Unstructured Data" section for details). (*Source:* "COVID-19 Nursing Home Dataset," Centers for Medicare & Medicaid Services (CMS), 2020, https://data.cms.gov/Special-Programs-Initiatives-COVID-19-Nursing-Home/COVID-19-Nursing-Home-Dataset/s2uc-8wxp.)

2. LTCFocus (2017): The Brown School of Public Health Long Term Care Focus (LTCFocus) dataset is a publicly available dataset. The dataset contains information about resident demographics aggregated at the facility level from 2017, showcasing the share of residents by race/ethnicity (White, Black, & Hispanic only), average resident acuity, and average resident age. The dataset also contained features allowing a review of any specialty care the facility may provide. The dataset was used for the model of this project as well as the dashboard deliverable. One limitation to note was that that the data available was from 2017, whereas the COVID-19 dataset was from 2020. Another slight limitation is that it did not contain any information that pertained to small numbers of residents (1-11 specifically) to maintain confidentiality of personal identifiers, per an arrangement with CMS. Such values were replaced with "LNE" in the original dataset. For our modeling process, we imputed those values based on the size of the facility (see Modeling Codebook for details). In the dashboard, we treated them as "missing." (*Source:* "Shaping Long Term Care in America Project at Brown University funded in part by the National Institute on Aging" (1P01AG027296), LTCFocus, http://ltcfocus.org/1/about-us.)

3. Provider Information (2020): The Centers for Medicare and Medicaid Services Provider Information is a publicly available dataset. The Provider Information dataset includes information on active nursing home quality measures, facility ownership type, staffing of specialized roles such as registered nurses, as well as staff ratings as an aggregate for each nursing home. The Provider Information dataset provides a comparison between each nursing home based on various rating scales. The dataset is used in the modeling and the dashboard components of the deliverables to add additional features to compare between nursing homes. There were missing numerical values in the original dataset. For modeling purposes, the team used a K Nearest Neighbour Imputation method to fill those missing values. (*Source:* "Provider Information," Centers for Medicare & Medicaid Services (CMS), 2019, https://data.cms.gov/provider-data/dataset/4pq5-n9py.)

4. *CMS Inspection Reports (2019): The Centers for Medicare and Medicaid Services Inspection Text Report is a publicly available dataset. The dataset used for this project was from 2019 and covered inspection reports from the nursing homes that had an inspection during the 2019 cycle. The data reports the presence and severity of deficiencies – specific Federal requirements that the facility did not meet – including environmental factors, abuse/neglect, and quality of life. The dataset was used in modeling to determine if there is a relationship between certain deficiencies and incidences of COVID-19 infection. In the dashboard, the dataset facilitated comparison of facilities based on inspection records as well as demonstrate the utility of text summarization for CMS analysts and investigators. (*Source:* "Nursing Home Inspect," ProPublica, accessed December 3, 2020, https://projects.propublica.org/nursing-homes/summary.)

*****Note:** *For reasons unknown, we are unable to find the exact dataset presented to us by our client. Our codebooks/pipeline incorporate the original copy provided to us by our client. However, we were able to locate a citation for inspection texts that are not a replica given to us by the client, but still have inspection reports.*
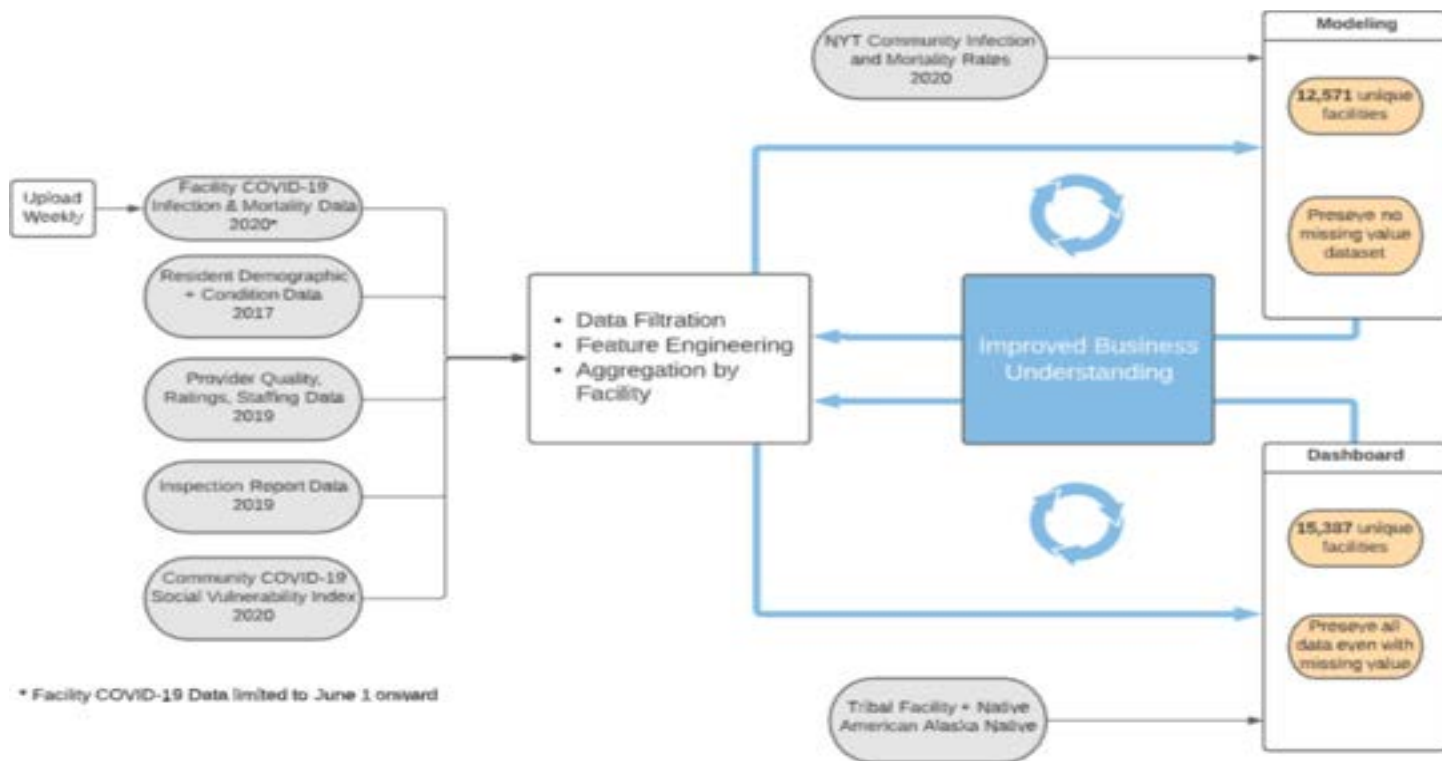
Figure 1. Data Processing Pipeline

5. New York Times COVID-19: The *New York Times* Community Infection and Mortality Rates dataset is a publicly available dataset. The dataset is updated frequently to reflect real-time COVID-19 infections and mortalities throughout the community. The Community Infection and Mortality Rates dataset provided insight as to how the communities surrounding nursing home facilities were impacted by COVID-19 and how the infections and mortalities within the community impact nursing home residents. The Community Infection and Mortality Rates dataset along with the COVID-19 Nursing Home dataset allowed our model to be timely and current with the ever-changing trends in COVID-19 infections and mortalities.*(Source:* "Coronavirus (Covid-19) Data in the United States," *New York Times,* 2020, accessed November 15, 2020, contained data from June 5, 2020 through November 15, 2020, https://github.com/nytimes/covid-19-data.)

6. COVID-19 Community Social Vulnerability Index (2020)*: The Community COVID-19 Social Vulnerability Index is a publicly available dataset. This dataset is a powerful tool to examine which communities may be most vulnerable and why in terms of COVID-19 infections and mortalities. The Community COVID-19 Social Vulnerability Index measures the impact of COVID-19 at a county level and provides a more in-depth analysis of equitable vaccine distribution than just the COVID-19 Nursing Home and Community Infection

Mortality Rates datasets alone. *(Source:* "Bringing Greater Precision to the COVID-19 Response," Surgo Ventures, 2020, accessed November 15, 2020, https://precisionforcovid.org/.)
*Note: For reasons unknown, this dataset is now offline. Our codebooks/pipeline incorporate the original copy downloaded from the above source.

7. Tribal Nursing Home & Assisted Living Facility Directory (2020): The Tribal Nursing Home and Assisted Living Facility Directory is a public document that we turned into a small dataset. We included it to account for COVID-19's disproportionate impact on indigenous communities in the US and to provide a mechanism through which to prioritize them for vaccine distribution. This data was used exclusively for the interactive dashboard, it was not used for modeling. *(Source:* "Tribal Nursing Home & Assisted Living Facility Directory," Department of Health & Human Services, and Centers for Medicare & Medicaid Services, 2020, accessed December 19, 2020, https://www.cms.gov/files/document/2020-directory-tribal-nursing-homes-assisted-living-facilities.pdf.)

8. Home Health, Hospice, SNF, IRF, and LTCH Provider Table (2017): The Centers for Medicare and Medicaid Services Home Health, Hospice, SNF, IRF, and LTCH Provider Table is a publicly available dataset.

It contains demographic information on select CMS facilities. We used it to augment the Tribal Nursing Home collaborative facilities list with additional facilities that recorded over 10 percent Native American/Alaska Native residents. This data was used exclusively for the interactive dashboard and was not used for modeling. *(Source:* "Home Health, Hospice, SNF, IRF and LTCH Provider Table," Centers for Medicare & Medicaid Services, CY 2017, https://data.cms.gov/Medicare-Hospice/Home-Health-Hospice-SNF-IRF-and-LTCH-Provider-Tabl/44n3-jbm8.)

Data Processing Pipeline

Data sources one through six were joined by a combination of Federal Provider ID, five-digit FIPS code (COVID-19 Social Vulnerability Index and NYT community infection and mortality). They were then processed, imputed, and feature engineered for our predictive modeling (additional details provided in modeling section). As we evaluated the model results, we developed a better understanding of the data and progressed through multiple iterations.

The majority of the data processing and modeling was done using the open-source program Python, augmented by Amazon Web Services (AWS) for the Natural Language Processing (NLP) of inspection text data.

For the interactive dashboard, we preserved the original, un-imputed values from each dataset for accurate reporting purposes and added data from sources seven and eight related to Tribal facilities and those with Native American/Alaska Native residents.

V. Interview Insights

- **Michal Balass, Centers for Medicare and Medicaid Services:** Michal Balass provided the team with both insights about the project's dependent variable as well as necessary resources to expand some limitations within the dataset. Michal's insight as an employee of CMS allowed the team to ask specific questions about life versus life years, best practice of adding a more in-depth staff analysis, and the limitations of the demographic breakdown CMS provides within their datasets. She also provided insights on which features might be important for determining COVID-19 vaccine allocation, including the number of residents in the facility, social vulnerability, and resident acuity.

- **Nancy Zionts, Jewish Healthcare Foundation:** Nancy Zionts provided valuable information on the state of COVID-19 in Pennsylvania nursing homes, including the prevalence of infection among facilities regardless of CMS Quality Rating levels and the importance of staff as disease vectors. She also provided feedback on the important features that were likely missing from our dataset, including number of staff in facilities, number of staff working in multiple facilities, and cross-ward work protocols and their impact on infection spread. Finally, she emphasized that vaccines alone cannot prevent infection in nursing homes, in part because of the lag between administration and full resistance. This prompted a renewed focus on the importance of PPE and testing capacity in facilities.

- **Dr. Jonathan Caulkins, Carnegie Mellon University:** Jonathan Caulkins is a professor of Management Science at Heinz College. Two students from this project are attending Multi Criteria Decision Making course and felt his expertise would allow us to develop a more thorough approach to equitable vaccine allocation. The team presented their current findings and Professor Caulkins noted the current model is focused on an effective distribution of the COVID-19 vaccine with very little weight on equitable distribution of vaccines. Ultimately with his questions and criticism, we identified a path in our project to add a proof of concept for an equitable COVID-19 vaccine distribution within the dashboard.

- **Rich Figallo, iCareNetwork:** Rich Figallo of iCareNetwork presented a basic overview of Medicare, Medicaid, and skilled nursing facility concepts and terminology to our team early in the project. He also participated in a one-on-one session where he provided feedback on manual feature selection based on domain knowledge, including which features from the LTCFocus and Provider Information datasets might be related to COVID-19 infection mortality and why.

- **Ed Mortimer, Centers for Medicare and Medicaid Services (former):** Ed Mortimer provided valuable insight into CMS's decision-making process and how the agency approaches questions of equity.

VI. Modeling Process and Results

This section describes the machine learning and predictive modeling process the team went through to try and identify nursing homes at high risk of COVID-19 infection and mortality.

Notes on Dependent Variables and Dashboard Variables*

Over the course of this project, we experimented with multiple dependent "target" variables for our modeling, analysis, and interactive dashboard. See specific models for which dependent variables were used in each case. Each variable captures a different aspect of the complex COVID-19 dynamic in nursing homes. Any future analysis should carefully consider these when selecting target variables.

1. ***Number of resident confirmed COVID-19 cases:*** Can capture number of residents affected by COVID-19, but may mask the impact in smaller facilities whose infections cannot compare to those of larger facilities by simple numbers.

2. ***Average weekly infections per resident (# occupied beds):*** Can capture the prevalence of COVID-19 infections across facilities of all sizes, but may mask incidence of infection in large facilities. For example: 10 percent infection rate in a facility with 500 residents is objectively more concerning than a 10 percent infection rate in a facility with ten residents.

3. ***Average weekly deaths per resident (# occupied beds):*** Similar to number of resident confirmed COVID-19 cases variable above, but with respect to deaths.

4. ***Cumulative case fatality ratio 1/1/2020 through most recent week:*** This is calculated by the total confirmed COVID-19 deaths in respective facilities, divided by the total confirmed COVID-19 cases and admissions. A limitation of this variable was that a lack of testing in the first several months of the pandemic likely depressed the number of confirmed infections in the denominator, effectively inflating the case fatality ratio.

5. ***Cumulative case fatality ratio 6/21/2020 through most recent week:*** This is calculated by the total confirmed COVID-19 deaths in respective facilities, divided by the total confirmed COVID-19 cases and admissions. This variable was designed to remedy the above issue with the January 2020 version above. Selected was June, 21, 2020 as reference date because it had the lowest number of facilities whose data did not pass the CMS Quality Assurance Check in the month of June (data flagged by CMS for poor quality/ errors) and could not have this value calculated.

*Note: *These variables only include resident infections and deaths. Unfortunately, we could not include staff in any of the ratio variables because CMS did not collect data on the number of staff in each facility, making it impossible to include them in the denominators.*

Unstructured Text Data Modeling

Natural Language Processing (NLP) in artificial intelligence helps computers process, understand, interpret, and manipulate human language. For NLP, we first cleaned and preprocess our data. Next, we summarized the long narratives, which were comprised of multi-page descriptions of nursing home conditions and interactions between staff and residents. There are two reasons: (1) It is too long to feed into the model and (2) We want to help readers refine the narratives so that they can quickly capture the key information without spending a long time reading the whole passage. After this step, we applied the topic modeling to choose an embedding method.

Utilizing this method, we conducted a sentiment analysis to understand the value of the narratives. Finally, we applied CNN and BERT to predict the average mortality rate for each

1. ***Text Pre-processing:***
   - Case normalization
   - HTML Tag removal
   - Special Symbol removal
   - Punctuation removal
   - Stopwords removal
   - Frequent words removal
   - Rare words removal
   - Tokenization
   - Stemming
   - Lemmatization

2. Text Summarization

a. *LSA:* LSA is designed to summarize the text and make it "readable" for machines. That is to say, punctuation words are removed, and the words then are tokenized and lemmatized. For each text, we retained the top three important sentences.

b. *TextRank:* This is for the use case of a dashboard. Therefore, we keep the original format of sentences. For each text, we retained the top 20 percent of important sentences. Therefore, the number of sentences may vary depending on their original lengths.

3. Topic Modeling:

The purpose of Topic Modeling was to determine whether Machine Learning could effectively match narrative text to the appropriate CMS Deficiency Category (including Residents Rights Deficiencies and Environmental Deficiencies).[6] To categorize each long inspection text narrative into different deficiency topics, we applied several embedding methods to capture key information or characteristics among sentences so that they can be utilized in later stages of the prediction process. For example, when considering an inspection text, the hope is to classify the category of this inspection and using a specific algorithm to represent sentences as vectors. After clustering, we tried to find the 5 most similar inspection texts to test the performance. If more similar texts are in the same category, the embedding method is better. For Topic Modeling, we applied Doc2Vec, SentenceBERT, InferSent, and Universal Sentence Encoder. Among these methods, BERT and USE outperformed the other models (see *"Appendix A: Topic Modeling")*.

4. Mortality Prediction

a. *Sentiment Analysis*: To figure out the value of text data, we conducted a sentiment analysis. We sent the inspection text into a "sentiment analyzer" to compute a score. The positive score indicates that the nursing homes receive a mild complaint, and the negative score indicates the nursing homes received a serious complaint. We then calculated the correlation between the average sentiment score for each facility and the average mortality rate. The result of -0.17 indicates that sentiment score alone was not a strong predictor of COVID-19 mortality (slight negative correlation), but keywords and sentences extracted through Machine Learning demonstrated some predictive value.

b. *CNN*: Sentiment analysis told us that text data is useful, so we first tried Convolutional Neural Network (CNN) to make a prediction about Average weekly deaths per resident (# Occupied Beds). Although CNN is normally used in image setting, it can be applied in NLP as the sentence can be interpreted as a 1-dimensional image. The big advantage of CNN is it is fast given the limited budget and time in the mid-term. CNN's are also efficient in terms of representation and can learn good representations automatically, without needing to represent the whole vocabulary. The best accuracy for CNN is 62 percent.

c. *BERT:* In the second phase of the project, we used AWS to run the NLP model. We implemented an advanced model – BERT based on the previous topic modeling experiment to predict Average weekly deaths per resident (# Occupied Beds), one of the dependent variables being analyzed. The BERT model's key technical innovation is applying the bidirectional training of Transformer. BERT makes use of Transformer, an attention mechanism that learns contextual relations between words (or sub-words) in a text. With BERT, the highest accuracy reached 72 percent.

BERT showed the best result in predicting deaths per number of residents. However, it is designed for natural language processing solely and could not process any structured features. Therefore, in the hybrid model, we utilized another method called TF-IDF to transform the text data so that we could combine both structured and unstructured information.

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6 "Health Deficiencies," Centers for Medicare and Medicaid Services, last modified November 01, 2020, https://data.cms.gov/provider-data/dataset/r5ix-sfxw.
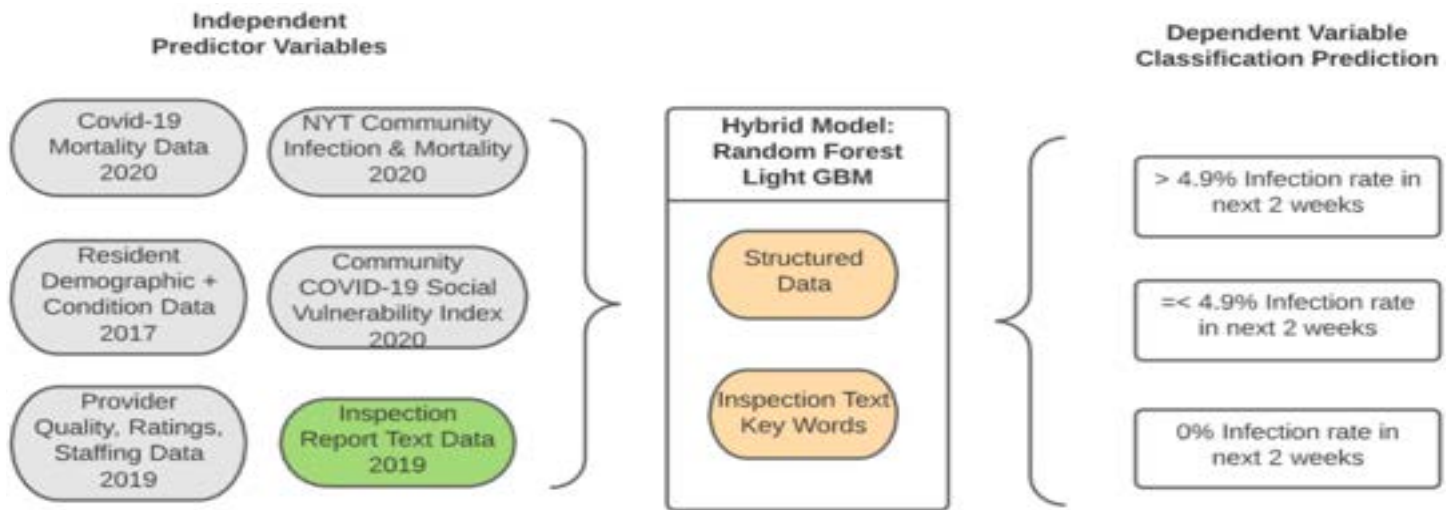
*4.9% is average infection rate for the general population.

Figure 2. Data Modeling Pipeline

Hybrid Modeling – Combine Structured and Unstructured Data

Hybrid Modeling: Structured Data
1. Data Preprocessing

   a. *Data Filtration:* Using the Submitted and Quality Passed columns to filter out all records that meet both standards to ensure data quality.

   b. *Imputation*: Within the CMS Facility COVID-19 (2020) dataset, for any bed quantity-related columns, median values of the nursing home were used to impute missing values. For the duration-related features regarding Amount of Time to Obtain Test Results, mode values of the nursing home are used. For the rest of features within COVID-19 nursing home dataset, mean values of the nursing home are used. If missing value still exists, indicating an absence of data across all weeks, zero is used to impute the cells.

   c. *Feature Engineering:* To deal with the data collection and quality issue, we extracted only the total case and death-related features in the first week (May 24, 2020) as new independent variables. Also suspected but no test features respectively for residents and staff were generated to capture the testing capability of the nursing homes.

   d. *Time Series Sliding Window & Variable Construction:* A cut time was added every week for the dataset: Every four weeks before the cut time represented the independent variables for that week. Every two weeks after the cut time represented the dependent variable. By aggregating different window periods starting from June 7, 2020, to November 15, 2020, the processing method is designed to adapt training in every period.

The independent variables consisted of a four-week average of each time-series variable. For example, the community infections from the New York Times would be aggregated into four weeks' worth of data for the cut time, and nursing home infection/mortality, testing capacity, and PPE supply varied over time. This combined with the static facility conditions that did not change week to week, such as resident race/ethnicity percentage and provider quality rating.

The dependent variable is the prediction of the infection rate (Average weekly infections per resident, # Occupied Beds) aggregated over two weeks. This process was done iteratively from the first week of the dataset to two weeks before the end date of the dataset to accurately capture the new independent variable and the new dependent variables with respect to the cut time.

Any infinity infection rate resulting from the missed occupied beds divisors was imputed using the max infection rate of all data. The numeric label was further grouped into three clusters using 0 and 0.049, as the 0.049 cutoff

is the general infection rate for US citizens. This cutoff was calculated using the US total infections from the Centers of Disease Control and Prevention COVID-19 infections[7] divided by the US population from the United States Census Bureau.[8] The zero-infection rate was invited as the first cutoff because any infection rate above zero indicates potential spread of COVID in the future. The general infection rate for US citizens was invited as the second cutoff, although an infection rate lower than general infection rate for a nursing home could still be interpreted as medium risk.

e. *Merging*: The initial merge involved CMS Facility COVID-19 (2020), LTCFocus (2017) and Provider Information (2020) using facility id, and returned facility level as each entry of the dataset. The next merge added the New York Times COVID-19 data and COVID-19 Community Social Vulnerability Index (2020) data, both joined on a five-digit FIPS code level.

2. *Feature Selection*

a. *Removal Based on Domain Knowledge & Missing Value Percentage:* Based on health care and nursing home domain knowledge, eighty-six features including redundancies were removed - see Modeling Notebook for details). We also identified certain features which were essential to the project, such as resident percent race/ethnicity, which we imputed based on the size of the facility (See Notebook for more details). After imputation of most features in the COVID-19 nursing home dataset, as well as selected features from the LTCFocus and Provider Information Datasets identified as important through domain knowledge (and at times with maximum 20 percent data missing), any remaining features with missing value percentage higher than 0 percent were removed.

b. *Correlation Coefficient (VIF):* The Variance Inflation Factor (VIF) measures the severity of multicollinearity across features. VIF

above ten is considered as high collinearity. Based on the VIF test, eight features were removed (*see* SAS Combined Model Classification Notebook for details).

c. *Feature Importance:* The remaining 132 total features were fed into Random Forest and Light GBM, which generated a feature importance index which we drew from to select the top fifty important features from structured data. The final lists of features were extracted from the aggregated feature importance rank of the two models. They were then fed into the combination model described below.

Hybrid Modeling: Unstructured Text Data TF-IDF
To incorporate both structured and unstructured, we applied TF-IDF to extract keywords. This is a preparation for creating a hybrid model. TF is a measure of how frequently a word occurs in a certain report, and IDF is a measure of how frequently this word occurs in all reports. By multiplying TF and IDF, we get the TF-IDF score. We then applied TruncateSVD to reduce the dimension of vectors into thirty that are used to explain the location of words in the space.

Hybrid Modeling: Combination
Random Forest and Light GBM algorithms were applied in our modeling. Fifty selected features from structured datasets and 30 features from unstructured datasets are combined to feed into this modeling. Before searching for the best parameter in each model, we designed a customized cross validation method using the last three periods of sliding windows. To be specific, the training process was validated using:

- [Independent variable time period] October 4 – October 30 data modeled on [dependent variable time period] November 1 – November 15 data;

- September 27 – October 24 data modeled on October 26 – November 8 data;

- September 20– October 17 data modeled on October 18 – November 1 data.

We leveraged this customized cross validation method to best monitor real data access.

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7 "CDC COVID Data Tracker," Centers for Disease Control and Prevention, last updated December 20, 2020, https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days.

8 U.S. and World Population Clock," United States Census Bureau, last updated December 20, 2020, https://www.census.gov/popclock/.

Random Forest: Random Forest is a tree-based classification model that leverages ensembles to improve results. Using the gridsearch pipeline, the best parameter was reported as 'criterion': 'gini', 'max_depth': 15, 'max_features': 'log2', 'n_estimators': 200. Under this setting, the precision, recall, F1-score and AUC score of the model is 0.89, 0.73, 0.78 and 0.79 respectively.

Light GBM: Light GBM is another classification algorithm that learns data with a horizontal growing tree, which ensures a faster speed especially for big data. With the gridsearch pipeline, the best parameter was reported as 'criterion': 'gini', 'max_depth': 15, 'max_features': 'log2', 'n_estimators': 200. Under this setting, the precision, recall, F1-score and AUC score of the model is 0.93, 0.58, 0.69, and 0.78, respectively.

Final Model Selection – Light GBM: Random Forest modeling produced better overall results than Light GBM, but detailed comparison of the recall and specificity showed that the Light GBM provided superior 1.00 precision in the low-risk group (0.0 infection rate).

Our final LightGBM model was able to achieve zero misclassifications of facilities that ultimately had Medium and High infection rates in the next two weeks. This is crucial because it ensures that we do not miss any nursing homes about to be in crisis, an error which could delay resource allocation and result in more infections, illness, and
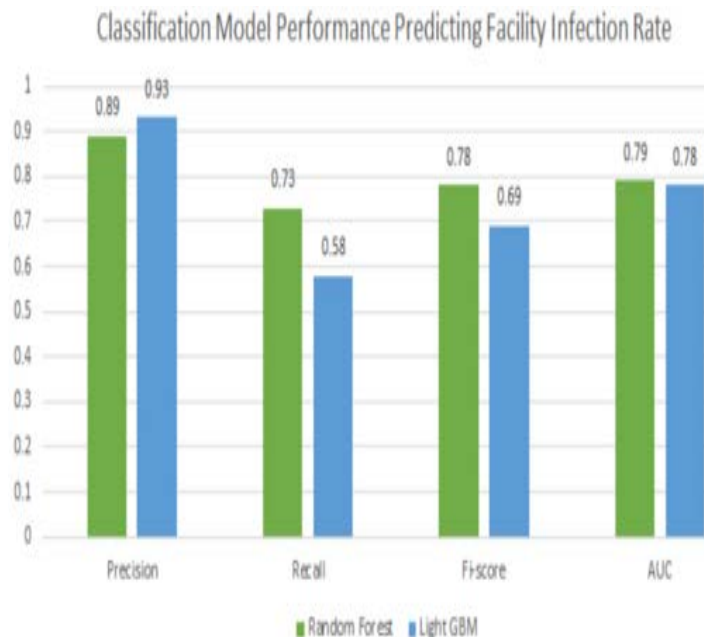

Figure 3. Model Performance Comparison

deaths. Confusion matrix shown in *figure 4*. These are promising results that could hopefully be improved by reducing the misclassification of Low infection facilities as High infection predictions – a result of highly skewed data – to better target resources.

Modeling Limitations and Future Steps

This modeling pipeline is a proof of concept and provides a baseline for processing available nursing home data and inspection reports. However, after careful consideration, we do not recommend applying the results directly into resource allocation strategies due to the following limitations. If interested in building from the existing framework, refer to the future steps to consolidate the model.
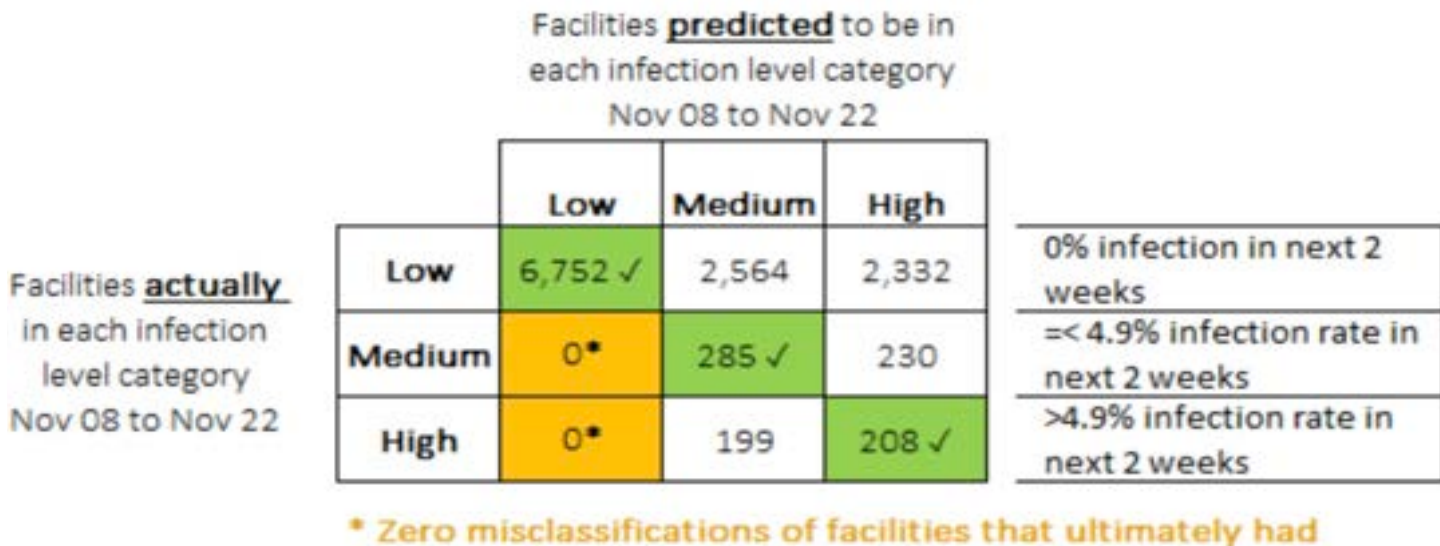

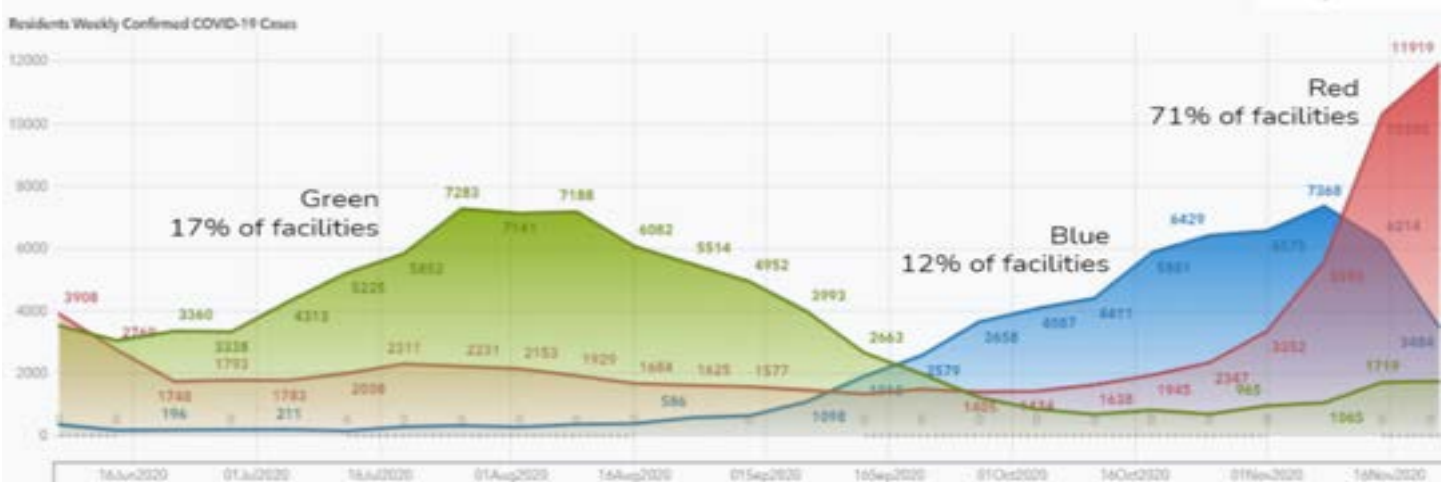**Figure 4.** Final LightGBM Confusion Matrix

Figure 5. Dashboard Infection Trajectory Classification Model – Full Results

Limitations
- Imbalanced data
- Novel pandemic with limited historic data
- Not involving policy and human behavior
- Only considering short term effect of historic time series data on the current risk
- Important features from modeling still merit further examination

Future Steps
- Consolidate label classification involving both infection and mortality to present the comprehensive risk
- Consider both long term and short-term historical data impact
- Add local level policy decisions data
- Validate important features using diverse methods

Group-Based Infection Trajectory Modeling

Although our hybrid predictive classification modeling results were not strong enough to stake recommendations on, we were still able to use a Group-Based Trajectory Model (GBTM) to capture historic infection trends and produce results useful for decision-makers.

Using a Group-Based Trajectory Model (GBTM)2 developed by Daniel Nagin at Carnegie Mellon, we clustered all nursing homes into three infection trajectory groups based on their longitudinal infection counts from July – November 2020, using target dependent variable "Number of resident confirmed COVID-19 cases," shown in *figure 5*.

This TRAJ model revealed that facilities' resident infections peaked at different times. This modeling process is useful for distinguishing infection trends in order to target facilities currently experiencing high infection counts, and allows comparisons between states over time. The clusters were later used in the interactive dashboard.

We identified three distinct groups: 17 percent of facilities peaked in mid-summer and 12 percent of facilities peaked in November then appeared to taper off, but the most relevant trends were among the 71 percent of facilities where the number of new cases each week was relatively stable from July onward, but experienced a surge infection cases starting in mid to late October that is still on upward trajectory.
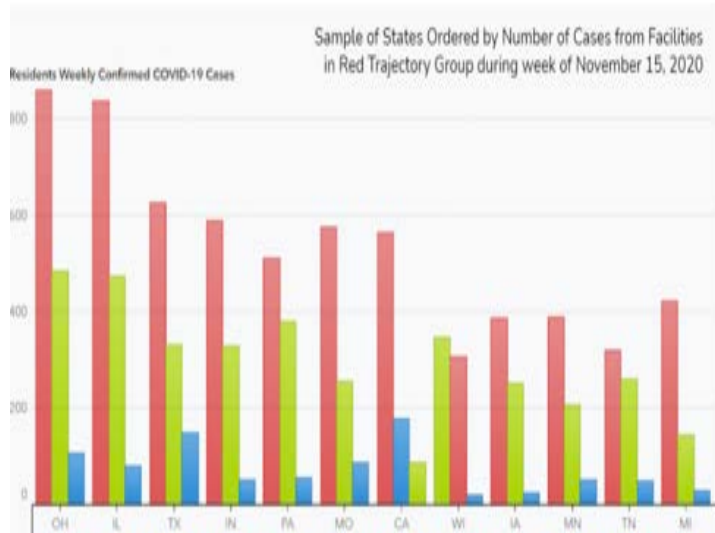
Figure 6. Dashboard Infection Trajectory Classification Model - Select States

Ohio Infection Trajectories

Texas Infection Trajectories
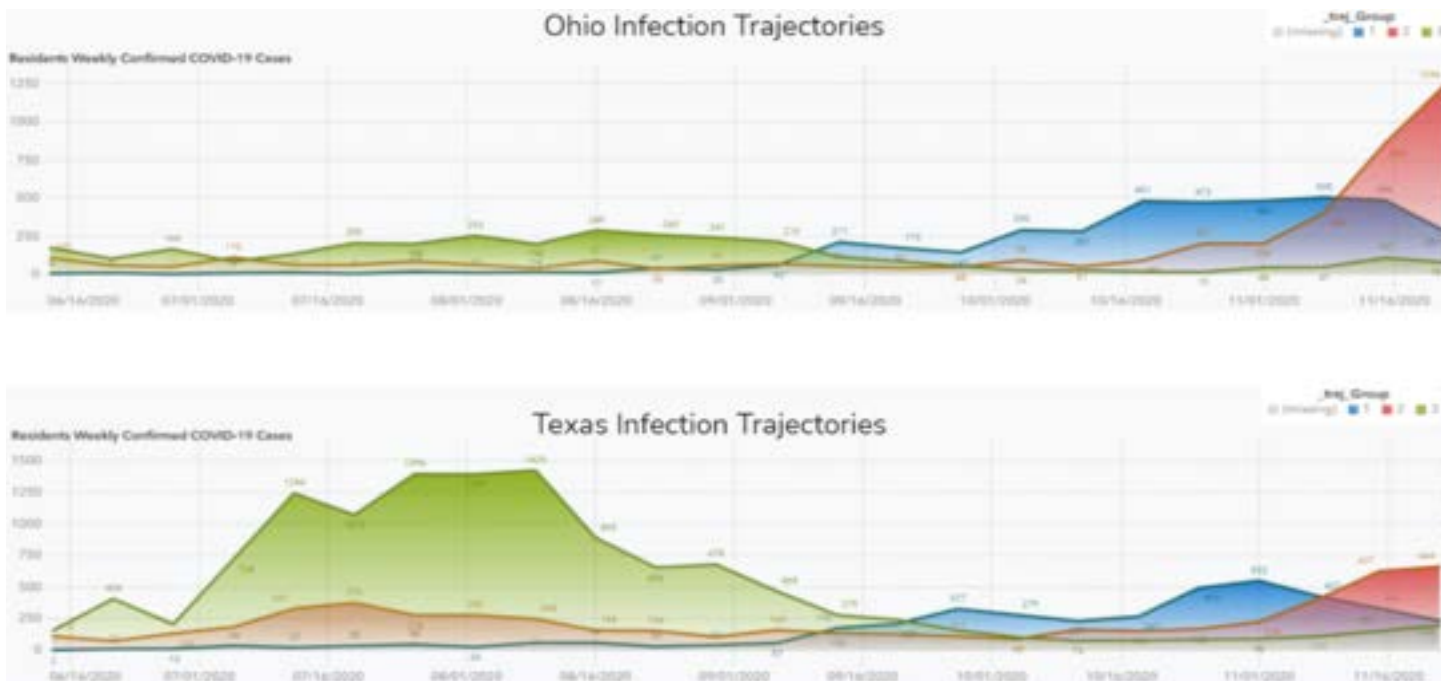
Figure 7. Dashboard Infection Trajectory Classification Model – Ohio vs. Texas Comparison

To further investigate the 71 percent of facilities represented as the red group, we examined a 1-week infection case count snapshot for the week of November 15, 2020, shown in *figure 6*. By number of cases, the surge of infections in the red group is being driven by facilities in Ohio, Illinois, Texas, Indiana, Pennsylvania, Missouri, and California, followed by Wisconsin, Iowa,

Minnesota, Tennessee, and Michigan. Some of these states have a large number of nursing homes to begin with, such as Texas and California, but it is noteworthy that even states like Iowa with relatively fewer facilities are contributing substantially.

It is also important to note that these trends are not uniform within states. For example, *figure 7* shows

Figure 8. Dashboard – Infection Mapping and Trends Over Time

Figure 9. Dashboard – Personal Protective Equipment Available Identification and Trends Over Time

that Ohio's trajectory group mix shows most activity in the fall, whereas Texas's infection trajectories show a more significant spike in the summer followed by a noticeable, but lower upward trend in the fall. Ultimately, this combination of 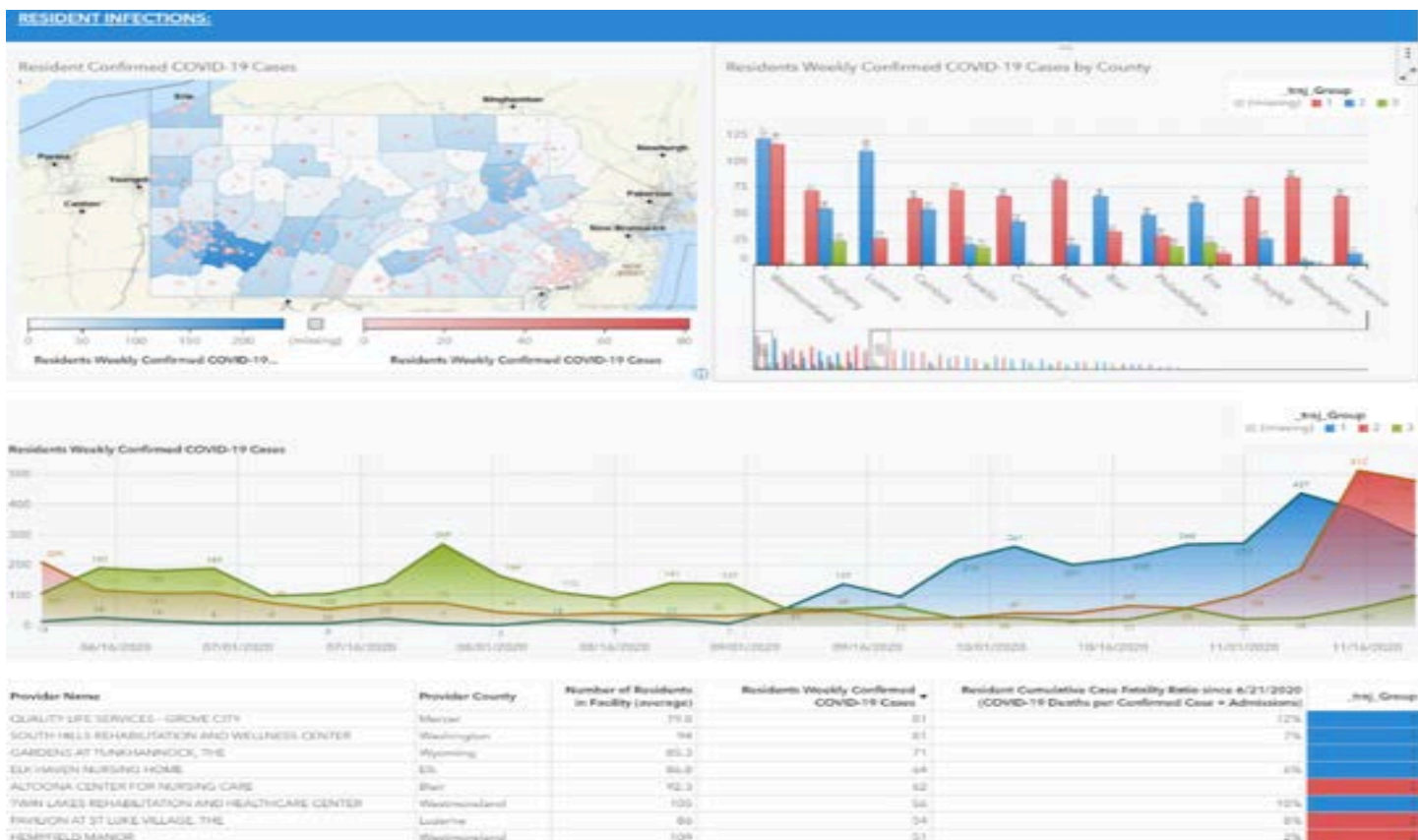GBTM modeling and interactive dashboard can facilitate comparison of infection trends over time between states and help public health officials quickly identify nursing homes currently experiencing high infection case counts so that they can allocate resources effectively.

VII. Interactive Dashboard

After completing the modeling process, we produced tangible deliverables related to each of the three use case objectives through our interactive dashboard. **Constructed using SAS Viya and SAS Visual Analytics, this dashboard combines our work into a practical, useful tool to visualize complex problems and identify actionable solutions in a rapidly changing environment.**

Targeting: Identify Nursing Homes With High Infection Rates and Recommend Resource Supports Such As Testing Supplies and PPE.

For the Targeting objective, we created a dashboard page (see *figure 8)* that provided an overview of infection at the county and individual facility level. This allows state-level public health agencies and decision-makers to quickly identify which facilities/areas are experiencing high infection incidence, so that high-

need facilities can be targeted for resource allocation. Facilities were grouped by Group-Based Trajectory Model[9] clusters to aid trend comparison within states.

For allocation of infection prevention resources, we included an element on personal protective equipment (PPE) supply (see *figure 9*). This graphic shows the percentage of facilities in a given state that have a one-week supply of each PPE item. Then it highlights which specific facilities have lacked supply of each PPE item what percent of the time.

We included an element on staff testing capacity as staff are the primary vectors of infection from communities to residents (see *figure 10*). This graphic allows health officials to see what percentage of facilities in a state have been able to test all of their staff in the next seven days. It then highlights which specific facilities have not been able to test all of their staff and why. Public health officials can then provide those facilities the resources they need.

The dashboard includes a data quality assurance section which highlights which CMS nursing homes have been flagged for poor data quality or missing data (see *figure 11*). Having this data readily identifiable empowers public health officials to remedy (and account for) data discrepancies efficiently.

The graph shows what percent of facilities in the state that have either failed to submit data or submitted data that did not pass the Quality Assurance Check in selected weeks. This means CMS has flagged

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9 Bobby Jones and Daniel S. Nagin, "A Note on a Stata Plugin for Estimating Group-Based Trajectory Models," *Sociological Methods & Research* 42, no. 4 (November 2013): 608–13. https://doi.org/10.1177/0049124113503141.

Figure 10. Dashboard – Testing Capacity Identification Trends Over Time

and removed their data due to inconsistencies, and therefore no accurate record of infection rates, number of deaths, and other important information. It then highlights the recent quality records of specific CMS-flagged facilities with data collection and reporting issues so that public health officials can reach out to those facilities and correct their data and ensure that their residents and facility conditions are accounted for.

Investigation: Summarize Nursing Home Inspection Report Narratives for More Efficient Review by Investigators.

For the Investigation use case, we created an inspection report dashboard page to summarize report text and visualize Deficiency Tags alongside the scope and severity of deficiencies (see *figure 12*). The table shows facility name, the category and severity of the deficiency listed in the report, and summarized report text including descriptions of facility conditions, experiences of residents, and investigations into allegations of abuse and neglect. Users can choose the region, state, city, and specific nursing home they are interested in, with a slider to adjust the date range.

Public health officials and CMS analysts can use this tool to quickly review key issues from multiple reports (which are often pages long) from nursing homes in their jurisdiction and assess both their conditions and the prevalence of specific concerns that need to be addressed. For example, an analyst could identify that nursing homes in a specific county have unusually high rates of severe Nutrition and

Dietary deficiencies, prompting them to reach out to those facilities and inquire whether their food supply chains, or kitchen staff need additional support.

Intervention: Operationalize potential equitable vaccine allocation strategy in interactive dashboard.

For the final use case, Intervention, we created a dashboard page that captures the vaccine dose needs of each county/facility, and can rank order facilities for equitable vaccine allocation in the event of limited doses available for nursing home residents (see *figure 13*). This flexible dashboard allows state officials to incorporate equity-focused components into their vaccine allocation strategy and assess tradeoffs between each approach. The dataset included in this section also allows for more complex Multi-Criteria Decision Making approaches, although they were not incorporated here.

The dashboard first maps the number of nursing home residents in each county who may be able to receive a vaccine; from there, it can then rank order facilities for vaccine allocation based on assorted equity-oriented attributes that the user selects. For example, the National Academy of Sciences "Framework for Equitable Allocation of Vaccine for the Novel Coronavirus" lists saving as many lives as possible as a priority, but also emphasizes the importance of prioritizing high-risk groups.[10] To reflect this, our dashboard can rank order

10 "A Framework for Equitable Allocation of Vaccine for the Novel Coronavirus, " The National Academies of Sciences Engineering Medicine, accessed December 20, 2020, https://www.nationalacademies.org/our-work/a-framework-for-equitable-allocation-of-vaccine-for-the-novel-coronavirus.

Figure 11. Dashboard – Data Quality Assurance Identification and Trends Over Time
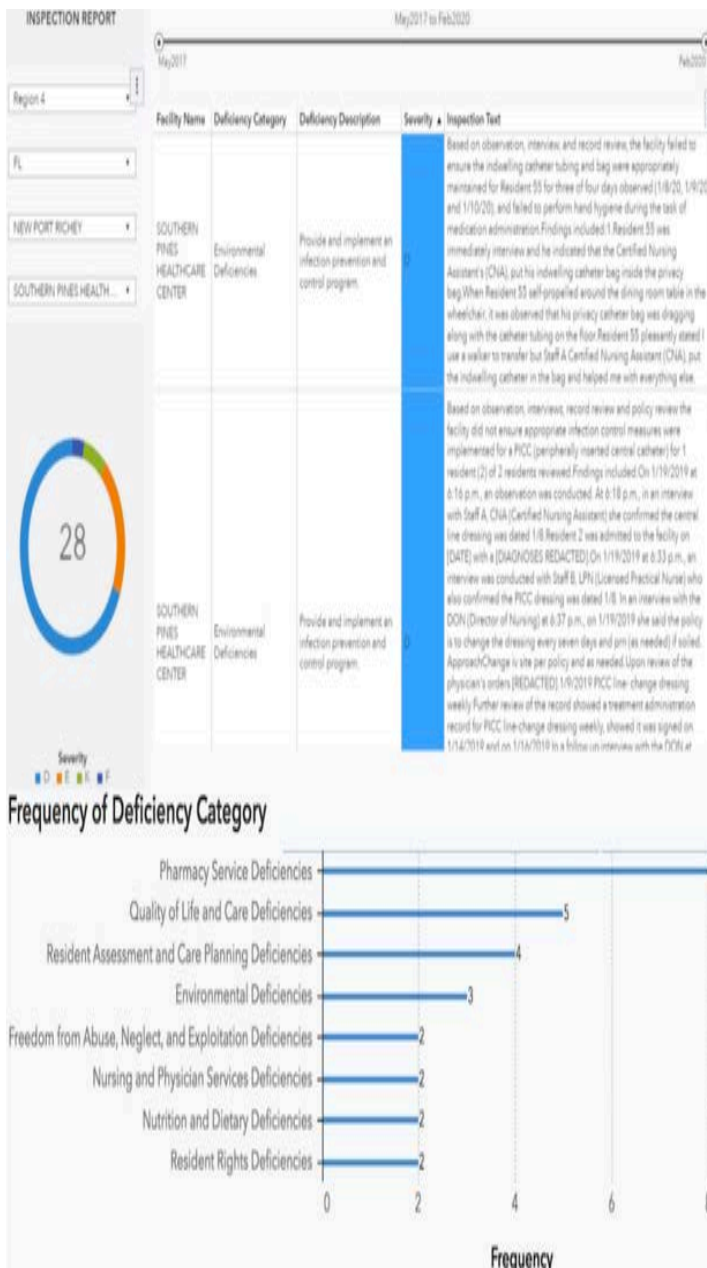
Figure 12. Dashboard – CMS Inspection Report Summarization

facilities by number of residents, and among facilities with fewer residents, allocate vaccines first to facilities with higher shares of Black and Hispanic residents (which we know are at higher risk for infections and deaths).[11]

To our knowledge, this could be the only publicly available dataset/tool that links COVID-19 in nursing homes with shares of Black and Hispanic residents, community social vulnerability, and any markers of Tribal affiliation or indigenous resident shares at the national level. Given the disproportionate impact of COVID-19 on these groups, this information is crucial for making equitable allocation decisions.

VIII. Conclusions and Recommendations

Modeling

The team was able to combine comprehensive structured data on nursing homes with unstructured text from past inspection reports to provide a robust data pipeline and an early look at predicting nursing home infection risk. The data pipeline we have built is agile and highly automated. It can be applied over many months into the future of the pandemic in the United States. We recommend that our client take advantage of this data pipeline and use it in the future for similar data analysis, such as exploring new predictive modeling

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11 Priya Chidambaram, Tricia Neuman, and Rachel Garfield, "Racial and Ethnic Disparities in COVID-19 Cases and Deaths in Nursing Homes," Kaiser Family Foundation, October 27, 2020, accessed December 09, 2020, https://www.kff.org/corona-virus-covid-19/issue-brief/racial-and-ethnic-disparities-in-covid-19-cases-and-deaths-in-nursing-homes/.

Figure 13. Dashboard – Operationalizing Equitable Vaccine Allocation Strategies

algorithms. It can also be used for retrospective statistical analysis (not predictive), analyzing the characteristics associated with high mortality rates and impacts of the COVID-19 pandemic on nursing home residents.

Unstructured Text Data Modeling was an effective and efficient way to extract key information from long inspection reports and turn unstructured data into summarized tabular format with categories. It eliminates the high labor cost associated with manually reviewing inspection reports and leverages the value of textual data with natural language processing techniques. Policymakers should use NLP to review inspection reports more efficiently in the future in order to understand the unique situation at each facility.

Hybrid Modeling that combined structured data and inspection reports had limited predictive power on

future infection. At least, it was not strong enough to be used as a targeting tool for identifying potential high-risk facilities. One main reason for the suboptimal result is that the model does not capture local level policy that could potentially influence infection spread. It also does not include any human interaction information between residents, staff, or other personnel in the nursing homes. These factors have a high impact on the virus spread and should be investigated. Going forward, we recommend that these factors be incorporated into the model for the best predictive outcome. Specifically, the model should capture state/local policy decisions that could influence infection, such as documenting differing social distancing relaxation policies between municipalities and tracking the following rates of infection/mortality. We also suggest that officials collect data on infection prevention protocol and human interactions to improve

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the model accuracy. We recognize that COVID-19 is a new virus and there are limited data available to represent the full story; it is hard to make accurate predictions when we have few ideas of what the pattern should look like.

The Group-Based Trajectory Model was a unique way of clustering nursing homes based on their past infection trend. It made a strong point that facilities experience surges at different times, past, present, or future. For this reason, this clustering model could potentially be a methodology to assign different levels of risk.

Dashboard

The team is grateful that our client exposed us to SAS Viya, a great visualization and analytics dashboard tool that allows us to summarize and showcase our deliverables in compelling ways. We were able to leverage the dashboard and accomplish our three main project objectives: (1) Target facilities with high infection or in need of testing/PPE resources; (2) Display highly summarized information from inspection reports for policy review and investigation; and (3) Rank order facilities for vaccine distribution priority decision based on criteria like facility size and share of minority population.

The team firmly believes that the dashboard is the best way to summarize all essential information in such a complex pandemic situation. Once implemented by our client, it can be used to inform operational decisions, policy decisions as well as vaccine allocation decisions.

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Appendices

Appendix A: Topic Modeling

- **Doc2Vec:** By using Doc2Vec, each corpus is represented as a TaggedDocument which contains a list of words and a tag associated with it. We further cluster inspection texts and test on a new inspection text to find the similar inspection texts. However, this algorithm is not suitable for our dataset because of the low accuracy in the test dataset.

- **SentenceBERT:** Sentence-BERT uses a Siamese network and transformer architecture to encode the sentence. We first loaded the pre-trained BERT model, and displayed the sentences as vectors. Then we retrieved the similar sentences for test data using cosine similarity. This algorithm demonstrates high efficiency and accuracy.

- **InferSent:** InferSent uses GloVe vectors for pre-trained word embedding. Similar to SentenceBERT, we first downloaded the pre-trained word vectors and saved them in the working directory. Then we built the vocabulary from our dataset and tested the performance in our test set. However, this method turned out to be the slowest and least efficient method.

- **Universal Sentence Encoder:** Universal Sentence Encoder has two types of encoder, transformer, and deep average network (DAN). we first tokenized the sentences and got each sentence converted to a 512-dimensional vector. Then, we try to classify each inspection text. This method also demonstrated outstanding performance.

Appendix B: Additional Dashboard Country Overview

Figure 14 and *figure 15* were provided in the dashboard's introductory page alongside the two Group-Based Multi Trajectory classification figures shown in this report.

COVID-19 Infection Risk & Vaccine Allocation Models

Figure 14. Dashboard – Nationwide Infection and Mortality Mapping
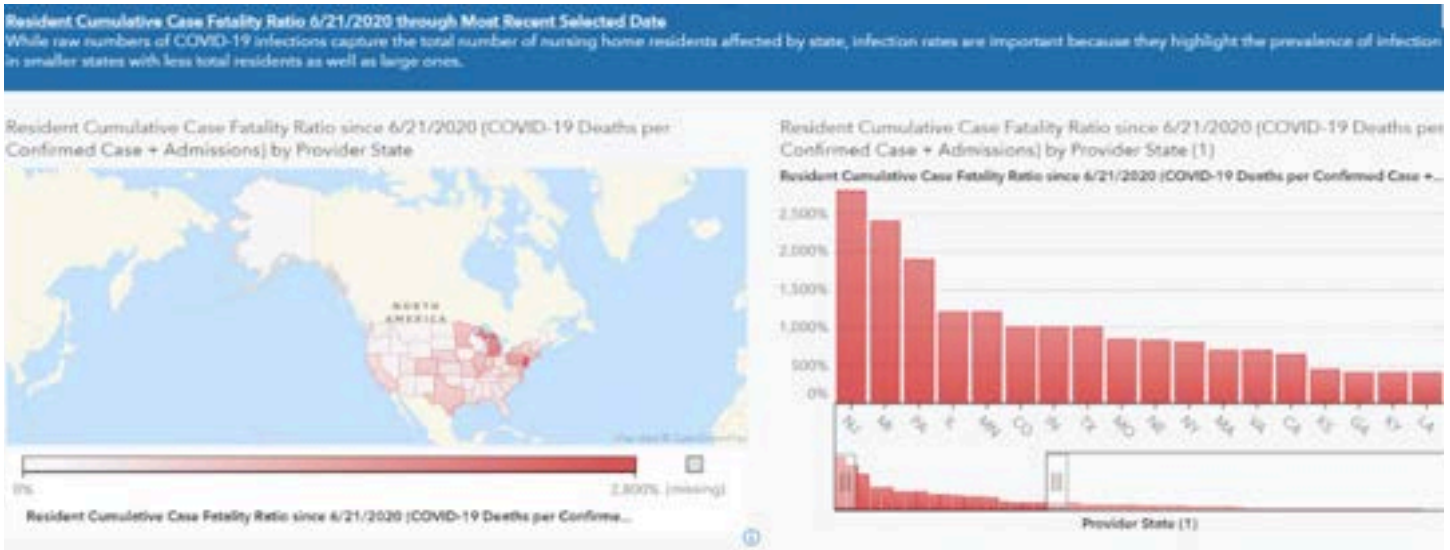
Figure 15. Dashboard

Effects of Medicaid on African American Health Insurance Coverage

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In this paper, I will discuss the history of Medicaid, how it has lowered the uninsured rate among African Americans, as well as the racial coverage gaps that persist. To help close this gap, I recommend that Congress pass the States Achieve Medicaid Expansion (SAME) Act, which would incentivize states to expand Medicaid under the Affordable Care Act (ACA).

The History of Medicaid

Medicaid Was Created to Provide Healthcare to Low-Income Individuals and Families

In 1965, Title XIX of the Social Security Act established Medicaid and Medicare as a part of the Johnson administration's War on Poverty. It is a joint federal-state program whereby the federal government provides at least 50 percent of funding to states to provide health care coverage to needy individuals and families.[1] The federal government provides minimum coverage guidelines, but states have the authority to set eligibility requirements.[2] States were not required to participate as part of the initial legislation, but all states had established Medicaid programs by 1982.[3] The 1997 Children's Health Insurance Program (CHIP) further expanded Medicaid benefits to children in families making up to 200 percent of the Federal Poverty Level (FPL).[4]

The Affordable Care Act (ACA) Expanded Medicaid Coverage

To reduce the number of uninsured Americans, the Affordable Care Act granted states funding to expand Medicaid to individuals in families making less than 133 percent of the FPL.[5] One hundred percent of Medicaid expansion costs were borne by the federal government starting in 2014, phasing down to 90 percent in 2020.[6] Thirty-seven states accepted the Medicaid expansion as of 2020, and within these states, the uninsured rate fell 49 percent, compared to 27 percent in non-expansion states.[7]

Section 1115 Block Grant Waivers Expand Work Requirements and Limit Coverage

Section 1115 of the Social Security Act allows the Secretary of Health and Human Services (HHS) to approve pilot projects—referred to as demonstration waivers—that allow states more flexibility in designing their Medicaid programs.[8] In 2018, the Trump administration issued guidance encouraging states to add work requirements to receive Medicaid benefits. In Arkansas, one of the first states to request a waiver, 25 percent of beneficiaries lost coverage due to the new requirements.[9] In 2020 the Trump administration issued additional guidance inviting states to apply for waivers allowing them to convert their federal Medicaid funding into a capped block grant, and authorizing states to reduce coverage and benefits.[10] States would be allowed to remove coverage from

1 "Program History | Medicaid," accessed April 27, 2020, https://www.medicaid.gov/about-us/program-history/index.html.

2 Ibid.

3 Charles N. Oberg and Cynthia Longseth Polich, "Medicaid: Entering the Third Decade," Health Affairs 7, no. 4 (January 1, 1988): 83–96, https://doi.org/10.1377/hlthaff.7.4.83.

4 "Program History | Medicaid," accessed April 27, 2020, https://www.medicaid.gov/about-us/program-history/index.html.

5 Ibid.

6 Ibid.

7 "Status of State Medicaid Expansion Decisions: Interactive Map," The Henry J. Kaiser Family Foundation (blog), March 13, 2020, https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/; "Did the Affordable Care Act Reduce Racial and Ethnic Disparities in Health Insurance Coverage? | Commonwealth Fund," accessed April 27, 2020, https://doi.org/10.26099/d8hs-cm53.

8 "About Section 1115 Demonstrations | Medicaid," accessed April 27, 2020, https://www.medicaid.gov/medicaid/section-1115-demonstrations/about-section-1115-demonstrations/index.html.

9 "Trump Administration's Harmful Changes to Medicaid," Center on Budget and Policy Priorities, June 12, 2019, https://www.cbpp.org/research/health/trump-administrations-harmful-changes-to-medicaid.

10 The Trump Administration's Medicaid Block Grant Guidance: Frequently Asked Questions," Center on Budget and Policy Priorities, February 6, 2020, https://www.cbpp.org/research/health/the-trump-administrations-medicaid-block-grant-guidance-frequently-asked-questions.

those who do not pay premiums—including those making only 50 percent of the FPL — deny coverage for prescription drugs, and impose higher copayments than currently allowed under Medicaid law.[11] In 2021, the Biden administration has begun revoking waiver permissions previously granted under President Trump.[12]

Policy Analysis: The Impacts of Medicaid on African Americans

Policy Analysis: The Impacts of Medicaid on African Americans

Approximately 11.4 million African Americans receive Medicaid benefits, comprising 20 percent of all Medicaid beneficiaries.[13] Since Medicaid was expanded under the ACA, over 300,000 African Americans enrolled in the program, lowering the overall African American uninsured rate from 18.9 percent to 11.5 percent.[14] The uninsured rate of African Americans decreased more after the ACA Medicaid expansion than that of whites—a decrease of 7.4 percentage points compared to 5.6 percentage points, respectively—serving to reduce the racial gap in insurance coverage.[15]

African Americans Are Uninsured at Higher Rates Than the National Average

Despite this improvement, racial disparities in health insurance coverage persist. Currently, 11.5 percent of African Americans are uninsured, compared to 8.5 percent of whites and a national average of 10 percent.[16] Additionally, the risk of becoming uninsured

compared to whites has not improved for African Americans since the passing of the ACA in 2010, with Black adults 1.5 times more likely than whites to lose their coverage.[17] The reduction in the Black uninsured rate slowed in 2017 and then increased from 10.7 percent to 11.5 percent by 2018.[18]

African Americans Are More Likely to Live in States Without Expanded Medicaid Coverage

Fifteen Percent of uninsured African Americans live in states that have not expanded Medicaid coverage—this proportion is higher than any other racial group.[19] The uninsured rate among African Americans is at or lower than the national average in twenty-five of the expansion states, but only four of the non-expansion states.[20] In California, which expanded coverage, only 7 percent of African Americans lack insurance compared to 17.3 of African Americans in Florida, which declined to expand coverage.[21] If these states were to adopt the ACA Medicaid expansion, 806,000 African Americans would become eligible for coverage.[22]

Voters in Republican-Controlled States Have Chosen to Expand Medicaid

As the ACA has become more popular among the public, additional Republican-controlled states have voted to expand Medicaid access.[23] In 2020, Idaho, Utah, and Nebraska implemented Medicaid

11 Ibid.

12 "Biden Revokes Medicaid Work Requirements in 2 More States," The Pew Trusts, accessed April 8, 2021, https://pew.org/39NOsdN.

13 "Distribution of the Nonelderly with Medicaid by Race/Ethnicity," The Henry J. Kaiser Family Foundation (blog), December 4, 2019, https://www.kff.org/medicaid/state-indicator/distribution-by-raceethnicity-4/.

14 Ibid; "African American Uninsured Rate Dropped by More Than a Third Under Affordable Care Act," Center on Budget and Policy Priorities, May 31, 2017, https://www.cbpp.org/research/health/african-american-uninsured-rate-dropped-by-more-than-a-third-under-affordable-care.

15 Ibid.

16 "Uninsured Rates for the Nonelderly by Race/Ethnicity," The Henry J. Kaiser Family Foundation (blog), December 4, 2019, https://www.kff.org/uninsured/state-indicator/rate-by-raceethnicity/.

17 Kendal Orgera, Anthony Damico Published: Mar 05, and 2020, "Changes in Health Coverage by Race and Ethnicity since the ACA, 2010-2018," The Henry J. Kaiser Family Foundation (blog), March 5, 2020, https://www.kff.org/disparities-policy/issue-brief/changes-in-health-coverage-by-race-and-ethnicity-since-the-aca-2010-2018/.

18 Ibid.

19 "African American Uninsured Rate Dropped by More Than a Third Under Affordable Care Act," Center on Budget and Policy Priorities, May 31, 2017, https://www.cbpp.org/research/health/african-american-uninsured-rate-dropped-by-more-than-a-third-under-affordable-care.

20 Ibid.

21 Ibid.

22 Ibid.

23 Published: Feb 21 and 2020, "Poll: Nearly 10 Years after Its Enactment, the Affordable Care Act Is More Popular Than Ever as Republican Voters Instead Target Medicare-for-All," KFF (blog), February 21, 2020, https://www.kff.org/health-reform/press-release/poll-nearly-10-years-after-its-enactment-the-affordable-care-act-is-more-popular-than-ever-as-republican-voters-instead-target-medicare-for-all/.

expansions due to successful ballot initiatives.[24] In two additional states, Oklahoma and Missouri, voters also approved ballot measures to expand Medicaid, and coverage is expected to begin in 2021.[25] The fate of coverage in Missouri is currently in doubt, however, as Republican state lawmakers have moved to strip funding from the voter-approved expansion.[26]

Recommendation

The ACA Medicaid expansion has had a major impact in reducing the uninsured rate among African Americans and reducing racial disparities in health care coverage. In order to continue this improvement and reduce disparities between states, I present the following recommendation.

States Should Use the Funding Provided by the American Rescue Plan Act to Expand Medicaid

The federal government does not have the authority to compel states to expand Medicaid, but it can make the expansion more financially beneficial to state budgets. Under the ACA, the federal government covered 100 percent of costs in 2014, decreasing to 90 percent in 2020. The American Rescue Plan Act of 2021, passed on March 11, 2021, incentivizes state

Medicaid expansions by increasing the federal share of costs from 90 percent to 95 percent for the first two years of the expansion.[27] Extending the window for increased federal funding will be particularly useful for states whose leadership has changed since the ACA was passed in 2014, or whose voters have become more receptive to Medicaid expansion. Incentivizing more states to expand Medicaid, particularly those in the South, would extend coverage to hundreds of thousands of African Americans and help close the coverage gap.

Conclusion

Medicaid has provided critical health coverage for millions of African Americans, and remarkable progress has been made in increasing coverage due to the ACA expansion. Inducing additional states to expand Medicaid coverage would help continue this progress.

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24 Published: Mar 31 and 2021, "Status of State Medicaid Expansion Decisions: Interactive Map," KFF (blog), March 31, 2021, https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/.

25 Ibid.

26 Sebastián Martínez Valdivia KBIA, "Missouri 'Voted for This Lie,' Says State Rep Trying to Block Medicaid Expansion," Kaiser Health News (blog), April 6, 2021, https://khn.org/news/article/missouri-medicaid-expansion-legislative-budget-hurdle/.

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27 "The American Rescue Plan Act of 2021," Pub. L. No. 117-2 §9814 (3), March 11, 2021.

Changing the Public Education Funding Structure to Achieve Equitable Education

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American public schools receive most of their funding from state and local governments.[1] The federal government provides minimal performance oversight and funding through policies like the Elementary and Secondary Education Act (ESEA) and the Every Student Succeeds Act (ESSA).[2] While these policies help in cases of extreme inequities in educational resources, they do not address more moderate cases of inequity, leading to many Black Americans receiving an inferior education.[3] Future policies should incorporate a more equitable funding structure by distributing funds more equally through federal, state, and county-level governments instead of federal, state, and municipality-level governments. This would eliminate some of the financial disadvantages that predominantly Black schools face, a vital step in bringing the quality of education for Black Americans up to par with their white counterparts.

state's purview.[5] ESEA has had many reauthorizations for its commitment to civil rights in education, including the No Child Left Behind Act and the Every Student Succeeds Act (ESSA).[6] These policies endeavor to provide all American students with equal education opportunities through federal oversight for education standards and federal funding programs.[7] However, while ESEA and its subsequent reauthorizations mandate some federal government involvement in public education, its role is still relatively small compared to more local levels of government.[8] States and localities provide the majority of funding for American schools; states contribute approximately 45.6 percent, local-level governments contribute around 37.1 percent, and the federal government contributes around 8.3 percent of education funding, with the remainder coming from private sources.[9]

I. ESEA, ESSA, and the Public Education Funding Structure

The Elementary and Secondary Education Act (ESEA) of 1965 was one of the policies that allowed the federal government to contribute funding for the public education system.[4] The act was intended to bridge the gap between the Constitutional right to equal education for every American and education being under the

II. Impacts of ESEA and ESSA on Black American Students

ESEA and ESSA have had some limited success in reducing funding inequities. Notably, ESEA was groundbreaking in allowing the federal government to provide aid to public schools and overcame the general fear of federal interference in an area that was primarily

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1 "10 Facts About K-12 Education Funding," U.S. Department of Education Home, September 19, 2014, https://www2.ed.gov/about/overview/fed/10facts/index.html.

2 "Every Student Succeeds Act (ESSA)," Every Student Succeeds Act (ESSA) | U.S. Department of Education, accessed October 24, 2020, https://www.ed.gov/essa?src=rn.

3 Tiffany D Miller and Chelsea Straus, "Strategies to Improve Low-Performing Schools Under the Every Student Succeeds Act," Center for American Progress, accessed October 24, 2020, https://www.americanprogress.org/issues/education-k-12/reports/2016/03/02/132053/strategies-to-improve-low-performing-schools-under-the-every-student-succeeds-act/.

4 "Every Student Succeeds Act (ESSA)," Every Student Succeeds Act (ESSA) | U.S. Department of Education, accessed October 24, 2020, https://www.ed.gov/essa?src=rn.

5 Samuel Halperin, "ESEA Ten Years Later," Educational Researcher 4, no. 8 (1975): pp. 5-9, https://doi.org/10.3102/0013189x004008005.

6 David A. Gamson, Kathryn A. Mcdermott, and Douglas S. Reed, "The Elementary and Secondary Education Act at Fifty: Aspirations, Effects, and Limitations," RSF: *The Russell Sage Foundation Journal of the Social Sciences* 1, no. 3 (2015): p. 1, https://doi.org/10.7758/rsf.2015.1.3.01; "Every Student Succeeds Act (ESSA)," Every Student Succeeds Act (ESSA) | U.S. Department of Education, accessed October 24, 2020, https://www.ed.gov/essa?src=rn.

7 Ibid.

8 Every Student Succeeds Act (ESSA)," Every Student Succeeds Act (ESSA) | U.S. Department of Education, accessed October 24, 2020, https://www.ed.gov/essa?src=rn.; "10 Fact About K-12 Education Funding," Home (US Department of Education (ED), September 19, 2014), https://www2.ed.gov/about/overview/fed/10facts/index.html.

9 "10 Facts About K-12 Education Funding," U.S. Department of Education Home, September 19, 2014, https://www2.ed.gov/about/overview/fed/10facts/index.html.

a states' responsibility.[10] It set the stage for future federal intervention to help Black students by providing textbooks, library books, and scholarships to low-income students.[11] It was also instrumental in bringing awareness to and measuring the inequities that Black students faced.[12]

While ESEA and its subsequent reauthorizations had some positive effects, they have not fully bridged the racial gap in educational achievement, partially because of funding disparities. Predominantly white school districts receive $23 billion more in funding than majority non-white school districts do.[13] Compared to schools where over 90 percent of students are white, schools with over 90 percent students of color spend an average of $733 less per student for every academic year. [14]These numbers compound over the years; over their primary and secondary years of education, students of color receive nearly $8,800 less for their education than their white counterparts. This creates an unequal learning environment and can significantly disadvantage the students receiving less investment in their education.

Predominantly Black schools receive so little funding primarily because a significant portion of education funding comes from the property taxes that municipal level governments levy and not from broader geographical tax bases.[15] African American students are more likely to be attending schools in more low-income municipalities compared to their white counterparts.[16]

These lower-income municipalities cannot send as much money to their school districts, creating disparities in education.[17] For example, Paterson, New Jersey, has not been able to afford enough foreign language courses for its high school students.[18] At the same time, Princeton, New Jersey, starts its foreign language curriculum in elementary school.[19] Paterson has a significantly higher proportion of Black students compared to Princeton and is an example of how communities with more Black students are unable to adequately fund an equal education for its students.[20] Many other states also face similar issues in providing equitable education due to the high reliance on local-level governments for funding.[21]

Low funding levels are evident in the quality and quantity of vital faculty members in these schools. Districts with less funding offer lower salaries to teachers, reducing their ability to recruit and retain high-caliber teachers.[22] Students with better teachers are more likely to earn more income in the future and attend college.[23] They are also less likely to have teenage pregnancies.[24] Furthermore, schools with less funding are unable to afford mental health professionals, technology, and other valuable resources.[25] Fixing inequities in educational funding could fundamentally

10 Samuel Halperin, "ESEA Ten Years Later," *Educational Researcher* 4, no. 8 (1975): pp. 5-9, https://doi.org/10.3102/0013189x004008005.

11 "Every Student Succeeds Act (ESSA)," Every Student Succeeds Act (ESSA) | U.S. Department of Education, accessed October 24, 2020, https://www.ed.gov/essa?src=rn.

12 Erica Frankenberg and Kendra Taylor, "ESEA and the Civil Rights Act: An Interbranch Approach to Furthering Desegregation," RSF: *The Russell Sage Foundation Journal of the Social Sciences* 1, no. 3 (2015): p. 32, https://doi.org/10.7758/rsf.2015.1.3.02.

13 Clare Lombardo, "Why White School Districts Have So Much More Money," NPR (NPR, February 26, 2019), https://www.npr.org/2019/02/26/696794821/why-white-school-districts-have-so-much-more-money.

14 "K-12 Disparity Facts and Statistics," UNCF, March 20, 2020, https://uncf.org/pages/k-12-disparity-facts-and-stats.

15 Clare Lombardo, "Why White School Districts Have So Much More Money," NPR (NPR, February 26, 2019), https://www.npr.org/2019/02/26/696794821/why-white-school-districts-have-so-much-more-money.

16 Janie Boschma and Ronald Brownstein, "Students of Color Are Much More Likely to Attend Schools Where Most of Their Peers Are Poor," *The Atlantic* (Atlantic Media Company, August 21, 2020), https://www.theatlantic.com/education/archive/2016/02/concentration-poverty-american-schools/471414/.

17 Ibid.

18 Linda Darling-Hammond, "Unequal Opportunity: Race and Education," Brookings (Brookings, July 28, 2016), https://www.brookings.edu/articles/unequal-opportunity-race-and-education/.

19 Ibid.

20 20 "U.S. Census Bureau QuickFacts: Paterson City, New Jersey," Census Bureau QuickFacts, accessed October 24, 2020, https://www.census.gov/quickfacts/patersoncitynewjersey; "U.S. Census Bureau QuickFacts: a, New Jersey," Census Bureau QuickFacts, accessed October 24, 2020, https://www.census.gov/quickfacts/princetonnewjersey.

21 Alana Semuels, "Good School, Rich School; Bad School, Poor School," *The Atlantic* (Atlantic Media Company, August 25, 2016), https://www.theatlantic.com/business/archive/2016/08/property-taxes-and-unequal-schools/497333/.

22 22 Lisette Partelow, Sarah Shapiro, et al., "Fixing Chronic Disinvestment in K-12 Schools," Center for American Progress, accessed October 24, 2020, https://www.americanprogress.org/issues/education-k-12/reports/2018/09/20/457750/fixing-chronic-disinvestment-k-12-schools/.

23 23 Raj Chetty, John Friedman, and Jonah Rockoff, "Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood," 2013, https://doi.org/10.3386/w19424.

24 Ibid.

25 Alana Semuels, "Good School, Rich School; Bad School, Poor School," *The Atlantic* (Atlantic Media Company, August 25, 2016), https://www.theatlantic.com/business/archive/2016/08/property-taxes-and-unequal-schools/497333/.

alter the trajectory of a student's life. Better educated students are more likely to be prepared for their careers, donate to charities, volunteer, and vote.[26]

ESEA and its reauthorizations have not made a significant difference because their roles are minor compared to that of local property tax funding. Furthermore, it can entrench the disparities created by the local funding system. For example, ESSA's Race to the Top initiative allocated $400 million to the top school districts in the competition.[27] Instead of providing funding to help improve struggling school districts, the program gives money to school districts that are already performing well and furthers the inequities garnered from the local funding system that hurt Black students.[28] The minor amount of federal involvement facilitated through these policies is not enough to provide Black students with equal education; future reform should address the disparities created by local funding.

III. Recommendations for Improving the Education Funding Structure

There are different funding structures that produce more promising results than the system that relies heavily on local property taxes. For instance, Finland has some of the best educational outcomes in the world, despite spending less per student than the United States.[29] Its schools are funded based on the number of students in each school at the national level, in stark contrast to how many American schools are funded.[30] An exact translation of the policy would not be possible for reasons such as the emphasis placed on states' rights in the United States.[31]

However, it may be possible to distribute funds at the county level instead of the municipality level to address some of the inequities in funding while not infringing on states' rights. For example, school districts in Georgia and Alabama often fall along county lines, and the funding in these states is thus more equitable for all students.[32] This is because larger geographical tax bases allow for balancing out the differences in funding between wealthier and less wealthy municipalities.[33] Adopting a similar strategy throughout the United States would reduce disparities between municipalities like Paterson and Princeton and help ensure that Black students receive equal educational funding compared to non-Black students.

IV. Conclusion

National initiatives such as ESEA and ESSA are not enough to reduce the fundamental structural inequities in funding. Encouraging more state legislatures to mandate distributing funding at the county level based on the number of students instead of at the local level based on property taxes would help Black students attain their Constitutional right to an equal education.[34] While funding is not the only issue Black students face in education, it is a critical barrier to providing equal education opportunities.[35]

26 Khalilah M. Harris et al., "A Quality Education for Every Child," Center for American Progress, July 2, 2019, https://www.american-progress.org/issues/education-k-12/reports/2019/07/02/471511/quality-education-every-child/.

27 "Race to the Top," National Archives and Records Administration (National Archives and Records Administration), accessed October 24, 2020, https://obamawhitehouse.archives.gov/issues/education/k-12/race-to-the-top.

28 Elaine Weiss, "Mismatches in Race to the Top Limit Educational Improvement," Economic Policy Institute, September 12, 2013, https://www.epi.org/publication/race-to-the-top-goals/. Michael A. Seelig, "How 20 Years of Education Reform Has Created Greater Inequality (SSIR)," *Stanford Social Innovation Review: Informing and Inspiring Leaders of Social Change*, accessed October 24, 2020, https://ssir.org/articles/entry/how_20_years_of_education_reform_has_created_greater_inequality.

29 Emily Corrigan and Vanessa Wilkins, "What US Schools Can Learn From Finland's Approach to Education," Stanford Social Innovation Review, November 2019, https://ssir.org/articles/entry/what_us_schools_can_learn_from_finlands_approach_to_education#.; Stephen Tung, "How the Finnish School System Outshines U.S. Education," Stanford University, January 20, 2012, https://news.stanford.edu/news/2012/january/finnish-schools-reform-012012.html.

30 Stephen Tung, "How the Finnish School System Outshines U.S. Education," Stanford University, January 20, 2012, https://news.stanford.edu/news/2012/january/finnish-schools-reform-012012.html.

31 "The 10th Amendment of the U.S. Constitution," National Constitution Center – The 10th Amendment of the U.S. Constitution, accessed October 24, 2020, https://constitutioncenter.org/interactive-constitution/amendment/amendment-x.

32 Clare Lombardo, "Why White School Districts Have So Much More Money," NPR, February 26, 2019, https://www.npr.org/2019/02/26/696794821/why-white-school-districts-have-so-much-more-money.

33 Ibid.

34 "Your Right to Equality in Education," American Civil Liberties Union, accessed October 24, 2020, https://www.aclu.org/other/your-right-equality-education.

35 "K-12 Disparity Facts and Statistics," UNCF, March 20, 2020, https://uncf.org/pages/k-12-disparity-facts-and-stats.

Universities as Developers in Postindustrial Economies

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Rust Belt cities found a knight in shining armor in "meds and eds"-driven economic development after the collapse of industry. In the decades since this last industrial revolution, research institutions became industries in themselves through increasing power and space. Universities are now looking beyond their campuses as both economic and community developers. Reviewing the historical role of universities as developers reveals concerning trends that should inform present policy. The lack of local-level comprehensive policy on addressing universities as developers is common across the Rust Belt and complicated by economic reliance. Pittsburgh serves as a returning case to highlight the role of politics and place-based specifics in tensions between universities and communities. Ultimately, a comparison between Payments in Lieu of Property Tax (PILOT) and Community Benefits Agreements (CBA) policies informs the policy recommendation. Reaching a scalable solution that involves universities, local government, and communities in the development process, while upholding transparency and long-term commitment, requires a policy review.

Introduction: Cities are at a Crossroads with their Universities– Regulate, or Allow to Dominate

Adopting a medicine and education industry ("eds and meds") became an economic development tactic for postindustrial cities in the final decades of the last century. As major manufacturers shuttered or outsourced, Rust Belt cities reckoned with structural unemployment and declining populations. New York, Boston, and Baltimore first began addressing waning manufacturing by targeting technology-driven economic development, with research institutions acting as primary stakeholders.[1] Cities embraced this new brand of economic development for job creation and stability. By 1999, universities and hospitals were top employers in the twenty largest cities in the United States.[2] In the Rust Belt cities of Baltimore, Detroit, and Philadelphia, meds and eds account for 10 percent of the cities' total job base.[3] Rust Belt cities must balance job creation and in-migration with neighborhood needs. The consequences of dominant and massive monolithic institutions remain visible throughout the Rust Belt, particularly along its river valleys. When one or a few institutions become the dominant force in the economic and community development of a region, cities become beholden to that industry. In And the Wolf Finally Came, John Hoerr connects the collapse of Pittsburgh's steel industry to neighborhood and small business decline through a multiplier effect.[4] While meds and eds may be less vulnerable to market fluctuations than manufacturing, this approach to economic development remains susceptible to similar faults of old industrial models in relying on one large industry. Postindustrial places eager for new identities should consider these faults when it comes to industry attachment.

The relationship between universities and Rust Belt cities is changing. While universities acting as urban and community developers is not a phenomenon exclusive to the Rust Belt region, city leaders in postindustrial places are positioned to embrace new development. On its face, the match between postindustrial places and universities as economic development generators appears symbiotic. Scholar Matthew Fernandez wrote.[5]

1 Andrew T. Simpson, "We Will Gladly Join You in Partnership in Harrisburg or We Will See You in Court": The Growth of Large Not-for-Profits and Consequences of the 'Eds and Meds' Renaissance in the New Pittsburgh." Journal of Urban History, 2016.

2 Ira Harkavy and Harmon Zuckerman, "Eds and Meds: Cities Hidden Assets," Brookings (blog), September 1, 1999, https://www.brookings.edu/research/eds-and-meds-cities-hidden-assets/.

3 Ibid.

4 John Hoerr, And the Wolf Finally Came: The Decline and Fall of the American Steel Industry (University of Pittsburgh Press, 1988).

5 Matthew Fernandez, "The Question of the Tax-Exempt University," Inside Higher Ed, October 13, 2016, https://www.inside-highered.com/views/2016/10/13/economic-vs-civic-role-tax-exempt-colleges-university-pennsylvania-play.

"The relationship between universities and their home cities has increasingly become interdependent as the economies of Rust Belt cities have shifted from a manufacturing economy to 'eds and meds.' (Pittsburgh is a leading example.) Deindustrialization, along with increasing privatization, has transformed the image of universities not just into producers of knowledge, but, most importantly, producers of wealth."

Universities offer cities opportunity and industry, but this can come at the expense of a city's existing infrastructure, culture, and employment, especially in business districts. Whereas cities historically exchanged infrastructure, culture, and employment, specifically through central business districts, for the opportunity and industry of universities, power imbalances due to economic dependence and changing development patterns threaten to erode the symbiotic relationship. Cities must remember their jurisdictional authority over universities and consider their role as mediator and regulator as universities expand beyond their campuses throughout cities. Rust Belt cities must apply lessons of deindustrialization and leverage policy to keep from repeating past mistakes of urban renewal.

Purpose: Propose policy solutions to formalize university, community engagement

Nonprofit status distinguishes the meds and eds industry basis from manufacturing industry bases in urban economies. Most public and private universities and colleges are nonprofits through 501c3 status, and thus do not owe cities property taxes.[6] Given the loss of population and increased vacancy across the Rust Belt, universities' tax-exempt status increases tax burden on remaining property owners and businesses. Tax exempt status contributes to the structural power of meds and eds intuitions as it not only means less contribution to infrastructure and public amenities of a place, but also discounts future development.

Nonprofit institutions growing their footprint decreases the taxable property base that Rust Belt cities desperately need.

Literature questioning the role of nonprofit institutions as developers often focuses more on the role of hospitals rather than universities. This paper aims to narrow that information gap by analyzing universities' impact on economic and community development in postindustrial cities. I consider whether universities ought to contribute more to cities given their tax-exempt status and, if so, through what means those contributions should be recorded and distributed. Currently, universities can act as economic and community developers without transparency or long-term commitment to their cities. Policy solutions such as challenging tax-exempt status, Payments in Lieu of Property Tax (PILOT), or Community Benefits Agreements (CBAs) could restore power to communities as decision makers in their own development.

The organization of this paper is as follows. First, I contextualize the historic role of universities as developers and the use of urban renewal powers through literature review. Then, I consider case studies in New York City and Pittsburgh to identify elements essential for project success. I conclude with a policy review and recommendation that considers applicable solutions that balance university, community, and city power in development decision making.

Literature Review

Reviewing the changing role and increasing power of urban universities as developers

Universities' roles in the realm of economic and community development must be regulated in order to address, repair, and avoid repeating past injustices. Urban universities have historically been notorious players in community and economic development. Universities began growing during the period of white flight, following World War II. This period coincided with subsequent disinvestment through the back-to-the-city movement of the 1970s. Since the 1980s, degree-seeking college enrollment continued to increase, as did the size of university campuses.[7] Throughout the 20th century, universities championed failed and racist

6 " Tax-Exempt Status of Universities and Colleges," Association of American Universities, February 2019, https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Taxation-Finance/Tax-Exempt-Status-Universities-post-TCJA.pdf.

7 " The Condition of Education: Undergraduate Enrollment," Annual Report (National Center for Education Statistics, May 2021), https://nces.ed.gov/programs/coe/indicator/cha.

development policies, such as seizing land from minority neighborhoods[8] or promoting broken windows policing in abutting neighborhoods as they grew their campus footprint.[9] In this way, universities served as agents of urban renewal while maintaining nonprofit, tax-exempt status.

This pattern of land expansion and policy influence is ongoing. Universities continue to expand beyond their campuses into minority communities[10] and assert influence over public policy, such as by promoting predictive policing efforts that can disproportionately impact minority communities.[11] Assessing the changing nature of universities' influence over community development and considering case studies of past developments informs policy measures that can mitigate the harmful impacts of universities on neighboring communities. Adopting a place-based approach informs the power dynamics of universities and cities and pathways for policy to address, repair, and avoid repeating past injustices.

1. University expansion and development can harm neighboring communities

The pattern of large institutions expanding their campuses by seizing property in historically Black communities is not accidental, but a result of large-scale strategic disinvestment of cities. Loss of population, spurred by suburban white flight and furthered by deindustrialization, eradicated tax bases and thus funds for public investment. Racial discrimination in mortgage lending and real estate steering limited Black homeownership and intentionally segregated neighborhoods throughout the 20th century.[12]

Consequently, housing stock and infrastructure aged without reinvestment, creating blight. Blight refers to built environment decay that often manifests through vacant or derelict structures, overgrowth, or the presence of garbage.[13] Rather than recognizing blight as a consequence of structural racism and disinvestment, cities and redevelopment agencies declared neighborhoods blighted, which enabled them to employ eminent domain powers.

Blight declarations became a primary tool of urban renewal, a community development strategy well-known for destroying Black communities in the 20th century. James Baldwin referred to urban renewal as "Negro removal."[14] Universities, like many other institutions including housing and stadium authorities, employed blight declarations to seize and develop properties abutting campus as part of "urban renewal" efforts. Blight is harmful for communities, but the method of blight declarations and the land seizure that follows often excludes communities as stakeholders in development. Examples of the legacy of urban renewal are visible across US cities: Pittsburgh's Hill District, West Philadelphia, Detroit's Black Bottom, and Boston's West End. Renewal became a self-fulfilling prophecy, reinforcing blight, disinvestment, and stereotypes.

With accompanying narratives about the blight and subsequent dangers that lie beyond campus, dynamics between campuses and their neighbors became complicated. As former University of Pennsylvania President Judith Rodin explores in her text *The University and Urban Renewal:*

> "In the last quarter of the 20th century, urban colleges and universities found themselves enveloped by the poverty, crime, and physical decline that afflicted American cities. Some institutions turned inward, trying to insulate themselves rather than address the problems in their own backyards.[15]"

Cycles of urban decline, blight, and university expansion into underserved communities continue into

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8 Timothy Williams, "In West Harlem Land Dispute, It's Columbia vs. Residents," The New York Times, November 20, 2006, https://www.nytimes.

9 Sofia Kwon, "Broken Windows Policing and Gentrification Not Only Harmed the Black Community, but Also Strengthened Columbia's Reputation," Columbia Daily Spectator, October 5, 2020, https://www.columbiaspectator.com/news/2020/10/05/broken-windows-policing-and-gentrification-not-only-harmed-the-black-community-but-also-strengthened-columbia-as-reputation/.

10 elissa Rayworth, "Carnegie Mellon Looks to Expand Its Presence at Hazelwood Green," NEXTpittsburgh (blog), July 25, 2019, https://nextpittsburgh.com/city-design/carnegie-mellon-looks-to-expand-its-presence-at-hazelwood-green/.

11 Carnegie Mellon University, "Pittsburgh Crime Hot Spot Project: Preventing Crime with Predictive Policing," Metro 21: Smart Cities Institute, accessed June 16, 2021, https://www.cmu.edu/metro21/projects/reducing-crime.html.

12 Richard Rothstein, The Color of Law: A Forgotten History of How Our Government Segregated America (Liveright, 2017).

13 Michael Foreman, "How to Understand Urban Blight in America's Neighborhoods and Work to Eliminate It," Dickinson College (blog), accessed June 16, 2021, https://www.dickinson.edu/news/article/3461/how_to_understand_urban_blight_in_america_s_neighborhoods_and_work_to_eliminate_it.

14 James Baldwin, Interview on WNDT-TV, Television, May 28, 1963.

15 Judith Rodin, The University and Urban Revival: Out of the Ivory Tower and Into the Streets, The City in the Twenty-First Century (University of Pennsylvania Press, 2007).

the 21st century, positioning universities as property speculators. The following case studies examine the urban renewal practices that lead to campus insularity and the underlying community distrust.

a. Columbia in Harlem: New York City is home to several examples of contentious campus expansions that can serve as illuminating case studies for policymakers. Columbia University displaced over 20,000 residents between the 1960s and 1990s by means of police power and eminent domain.[16] As recently as 2008, Columbia sought and won a blight declaration in Harlem for the purpose of expanding their Manhattanville campus.[17] Columbia continues to expand its footprint through the Morningside Heights and, increasingly, West Harlem neighborhoods.

Columbia's relationship with its neighbors remains contentious due to the planned expansion into Harlem. The clashes and broken promises[18] are countless and already well covered by the literature.[19] To illustrate that compromise between Columbia and its neighbors is still attainable, I consider one instance of success.

Audubon Science and Technology Park stands out as a model of joint planning between a university and the surrounding community, even though it did not start out that way. The Audubon Ballroom, site of Malcom X's assassination, possessed cultural importance as a community space for Black and Dominican community members. The city-owned parcel connected Columbia's Health Science campus with its other development sites, and in 1982, Columbia envisioned razing the building to construct a new Audubon Biomedical Science and Technology Park. Columbia limited opportunities for input on the site's development to community board members and city officials, denying most community members the ability to weigh in on development.[20] When the project went public, however, activists protested

the development. With the assistance of the Manhattan Borough president, activists won demands for façade preservation, the inclusion of a Malcolm X museum, and community health and arts centers, and neighborhood-serving street-level retail on the site. Academics Peter Marcuse and Cuz Potter consider this development an "unabashed success" and model for community-university unity.[21]

Success of this project hinged on community members' involvement, despite exclusion from the formal planning process, coupled with a local public servant leveraging political capital. Local government played a mediating role between the university and its neighbors, preventing direct clashes between Columbia and neighboring residents. The Manhattan Borough president intervened, using a rare veto to withhold already apportioned state funding until community demands for the museum, arts center, and ballroom preservation were met. Without community and council intervention, Columbia would have collapsed the Audubon and further driven a wedge between the campus and surrounding community.

b. New York University, the Villain of the Village: Like Columbia University, New York University (NYU) also maintains contentious relationships with its neighbors, but is taking steps to correct its mistakes. Its next-decade strategic growth plan, NYU 2031, recognizes the long-term link between city and university wellbeing and centers around NYU becoming a good neighbor. Previously labeled 'The Villain of the Village' by community members,[22] NYU created the Community Task Force on NYU Development consisting of elected officials, community members, and architects and preservations facilitated by the Manhattan Borough president. NYU also agreed to uphold public guidelines throughout its development processes.

NYU 2031 recognizes and attempts to rectify NYU's past inequitable development practices, including its role in urban renewal and building imposing superblocks, massive buildings that consume entire blocks without public throughways or access.[23] NYU gave one of its three

16 Sofia Kwon, "Broken Windows Policing and Gentrification Not Only Harmed the Black Community, but Also Strengthened Columbia's Reputation," Columbia Daily Spectator, October 5, 2020, https://www.columbiaspectator.com/news/2020/10/05/broken-windows-policing-and-gentrification-not-only-harmed-the-black-community-but-also-strengthened-columbi-as-reputation/.

17 Ibid.

18 Barbara Stewart, "A Park Emerging From a Nightmare; A New Spirit Rises Near Columbia," The New York Times, August 1, 2001, https://www.nytimes.com/2001/08/01/nyregion/a-park-emerging-from-a-nightmare-a-new-spirit-rises-near-columbia.html.

19 Stefan M. Bradley, Harlem vs. Columbia University: Black Student Power in the Late 1960s (University of Illinois Press, 2009).

20 Ibid.

21 Peter Marcus and Cuz Potter, "Columbia University's Heights: An Ivory Tower and Its Communities," The University as Urban Developer: Case Studies and Analysis, May 31, 2005, 45–64.

22 Karen W. Arenson, "The Villain of the Village?; As N.Y.U. Edges Out and Up, Neighbors Put Up a Fight," The New York Times, April 19, 2001, https://www.nytimes.com/2001/04/19/nyregion/the-villain-of-the-village-as-nyu-edges-out-and-up-neighbors-put-up-a-fight.html.

23 New York University, "A University as Great as Its City: NYU's Strategy for Future Growth," 2008, https://www.nyu.edu/content/dam/nyu/redevelopment/documents/NYUs%20_strategy_for_future_growth_original_full_plan.pdf.

superblock towers to the city housing authority to provide affordable housing.[24] Additionally, NYU committed to architectural "sensitivity and appropriateness of use, scale, and character," and agreed to limit its square footage per student to half of that of Columbia and one quarter of that of Harvard.[25]

It is too early to draw conclusions on if or how development differs under the new framework. However, Vision 2031 sets a standard for university strategic plans to "front-load" community involvement and recognize that the university engagement must be continuous.[26] Given the repeated pattern of community disruption through development and with new plans willing to acknowledge past fallings, as in the NYU case, now is the time to introduce more standardized local reform to guide future development.

2. Universities are becoming more like corporations, but still do not pay property taxes

The role of universities as modern research centers and economic drivers coincided with the biotech boom of the 1980s. The Bayh-Doyle Act of 1980 allowed academic research institutions to begin licensing and commercializing their research findings.[27] This policy change allows universities to take on private-industry functions by developing their research into a profit-generating business. Previous literature, including *How Universities Promote Economic Growth* from the World Bank,[28] frames university-industry links as catalysts for economic development. While these links initially focused on private sector connections and start-ups, the birth of research institutions means universities are now industries within themselves.

a. As universities act like private firms, they change their built environment: Universities' relationship with the built environment of their cities changed as they became more like private firms.[29] While manufacturing firms dominated riverfronts, often separated from

residential neighborhoods by railroad tracks, urban universities occupy neighborhood corridors. Research institutions impress on their cities' built environments by giving rise to innovation districts, such as the Oakland neighborhood in Pittsburgh.[30] Start-ups, incubators, and accelerators cluster in innovation districts, anchored by universities but often spilling beyond campus borders.[31] This expansion can create positive and negative spillover effects for communities, including property value increases, infrastructure updates, or new neighborhood services and community space. However, these districts can mimic campus-like insularity with limited public access, especially when their anchoring institutions fail to build relationships with existing residents. Unlike wealth generated by manufacturing, wealth generated by universities tends to be more asymmetrically distributed to those directly involved in the institution.[32] The extent to which spillover effects benefit existing residents depends upon the degree communities can see themselves in new development, which can be mediated by policy.

Without carving out explicit connections, through built environment infrastructure or work opportunities, innovation districts are at risk of alienating other residents with campus-like insularity and limited public access. Advocates of meds and eds-based economic development cite innovation and opportunity afforded to communities by universities as mutually beneficial.[33] However, despite research capacity, universities often do not report the community benefits they provide, if any.

b. Universities behave like consultants, with their cities as their laboratories

As university associations with private industry strengthen through innovation districts, universities must better balance public interest to retain nonprofit status. University-city partnerships, like innovation districts, serve to connect the abilities of research institutions with built environments. Historically, universities considered communities and surrounding neighborhoods as sources for research sites, internships,

24 Ibid.

25 Ibid.

26 Ibid.

27 Peter Marcus and Cuz Potter, "Columbia University's Heights: An Ivory Tower and Its Communities," The University as Urban Developer: Case Studies and Analysis, May 31, 2005, 45–64.

28 Shahid Yusuf and Kaoru Nabeshima, How Universities Promote Economic Growth (World Bank Group, 2006), https://elibrary.worldbank.org/doi/abs/10.1596/978-0-8213-6751-3.

29 Matthew Fernandez, "The Question of the Tax-Exempt University," Inside Higher Ed, October 13, 2016, https://www.insidehighered.com/views/2016/10/13/economic-vs-civic-role-tax-exempt-colleges-university-pennsylvania-play.

30 "Research & Innovation Anchors," Pittsburgh Innovation District, accessed June 16, 2021, https://www.pittsburgh-id.com/new-page-1.

31 Bruce Katz and Julie Wagner, "The Rise of Innovation Districts: A New Geography of Innovation in America," Brookings Institution, accessed June 16, 2021, https://www.brookings.edu/essay/rise-of-innovation-districts/.

32 Ibid.

33 Ibid.

labor, and places upon which to enact charity.[34] Framing places as valuable only insofar as they benefit an institution makes for transactional relationships and further divides long-time and emerging communities. University advocates argue the relationship between communities and universities is increasingly cooperative and mutually beneficial,[35] corresponding with the evolving role of universities in the realm of community engagement.[36] While universities' increasing interest in community engagement is useful for crafting policy solutions, their historic role in urban renewal must not be forgotten to avoid repeating past mistakes.

In Pittsburgh, Carnegie Mellon University (CMU) collaborated with the City of Pittsburgh to act as the "research and development arm of the city government," and have the City of Pittsburgh as its "urban laboratory." Pittsburgh Mayor Bill Peduto highlights how universities serve as corporations, with the city as a client, rather than as community actors:

> "We now have a Memorandum of Understanding with the university, the first of its kind in this country's history, that allows us to have the university as the research and development arm of city government, and allows the city to be CMU's urban laboratory. So, if I want to develop the next generation of traffic lights that use real-time data and sensors that are able to move traffic much more efficiently, I don't have to put out an RFP. I can just pick up the phone, call the university, and say, 'I need your team to develop this for me.'[37]

As part of this partnership, CMU's Metro 21 Institute partnered with the City of Pittsburgh to create a predictive policing algorithm. Using artificial intelligence technology, researchers used biased crime data to identify chronic crime hot spots and predict when and where crimes would occur with the purpose of deploying extra police patrols. The result saw already over-policed neighborhoods further policed. Homewood, a historically Black neighborhood, was used to pilot this program in 2016. Pittsburgh police tested this tool from 2017-2019 without public input.[38] Once uncovered, communities demanded input and more information, only for the university to scrape their websites of information on the program.[39]

The case shows that without accountability measures in place, universities can claim to be offering public assistance without ever seeking public input. Like corporations, universities need only answer to their clients. The City of Pittsburgh's complicity in this case further demonstrates the need for standard policy that withstands administration changes. Standardized local policy should guide universities as developers while empowering community members to avoid backlash like that in Homewood.

3. Philadelphia used PILOTS as an alternative to property taxes to respond to "Penntrification"

The consequences of the increasing role of universities beyond campuses is exemplified in Philadelphia, through taxes and community tension. By the mid-1990s, one quarter of Philadelphia real estate was tax-exempt as a result of major university development. The University of Pennsylvania remains a major contributor to this total, walling itself off from surrounding neighborhoods. The University of Pennsylvania is responsible for the development into West Philadelphia's Black Bottom, coining the term "Penntrification."

With increased pressure from residents bearing the burden of property tax, the city government sought a Payments in Lieu of Property Tax (PILOT), arguing that major universities and healthcare providers no longer met the "purely public charity" state standard.[40] After a dispute in the state legislature, universities and hospitals signed a five-year agreement with the

34 Bruce L. Mallory, "Reflections on the Wingspread Experience," Higher Education Collaboratives for Community Engagement and Improvement, 2005, 18–21.

35 M.C. Jischke, "Universities," Vital Speeches of the Day 72 (2006): 509–12.

36 Judy Shannon and Tiffany R. Wang, "A Model for University-Community Engagement: Continuing Education's Role as Convener," The Journal of Continuing Higher Education 58, no. 2 (2010): 108–12.

37 Richard Florida, "Bill Peduto: 'Pittsburgh Was Already a Decade Ahead,'" Bloomberg CityLab (blog), February 8, 2018, https://www.bloomberg.com/news/articles/2018-02-08/pittsburgh-s-bill-peduto-on-avs-and-an-economy-for-all.

38 Coalition Against Predictive Policing, "Predictive Policing in Pittsburgh," https://capp-pgh.com/files/CPP%20Teach-in%2007-16-2020.pdf.

39 "Carnegie Mellon University, "Pittsburgh Crime Hot Spot Project: Preventing Crime with Predictive Policing," Metro 21: Smart Cities Institute, accessed June 16, 2021, https://www.cmu.edu/metro21/projects/reducing-crime.html.

40 D. Glancey, "PILOTS: Philadelphia and Pennsylvania," Property-Tax Exemption for Charities: Mapping the Battlefield, 2002, 211–32.

city that was not renewed.[41] The relationship between communities and the University of Pennsylvania[42] remains strained and development plans are now met with skepticism and concern.[43]

4. Continuous Community Battles Between Universities and Neighborhoods in Pittsburgh

Pittsburgh provides several cases of contentious university development that demonstrate the need for policy solutions. The University of Pittsburgh (Pitt) utilized urban renewal practices during the second half of the 20th century. A period of imaginative master planning heavily reliant on the powers of eminent domain defined the university's growth in the 1950s and 60s.[44] The planning process occurred privately, without public input.[45] In 1970, a university proposal for hillside dorms sparked community backlash from both neighbors and school stakeholders. This backlash inspired the creation of Peoples Oakland, a community group that formally objected to the plan due to lack of consultation. In his close study of this period of university development, policy analyst Paul Shaw found Pitt officials were divided not only on what their response should be, but their responsibility to the community in the planning process. Despite its status as a knowledge epicenter in Pittsburgh, Pitt required guidance on how to go about community engagement and development.

Before the rise of the research institution, community groups like Peoples Oakland could put universities in the defensive position. The case of the hillside dorm development required Pitt to negotiate with both the city and community by offering a series of expansion moratoriums. Unsatisfied, Peoples Oakland demanded that Pitt adopt a collaborative planning process moderated by public officials, known as charrette planning. The university chose not to adopt charrette planning, ignored good faith moratoriums, and built the dorms anyway.

Tension between Pitt and the surrounding community persists today. In From Conflict to Cooperation, or How the 800-Pound Gorilla Learned to Sit with-and not on-Its Neighbors, Sabina Deitrick and Tracy Soska highlight the power imbalance between community groups and the university as well as the pressure of campus expansion as the primary source of tension.[46] Deitrick and Soska cite "publicization," or state funding, as the motivating factor for the university to reform development in line with the greater Pittsburgh Renaissance. A notable change from the 1970s era of development includes Pitt installing a community-facing administrator and assisting in neighborhood-group sponsored investment. Neighborhood groups also drew boundaries for the university in their own comprehensive plans. To this day, Pitt maintains a Public Neighborhood Commitment, including staffing a community administrator, though it only applies to the Oakland neighborhood.[47] The influence of public status is not only consistent with NYU versus Penn's approach to past wrongdoing, but also could challenge the increasing privatization pressure of research institutions.

Pitt and CMU look to expand beyond Oakland

Presently, Pitt and CMU are looking to develop beyond campus boundaries into neighborhoods with which they did not have formal neighborhood commitments. This non-contiguous expansion makes the planning process less compatible with engagement tools designed for single planning issues at the neighborhood level.[48] In recent years, the University of Pittsburgh began expansion into the historically Black neighborhoods of Homewood and the Hill District. Both neighborhoods will be home to Community Engagement Centers, university-imagined flex spaces devoted to educational and community programming. Here, universities still hold the purse strings and decide how to allocate spending for communities.

CMU, like the University of Pittsburgh, is looking

41 Carolyn Adams, "The Meds and Eds in Urban Economic Development," Journal of Urban Affairs 25, no. 5 (December 1, 2003): 571–88.

42 Matthew Fernandez, "The Question of the Tax-Exempt University," Inside Higher Ed, October 13, 2016, https://www.inside-highered.com/views/2016/10/13/economic-vs-civic-role-tax-exempt-colleges-university-pennsylvania-play.

43 Molly Webb, "The Long and Troubling History of Penntrification in West Philly," Curbed Philly (blog), July 11, 2013, https://philly.curbed.com/2013/7/11/10221368/the-long-and-troubling-history-of-penntrification-in-west-philly.

44 S abina Deitrick and Tracy Soska, "The University of Pittsburgh and the Oakland Neighborhood," The University as Urban Developer: Case Studies and Analysis, 2005, 25–44.

45 Paul C. Shaw, "Truth, Love and Campus Expansion: The University of Pittsburgh Experience" (University of Pittsburgh Urban Interface Program, June 1973), https://files.eric.ed.gov/fulltext/ED081324.pdf.

46 Sabina Deitrick and Tracy Soska, "The University of Pittsburgh and the Oakland Neighborhood," The University as Urban Developer: Case Studies and Analysis, 2005, 25–44.

47 "Neighborhood Commitments," University of Pittsburgh Office of Community & Governmental Relations, accessed June 17, 2021, https://www.cgr.pitt.edu/community-engagement/neighborhood-commitments.

48 Paul C. Shaw, "Truth, Love and Campus Expansion: The University of Pittsburgh Experience" (University of Pittsburgh Urban Interface Program, June 1973), https://files.eric.ed.gov/fulltext/ED081324.pdf.

to other neighborhoods to expand into: Space bound between the Oakland and Squirrel Hill neighborhoods, Carnegie Mellon University's Mill 19 development in Hazelwood is among the last major underdeveloped former industrial (brownfield) sites within the city limits. Here, university-driven economic development is physically replacing former industry in disinvested communities.

Pittsburgh universities are not alone in looking beyond their home neighborhoods for future development. Space-bound universities in dense settings, such as Columbia and NYU, are looking across rivers. Oakland, Greenwich Village, and Harlem are still fighting to assure proper community input, but past experience with universities inform higher levels of accountability today. When universities move into new communities with no standard or precedence for collaboration, they threaten the futures of those communities.

Though the purposes of developments differ, together they form a pattern of university development not only beyond the campus bubble, but in historically disinvested neighborhoods. As Rust Belt cities seed development power to industries, their ability to defend existing communities weakens. Whether current Pitt and CMU projects considered their respective neighborhoods plans is unclear–a check that can be easily rectified if organized through policy. Policymakers at the city level must create a consistent process to achieve clarity on transparency and long-term commitment of these developments.

Necessary Policy Components

Given the involvement of public entities, change is best suited for the realm of policy. Throughout the process, policymakers should uphold transparency, accountability, and long-term commitments as tenants of university-community relations.

1. Policy solutions addressing universities' roles as developers should include transparency and accountability

Universities, reluctant to adopt additional development responsibilities, generally seek to dismiss any further regulation from local governments. Most recently, universities argue that they cannot spare financial resources for their cities due to the COVID-19 pandemic and associated enrollment challenges.[49] Still, there remains a need for transparency in development, and not all policy solutions hinge on large monetary transfers.

University advocates defend universities' tax-exempt status as essential to service provision. The Association of American Universities argues that:

> Because of their tax exemption, universities and colleges are able to use more resources than would otherwise be available to fund: academic programs, student financial aid, research, public extension activities, and their overall operations.[50]

This argument suggests that tax-exempt status allows universities to engage in development that benefits communities that they wouldn't be able to undertake if they paid property taxes. However, there is no formal recording procedure for the specifics of this assistance, so cities are unable to determine the extent to which university development benefits communities.

Precedent for more in-depth, community-relevant reporting exists for other tax-exempt institutions. The IRS implemented the Community Benefit requirement for nonprofit hospitals in 1956, requiring nonprofit hospitals to serve their community through Community Benefit Requirements, or uncompensated care, in order to maintain tax-exempt status.[51] Under this provision, providers must report annually, breaking down community benefits into categories. The categories of Community Benefits expanded over time to adapt to changing communities needs.[52] No such criteria exists for universities.

Given the questionable historical development practices deployed by urban universities, monetary transfer is only one component of a larger policy package. Tax-exempt status should make universities

49 Shawn Hubler, "Colleges Slash Budgets in the Pandemic, With 'Nothing Off-Limits,'" The New York Times, October 26, 2020, https://www.nytimes.com/2020/10/26/us/colleges-corona-virus-budget-cuts.html.

50 "Tax-Exempt Status of Universities and Colleges," Association of American Universities, February 2019, https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/Taxation-Finance/Tax-Exempt-Status-Universities-post-TCJA.pdf.

51 Michael Rozier, Susan Goold, and Simone Singh, "How Should Nonprofit Hospitals' Community Benefit Be More Responsive to Health Disparities?," American Medical Association Journal of Ethics 21, no. 3 (March 1, 2019): 273–80, https://doi.org/10.1001/amajethics.2019.273.

52 "What Is Community Benefit?," Center to Advance Community Health & Equity (CACHE), accessed June 17, 2021, https://www.thecachecenter.org/what-is-community-benefit.

more accountable to the public than private industries, and transparency and long-term commitment must be codified into policy to hold universities accountable. While standards of transparency and access are higher for public institutions, taxpayers must fill the gap left by tax-exempt institutions. Also, reporting mechanisms and infrastructure are already in place for meeting IRS requirements. While some institutions may elect to create an annual report on community work or include it in their tax filings, mandated consistent reporting that adopts plain language guidelines[53] should be completed for and delivered to communities impacted by universities.

2. Policies should enforce university transparency throughout development planning

As universities outgrow existing campus footprints and expand into new neighborhoods, cities must demand transparency measures. Transparency is not limited to involvement in the planning process and includes capacity for involvement beyond university-guided development. In the case of Pitt's hillside dorms, building in community engagement earlier in the process would have recognized organizations like Peoples Oakland as co-creators, rather than just recipients of the plan. The inclusion of community groups, including Peoples Oakland, in Pitt's 2019 Campus Master Plan showed promise.[54] However, Pitt failed to acknowledge the expansion of its campus beyond the Oakland neighborhood. Unlike NYU's strategic plan, Pitt does not acknowledge its past planning mistakes that led to tense relationships with surrounding communities. Instead, the chapter "A More Connected, Outward Looking, Engaged University" focuses on parking and transportation. This section contains a loose suggestion that the Middle Hill District may host a parking site in the future due to its "relatively easy access from the North Hills via PA380/Bigelow Boulevard and Herron Avenue."[55] The section suggests the site could be mixed-use and provide childcare or neighborhood retail, but lacks any reference to consulting Hill District stakeholders. The plan concludes by stressing its flexibility, but also suggests flexibility is market demand and real estate driven like a private firm.

Universities stand to benefit from greater transparency as a means to preserve political capital and nonprofit status. Political scientist Kimberly Casey defines political capital as "the sum of combining other types of capital for purposive political action or the return of an investment of political capital which is returned into the system of production (reinvestment)."[56] In other words, political capital is persuasive power, like economic capital, built from relationships, like social capital. As illustrated in the Audubon Auditorium case, Columbia's lack of recognition of the community backfired, as the community design eventually won out and cost the school political capital. The public benefit and access of each development, especially for public institutions, should be pre-mediated and clearly articulated. NYU's frontloaded community planning approach promises to consider neighborhood needs alongside institutional needs in the pre-development phases. Moreover, as private developers also face community engagement requirements early in the planning process,[57] this ask is not unique to tax-exempt status.

Given that university advocates uphold that proximity to campuses is a net gain for neighborhoods and communities due to increased access to opportunity, universities should record and publish data on the value of their services to the public. Beyond employment, how many neighbors use university facilities, attend classes, or benefit from university services? This can also translate to a clearer understanding about public access to university resources during university development processes. Given the rise of research institutions and the interest in using communities as laboratories, universities cannot deny capacity to audit their own impact. Framing universities as nonprofits and accountable to the public serves as a power balance for communities to gain access to the development process. As expansions look to move campuses away from gated-off models with perceived outside violence,[58] universities will remain effective segregators without transparency in development through community review and public access.

53 "Federal Plain Language Guidelines," Plainlanguage.gov, accessed June 17, 2021, https://www.plainlanguage.gov/guidelines/.

54 University of Pittsburgh, "Envisioning the Future: Campus Master Plan 2019," 2019, https://www.campusplan.pitt.edu/draft-campus-plan.

55 Ibid.

56 Kimberly Casey, "Defining Political Capital: A Reconsideration of Bourdieu's Interconvertibility Theory," January 1, 2005.

57 Jared Brey, "Seattle Requiring Developers to Engage Communities At Earlier Project Phases," Next City (blog), July 13, 2018, https://nextcity.org/daily/entry/seattle-requiring-developers-to-engage-communities-at-earlier-project-phase.

58 Ames Grawert and Cameron Kimble, "Takeaways from 2019 Crime Data in Major American Cities," Brennan Center for Justice, December 18, 2019, https://www.brennancenter.org/our-work/analysis-opinion/takeaways-2019-crime-data-major-american-cities.

Policy Criteria

	Removing Nonprofit Status	PILOT	CBA	Hybrid
Risk	High	Moderately High	Low	Medium
Feasibility/Political Capital	Court Dependent & Costly	Existing Model & Costly	Existing Model & Less Costly	Place-based & Less Costly
Transparency	Public	Public	Public	Public
Commitment Timeline	Perpetuity	Perpetuity but fluctuating	Decided by parties	Decided by mediator
Balance of Power	Moved beyond primary parties	Increase city power	Increase community power	University community balance, city mediates

Figure 1. Policy Criteria breakdown of four policy potentials

3. Policies should prioritize long-term commitments over transactional relationships

Stressing long-term community commitment in reporting and monetary transfer programs encourages development consistent with neighborhood plans. The long-term nature of such a commitment assures projects will not graduate with a given student and demonstrates interest in communities beyond land or extractive needs. Additionally, long-term commitments can go further into reparation in acknowledging past wrongs. Through long-term commitments, universities distinguish themselves from private developers and recognize their duty to neighbors as a stranded asset.

While long-term commitments ought to span into the future, they are informed by the past. Concern about universities as developers is based in the reality of the past trauma these institutions inflicted on vulnerable communities and neighborhoods. In the Pittsburgh case, Pitt continued to stretch its boundaries and buy property despite a growth moratorium with the community. Growth moratoriums challenge sustainable long-term commitments, and Pitt was able to focus on different corners of campus to evade the policy. Tying Pitt's commitment to Oakland's Neighborhood Plan, which stresses the need to balance neighborhood services and homeownership with institutional needs, would promote a long-term commitment. A planning tool that ties together community needs and development interest exists, as discussed in depth during the policy recommendations, through a Community Benefit Agreement.

The long-term nature of a commitment is especially relevant given the sparse and unreliable nature of past attempts to elicit PILOTs and other contributions from tax-exempt institutions. The case study of Pittsburgh illuminates the long-term nature of this policy debate as well as how power dynamics and state level precedent inform university-community planning. Several attempts at PILOTs or other nonprofit contributions were made in Pittsburgh city government across the last half century. The first iteration, the sick tax, emerged in 1969 and resulted in lawsuits from each of the city's major nonprofits. PILOT proponents argued that many nonprofits fail the HUP test requirement that institutions with nonprofit status operate as a "purely public charity." The HUP test, derived from the Pennsylvania Supreme Court's 1985 decision in Hospital Utilization Project (HUP) v. Commonwealth, requires that nonprofit institutions "operate entirely free from private motive."[59] The sick tax challenged the aggressive property acquisition and debt collecting practices of several institutions, resulting in the loss of tax-exempt status.[60]

Previous Pittsburgh mayoral administrations threatened to invoke challenges to "purely public charity" against the large tax-exempt organizations. Seeking a PILOT does not require the higher burden of challenging tax-exempt status through HUP and thus has been used by Pittsburgh mayoral administrations past to reach a deal outside of a courtroom. The most successful of these one-off deals was the "a tax by any other name" payment made by Presbyterian University Hospital in

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59 Hospital Utilization Project v. Com., Justia (Supreme Court of Pennsylvania 1985).

60 Andrew T. Simpson, "We Will Gladly Join You in Partnership in Harrisburg or We Will See You in Court": The Growth of Large Not-for-Profits and Consequences of the 'Eds and Meds' Renaissance in the New Pittsburgh." Journal of Urban History, 2016.

Year	PILOT Requested	Community Benefit	Cash	% met
2020	$ 112,242,116	$ 52,911,627	$ 34,390,529	77.8%
2019	$ 109,135,247	$ 52,496,775	$ 34,187,928	79.4%
2018	$ 104,108,066	$ 50,223,414	$ 33,640,461	80.6%
2017	$ 101,752,120	$ 52,256,610	$ 49,495,510	100%
2016	$ 97,556,941	$ 50,150,131	$ 47,406,810	100%
2015	$ 83,848,037	$ 43,159,162	$ 40,688,875	100%

Figure 2. Boston PILOT requests versus collections

1988.[61] This deal occurred only once and was directly tied to the expansion of the hospital. Once this initial deal expired, no further contributions were sought, and Mayor Bill Peduto dissolved the only long-term funding from tax-exempt property holders, "nonprofit payment for services," in 2013.

Though the nonprofit payments for services only amounted to around 3 million annually, Peduto promised to replace it with a more comprehensive OnePGH fund which finally materialized on April 29, 2020, during the mayoral primary season.[62] Peduto's challenger and presumed new mayor Ed Gainey called the $115 million over 5 year deal "$135 million too little, and 7 years too late." [63] The most concerning element of the new plan, however, is its proposed implementation. The money would be managed and distributed by an unelected nonprofit board, (already called a "shadow government" by critics) without public accountability. [64] Maintaining long-term commitments that include communities, local government, and universities remains a long-term problem in Pittsburgh.

Thus, university development is currently treated as philanthropy, despite the lack of systematic reporting of public benefits provided by universities. University development must occur in the public eye to remediate harms imposed by universities. Considering different policy models can inform the best path to codifying

and implementing new development design. Given the state and local jurisdiction of public funding, a hybrid policy may allow for a dynamic response to the role of universities that is amenable to change as the landscape of postindustrial economies change

Policy Analysis: Four options for balancing power between universities, communities, and cities

Though Rust Belt cities retain shared histories, diverging futures mean differing needs. In this way, policy solutions should occur at the local level to cater to the specific needs of each geography. Given the pressing need to develop comprehensive policy, this section considers several potential policy models against a four-tiered policy criterion. The policy criteria consider the political capital necessary for passage, transparency, commitment timeline, and balance of power. Of the policy solutions proposed, the political capital necessarily varies; thus city-specific context such as the historic relationship with universities versus present financial position will inform which solution fits best. However, the solutions are not mutually exclusive and hybrid models can develop over time to address the dynamic power balances in Rust Belt cities.

Rust Belt cities must reach and codify a solution with universities rather than continue in an ad-hoc manner in order to protect vulnerable communities. While COVID presently complicates the financial position of universities, it has also led to gaps in local government budgets.[65] Challenging tax-exempt status, the largest risk, would reap the largest reward in direct tax payments. PILOT programs address the role of universities as developers from a fairness standpoint and

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61 "A Tax by Any Other Name," Pittsburgh Post-Gazette, March 24, 1988.

62 J. Dale Shoemaker, "During Five Years in Office, Has Mayor Peduto Fulfilled His Pledges to Pittsburgh?," PublicSource, January 30, 2019, https://www.publicsource.org/during-five-years-in-office-has-mayor-peduto-fulfilled-his-pledges-to-pittsburgh/.

63 Michael Machosky, "Pittsburgh's Biggest Nonprofits Contributing $115 Million for OnePGH to Tackle Major Problems," NEXTpittsburgh (blog), April 30, 2021, https://nextpittsburgh.com/latest-news/pittsburghs-biggest-nonprofits-contributing-115-million-for-onepgh-to-tackle-major-problems/.

64 Rich Lord, "Peduto Announces Long-Awaited Nonprofit Contributions to Pittsburgh's Needs," PublicSource, April 29, 2021, https://www.publicsource.org/peduto-onepgh-pittsburgh-nonprofit-contributions-upmc-highmark-pitt-cmu-gainey/.

65 Anshu Siripurapu and Jonathan Masters, "How COVID-19 Is Harming State and City Budgets," Council on Foreign Relations (blog), March 19, 2021, https://www.cfr.org/backgrounder/how-covid-19-harming-state-and-city-budgets.

seek payment directly to local governments. Community Benefits Agreements center around trust and the acknowledgement of past harm in new development but is not a cash transfer. In developing policy, cities decide whether to treat universities as public players or as they would private developers. Each comes with tradeoffs, but addresses the underlying concerns of transparency and long-term commitments to communities.

A. Challenging tax-exempt status on basis of pure charity

Revoking tax-exempt status would make institutions liable for their property tax like any other private property owner. Implementation would require enormous political capital and strong legal standing. While the HUP criteria does provide a path to sue by challenging the "purely public charity" status of institutions in Pennsylvania, lack of success in hospital cases [66] does not bode well for changing the status of universities. For transparency and long-term commitment, funds would be treated as regular tax dollars and thus would likely be distributed throughout a city rather than concentrated in adjacent neighborhoods. This policy also runs the risk of unintended consequences of removing any incentive to publicize university resources or spaces. In terms of the balance of power, a full revocation of tax-exempt status also moves negotiations beyond the universities, local governments, and communities to the judicial system. Challenging tax-exempt status may not provide net positives for universities, but that does not discount the policy approach altogether. Instead, this approach serves as political leverage in negotiations. This option gives local governments more bargaining power in seeking contributions beyond philanthropy.

B. PILOTS

PILOTS offer a monetary solution for local governments and community groups and make community engagement optional for universities. While developing local community benefits reporting requirements could be policy in itself, pairing a complementary funding scheme will give the legislation power to uphold transparency and long-term commitment to communities. Payments in lieu of property taxes directly recognize that tax-exempt status advantages nonprofit institutions as developers despite their reliance on public infrastructure. PILOTS especially make sense in Rust Belt cities where budgetary needs based in a loss of population and legacy costs clash with the ability to modernize and attract new people.[67]

PILOTS are not a new policy solution. While used sporadically throughout the last several decades in the Rust Belt, Boston used PILOTs to make for more responsible university-driven development through transparency. From the recommendation of a task force, Boston adopted voluntary PILOT guidelines in 2011.[68] The PILOT request resembles a tax bill with an estimated contribution request for medical, educational, and cultural institutions with property valued at more than $15 million. Institutions can also seek a community benefits deduction up to 50 percent of the PILOT request by submitting a report on self-administered projects and community partnership contributions. In the last fiscal year available, 2020, institutions collectively met 79 percent of the overall PILOT request. PILOT contributions and distribution and community benefit reports are published annually. The community benefits report breaks down individual contributions into ten issue categories such as Housing, Violence Prevention, and Good Neighbor Activity.[69] Additionally, recognizing the place-based nature of these benefits, the report further breaks down contributions at the neighborhood level. Specific reporting of the value and recipients of community benefits is achieved through Boston's PILOT, even for projects not undertaken with PILOT funds.

While the Boston PILOT exemplifies transparency, the voluntary nature may seem to challenge long-term commitment. Despite the voluntary nature as well as community benefits credit deduction, the annual amount collected is fairly consistent:

Given that Community Benefits consistently make up over half of the contributions, there is further space to reward long-term commitment. The Boston PILOT reporting continues to evolve since it began a decade ago as evidenced by the creation of the recap and community benefits report. By adding a reporting section on ongoing projects, the PILOT can nudge

66 Rich Lord and Bill Toland, "Judge Rules for UPMC on Payroll Tax Dispute with City," Pittsburgh Post-Gazette, June 25, 2014, https://www.post-gazette.com/frontpage/2014/06/25/Judge-dismisses-city-s-attempt-to-get-payroll-taxes-from-UPMC/stories/201406250195.

67 Stephen Eide, "Rust Belt Cities and Their Burden of Legacy Costs," Manhattan Institute (blog), October 24,

68 "Payment in Lieu of Tax (PILOT) Program," City of Boston, December 7, 2020, https://www.boston.gov/finance/payment-lieu-tax-pilot-program.

69 City of Boston, "Summary of FY20 PILOT Community Benefits" (City of Boston, n.d.), https://www.boston.gov/sites/default/files/file/2020/11/FY20%20PILOT%20Community%20Benefits%20Summary_10.pdf.

institutions into considering long-term community benefits. The community benefit report also empowers community members with a checking role by assuring university reporting reflects the built environment.

Though successful in Boston, PILOTs are politically costly as they require local governments to act as an enforcer, rather than a friend, to universities. Given Rust Belt reliance on these institutions, while the PILOT outcome of a cash infusion is preferred, the label of "PILOT" is taboo. In Pittsburgh, despite challenges from several mayoral administrations resulting in small, random payments, the present administration is avoiding the PILOT model. When discussing the need for a deal with Pittsburgh's "Big Four" nonprofits, former Chief of Staff Kevin Acklin acknowledged the expansion of academic and medical campuses directly shrinks the city's tax base.[70] However, Acklin refrained from making the jump to PILOTs: "We're not even going to call this a PILOT … It's more about finding the way that a city and county can have a long-term, meaningful commitment from nonprofits who are leading the city's economy."[71] Pittsburgh previously benefited from "a tax by any other name" and today seeks a PILOT by any other name.

A PILOT system allows for community benefits claims and could help balance universities' ongoing development that benefits communities. As Rust Belt cities seek to balance the desire for development with reliance on universities, tying PILOT payments to square footage occupied may result in unintended consequences. Instead, considering PILOTS as an added tax for new development in vulnerable communities or places victim to urban renewal could more directly balance potential negative impacts.

C. Community Benefits Agreements

Universities and communities can form Community Benefits Agreements to assure transparency throughout the planning process and long-term commitment, but also require mediation from local governments. Community Benefits Agreements (CBAs) are contracts most commonly made between private real estate developers and communities, but also could be used for universities and communities. CBAs are effectively promises made by developers that new development

will contain specific community demands. CBAs are often used in places that were victims to urban renewal practices, making their application to universities and communities relevant. Rust Belt cities like Detroit and Philadelphia are currently considering legislation making CBAs mandatory for all major development.[72]

Community Benefits Agreements exist at the federal level through the Community Benefits Requirement the IRS mandates for hospitals. Implementing a federal change requires more political capital, but could complement local work and serve as a check on the self-reporting that often accompanies community reporting. The punishment for false or misleading reporting, beyond challenging community trust, would be an IRS investigation. Unlike challenging tax-exempt status or PILOTs, CBAs do not involve cash transfers from institutions to local governments. While more feasible and reactionary to present development, CBAs do not address the long-term impact of loss of tax revenue for local governments.

CBAs are often powered through Registered Community Organizations (RCOs). Cities or planning authorities grant RCO status to community groups contingent on their application. In Pittsburgh, for example, applications require 501c(3) status confirmation, bylaws, a community strategy example, fiscal sponsorship, and a website plan.[73] Developers must meet with RCOs during the project approval process. CBAs with mandatory RCO involvement redistribute power to communities to a greater extent than PILOTs or changing tax-exempt status. While potentially politically costly with the developers, the mechanisms of this legislation are relatively less politically costly and already exist in Detroit and Pittsburgh. The strength of Community Benefits Agreements lies in their long-term focus and clarity. CBAs clarify both the community vision and require evidence of project intention and environmental impact of development.

RCOs are not a goldilocks solution. Implementation of a CBA policy in Philadelphia divided residents, leading to additional measures including RCO codes

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70 Natasha Lindstrom, "Pittsburgh, Allegheny County near Payment Deal with Big 4 Nonprofits," Pittsburgh Tribune-Review, December 29, 2016, sec. Local, https://archive.triblive.com/local/pittsburgh-allegheny/pittsburgh-allegheny-county-near-payment-deal-with-big-4-nonprofits/.

71 Ibid.

72 Jake Blumgart, "Philly's Council President Wants to Force Big Developers to Offer Community Benefits," WHYY (blog), June 18, 2019, https://whyy.org/articles/force-big-developers-to-offer-community-benefits-phillys-council-president-wants-to-make-it-law/.

73 "Become an RCO," City of Pittsburgh Department of City Planning, accessed June 17, 2021, http://pittsburghpa.gov/dcp/become-a-rco.

of conduct.[74] Organizing CBAs around RCOs also faces criticism for the additional requirements put before community members.[75] To receive RCO status, community groups must devote already limited time and resources to a lengthy application process and training. Some community members perceive this process as an additional barrier to engagement.[76] For all the vetting, RCOs in Philadelphia are afforded no additional power beyond those of existing community groups or individuals.[77] The trend to involve communities earlier in the development process helps prevent mistakes of urban renewal and recognizes the authenticity of neighborhoods as in the Audubon Auditorium case. However, it is not an RCO's duty to predict every consequence of a development before it occurs. While front-loading the community engagement process should continue in an effort to minimize negative externalities, support redirected to communities can serve as an additional check on impact after the fact and recognize past harms perpetuated.

D. A hybrid option that considers the unique politics of place

Ultimately, no policy provides a universal cure for Rust Belt cities to address the role of universities as developers. But returning to the status quo of continual talk and no action despite expressed need is not an option. A hybridized policy could both meet cities where they are in terms of economic reliance on universities and address universities' needs in light of the COVID-19 pandemic. Borrowing the framework and reporting practices of the Boston PILOT with more flexibility in the amount requested and community benefits deduction available could scale and be modified over time. In Pittsburgh, this would start with the big four nonprofits and later expand to smaller universities. Given Pittsburgh's past suggested contributions from these entities are collectively much smaller than even an average sized

Boston donor, the policy should occur in stages. Given the pressures of universities as developers, contributions could begin for new development, or the recognition of more land off the tax rolls in perpetuity. While it may be tempting to tie increases in voluntary contributions owed to new development, that reads as disincentivizing new development altogether and opens up the potential unintended consequence of promoting suburban growth and subsequent sprawl. However, as universities look beyond their campus boundaries, they levy a degree of buy-in to new neighborhoods or otherwise risk repeating urban renewal practices. Given Pittsburgh's aversion to the idea of a tax, payments could be directly made to the communities–resembling a nonrefundable security deposit–rather than the general fund. This proactive measure of contributing beyond university self-interest or dictation could set development apart from past urban renewal practices or pure philanthropy. In the case of Pittsburgh, this would see CMU directly contribute to the Hazelwood Initiative CDC in recognition of new development in Hazelwood. As a result, RCOs gain more capital and bargaining power. RCOs could continue to create CBAs with universities, without the pressure of addressing all impacts ahead of the project creation.

Conclusion: Address universities as developers at the local level

A policy solution for upholding transparent and long-term university development commitment is overdue. Universities often drive economic and community development, especially in Rust Belt cities, where they and hospitals replaced manufacturing as the dominant industry. Communities are still reeling from the impact of urban renewal perpetuated by urban universities. Repeating past development trauma in the era of the research institution requires intervention, as universities are reaching beyond campus boundaries into vulnerable neighborhoods. Achieving equitable balances of power and thus the terrain for inclusive development requires the involvement of universities, local government, and communities. Doing nothing, or the status quo of pushing negotiations down the field, indicates local governments are unwilling to use their unique political power as a mitigator and thus pit universities against communities. An innovative hybrid solution, organized by local government, that requires a mandatory community benefits report, voluntary contribution, and grants earmarked for community groups can scale with Rust Belt cities.

74 Jared Brey, "Reckoning Ahead on Rules for Registered Community Organizations," WHYY (blog), March 16, 2016, https://whyy.org/articles/reckoning-ahead-on-rules-for-registered-community-organizations/.

75 . Dale Shoemaker, "New Pittsburgh Ordinance Mandates Developers Talk to 'Registered' Community Groups. Critics Say the Law Will Exclude Some Groups.," PublicSource, December 3, 2018, https://www.publicsource.org/pittsburgh-ordinance-registered-community-organizations/.

76 Jared Brey, "Reckoning Ahead on Rules for Registered Community Organizations," WHYY (blog), March 16, 2016, https://whyy.org/articles/reckoning-ahead-on-rules-for-registered-community-organizations/.

77 Ibid.

Blockchain Application in Nonprofit Fundraising

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Challenges in Nonprofit Fundraising

Lack of transparency and efficiency are the main challenges of nonprofit organizations.[1] This has led to a trust decline in nonprofit organizations around the world. American's trust in charitable fundraising has declined over the years.[2] Now, only 13 percent of Americans say that charities are using the money well, compared to 30 percent in 2003.[3] In the U.K., trust in charities dropped from 55 percent to 45 percent from 2013 to 2018.[4]

The trust decline directly affects the donation rates. A survey showed 73 percent of charities worldwide have seen declines in the number of donations.[5] According to the Charities Aid Foundation, although people are volunteering more time to support charities, the percentage that make monetary donations is decreasing dramatically.[6]

The trust decline arises from concern over fundraising transparency. Most countries do not require nonprofits to report their financials every year.[7] People trust that nonprofits are founded on goodwill and are not focused on profit gains. This belief leads the governments to neglect the problem of organizations' accountability.[8]

Scandals of nonprofits' corruption are often always connected with improper financial disclosures.[9] For example, CBS reported that the Wounded Warrior Project spent over 50 percent of its donations on extravagant parties, recreation, and overhead.[10] The organization claimed promotional items and direct response advertising in their cost of funding "programs for veterans."[11] This example demonstrates lack of transparency can lead to budget manipulation, even in well-known, national nonprofit organizations, such as the Wounded Warrior Project.

Inefficiency is also an issue for nonprofit fundraising. The centralization of international nonprofit organizations results in transaction inefficiencies.[12] In a typical international organization, the headquarters has access to donations, and the local branches report spending plans before projects are launched.[13] This power structure makes the fundraising process very time-consuming. For example, a local branch is dealing with a time-sensitive social issue. To use funds, the branch needs to report to and receive permission from headquarters. However, the local branch needs to wait for the payment to arrive before starting the project. Some countries may also restrict the amount of money that a nonprofit can receive at one time from foreign sources out of considerations for national security.[14] The process of waiting for headquarters' approval can take up to sixty days in developing countries.[15] The

1 Suzanne Perry, "1 in 3 Americans Lacks Faith in Charities, Chronicle Poll Finds," The Chronicle of Philanthropy, October 2015, https://www.philanthropy.com/article/1-in-3-americans-lacks-faith-in-charities-chronicle-poll-finds/?bc_nonce=k631f3l-0sn71b0hjtb2y&cid=reg_wall_signup/

2 Ibid.

3 Ibid.

4 Nina Fabsikova, "Charitable donations in crisis: Is trust a part of the story?" Devcomms Lab, August 2018, https://developmentcompass.org/blog/campaigning/charitable-do-nations-in-crisis-is-trust-a-part-of-the-story

5 "World Giving Index 2018," Charities Aid Foundation, October 2018, www.cafonline.org/docs/default-source/about-us-publica-tions/caf_wgi2018_report_webnopw_2379a_261018.pdf.

6 Ibid.

7 Nives Dolšak, "The Oxfam scandal shows that, yes, non-profits can behave badly. So why aren't they overseen like for-profits?" *Washington Post,* February 2018. https://www.washingtonpost.com/news/monkey-cage/wp/2018/02/19/the-ox-fam-scandal-shows-that-yes-nonprofits-can-behave-badly-so-why-arent-they-overseen-like-for-profits/.

8 Ibid.

9 Chip Reid, "Wounded Warrior Project execs fired," *CBS News,* March 2016, www.cbsnews.com/news/wounded-warrior-project-ceo-and-coo-fired/

10 Ibid.

11 Chip Reid and Jennifer Janish, "Charity watchdogs question Wounded Warrior's spending on vets," January 2016, https://www.cbsnews.com/news/charity-watchdogs-question-wounded-war-riors-spending-on-vets/.

12 Sean Silverthorne, "The Challenge of the Multi-site Nonprof-it," Harvard Business School Working Knowledge, June 2003, https://hbswk.hbs.edu/item/the-challenge-of-the-multi-site-non-profit.

13 Ibid.

14 "Nonprofit Law in China," Council on Foundations, May 2019, https://www.cof.org/content/nonprofit-law-china/

15 "How Technology Can Be A Transformative Force In The Charity Sector," Value Walk, September 2018, https://www.val-uewalk.com/2018/09/blockchain-and-crypto-charity/.

delays caused by nonprofits' internal funding allocation structures directly limit the organizations' efficiency in providing services, especially in time-sensitive situations.

Blockchain Solutions and Case Studies

Blockchain technology can overcome the challenges of nonprofit fundraising by increasing 1) the level of transparency between the organization, its stakeholders, and the public, and 2) the operating efficiency, and 3) donation opportunities.

Transparency

Achieving financial transparency requires nonprofits to maintain a record of spendings that cannot be edited, preventing corruption. All donations and spending should be disclosed. Donors are given real-time updates on the project process and a detailed budget. This could be accomplished by applying blockchain technology.

First, the blockchain could help build trust by improving transparency. The data is shared with all the participants of the system, which means every donor can access the budget details of the project.[16]

Information on the blockchain is traceable. Everyone who participates in the donation process will be linked by nodes. From the moment a payment is made, the related data is stored for all stakeholders to supervise, ensuring the openness and transparency of public welfare projects.

Government or financial regulatory departments can request and trace the digital transaction history through blockchain nodes. The exact recipients and the specific amount of money they are using are known. If problems happen, this tracing makes it easier to find the people in charge

Second, the nature of blockchain will prevent any manipulation of the donation fund. Blockchain technology can be utilized to decentralize donation platforms (i.e. with Bitcoin or Ethereum).[17] Although all stakeholders get a record of the donation details, no one has the right to update the system and control the changes, which can prevent corruption.

The digital ledger of blockchain requires all transactions to be published openly.[18] Any donation or spending will leave a record instantly after the

transaction, providing donors with timely information on how the donation is spent.[19] Neither the donors nor the nonprofit employees can edit the record, ensuring the existing records' authenticity.

Finally, "smart contracts" could release the funds to the organization only when a project's specific outcome is reached.[20] Smart contracts prove helpful in addressing the issue of backroom deals and embezzlement and thus can be helpful in regaining trust from donors.[21] The automatization of smart contracts excludes any human interference in the fundraising process. This reassures donors that the money will be properly spent.

For example, an organization that wants to start a COVID-19 crowdfunding mask donation and is in urgent need of funds. In this case, blockchain could open a smart contract instantly. The working process of smart contracts will not involve the organization or the donors. The contract will execute automatically on the blockchain.

The smart contract first confirms the authenticity of the funding request and the rules for the transaction are set.[22] The donation amount, the specific plan for the donation fund, and the expected outcome of the project will be included in the smart contract.[23] If the organization does not reach the goal for the number of masks donated specified in the smart contract, they will not receive the donation. This means it is impossible for the organization to use the funds for projects other than the specific project that has started the fundraising.

The whole process does not require manual intervention and is supervised by all parties involved. The fully automatic mode of smart contracts also ensures the smooth implementation of the project.

Take charitable fundraising in China for the COVID-19 as an example of blockchains' ability to improve transparency.[24] In January, the Shandong

16 Ibid.

17 Ibid.

18 Ibid.

19 Ibid.

20 "What are smart contracts on blockchain?" IBM, https://www.ibm.com/topics/smart-contracts.

21 "Exploring the Blockchain Charity Sector and Charity Projects," Ivan on Tech Academy, December 2020, https://academy.ivanontech.com/blog/exploring-the-blockchain-charity-sector-and-charity-projects

22 "What are smart contracts on blockchain?" IBM, https://www.ibm.com/topics/smart-contracts.

23 "Exploring the Blockchain Charity Sector and Charity Projects," Ivan on Tech Academy, December 2020, https://academy.ivanontech.com/blog/exploring-the-blockchain-charity-sector-and-charity-projects.

24 Ruiying Hu, "The Lesson Learnt from the COVID-19: Blockchain Helps the Charity to be More Transparent," *People's Daily,* February 2020, http://blockchain.people.com.cn/n1/2020/0213/c417685-31585527.html.

Province Government announced that they sold 350 tons of vegetables at a low price and donated all the earnings to Wuhan Red Cross. However, the Wuhan Red Cross claimed that they never received that fund.[25]

The unclear whereabouts of donations are one of the common criticisms of charities. It constantly stimulates the public's suspicion of charity organizations. Blockchain was used to keep track of the same kind of donations in Wuhan, and these such problems were solved quickly.[26]

China Xiongan Group used blockchain technology to open a charity donation traceability platform to improve donation transparency and credibility.[27] On the platform, donors can see a list of completed donations. Hangzhou Funchain Technology Co., Ltd. donated the earliest batch of donations, and the recipient was the Central Theater General Hospital. The donation time was the evening of February 6, 19:39:33, and the information has been stored in the Fei Luo blockchain.[28] In each completed and pending project, the platform displays the corresponding block information, block height, unique identification of the certificate, and time on the chain. It also indicates that the demand is currently on the FunChain blockchain, providing public donation information inquiry services to all.[29]

Efficiency

Continuing with the example of COVID-19 donation, it is clear that blockchain also provides higher operational efficiency in emergencies.

In February 2020, the Wuhan Red Cross was criticized for its inefficiency during the COVID-19 pandemic.[30] The organization received a large amount of money, but only a small proportion of the donation reached the Wuhan hospitals.

The officials explained that this happened because they need time to gather the donation from different sources and coordinate between different parties.[31]

With blockchain, the efficiency could be improved by increasing the speed of remittances.[32] The blockchain-based public ledgers enable data interconnection between various countries and various banking systems, and they can be updated simultaneously in real-time. Thus, the time cost is greatly reduced.[33]

Secondly, the distributed digital ledger of blockchain could help support information storage and sharing. Nonprofits cxwould store descriptions of fundraising projects through the blockchain, cooperate with other nonprofits, and connect with various government departments, hospitals and exchange precise poverty alleviation information. Blockchain could save the time cost related to exchanging information across multiple departments.

Other Advantages

Apart from transparency and efficiency, there are some other advantages that blockchain could provide to nonprofits.

Blockchain platforms can help nonprofit organizations expand their potential pool of donors. Traditional platforms require donations in certain currencies or to originate from a specific region.[34] Without these restrictions, nonprofits are able to open a wider channel to more potential donors.[35]

Blockchain can also provide anonymity for donors. Nonprofits may touch on some sensitive issues when dealing with social conflicts or humanitarian problems. The anonymity helps protect donors, who might be hesitant to support contentious issues if their donations are openly published. In developing countries, donors might even worry whether the government will eventually categorize their charitable giving as illegal.[36] There are also people who prefer

25 Josephine Ma, "Coronavirus: China Red Cross under fire over poor distribution of masks, medical supplies," *South China Morning Post*, February 2020, https://www.scmp.com/news/china/society/article/3048512/china-red-cross-under-fire-poor-delivery-coronavirus-supplies/.

26 Ruiying Hu, "The Lesson Learnt from the COVID-19: Blockchain Helps the Charity to be More Transparent," People's Daily, February 2020, http://blockchain.people.com.cn/n1/2020/0213/c417685-31585527.html.

27 Ibid.

28 Ibid.

29 Ibid.

30 Josephine Ma, "Coronavirus: China Red Cross under fire over poor distribution of masks, medical supplies," *South China Morning Post*, February 2020, https://www.scmp.com/news/china/society/article/3048512/china-red-cross-under-fire-poor-delivery-coronavirus-supplies/.

31 Ibid.

32 "How technology can be a transformative force in the charity sector," Value Walk, September 2018, https://www.valuewalk.com/2018/09/blockchain-and-crypto-charity/.

33 Ibid.

34 Ibid.

35 "Exploring the Blockchain Charity Sector and Charity Projects," Ivan on Tech Academy, December 2020, https://academy.ivanontech.com/blog/exploring-the-blockchain-charity-sector-and-charity-projects.

36 "The application of blockchain technology in the field of charity," Red Cross Society of China, September 2020, https://www.redcross.org.cn/html/2020-09/73385.html.

anonymity when donating a large amount of money. With traditional fundraising, donors can be tracked down when making a transaction. Using the smart contract, the donors are able to hide who they are and track the open records at the same time.

Feasibility

Blockchain applied in nonprofit fundraising requires collaboration with external organizations. In order to better serve the public, nonprofits need access to a large amount of data from sources outside the organization. Medical and financial information, among others, can be included in the blockchain in an encrypted form and made accessible to charities.[37] This can increase efficiency.

Making data accessible to charities requires cross-departmental cooperation. There is little electronic information sharing within and outside organizations due to security and privacy concerns.[38] If blockchain overcomes this through encryption and succeeds in facilitating data sharing internally and externally, it can bring more excellent connectivity and higher scale efficiency, which is necessary before launching a more extensive operating system.[39]

Some nonprofits have achieved information sharing with governments. China's local government is trying to share data on registered poor households with nonprofits.[40] In the national poverty alleviation campaign, some local governments have used blockchain technology to build a database of the poor, which can facilitate data exchange between various departments. For example, a blockchain service provider is developing a blockchain-based database for the Shaanxi Provincial Poverty Alleviation Office to record poor families' financial status, including their transaction history and detailed asset records.[41]

Making this data accessible to charitable nonprofits through blockchain in an encrypted form increases efficiency because organizations can more directly target the people they are trying to help.

Conclusion

Blockchain has been introduced to nonprofit fundraising to ensure transparency and accountability. With blockchain's traceable feature, donors could receive timely reports on the use of donations. For non-profit organizations, blockchain provides faster and cheaper transactions. The new technology's great potential application has been tapped during the COVID-19 crisis. In the long run, governments and nonprofits could utilize the blockchain to build public health emergency management information systems and platforms. If stronger collaboration is achieved, blockchain will become a powerful tool to enhance public security emergency management.

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37 Ibid.

38 Ibid.

39 Ibid.

40 Ibid.

41 Ibid.

Reframing Defense - Warfare in the Information Age

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"A lie gets halfway around the world before the truth gets its pants on."
 - Winston Churchill
   (or perhaps Mark Twain)

Social media connects people in ways unheard of in previous eras of human history. Pre-internet conflicts were primarily affairs between states or between a state and a group aspiring to become a state. However, the weaponization of information has proven to be a useful mechanism for the disruption of traditional notions of state sovereignty. Increasingly, authoritarian regimes use social media to degrade the status of free democracies. More specifically, adversarial nations and radical organizations use social media to circumvent America's overmatch in Industrial Age defense paradigms. The Department of Defense and policymakers must act decisively to retain the legitimacy of the democratic system. This requires a deliberate restructuring of existing American institutions for the defensive employment of Information Warfare. The policy options are many but they all require an intergovernmental approach and renewed mental framing of how threats manifest in the modern era.

Subverting the Westphalian Order

Revolutions in Military Affairs (RMAs) have fundamentally changed warfare throughout human history. Previous eras have grappled with such innovations as bronze smelting, gunpowder, the stirrup, the tank, and the nuclear bomb, among countless others. The majority of RMAs have involved technology that drastically altered social, political, and military events when implemented.[1] Nations that recognize the impacts of new technology and realign their policies accordingly thrive while those that are slow to react tend to lose influence. The American military today is experiencing a great deal of friction as it encounters a fundamental shift from the Industrial Age to the Information Age of warfare. To remain a dominant military power, America must rethink its love affair with kinetic-centric defense and embrace the Information Age of power projection through media and smart power.*

*Note: Throughout this paper the term kinetic refers to the application of maneuver forces to apply or threaten a use of firepower. Examples of kinetic force include a raid on a compound, an air strike, or a freedom of navigation patrol in the South China Sea by a US Navy destroyer. Non-kinetic force does not include maneuver forces. Examples include a cyber attack on a power grid or disinformation attacking the safety of the COVID-19 vaccine.

The tried and true tools of World War II are no longer the paradigms alone by which America may pre-suppose victory.

Since the Treaty of Westphalia in 1648 ended the 30 Years' War, nations have operated under an internationally recognized concept of state sovereignty.[2] The Treaty of Westphalia created a precedent that, for European nations at least, sovereign or elected governments had purview over the nation and its peoples. This contrasts with the Information Age, where any nation-state or nefarious actor directly engages foreign audiences through the internet. This "free access" to the citizens of different states represents a direct challenge to the Westphalian notions of sovereignty, in that organizations outside of a nation's sphere of control can exert influence over people through information.[3] State and non-state actors alike take advantage of this shift to directly interfere with the function of adversarial governments and militaries, as the 2020 Russian hacking of American agencies demonstrated.[4]

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1 Neil DeGrasse Tyson and Avis Lang, *Accessory to War: The Unspoken Alliance Between Astrophysics and the Military* (W.W. Norton & Company, 2018), Chapter 1.

2 Encyclopedia Britannica. "Peace of Westphalia," accessed March 14, 2021, https://www.britannica.com/event/Peace-of-Westphalia.

3 David Patrikarakos, *War in 140 Characters: How Social Media Is Reshaping Conflict in the Twenty-First Century (*Basic Books, 2017), 9.

4 David E. Sanger, Nicole Perlroth, and Julian E. Barnes. "As Understanding of Russian Hacking Grows, So Does Alarm." *New York Times*, January 2, 2021, sec. U.S. https://www.nytimes.com/2021/01/02/us/politics/russian-hacking-government.html.

During the Industrial Age of warfare, nations had to first create a physical presence in another country before using print or radio messaging to influence foreign populations. Moreover, despite the overwhelmingly negative American opinion of social media, Americans are spending more time engaging online (see *figure 1*).[5] Finally, technology enables humanity to exchange ideas at an unprecedented level. However, this permissive and often unrestrained information environment has become a breeding ground for national threats, particularly as facts are far from mutually accepted and the appeal to emotion reigns supreme.[6]

What is Information Warfare?

Social Media defines the Information Age conflict. To explain the social media revolution as applied to conflict, military thinkers and think tanks have begun to use the term "Information Warfare" or IW. Though yet to be cohesively defined, for the purposes of this paper, IW is the orchestration of Information Related Capabilities (IRCs), social media, traditional media, and kinetic operations that together make a cohesive narrative capable of achieving military or policy objectives.***** Effective IW must also coordinate with interagency partners and policy makers to maximize effectiveness. Modern IW, through social media and cyber-based platforms, is the primary methodology through which nations now compete against adversarial nations below the threshold of armed conflict.

*Note: IRCs are a reference to the multifaceted nature of Information Warfare. Electronic warfare, cyber warfare, civil military relations, Civil Affairs, among others all are capabilities to be leveraged by the Information Warfare practitioner. See FM 3-3 Information Operations for more information.

At the policy level, IW empowers nations or organizations to employ narratives to achieve military and foreign policy goals. Increasingly our near-peer competitors, rogue states, and terrorist organizations exploit their version of events to degrade the American
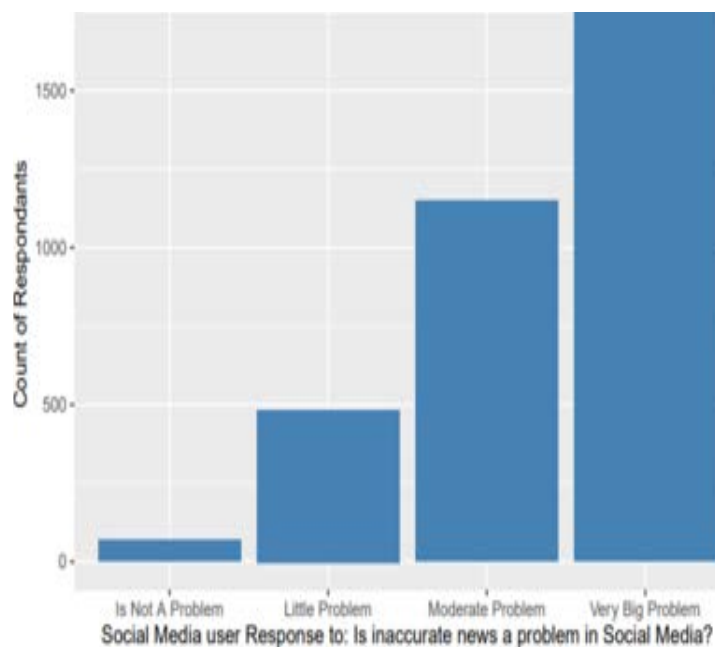
Figure 1. American Perceptions of Social Media

position and improve the likelihood of their policy success.[7] IW circumvents US dominance in Industrial Age methods of power projection such as strategic bombing, armored divisions, and aircraft carriers. Furthermore, IW allows nations with limited economic or human resources to forgo maintaining a competitive military, funding a substantial diplomatic corps, and resourcing international development projects. The nation that wields IW may craft a perception that they are world leaders in traditional power absent the expense.

IW is implemented with narratives, which are essentially stories that explain an idea or event to an audience. Additionally, narratives are supported by observable actions which reinforce a story and increase its credibility. An observable action is any event that supports the story, such as a protest, a new law, or an air strike. Once the audience is convinced, they replicate the story to others like a virus. Increasingly, people that believe the stories of foreign actors begin to create their own observable actions. For example, in response to a hoax that 5G cell towers cause COVID-19, people in the United Kingdom set fire to fifty cell towers in April 2020 alone.[8]

5 Pew Research Center. "64% of Americans Say Social Media Have a Mostly Negative Effect on the Way Things Are Going in the U.S. Today." Pew Research Center. Accessed January 4, 2021. https://www.pewresearch.org/fact-tank/2020/10/15/64-of-amer-icans-say-social-media-have-a-mostly-negative-effect-on-the-way-things-are-going-in-the-u-s-today/.

6 David Patrikarakos. "War in 140 Characters: How Social Media Is Reshaping Conflict in the Twenty-First Century." Basic Books, 2017, 257.

7 Francis Fukuyama, Barak Richman, and Ashish Goel. "How to Save Democracy from Technology," December 22, 2020. https://www.foreignaffairs.com/articles/united-states/2020-11-24/fukuyama-how-save-democracy-technology.

8 ABC News. "Conspiracy Theorists Burn 5G Towers Claiming Link to Virus." Accessed January 6, 2021. https://abcnews.go.com/Health/wireStory/conspiracy-theorists-burn-5g-towers-claim-ing-link-virus-70258811.

Story + Observable Action(s) = Information Warfare

Political warfare often uses IW as well. In this context, political warfare is the use of information to affect the political composition or disrupt political-decision making in a state (see *figure 2*).[9] A superb example of implementing IW for political warfare is the Russian annexation of the Crimea. The process at the policy level began many years before the 2014 Russian invasion of the peninsula. A national messaging campaign targeted ethnic Russian enclaves residing in Ukraine to strengthen pro-Russian sentiment. The result was that Ukrainian splinter groups formed, demanding a return to the Russian sphere. At the strategic level, mixed reports of a broad pro-Russian uprising were plausible due to the political messaging that had occurred in previous years. Under this cloud of disinformation, Russia infiltrated Spetsnatz teams into the Crimea under the guise of being 'Ukrainian separatist' militias. Through the information chaos, the US and NATO were uncertain of Russian involvement and thus failed to act decisively. When the true nature of the incursion was exposed, the Russian military had moved significant ground and naval forces into the Crimea. The Western calculus then was to allow for the forcible annexation of Crimea or risk a world war. The deliberate implementation of IW allowed Russia to gain a massive lodgment in a foreign nation, approximately 90 percent of the size of Normandy, while losing only a handful of soldiers.[10] In contrast, Operation Overlord cost the allies in WWII more than 2,000 killed just to take the Norman Beaches from Nazi control.[11] This fact alone should create a sense of urgency in policymakers and military leaders to rethink defense policy.

IW should concern policymakers greatly. IW can act as an agent of political warfare due to the efficiency by which social media connects people and ideas through narratives. In the Information Age, a country like Russia or China does not require a physical presence in American borders to achieve military or political goals. Through the employment of narrative storytelling, adversaries can simply build support in a target nation for specific legislation, certain elected officials, or sympathetic movements that further their policy end states.

Figure 2. Information based political warfare paradigm

Da'esh as Information Warfare Practitioner

While state-on-state use of IW and political warfare remains a substantial risk, social media has enabled non-state actors like Da'esh, also called ISIS or ISIL, to make significant military and political gains against recognized nation-states. Social media supports the rise of Islamic extremism, white supremacy, and political radicalism. Information and technology allow for disenfranchised, misled, and malevolent forces to connect and exchange ideas at a speed never before possible in human history.[12] Furthermore, radicalism of all types represents an existential threat to all nations with high rates of social media use.

The shocking speed with which Da'esh conquered territory and established its so-called Caliphate in June 2014 illustrates how the implementation of IW to circumvent the Industrial Age Warfare paradigm translates to the battlefield. Da'esh effectively used online and digital media to build enough military and institutional capacity to violate the sovereignty of Iraq and Syria. To gain support, Da'esh exploited the discontent and ignorance of foreigners to expand its territorial control. Initially, the international

9 Linda Robinson, et. al, "The Growing Need to Focus on Modern Political Warfare," May 31, 2019. https://www.rand.org/pubs/research_briefs/RB10071.html.

10 "Crimea History, Map, Geography, & People," Encyclopedia Britannica, accessed January 6, 2021. https://www.britannica.com/place/Crimea.

11 "Normandy Invasion - D-Day, June 6, 1944," Encyclopedia Britannica, accessed January 6, 2021. https://www.britannica.com/event/Normandy-Invasion.

12 Jeff Orlowski. "The Social Dilemma." Netflix, accessed January 6, 2021, https://www.netflix.com/title/81254224.

community was unable to stop the flow of fighters and resources to Da'esh until after the terrorist organization had amassed immense resources.

The narrative remains the most casualty-producing weapon for those perpetuating terrorism and violent extremism. The Da'esh military-political wing fully embraced the concept that all messaging and military operations must work in unison to support a cohesive narrative. Often, Da'esh conducts suicide attacks not merely for the tactical benefits but primarily for the propaganda value. Concurrently, Da'esh's social media campaign was persuasive enough to replenish the ranks of its combat units in the Middle East while also carrying out attacks across the globe. Without the strength of its message, none of Da'esh's success would have been possible. Even today, with Da'esh all but defeated militarily, their legacy is ideological and threatens a future resurgence — requiring all nations to insulate their populations to subversive media campaigns.*

Note: This is an observation based on my experiences in Iraq working with Iraqi Security Forces. Many of the Iraqi leaders espoused concerns over the ideological legacy of Da'esh which will threaten a resurgence for generations.

Using IW, Da'esh produced a complex organization that was self-sustaining and able to hold a territory larger than Great Britain. Da'esh leadership created a terrorist state without a single aircraft carrier group, stock market, or traditional government structure to coordinate operations. Ultimately, western nation afforded Da'esh the time to build its capacity because of limitations in the way America and its allies conceptualize threats as physical actions only, overlooking the dangers of IW campaigns.

Policy Dilemma #1: What Constitutes War?

In the current policy environment, it is profoundly difficult for policy or military experts to determine what constitutes an act of IW and how to respond. A lack of consensus on this issue is due to America's self-limiting Western mindset of defense. The existing defense architecture is capable of a cohesive response to IW attacks. However, a lack of clear framing limits the employment of military capabilities. The first step towards constraining the negative influence of foreign actors and improving American trust in its democratic institutions is to define the problem.

In the Information Age, adversarial actors can use social media to disrupt the ability of a government to exercise self-rule of a country. Blurring the lines of sovereignty, the use of social media, and cyber capabilities challenges previously accepted ideas of what constitutes an act of war. European and American leaders centered The Hague Convention of 1907 on normalizing what actions constitute 'fair' conflict.[13] For governments with a Western mindset, 'fair' conflict is a formal process between two nations with recognizable militaries. Because this standard is well established, China and Russia engage in activities below the threshold that would elicit a traditional military response from the United States. Additionally, the current definitions of formal warfare do not include any perspective outside the Western school of thought. The result is that military leaders and security policymakers think of war as confined to a geographic battlefield. Today no internationally accepted standard exists for what constitutes an act of war in the information environment or cyber realm.

Defining an act of war in the information environment is difficult for democracies because the central question of "where to draw the line" quickly becomes an issue of civil liberties. However, current American definitions overemphasize specific acts by an enemy force rather than their intent. For example, a tweet espousing disinformation propagates approximately six times faster than a factual tweet.[14] The singular act of spreading a misinformed tweet seems innocuous. However, the propagation of 100 million tweets about rigged elections or the efficacy of a vaccine is problematic because those tweets intend to undermine the legitimacy of a government. Individual acts are not the issue. A revised definition of warfare in the information age should make a distinction between actions and intentions. If an adversary intends to subvert a government, undermine the function of government, or divide citizens to increase internal strife, it is an act of aggression.

Historically, America does not tolerate any attempts to degrade its ability to pursue policy objectives. In 1941, the Japanese Empire crippled America's Pacific Fleet at Pearl Harbor. Everyone agrees, then and now, that this assault was an act of war. Granted, the immediate result of the Japanese attack was 'merely'

13 Jonathan Gumz and JP Clark, "Fighting Over the Law of War," A Better Peace: The War College Podcast, US Army War College, 2020.

14 Jeff Orlowski. "The Social Dilemma." Netflix, accessed January 6, 2021, https://www.netflix.com/title/81254224.

to degrade America's ability to project naval power in the Pacific. In contrast, today's online misinformation is threatening American and global trust in democracy and offering authoritarianism as a replacement – arguably a much more concerning outcome.[15] It is a strategic misstep that America should go to war when a naval shipyard is attacked but have no appreciable response to an attack on the legitimacy of free elections.

Policymakers should consider an IW attack to be as significant as a physical attack. In the aftermath of an IW attack, policymakers should consider response options based on the intended target, the significance of the attack, and the potential ramifications. The United States has a plethora of soft and smart power tools at its disposal. America should not necessarily start a world war because a nefarious actor hacked a power grid. But, simply failing to respond in a deliberate manner only emboldens adversarial nations and extremist organizations of all types to continue to impose costs on the legitimacy of democracy.

Policy Dilemma #2:
A Test of Democracy

While America and European countries grapple with reconciling and incorporating IW into defense from a policy perspective, authoritarian nations like China, Russia, and Iran readily employ IW to circumvent American overmatch in conventional capabilities.[16] The top-down approach to creating strategic dialogue through comprehensive narrative development places authoritarian systems at a supreme advantage over democracies.[17] Due to the centralized nature of their political systems, authoritarian systems are unconcerned with upholding the rights of citizens or respecting international norms.

Furthermore, trust in American governance has been decreasing in the United States. While social media has played a central role in enabling the transmission of propaganda, it also efficiently exposes inequalities or inequities in a country.[18] The IW practitioner uses injustices, both real and perceived, to create a persuasive argument that influences their audience. Therefore, policymakers should not consider poverty, discrimination, infrastructure, public education, health care, and the environment as standalone issues but as matters of defense. Fewer exploitable grievances in a population means that there is less space for disinformation to establish itself.

In addition to exploiting grievances, authoritarian nations have recently assaulted consensus, which is extremely corrosive to democracy. The attack on consensus in America is enabled by how Americans consume news and the business models of traditional and social media. Americans no longer seek out varying sources of news and instead prefer certain news outlets or modalities. This social tendency has increasingly led to segregated information ecosystems with their own bins of facts and value judgments of those facts. Currently, social media only provides users with articles that fit their past consumption, which creates pockets of self-affirming information. Tech companies aggravate this issue by using algorithms and machine learning as part of their business model, which is fantastic for profits but disastrous for facilitating dialogue. As a result, Americans often disagree, in part because they have different conceptions of reality. For example, 49 percent of Americans who view inaccurate news in social media as a "very big problem" rely on social media as their primary source of news and information (see *figure 3*).[19] This is problematic because respondents potentially have high confidence in 'their' news sources versus a general healthy skepticism of media bias.

Furthermore, conspiracy theories thrive in isolated bins of self-affirming facts. Humans have an innate psychological need for a sense of belonging and embrace information that ties them to a bigger group and purpose.[20] People who are disillusioned, isolated, or disconnected find immense solace by connecting with like-minded individuals through social media. The conspiracy provides a sense of meaning while content on social media reinforces the delusion.

15 "Key Findings about Americans' Declining Trust in Government and Each Other," Pew Research Center, accessed January 7, 2021, https://www.pewresearch.org/fact-tank/2019/07/22/key-findings-about-americans-declining-trust-in-government-and-each-other/.

16 Francis Fukuyama, "Francis Fukuyama on the State of Democracy in 2020 and Beyond," *Wall Street Journal*, accessed January 11, 2021. https://www.wsj.com/articles/francis-fukuyama-on-the-state-of-democracy-in-2020-and-beyond-11608051600.

17 Emile Simpson, *War from The Ground Up (*Oxford University Press, 2013), 111.

18 "Key Findings about Americans' Declining Trust in Government and Each Other." Pew Research Center, accessed January 7, 2021, https://www.pewresearch.org/fact-tank/2019/07/22/key-findings-about-americans-declining-trust-in-government-and-each-other/.

19 Ibid.

20 "What Do We Know about Conspiracy Theories?" American Psychological Association, accessed January 11, 2021. https://www.apa.org/news/apa/2020/11/conspiracy-theories.
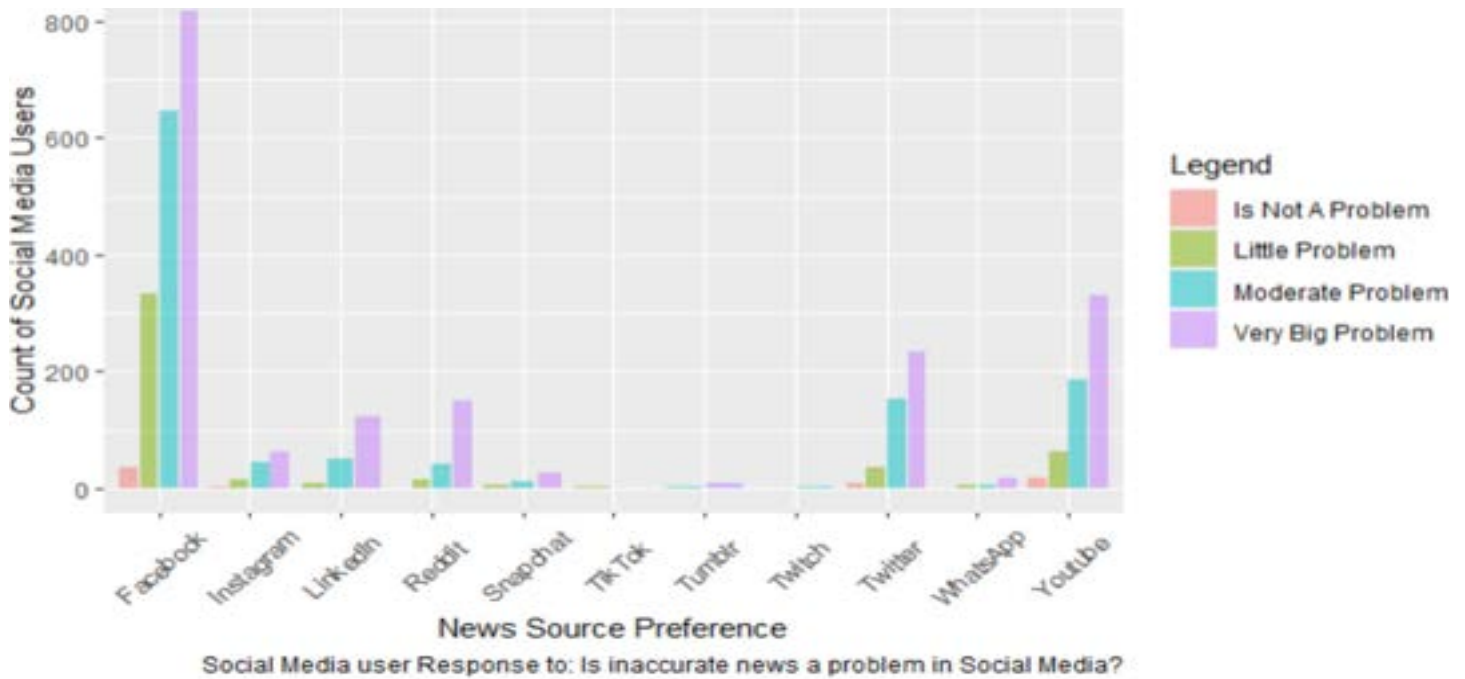
Figure 3. Concern of Inaccurate News by Preferred News Source. While respondents are overwhelmingly concerned about inaccurate news on social media, users still prefer social media as a primary source of information
Source: Pew Research Center, "Key Findings about Americans' Declining Trust in Government and Each Other."

Finally, there remains an important question concerning whether a democracy employing IW can maintain its democratic values – chief among those the right to free speech. In his book War from the Ground Up, Emile Simpson poses the supremely central question of whether liberal democracies can compete in strategic dialogue.[21] Simpson poses this question specifically because strategic dialogue, what this paper has called narratives, requires consistency from the top down and adherence from the bottom up. While problems could arise from strict enforcement of narratives from a civil-military perspective, IW is only problematic if there is a lack of oversight by Congress and transparency to the public. As with the American system in general, a system of checks and balances on IW would ensure that freedom of speech is maintained.

Implementing IW in a Democracy

Implementation of IW for an American democracy would have two facets: a defensive posture meant to protect the homeland from the dystopian world of alternative facts and an offensive utilization aimed at achieving American policy goals abroad. Like with all

military or defense activities, IW requires oversight by civilian elected officials. When possible, the American public should be informed of IW activities, just as the government made public the Osama Bin Laden raid in 2011. While using information for defense purposes may seem Orwellian, recent attacks on sovereignty have brought America to a point where inaction is no longer a viable option.[22] Failure to establish information-related policy increases the likelihood of conflict and the possibility for foreign policy failure.

While the Department of Defense and the Federal Bureau of Investigation could have a significant role in locating and eliminating information threats, the entire government has a role in defense against nefarious IW campaigns. The Education Department has a significant role to play against foreign and extremist influence by re-emphasizing critical thinking and research skills in the classroom.[23] Beyond providing public education with more resources, which is long overdue, Congress should fund programs that enhance high school curriculums by mandating requirements in digital literacy, research skills, and source bias recognition. The simple act of increasing awareness while providing students with the tools to make their

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21   Emile Simpson, *War from The Ground Up (*Oxford University Press, 2013), 10.

22   "Truth Decay: Fighting for Facts and Analysis," Rand Cooperation, accessed January 12, 2021. https://www.rand.org/research/projects/truth-decay.html.

23 Ibid.

own value judgments would insulate the nation from the effects of disinformation. Additionally, placing less emphasis on standardized testing and more importance on debate would reintroduce intellectual argumentation back into society. There are many ways the government and the private sector could increase American defense against disinformation but there is no way to be exhaustive.

Too often, American foreign policy directs military maneuvers, diplomatic overtures, or humanitarian aid without a full appreciation for what these actions are articulating to adversaries or even neutral populations. As was true in Vietnam and today in Afghanistan, tactical successes achieved in a vacuum often fail to translate to victory at the strategic level. Conventional military theory believes that a victory in war results when the enemy's army is destroyed, the enemy's territory is occupied, and the enemy's will is broken.[24] However, increasingly modern conflict illustrates that simply destroying the enemy in the field and occupying territory no longer translates to a strategic result. The solution is to employ narratives and use them as a guide for all military, diplomatic, and international development operations. A unified message articulates a clear 'story' to advisories, foreign populations, and American citizens. Soldiers can win every firefight, but if the information space is broadcasting that these successes equal strategic defeat for the United States, then perception begins to overcome tactical realities in the arena of opinion.

Absent coherent policy, future American military operations may suffer the same end as Israel's Operation Protective Edge in 2014. The operation's mission was to find Hamas terrorists responsible for the stabbing of three Israeli teens. Outside of the political context of the Arab-Israeli conflict, the results highlight how tactical success can translate to strategic or political stagnation. Ultimately, Gazan messaging, led by a teenager named Farah Baker, created sufficient international pressure to force Israel to cease operations. Though the Gazans will never be able to defeat Israeli's capable military ground forces, a Gazan messaging campaign was sufficient to achieve a political-strategic victory. Israel's defeat began not with a Hamas counterattack but with a Tweet by Farah whose picture and pleas for assistance went viral on social

media.[25] The social media campaign eventually included hashtags such as #SaveGaza or #GazaUnderAttack that shared unsettling pictures and videos of Israeli airstrikes in the crowded Gaza Strip. Israel had thoroughly planned and precisely executed its ground operations but did not develop any compelling narratives that resonated in the strategic or political spheres.[26] In contrast, Farah and others propagated a persuasive message of Israeli aggression towards civilians that brought the Gazan version of the story to major news networks across the globe. An untrained high schooler was able to tap into the emotions of people from nations all over the world, subverting those nation's governmental policies by applying pressure on politicians to demand a cessation of Israeli military operations.[27]

Operation Protective Edge should serve as a warning for any nation that has a well-developed kinetic force but an underemployed IW capability. A sense of strategic narcissism, as former Director of the National Security Council LTG (Ret.) H. R. McMaster states, is one of the most enabling factors of employment of IW against the United States and other western democracies.[28] It was this sense of narcissism that led Israel to undervalue the importance of narrative storytelling, believing that Gaza could not possibly develop a compelling narrative that would undermine Israeli firepower. To maintain agency in global affairs, democracies must adapt or whither against nations who weaponize information.

Recommendations

Despite the threat of IW and the previously articulated policy dilemmas, there are numerous policy solutions. An intergovernmental approach is needed to provide a better accounting of American collective defense. These solutions generally fall under two categories, those that should be undertaken by the Department of Defense and those that require Congressional implementation.

The Department of Defense has aptly recognized in numerous strategic documents the threat of IW.[29] This

24 Carl Von Clausewitz, *On War* (Princeton University Press, 1984), 90.

25 David Patrikarakos, *War in 140 Characters: How Social Media Is Reshaping Conflict in the Twenty-First Century (*Basic Books, 2017), Chapter 1.

26 Ibid, 26.

27 bid, 42-43.

28 H.R. McMaster, *Battlegrounds: The Fight to Defend the Free World* (Harper Publications, 2020).

29 Department of the Army. U.S. Army Special Operations Command Strategy, OCT 2019, accessed January 11, 202, https://www.soc.mil/AssortedPages/ARSOF_Strategy.pdf.

acknowledgment has largely manifested in the creation of US Cyber Command in 2009.[30] While a vital and noteworthy step towards ensuring the defense of the homeland, several organizational and policy changes would reorient the American military towards the Information Age of warfare. Recommended Department of Defense policy actions include:

- Providing Congress a doctrinal definition of Information Warfare.

- Developing a series of defense recommendations to provide a cohesive, intergovernmental response to state and non-state IW attacks.

- Recognizing that the geographically aligned Combatant Commands (GCCs) are antiquated. Replace the geographic commands with threat-based commands that can pursue threats across domains (cyber, space, air, land, and sea) instead of self-limiting America's defense to the lines drawn on a map.

- Enacting doctrine changes that account for the importance of IW into all phases of military operations. IW should be a driving consideration for the employment of military force rather than an addition that is tacked on to an operation by a "specialty" staff.

- Coordinating with the State Department to incorporate approved strategic narratives in the National Defense Strategy and the Joint Plan of Action. Cohesive strategic narratives enable leaders at all levels to create supporting narratives that fit with their assigned mission while limiting information fratricide across adjacent commands.

- Reevaluating the level of risk associated with using IW for defense. Institutionally, the military is far more comfortable with civilian casualties than with a potential misfire in the information realm. As a result, bureaucratic staffing often reduces the effectiveness of information operations to near obsolescence.

In addition to the Defense Department recommendations, implementation of IW requires the application of an intergovernmental approach at home and abroad. Furthermore, careful oversight by Congress and America's elected leadership is needed to provide a buffer to expand defense capability in the information sphere while maintaining freedom of speech. Additionally, the Information Age of warfare requires a holistic perspective of defense. Comprehensively addressing real and perceived inequality in American society serves as a buffer to foreign influence. Recommended national level policy actions include:

- Developing House and Senate IW oversight committees, separate from the Armed Services committee. IW requires the coordination of almost every American department and agency, not just the military.

- Creating a cabinet secretary or national security advisor position to provide additional oversight and accountability measures through the executive branch.

- Recognizing that inequality plays a role in American susceptibility to foreign influence and IW campaigns.

- Launching an investigative body to determine opportunities to counter adversarial IW through an intergovernmental approach to defense.

- Strengthening the American education system by reinvesting in public education and in curriculum that emphasizes critical thinking rather than standardized testing. Incorporate coursework that teaches students how to conduct research and recognize sources bias.

- Partnering with private companies to address sources of disinformation.

- Enacting legislation that forces social media companies to rebuild the algorithms that create self-sustaining echo chambers of information. While creating these chambers helps maximize profits, it has been decidedly unhelpful in maintaining the open discourse required of a functioning democracy.

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30 "Command History," U.S. Cyber Command Homepage, accessed January 11, 2021, https://www.cybercom.mil/About/History/.

Ultimately, there is an intellectual acknowledgment that information technology has fundamentally changed warfare. However, organizationally the military often attempts to employ Information Age tools, like cyber operations, under an Industrial Age construct that over relies on fire power. If America is to defend its democracy in the modern age, it cannot continue to apply military power in the same manner as our WWII and Cold War forefathers. The employment of IW by adversarial actors necessitates a fundamental shift in how America defends itself and projects global power.

Conclusion: "Meme or be Meme'd"

Shifts in the consumption of information have altered the modality of conflict engagement. The Information Age has seen the rise of an operational environment where near-peer and non-state actors access the informational space of nation-states to effectively act as a spoiler to the traditional paradigms of power. The instantaneous and relatively unfettered access to information allows for free engagement with information that has demonstrated a modern capacity to foment insurgencies, coups, and civil disobedience. Conversely, in the Industrial Era, this capacity required an adversary's physical presence within a target nation's borders. Whether Americans are willing to acknowledge it or not, everyone, the citizen, the soldier, the politician, and the diplomat, is influenced by content viewed on the internet.

For now, America remains the dominant military power in the world. However, adversaries have and will continue to challenge the American position in the world as the role of social media and the internet in modern military affairs has gone underappreciated. Unlike the bipolar world of the Cold War, competition with China, Russia, and extremist organizations over the legitimacy of democracy is multifaceted and enabled by online interactions. Therefore, it necessitates that America rethink the nature of its defense paradigms, tools, and organizations that enable power projection. Indeed, America must rethink its relationship with power projection itself.

The views expressed in this paper are those of the author and do not reflect the official position of the Department of the Army, or Department of Defense.

From Conspiracy Theories to Homemade Bombs: Why Section 230 Should Be Amended

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A 2020 Pew study[1] found that about one-fifth of American adults get their news from social media. Eighteen percent of adults specifically find their political news on social media, and almost half of those adults prefer Facebook. While 18 percent is nowhere near the majority, this means 46 million adults rely on social media for current events.[2] With this much of the population using social media as their news source, it is important that the news they read on sites like Facebook is factual. Facebook, a "provider...of an interactive computer service,[3]" is shielded by §230 of the Communications Decency Act, meaning it is not liable for the consumption and spread of misinformation or for the correction of false information, colloquially known as "fake news." As an international social media company with the largest market share in its industry and the ability to reach 69 percent of U.S. adults,[4] Facebook has a responsibility to mitigate the publishing, sharing, and consumption of misinformation on its platform for the public safety of the country. To promote accuracy online and public safety in the country, Congress should create a narrow social media public safety amendment to §230 to increase social media companies' accountability by requiring them to fact-check potential sources of dangerous misinformation.

False information has long-lasting political impacts. Former President Trump arguably would not have been elected if not for the virulent spread of misinformation on Facebook.[5] In 2016, 62 percent of U.S. adults read their news on social media, but the "most popular fake news" articles were shared more on Facebook than on any other social media site. Those shared articles were found to favor Donald Trump over Hillary Clinton.[6]

These statistics tell a darker story, given that the American population has a history of being easily swayed by false information and conspiracy theories.[7]

In 1994, 5 percent of Americans believed the conspiracy theory that the Nazi extermination of millions of Jewish people did not happen. In 2007, 33 percent of Americans believed the conspiracy theory surrounding the 9/11 attacks that suggested the US government either had prior warning but let the attacks occur anyway or actively assisted with the attacks. Finally, in 2010, about 15 percent of Americans believed the conspiracy theory that then-President Obama was born in another country. Gallup polls revealed a sharp drop in "trust and confidence" among Republicans in 2016 regarding to accurate and fair reporting by the mass media, which was linked with the rise of sharing and believing misinformation on social media.[8]

The results of the Gallup polls further illustrate that the ability to differentiate between accurate and false information is not innate and might be attributed to two issues. First, the growing partisan divide has influenced personal feelings between members of opposing political parties that has, in turn, influenced the consumption and belief of single-sided media,

1 Amy Mitchell et al., "Americans Who Mainly Get Their News on Social Media Are Less Engaged, Less Knowledgeable," Pew Research Center's Journalism Project (blog), July 30, 2020, https://www.journalism.org/2020/07/30/americans-who-mainly-get-their-news-on-social-media-are-less-engaged-less-knowledgeable/.

2 United States Census, "Census - Table Results," accessed April 21, 2021, https://data.census.gov/cedsci/table?q=US%20adult%20population&tid=ACSST1Y2019.S0101&hidePreview=false

3 "47 U.S. Code § 230 - Protection for Private Blocking and Screening of Offensive Material," LII / Legal Information Institute, accessed April 21, 2021, https://www.law.cornell.edu/uscode/text/47/230.

4 John Gramlich, "10 Facts about Americans and Facebook," Pew Research Center (blog), accessed April 20, 2021, https://www.pewresearch.org/fact-tank/2021/06/01/facts-about-americans-and-facebook/.

5 Nate Rattner, "Trump's Election Lies Were among His Most Popular Tweets," CNBC, January 13, 2021, https://www.cnbc.com/2021/01/13/trump-tweets-legacy-of-lies-misinformation-distrust.html.

6 Hunt Allcott and Matthew Gentzkow, "Social Media and Fake News in the 2016 Election," *Journal of Economic Perspectives* 31, no. 2 (May 1, 2017): 211–36, https://doi.org/10.1257/jep.31.2.211.

7 Ibid.

8 Art Swift, "Americans' Trust in Mass Media Sinks to New Low," Gallup.com, September 14, 2016, https://news.gallup.com/poll/195542/americans-trust-mass-media-sinks-new-low.aspx.

especially from conservative individuals.[9] As of 2019, 55 percent of Republicans believed that Democrats were "more immoral" than non-Democrats, while 47 percent of Democrats agreed believed the same of their counterparts.[10] Second, the ability to determine if something is factual was not a critical thinking skill instilled in many older adults today, even though the idea of being correct is revered in American culture.[11] It is worth noting that the Baby Boomer generation has a reasonable expectation that the media they consume is true since they lived most of their lives in a media environment governed by the Fairness Doctrine.[12] It is unsurprising then that younger Americans were found to be better than Baby Boomers at distinguishing between fact and opinion in the news by a factor of two.[13] This may correlate with younger generations growing up with the Internet and being told to think critically about the accuracy of anything seen online or with the rise of primary educators taking it upon themselves to incorporate fact-checking and critical thinking into classroom learning.[14]

It is true that Americans have a Constitutional right to believe and discuss what they want. They can fact-check articles if they want to, and select media from other sources they prefer. However, when online users read and believe false information, it can lead to long-lasting political impacts and public safety concerns related to those impacts.

Around the last election, twenty-nine-year-old, self-identified conservative Edgar Welch read and believed a conspiracy theory online, dubbed "Pizzagate," claiming that there was a Hillary Clinton-led sex slavery ring housed in a D.C. pizzeria.[15] He traveled from North Carolina to D.C., where he fired his military-style assault rifle inside the pizzeria, believing he was on a child-saving crusade against a "corrupt" political figure. He did not find what he was looking for, and quickly realized he had believed a conspiracy theory without any basis in fact. The judge presiding on his case later said that it was "sheer luck" that he did not injure anyone. Welch himself admitted that "the intel on this wasn't 100 percent," understanding after the fact that what he read was not factual.[16] Despite this admission, Welch was declared a hero among conservatives, many of whom believed Pizzagate out of sheer animosity towards then-candidate Clinton.[17]

A second recent incident of violence stemming from online misinformation is the 2018 Tree of Life synagogue shooting. Forty-six-year-old conservative Robert Bowers, radicalized by antisemitism on online forums and social media,[18] took eleven lives and wounded six. With online posts expressing that he could not "sit by and watch [his] people get slaughtered [by Jews]," Bowers faces sixty-three federal charges and thirty-six separate charges in Pennsylvania state court.[19]

9 Amy Mitchel et al., "Can Americans Tell Factual From Opinion Statements in the News?," Pew Research Center's Journalism Project (blog), June 18, 2018, https://www.journalism.org/2018/06/18/distinguishing-between-factual-and-opinion-statements-in-the-news/.

10 Carroll Doherty, Jocelyn Kiley, and Nida Asheer, "Partisan Antipathy: More Intense, More Personal," n.d., 42. https://www.pewresearch.org/politics/wp-content/uploads/sites/4/2019/10/10-10-19-Parties-report.pdf.

11 Jeremy Gottfried and Elizabeth Greico, "Younger Americans Are Better than Older Americans at Telling Factual News Statements from Opinions," Pew Research Center (blog), accessed June 21, 2021, https://www.pewresearch.org/fact-tank/2018/10/23/younger-americans-are-better-than-older-americans-at-telling-factual-news-statements-from-opinions/.

12 Joe Ferullo, "Good riddance: The last gasp of baby boomer politics," The Hill, October, 13, 2019, https://thehill.com/opinion/campaign/465558-good-riddance-the-last-gasp-of-baby-boomer-politics,

13 Jeremy Gottfried and Elizabeth Greico, "Younger Americans Are Better than Older Americans at Telling Factual News Statements from Opinions," Pew Research Center (blog), accessed June 21, 2021, https://www.pewresearch.org/fact-tank/2018/10/23/younger-americans-are-better-than-older-americans-at-telling-factual-news-statements-from-opinions/.

14 Scott Bedley, "I Taught My 5th-Graders How to Spot Fake News. Now They Won't Stop Fact-Checking Me.," Vox, March 29, 2017, https://www.vox.com/first-person/2017/3/29/15042692/fake-news-education-election.

15 Matthew Haag and Maya Salam, "Gunman in 'Pizzagate' Shooting Is Sentenced to 4 Years in Prison," New York Times, June 23, 2017, sec. U.S., https://www.nytimes.com/2017/06/22/us/pizzagate-attack-sentence.html.

16 Ibid.

17 Dan Taylor, "Trump Supporters Cheer Alleged PizzaGate Gunman," Washington DC, DC Patch, December 7, 2016, https://patch.com/district-columbia/washingtondc/trump-supporters-cheer-alleged-pizzagate-gunman.

18 Rich Lord, "How Robert Bowers Went from Conservative to White Nationalist | Pittsburgh Post-Gazette," accessed April 19, 2021, https://www.post-gazette.com/news/crime-courts/2018/11/10/Robert-Bowers-extremism-Tree-of-Life-massacre-shooting-pittsburgh-Gab-Warroom/stories/201811080165.

19 Eric Levenson and Ray Sanchez, "Live Updates: Mass Shooting at Pittsburgh Synagogue," accessed June 21, 2021, https://www.cnn.com/us/live-news/pittsburgh-synagogue-shooting/index.html.

A pattern emerges from these and other similar acts of violence, linking misinformation on social media to armed, dangerous action[20] In 2018, Arizona conservative Matthew Wright, armed with two military-style rifles, two handguns, and 900 rounds of ammunition, blocked a bridge near the Hoover Dam in an armored vehicle because he was upset by perceived inaction relating to crimes alleged in QAnon internet conspiracy theories.[21] A right-wing Californian man was arrested the same year after being found with bomb-making materials in his car that he planned to use to "blow up a satanic temple monument...to make Americans aware of Pizzagate" and other QAnon conspiracy theories that he'd discovered on social media. In 2019, twenty-four-year-old conservative Anthony Comello "became certain that he was enjoying the protection of President Trump...and had the president's full support" when he murdered the patriarch of the Gambino crime family in New York. Later that year, forty-one-year-old conservative Timothy Larson damaged an Arizona church and posted about the crime on Facebook after being convinced by another QAnon conspiracy theory that the church supported human trafficking. In December of 2019, fifty-year-old Republican Cynthia Abcug was arrested in Montana, foiling a plot to kidnap supposed "evil Satan worshippers" that she coordinated with other QAnon supporters via a Facebook group and other social media. In April of 2020, forty-four-year-old conservative Eduardo Moreno, having seen a QAnon conspiracy theory about COVID-19 on Facebook, ran a freight train beyond its track, aiming it at a navy hospital ship that was treating COVID-19 patients. These incidents can all be tied to the individual's consumption of unlabeled misinformation on Facebook and other social media.

Although QAnon theories primarily originate on other forums, it is important to note that Facebook, by its very nature, greatly facilitates the spread of these ideas. Facebook not only fails to stop white supremacists from sharing explicitly racist information publicly, but also promotes a connection between like-minded users and advertises groups based on measured interests, which are determined through Facebook's online content consumption algorithm.[22] This aspect of the algorithm has some dangerous consequences. Clicking on just one article with a political bias can lead to a Facebook newsfeed crowded with similar content, regardless of its validity, and Facebook suggestions of groups and potential friends who also engaged with that content.[23] This effect is amplified for frequent Facebook users and is the main reason for the normalization of extremist beliefs and the radicalization of social media users. Even relatively fact-conscious users may see misinformation in familiar contexts, like when a high school friend posts a link in a shared Facebook group and assume that the content is valid. This may lead users to then share it themselves and so on, leading to an entire network uncritically consuming content that has little or no basis in fact. This feedback loop of misinformation and outrage has repeatedly led to the previously noted violent incidents and peaked with the 2021 Capitol riot. A seemingly simple mitigation to the misinformation-to-violence lifecycle is fact-checking. Section 230, however, prevents sites like Facebook from being forced to implement such solutions, which has led to insufficient regulation of false information on their part.

Section 230 of the Communications Decency Act was enacted to protect new and developing technologies by ensuring that they would not be liable for third-party content on their platforms. The statute states that "interactive computer service [providers]" are not recognized as the publisher of user-generated content, and thus cannot be held liable for that content on behalf of the user.[24] While Congress originally

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20 Lois Beckett, "QAnon: A Timeline of Violence Linked to the Conspiracy Theory," the Guardian, October 16, 2020, http://www.theguardian.com/us-news/2020/oct/15/qanon-violence-crimes-timeline.

21 Ibid.

22 Ibid; Mark Townsend, "Facebook Algorithm Found to 'actively Promote' Holocaust Denial," the Guardian, August 16, 2020, http://www.theguardian.com/world/2020/aug/16/facebook-algorithm-found-to-actively-promote-holocaust-denial; Nick Bilton, "How Facebook Became the Social Media Home of the Right," Vanity Fair, accessed April 21, 2021, https://www.vanityfair.com/news/2020/06/how-facebook-became-the-social-media-home-of-the-right.

23 Renee Diresta, "Social Network Algorithms Are Distorting Reality By Boosting Conspiracies," accessed April 21, 2021, https://www.fastcompany.com/3059742/social-network-algorithms-are-distorting-reality-by-boosting-conspiracy-theories; Jack Morse, "Facebook Pulls 'Gay Communists for Socialism' Group Which Trolled Trump Supporters," Mashable, November 10, 2020, https://mashable.com/article/facebook-bans-gay-communists-for-socialism-group/.

24 "47 U.S. Code § 230 - Protection for Private Blocking and Screening of Offensive Material," LII / Legal Information Institute, accessed April 21, 2021, https://www.law.cornell.edu/uscode/text/47/230.

intended this rule to support business growth and technological innovation, Section 230 allows for some of the most powerful companies in the world, such as Google, Twitter, and Facebook, to escape accountability for users' posts. Because Facebook is not legally responsible for anything posted on its platform, misinformation can spread incredibly quickly before the site removes it or considers taking potential action against it. It also means the leader of the free world can freely share misleading or false information and even unknowingly promote satirical articles as fact.[25] Partially because of this, there has been bipartisan support to amend §230.[26] A proposed amendment by the Justice Department would include a statute allowing companies to moderate user content on their platforms in good faith, which would include fact-checking. It was unclear at the time whether Congress would accept the amendments as the Senate was Republican-led, and the party leader had balked at social media platforms' efforts to fact-check his content throughout his political career.[27] While the current Senate is Democrat-led, moderate party members may not agree to a hands-on approach with businesses that they hope will cooperate with future and ongoing government partnerships.

To its credit, Facebook has joined other social media companies in attempting to diminish the spread of misinformation by fact-checking some of the articles shared on its platform, but Twitter, YouTube, and Google currently have a lead on Facebook in their mitigation strategies. Twitter banned all state-backed media and political advertising in 2019 and has begun labeling political accounts of state-affiliated media entities and government officials.[28] It also changed its algorithm to stop promoting state-affiliated media accounts through its recommendation system and has flagged inaccurate and misleading tweets from the

current administration.[29] Following Twitter's removal of 7,000 QAnon bot and user accounts,[30] YouTube began prohibiting materially targeting an individual or a group with conspiracy theories used to justify violence.[31] Google published a COVID-19 medical misinformation policy that disallows false YouTube content about coronavirus treatment, prevention, and transmission, and all misinformation that contradicts health authorities' or the World Health Organization's medical information.[32] Less than a month before the 2020 election, Facebook announced that it would follow suit by banning pages, groups, and Instagram accounts that represented QAnon to try to prevent the spread of misinformation and the violence that stems from it.[33]

Though belated, Facebook's action parallels its current user rules of disallowing, flagging, and occasionally removing posts that promote or include hate speech, violence, or harassment.[34] If a user's content violates Facebook's policy, the user may appeal Facebook's decision to flag or remove the post by requesting a review by Facebook's community operations team. If the content was flagged or removed in error, their policy requires the team to restore it.[35] If a user's post about political topics, COVID-19, QAnon, or related conspiracy theories is recognized as misinformation

25 Aaron Rupar, "Trump's Fake News Crisis, Illustrated by Two Episodes over the Last 24 Hours," Vox, October 16, 2020, https://www.vox.com/2020/10/16/21519502/trump-savannah-guthrie-crazy-uncle-babylon-bee.

26 Marguerite Reardon, "Democrats and Republicans Agree That Section 230 Is Flawed," CNET, accessed April 20, 2021, https://www.cnet.com/news/democrats-and-republicans-agree-that-section-230-is-flawed/.

27 David Ingram, "Twitter Is Now Fact Checking Trump. That Won't Stop Him from Tweeting.," NBC News, accessed April 21, 2021, https://www.nbcnews.com/tech/tech-news/trump-has-made-twitter-his-megaphone-fact-check-won-t-n1215421.

28 Twitter Support, "New Labels for Government and State-Affiliated Media Accounts," accessed April 21, 2021, https://blog.twitter.com/en_us/topics/product/2020/new-labels-for-government-and-state-affiliated-media-accounts.

29 Nancy Scola, "Twitter Flags Trump Campaign's Tweet for 'Premature Claims of Victory' in S.C. - POLITICO," accessed April 21, 2021, https://www.politico.com/news/2020/11/03/twitter-flags-trump-campaign-tweet-433993; Reuters Staff, "Twitter Flags Trump Tweet on Mail-in Ballots over 'Disputed' Content," Reuters, October 27, 2020, sec. Internet News, https://www.reuters.com/article/us-usa-election-trump-twitter-idUSKBN27C0D1.

30 Craig Timberg, "Twitter Banished the Worst QAnon Accounts. But More than 93,000 Remain on the Site, Research Shows," Washington Post, accessed April 28, 2021, https://www.washingtonpost.com/technology/2020/10/03/twitter-banished-worst-qanon-accounts-more-than-93000-remain-site-research-shows/.

31 Barbara Ortutay, "YouTube Follows Twitter and Facebook with QAnon Crackdown," AP News, April 20, 2021, https://apnews.com/article/youtube-qanon-conspiracy-theories-ef03a889e-68239de6692ce42666d97d8.

32 "COVID-19 Medical Misinformation Policy - YouTube Help," Google, accessed April 21, 2021, https://support.google.com/youtube/answer/9891785.

33 Barbara Ortutay, "Facebook Says It Will Ban Groups That Openly Support QAnon," AP News, April 20, 2021, https://apnews.com/article/technology-us-news-business-donald-trump-ap-top-news-3859f7e6d146a7710612ce7160efbb63.

34 "Community Standards," Facebook, accessed June 21, 2021, https://www.facebook.com/communitystandards/violence_criminal_behavior.

35 Jessica Guynn, "These Are Facebook's Secret Rules for Removing Posts," accessed June 21, 2021, https://www.usatoday.com/story/tech/news/2018/04/24/facebook-discloses-secret-guidelines-policing-content-introduces-appeals/544046002/.

by Facebook's software and moderators, the platform displays a banner under the post, informing viewers that some of the information posted may be inaccurate. Another feature Facebook occasionally provides is showing users articles by Snopes or similar fact-checkers under shared articles containing contested or inaccurate information, without removing the original article.[36] This allows for the initial poster to exercise their free speech rights while providing viewers of that post with the option to confirm the validity of its content.

Implementing steps like these is becoming more crucial every day. It is true that Facebook is a private company that does not currently need to fact-check user-posted content because it is a protected interactive computer service provider under §230. With the current protections, Facebook has no liability for user-published content, and no thus no incentive to moderate it. However, while Facebook may be a private company, it effectively plays the role of a public utility by providing users with a platform for content of any quality or origin and actively promoting that content to other users around the world. Facebook's steps to moderate false content are business decisions made out of concern for its brand image. These steps should also help delegitimize false and misleading content, which would likely lead to fewer public safety incidents over time. However, due to a lack of actual regulatory pressure, Facebook has not taken sufficient action and has been far too slow to take these first steps in pursuit of public safety. The global stage on which social media giants operate contrasts sharply with the small blogs and forums that §230 was created to protect. As a pseudo-public utility, Facebook has a responsibility to make policy decisions that protect public safety.

Creating a fact-checking mechanism that scans across all Facebook posts may sound like a single addition of software, but it would realistically involve more steps that the company may not consider worth its time. Despite its explicit content moderation rules, Facebook has already erroneously removed posts from Black Americans recounting lived experiences with racism, mistakenly flagging them as hate speech. At the same time, they have not touched implicitly racist content from other users, illustrating the problems with moderating online content for specific terms instead of

for context.[37] Additionally, there is the issue of defining misinformation in a way that does not hinder the right to free speech. After the 2020 presidential election, there was a massive migration of Republican and right-wing individuals from Facebook to Parler, a competing social media platform that promises free speech over "censorship." While relatively young at two years old, Parler has already attracted 2.8 million users, necessitating content moderation. The "free speech alternative" to Facebook lists several prohibited topics in its terms, such as terrorist activity and pornography, but does not define or address "misinformation." It also reserves the right to ban users for "any or no reason," which is the primary reason it has given for a wave of bans since the election.[38]

Given the challenge of balancing free speech rights with public safety interests, it is up to Facebook to update its current definition of "news [that] is harmful to [the] community, makes the world less informed, and erodes trust"[39] to something more concrete that includes the issue of misleading and false information in headlines and article content. Addressing headlines as well as content is crucial because the majority of users share articles without reading them first. An article filled with dummy text from a satirical news site titled "Study: 70 percent of Facebook users only read the headline of science stories before commenting" was shared 46,000 times on Facebook, illustrating the article's point and proving the Columbia University study that 59 percent of links that are shared on social media are never clicked before being shared.[40] After updating its definition of misinformation, Facebook must then consider whether

36 "Fact-Checking on Facebook," Facebook Business Help Center, accessed April 21, 2021, https://www.facebook.com/business/help/2593586717571940.

37 Peter Holley, "'Kill Them. Kill Them All': GOP Congressman Calls for War against Radical Islamists," *Washington Post*, accessed April 21, 2021, https://www.washingtonpost.com/news/acts-of-faith/wp/2017/06/05/kill-them-kill-them-all-gop-congressman-calls-for-holy-war-against-radical-islam/; Ally Mutnick, "Shocking Social Media Posts Yanked by Republican House Candidate," POLITICO, accessed April 21, 2021, https://www.politico.com/news/2020/05/06/gop-candidates-posts-demeaned-muslims-and-mocked-parkland-shooting-survivor-241429.

38 Marina Watts, "Parler, the Ted Cruz-Approved 'Free Speech' App, Is Already Banning Users," *Newsweek*, accessed April 21, 2021, https://www.newsweek.com/parler-ted-cruz-approved-free-speech-app-already-banning-users-1514358.

39 "Working to Stop Misinformation and False News," Facebook Media, accessed April 22, 2021, https://www.facebook.com/for-media/blog/working-to-stop-misinformation-and-false-news.

40 Ibid; Caitlin Dewey, "6 in 10 of You Will Share This Link without Reading It, a New, Depressing Study Says," *Chicago Tribune*, accessed April 20, 2021, https://www.chicagotribune.com/business/blue-sky/ct-share-this-link-without-reading-it-ap-bsi-20160618-story.html.

such posts on its platform would best be moderated by its current content moderators across the globe or by an Artificial Intelligence (AI) algorithm. While AI has been proven to have problematic biases when applied in real-world scenarios instead of hypothetical, academic situations, Facebook can potentially avoid unwanted biases by feeding the AI live examples of previously approved and rejected content.[41]

Finally, Congress must consider whether to take on what will look like a more paternalistic role by requiring fact-checking or allow users more autonomy in finding credible news and educating themselves with factual articles, an approach that comes with continued public safety concerns. Congress Members should be aware that Facebook was designed to facilitate the spread of any and all information. Unfortunately, this has played a large role in two national elections and many more conspiracy theory-based crimes.

In the January 2021 Capitol riot, the nation saw yet another instance of Facebook's role in misinformation-based violence. Unlike the previous one-off instances, this was an organized attempted coup. Hundreds of people were convinced from months of misinformation, amplified in online echo chambers, that storming the Capitol, attempting to take lives of Congress members, and even planning to lynch the former Vice President[42] were required actions they needed to take to force the government to declare former President Trump as the victor of the 2020 election.[43] Thanks in part to social media footage of the attacks and voluntarily posted content from individuals at the riot,[44] the Justice Department has arrested and charged over 300 individuals and expects to charge 100 more in the coming months.[45] To prevent this kind of incident from occurring again, Congress must amend §230. The amendment should require social media companies to take stronger steps to mitigate the spread of misinformation for the sake of public safety. We have a First Amendment right to free speech. It is up to Congress to make sure we live to enjoy it.

41 James Manyika, Jake Silberg, and Brittany Presten, "What Do We Do About the Biases in AI?," Harvard Business Review, October 25, 2019, https://hbr.org/2019/10/what-do-we-do-about-the-biases-in-ai.

42 Martin Pengelly, "'Hang Mike Pence': Twitter Stops Phrase Trending after Capitol Riot," the Guardian, January 10, 2021, http://www.theguardian.com/us-news/2021/jan/10/hang-mike-pence-twitter-stops-phrase-trending-capitol-breach.

43 Ally Mutnick, "Shocking Social Media Posts Yanked by Republican House Candidate," POLITICO, accessed April 21, 2021, https://www.politico.com/news/2020/05/06/gop-candidates-posts-demeaned-muslims-and-mocked-parkland-shooting-survivor-241429.

44 Minyvonne Burke and Pete Williams, "West Virginia Lawmaker Charged after Recording Himself Storming Capitol," NBC News, accessed April 21, 2021, https://www.nbcnews.com/news/us-news/west-virginia-lawmaker-records-himself-storming-capitol-thousands-call-his-n1253362.

45 NPR Staff, "The Capitol Siege: The Arrested And Their Stories," NPR.org, accessed June 21, 2021, https://www.npr.org/2021/02/09/965472049/the-capitol-siege-the-arrested-and-their-stories.

Wage Policies in the United States and Germany

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The United States and Germany are both leading economies that have great influence over the state of global markets. As the world's fourth largest GDP Germany has become the economic engine of Europe, and the US continues to lead the world in the size of its economy.[1] While both countries have large economies, they differ in their prioritizations in federal wage policies. The United States has long resisted an embrace of collective bargaining, resulting in wage stagnation and increased wealth inequality. It can learn from Germany's extensive collective bargaining coverage and comprehensive benefits, which have sustained nearly linear average wage growth over the last thirty years. Germany should strengthen its collective bargaining to adapt to and include new industries and to mitigate the regional inequality across the former east and west Germany. For both nations, there exists a discrepancy between wage and productivity. Both countries should strengthen the collective bargaining powers of their workers and match wage growth to productivity growth.
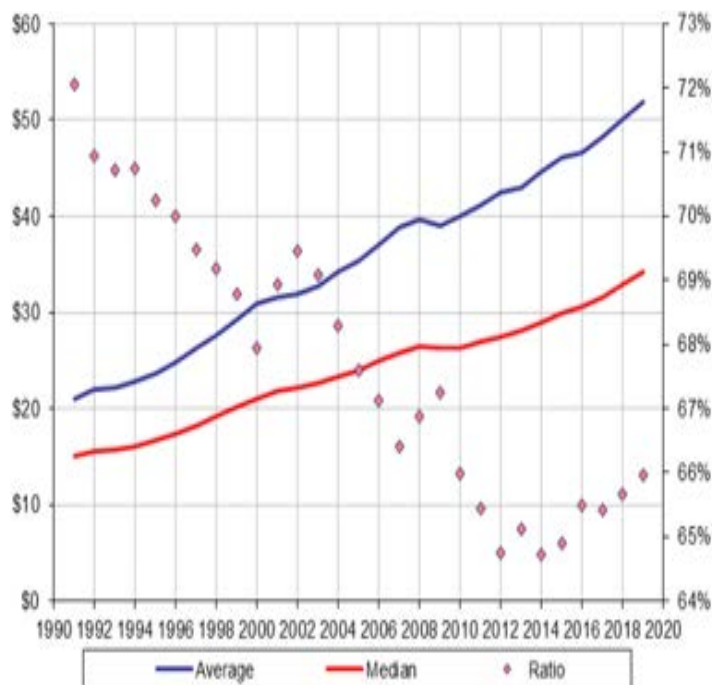

Figure 1. Average and median wage have a growing differential.

Source: "Measures of central tendency for wage data," Social Security Administration, https://www.ssa.gov/oact/cola/central.html

The United States Uses a Hands-Off Approach to Wage Policies

Wage policy in the United States is limited and gives most power to employers. From low minimum wage to weak unions and limited benefits, American policies fail to support the working class. As a result, top income shares have grown substantially while the median wage has not, leading to increasing income inequality.

Average wages in the United States have continued to rise over the last thirty years, with average yearly wages at $51,916 today.[2] However, average wage does not describe the whole picture of what the average American is earning in a year. Susceptible to outliers, the average wage seems to over inflate what most Americans

actually make. The median wage is substantially lower than the average and has grown at a slower rate as can be seen by the growing gap illustrated in *figure 1*.[3] In 2019 the median wage in the United States was $34,248, close to $18,000 less than the average. Median wage illustrates what middle income Americans are actually earning without interference from those at the top of the wage distribution. The increasing gap between average wage and median wage points to the increase in wage inequality in the US. Since 1980, income of the top 1 percent grew by over 150 percent while income in the bottom 90 percent grew by less than 25 percent.[4] Additionally, between 1979 and 2018 productivity grew by 69.6 percent while hourly wages only grew by 11.6 percent, contrary to the thirty years prior which had

1 Prableen Bajpai, "The 5 Largest Economies In The World And Their Growth In 2020 | Nasdaq," Nasdaq, January 22, 2020. https://www.nasdaq.com/articles/the-5-largest-economies-in-the-world-and-their-growth-in-2020-2020-01-22.

2 "Social Security." Average wages, median wages, and wage dispersion. Social Security Administration. Accessed October 25, 2020. https://www.ssa.gov/oact/cola/central.html.

3 Ibid.

4 Elise Gould, "State of Working America Wages 2018: Wage Inequality Marches on-and Is Even Threatening Data Reliability." Economic Policy Institute, February 12, 2019. https://www.epi.org/publication/state-of-american-wages-2018/.
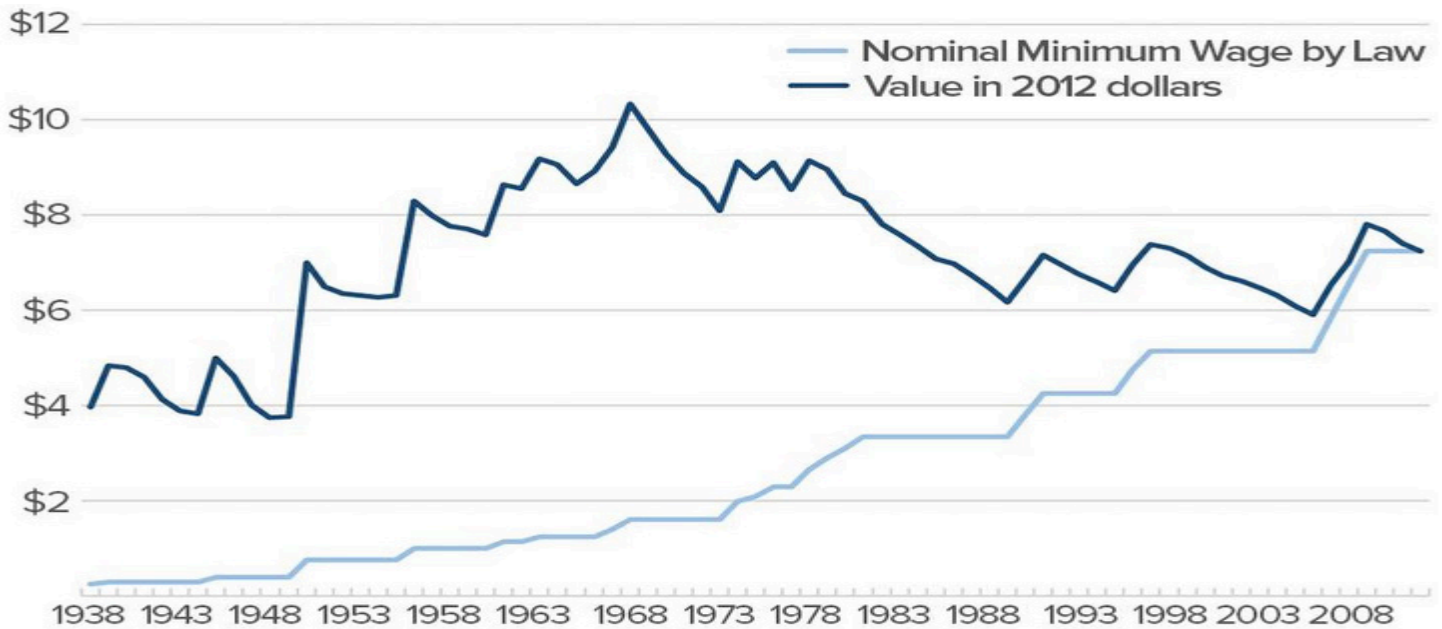
Figure 2: The real value of the US minimum wage has decreased

*Source: "*What are the annual earnings for a full-time minimum wage worker?," Center for Poverty and Inequality, 2018, https://poverty.ucdavis.edu/faq/what-are-annual-earnings-full-time-minimum-wage-worker.

seen wages and productivity growth in tandem. Income inequality in the United States has grown, and it is not only the people at the bottom of the distribution who are being left out, any household not at the top has been affected in part due to stagnating wage growth.

The story of slow wage growth can also be seen in minimum wage policies in the United States. Established in 1938, the Fair Labor Standards Act set a minimum wage of twenty-five cents that covered industries that employed 20 percent of the labor force.[5] Today, 130 million workers work in industries covered by the Federal Minimum wage which is set at seven dollars and twenty-five cents. Federal Minimum wage policy has no mechanism for consistent increases and is only raised when Congress passes new legislation. Because of the inconsistency in these increases, the real value, or actual amounts of goods and services that can be purchased, of the minimum wage has varied greatly over time.[6] The highest real value came in 1968 when it was worth over ten dollars and has mostly declined in the years since.

Many states have adopted their own minimum wage policies. In states where the state minimum is more than federal minimum, wages default to the state minimum, where the opposite is true, wages default to the federal minimum. Today, twenty-nine states and Washington D.C. have state minimum wages that are higher than the federal rate and seven states have automatic increases in minimum wage to stay consistent with increases in cost of living.[7] [8]In recent years, activists with the "Fight for $15" led nationwide movements to increase the minimum wage to fifteen dollars per hour.[9] While the "Fight for $15" movement has helped spur an increase in minimum wages in some states and localities, there has been little headway made in federal policy.

Another aspect of wage policy in the United States is the level at which wage negotiations are pursued. Currently, most wage negotiations in the US are done by individuals with their employers. Historically, wage negotiations for the working class were pursued through unions for negotiated collective bargaining

5 "What Are the Annual Earnings for a Full-Time Minimum Wage Worker?" Center for Poverty and Inequality Research, January 12, 2018. https://poverty.ucdavis.edu/faq/what-are-annual-earnings-full time-minimum-wage-worker.

6 "What Are the Annual Earnings for a Full-Time Minimum Wage Worker?" 2018. Center for Poverty and Inequality Research. January 12, 2018. https://poverty.ucdavis.edu/faq/what-are-annu-al-earnings-full-time-minimum-wage-worker.

7 Elise Gould, "State of Working America Wages 2019: A Story of Slow, Uneven, and Unequal Wage Growth over the Last 40 Years." Economic Policy Institute, February 20, 2020. https://www.epi.org/publication/swa-wages-2019/.

8 Saige Draeger, "State Minimum Wages: 2020 Minimum Wage by State." State Minimum Wages | 2020 Minimum Wage by State, August 20, 2020. https://www.ncsl.org/research/labor-and em-ployment/state-minimum-wage-chart.aspx.

9 Alina Selyukh, "'Gives Me Hope': How Low-Paid Workers Rose Up Against Stagnant Wages." NPR. NPR, February 26, 2020. https://www.npr.org/2020/02/26/808113169/gives-me-hope how-low-paid-workers-rose-up-against-stagnant-wages.

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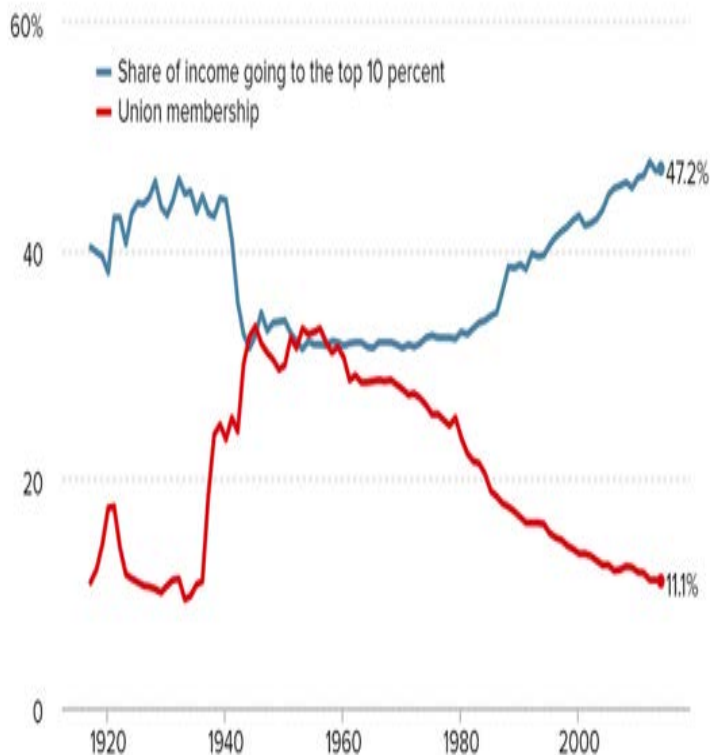
Figure 3. Union membership falls as income inequality rises

Source: Lawerence Mishel and Jessica Schieder, "As union membership has fallen, the top 10 percent have been getting a larger share of income," Economic Policy Institute, May 24, 2016, https://www.epi.org/publications/

agreements with employers. However, since the 1980s union membership has declined, and fewer and fewer workers are covered under these agreements.[10] The decline in union membership and power means that workers have less bargaining power to negotiate better salaries and benefits. Along with the decline in union membership, there has been a correlated increase in the share of income going to the top 10 percent, further contributing to income inequality.[11] Declining union membership has thusly been a contributing factor in the stagnation of wages among middle- and low-income workers.

Along with wages, employers offer non-wage benefits to their employees. Few non-wage benefits are federally required in the United States, employers are only required to contribute Social Security Tax,

Medicare Tax, Unemployment Insurance, and twelve weeks of unpaid medical leave.[12] The Social Security and Medicare Taxes provide employees with a modest pension and health insurance when they come to retirement age while unemployment insurance provides people with twelve weeks of reduced pay if they are laid off from their jobs. The Family Medical Leave Act (FMLA) requires employers to offer their employees twelve weeks of protected unpaid leave in response to a medical emergency. One could argue that these are modest benefits, which leave many low-income workers without other essential benefits like health care or paid time off. While many employers offer more comprehensive benefits, they are often associated with higher paying jobs.[13]

Finally, there are large and persistent wage gaps in the United States related to both gender and race. The average woman makes eighty-three cents on the dollar that an average man makes for performing the same job.[14] These gaps grow even larger when accounting for race with black men making seventy-three cents and black women making sixty-five cents for every dollar a white man makes. These discrepancies have been consistent over time and are not explained by differences in education or region.[15] Women who have less than a high school education earn 78.2 percent of their male counterparts, while those holding advanced degrees earn 73.4 percent of what men of the same education level earn. The racial wage gap has widened over time from 21.8 percent in 2000 to 26.5 percent in 2019 and is most pronounced at the top of the wage distribution with a gap of 34.7 percent at the 95th percentile in 2019.[16]

10 Lynn Rhinehart and Celine McNicholas, "Collective Bargaining beyond the Worksite: How Workers and Their Unions Build Power and Set Standards for Their Industries." Economic Policy Institute, May 4, 2020. https://www.epi.org/publication/collective-bargaining-beyond-the-worksite-how workers-and-their-unions-build-power-and-set-standards-for-their-industries/.

11 Ibid.

12 "How Much Do Private Industry Employers Pay for Legally Required Employee Benefitys?" U.S. Bureau of Labor Statistics, April 2012. https://www.bls.gov/opub/btn/archive/program-perspectives on-legally-required-benefit-costs.pdf; Tess Taylor, "What Are Required Employee Benefits for U.S. Businesses?" The Balance Careers, June 26, 2019. https://www.thebalancecareers.com/required-vs-non-required-employee-benefits for-us-businesses-4117334.

13 "Employee Benefits In The United States – March 2020." Bureau of Labor Statistics. U.S. Department of Labor, September 24, 2020. https://www.bls.gov/news.release/pdf/ebs2.pdf.

14 Elise Gould and Kathleen Geier, "What Is the Gender Pay Gap and Is It Real?: The Complete Guide to How Women Are Paid Less than Men and Why It Can't Be Explained Away." Economic Policy Institute, October 20, 2016. https://www.epi.org/publication/what-is-the-gender-pay-gap-and-is-it-real/.

15 Ibid.

16 Elise Gould, "Black-White Wage Gaps Are Worse Today than in 2000." Economic Policy Institute, February 27, 2020. https://www.epi.org/blog/black-white-wage-gaps-are-worse-today-than-in 2000/.

A typical worker covered under a union contract has around double the wealth of a non-union worker thanks in part to the ability to collectively bargain for "wages, benefits, and procedures that affect … employment, such as when and how an employer can fire an employee."[17] Black workers are more likely to be union members and gain bigger wage boosts when they are part of a union compared to white workers.[18] Because of this ability to collectively bargain, union members often earn higher wages, have better benefits, and more stable employment. Expanded access to unions and collective bargaining would help reduce both the racial wealth gap and income inequality by allowing members greater ability to negotiate for higher wages and better benefits.

Collective Bargaining, a Systematically Responsive Minimum Wage, and Comprehensive Benefits Inform Germany's Wages

The story of wages in Germany is one of employee-prioritized decision-making. Germany's average wage has consistently risen over the last thirty years. Currently, the average wage is $47,585 USD with an expected earning of 2.7 percent of that salary should a worker become unemployed, compared to the Organization of Economic Co-operation and Development (OECD) average of 7 percent.[19] Chart 1 shows the nearly linear increase in the German average wage since the early 1990s. While slight fluctuations have persisted over the last decade, Germany's average wage has managed to grow successfully and consistently despite global, neoliberal trends toward wage stagnation. Wage policies in Germany shape this nearly linear consistency in wage growth.

Germany's minimum wage is young, responsive, and politically supported. Germany did not have a minimum wage until 2015 because collective bargaining, or
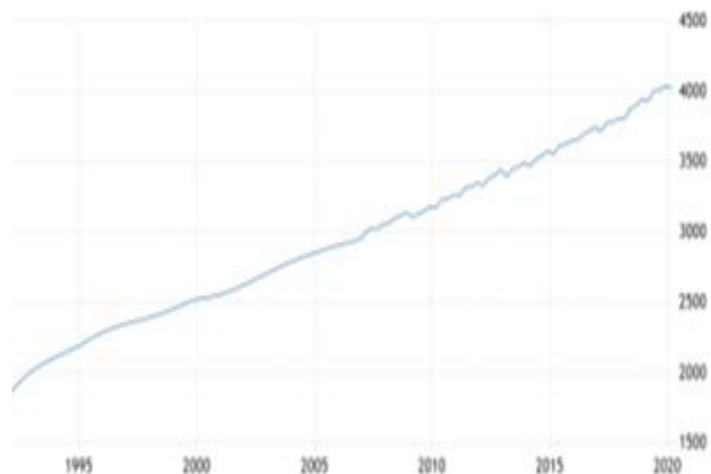

Figure 4. Germany's average wage has increased nearly linearly since 1990.
Source: German Trade Commission

Figure 5. Germany's minimum wage is systematically responsive, allowing for regular increases.
Source: Federal Statistic Office, www. tradingeconomics.com

negotiations on wages and working conditions between trade unions and employers' organizations, typically at a high, industry level, was effective by itself as a systematic wage raiser until the early 2000s.[20] [21] By 2013, nearly every German political party had added a minimum wage to their manifestos, except for its neoliberal Free Democratic Party. In addition, over 80 percent of the German public supported a minimum wage by 2014.[22] On January 1, 2015, Germany established its minimum wage with an agreement by a grand coalition of its three largest parties, the Christian Democratic Union (CDU), the Christian Social Union, (CSU), and the Social Democratic Party of Germany (SPD).

17 Christian Weller and David Madland. 2018. "Union Membership Narrows the Racial Wealth Gap for Families of Color - Center for American Progress." Center for American Progress. September 4, 2018. https://www.americanprogress.org/issues/economy/reports/2018/09/04/454781/union-membership-narrows-racial-wealth-gap-families-color/.

18 Elise Gould, "Black-White Wage Gaps Are Worse Today than in 2000." Economic Policy Institute, February 27, 2020. https://www.epi.org/blog/black-white-wage-gaps-are-worse-today-than-in 2000/.

19 "Germany," OECD Better Life Index. Accessed October 25, 2020, http://www.oecdbetterlifeindex.org/countries/germany/.

20 Cleverway. "Collective Bargaining." Worker Participation. Accessed October 25, 2020. https://www.worker-participation.eu/National-Industrial-Relations/Countries/Germany/Collective Bargaining.

21 Dgb-En. "The Minimum Wage in Germany." dgb. Accessed October 25, 2020. https://en.dgb.de/fields-of-work/the-minimum-wage-in-germany.

22 Ibid.

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Lawmakers ensured that the minimum wage would be regularly updated by writing revision requirements into the law itself and by appointing a minimum wage commission to inform regular updates.[23] Wage control is implemented by the Finanzkontrolle Schwarzarbeit des Zolls, a minimum wage commission consisting of union representatives, employer representatives, and academics.[24] This comprehensive list of stakeholders ensures that the minimum wage responds to real living standard requirements, and German lawmakers have responded by updating the minimum wage four times in its five-year existence. Prior to the minimum wage, however, collective bargaining set a rigorous standard for wage setting in the nation.

Collective bargaining sustained wage growth in Germany and ensured that a minimum wage was not necessary until recent decades, as globalization and neoliberal policy prioritization stagnated wages in many rich nations. While the bargaining sometimes does happen at the individual company level, the bargaining remains most effective at the industry level. Through this process, Germany sustains high level negotiations, flexible federal policies to suit individual industries and companies, and sustainable, low-pressure relationships between employees and employers.

Criticisms of the system include collective bargaining's decline in coverage, regional inequality, and inability to capture new industries. Over the last fifty years, overall collective bargaining coverage fell from 70 percent of workers to 49 percent.[25] While we can attribute this in part to automation and displacement of classic industry jobs, this change is also due to the limited incentives for new industries to participate in collective bargaining. *Figure 3* also emphasizes the coverage discrepancy between the more industrial former West Germany and the less industrial former East Germany. Most notably, West Germany covers a majority of its workers, 56 percent through collective bargaining, while East Germany covers only 45 percent.

Comprehensive benefits round out Germany's declining collective bargaining coverage. These include state retirement pensions, unemployment insurance, healthcare, long-term nursing care, and a collection of supplementary employment benefits. To discuss these

Proportion of employees covered by collective agreements: 2018

Level of bargaining	Germany	West Germany	East Germany
Industry	46%	56%	45%
Company	8%		
Not covered	46%	44%	55%
* of which oriented on industry-level	51%	52%	44%
Total	100%	100%	100%

Figure 6. Nearly half of German employees are represented by industry collective bargaining.
Source: IAB-Betriebspane, 2018.

in turn, "every employer is required by law to transfer minimum contributions to the pension system for both the employer and employee."[26] It is a pay-as-you-go system. For unemployment insurance, everyone working at least eighteen hours per week is insured against unemployment at 60 percent of their net earnings for the last twelve months, with 67 percent of earnings covered among those with children. The insurance lasts between six and eighteen months depending on how long a worker has worked for the company. For healthcare, all Germans are required to have health insurance and 90 percent of Germans participate in public health insurance.

The wage situation in Germany is not entirely equitable. Germany's gender wage gap is among the highest in Europe; women are paid 21 percent less than men in terms of average, gross hourly earnings.[27] Likewise, immigrants are paid 10 to 17.6 percent less than native Germans, with a 4.5 percent average gap differential based on education.[28] As previously mentioned, there also exists a wage disparity across East and West Germany. The more industrialized East Germany covers more workers through collective bargaining than East Germany.

23 Ibid.

24 GB. 2021. "Mindestlohn in Deutschland: Alles, was Sie wissen müssen." January 26, 2021. https://www.dgb.de/schwerpunkt/mindestlohn.

25 Dgb-En. "The Minimum Wage in Germany." dgb. Accessed October 25, 2020. https://en.dgb.de/fields-of-work/the-minimum-wage-in-germany.

26 "Learn About Employee Benefits in Germany." Asinta, September 17, 2020. https://www.asinta.com/countries/germany/.

27 Deutsche Welle. "German Gender Pay Gap Unchanged at 21 Percent: DW: 14.03.2019." DW.COM. Accessed October 25, 2020. https://www.dw.com/en/german-gender-pay-gap-unchanged-at-21-percent/a-47906057.

28 Ibid.

Despite Germany's employee-focused wage policies, Germany's wage distribution remains one of the most unequal of wealthy, European nations. For example, the top 1 percent of German households own a third of Germany's wealth. That same figure is 12 percent in Spain and 6 percent in France.[29] This is largely due to neoliberal influence on macroeconomic policies in Germany over the last forty years, bringing chronically high unemployment and wages that have not risen linearly with productivity. Wages have lastingly decoupled from productivity growth, which is "putting a [wrench] in the works of capitalist production."[30]

Conclusion and Recommendations

The United States and Germany are both capitalist countries with rising economic inequality. While the United States has taken a hands-off approach to wage policies, leaving many of decisions around wages and benefits up to the discretion of employers, Germany provides its workers with a more complete set of benefits including healthcare and a pension. Germany has maintained stronger collective bargaining agreements over time which have allowed wages to grow linearly, while unions in the United States have lost union membership which has reduced their bargaining power.

Both the US and Germany have seen a rise in income inequality and as a result should adopt new wage policies. The United States should create legislation that encourages collective bargaining agreements, especially for low-wage employees. It should also create mechanisms to increase the minimum wage at consistent intervals. Germany, like the United States, should continue to encourage collective bargaining and update collective bargaining laws to be more adaptive to new industries. It should also resist neoliberal tendencies of wage stagnation paired with productivity growth and employ a combative package of a wealth tax and stricter wage policies. Finally, Germany should consider wage equity mandates across its regional, gender, and ethnicity gaps

29 Ingwersen, Kai. "The Immigrant-Native Wage Gap in Germany Revisited." IZA Institute of Labor Economics, n.d. http://ftp.iza.org/dp12358.pdf.

30 Ibid.

Enhancing Women's Economic Potential With Policies That Benefit All Americans

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In the United States, women, especially women of color, earn less on average than their male peers. The wage gap between men and women persists at every income level, education level, and most occupations. It's driven by overall wage inequality and societal expectations and, for women of color, it's exacerbated by systemic racism. In order to improve women's economic power and protect their own and their families' prospects in the wake of COVID-19, I recommend that Congress increase the federal minimum wage and implement the Child Care for Working Families Act.

The Gender Wage Gap: Its Causes and Effects

On average, women's hourly wages are just 82.9 percent of a man's.[1] This gap persists regardless of a woman's income, level of education, or occupation. The Economic Policy Institute estimates that sixteen percent of this gap is explained by gender disparity, 49.1 percent is attributed to the growing disparity between economic productivity and wages, and the rest is the result of the interaction between these two phenomena.[2] Since women comprise the majority of workers in low-wage occupations, the rising gap between productivity and wages has harmed them the most.[3] Disappointingly, this rise in overall inequality has been the primary mechanism behind the gender wage gap's reduction over the past few decades as men's wages have fallen to meet women's.[4] Had the median wage grown at the same rate as economic productivity and the gender wage gap had been closed, women's wages would be 71.2 percent higher today.[5]

The wage gap has devastating economic consequences for women. Women, especially women of color, are much more likely to be impoverished than men.[6] Further, families headed by single mothers are much more likely than those headed by single fathers or married couples to be in poverty (thirty-four percent versus sixteen percent and six percent respectively).[7] Beyond struggling to cover everyday expenses, lower wages mean women accumulate less wealth and have lower savings than men making shocks like unemployment, medical bills, and other unexpected expenses much more damaging to women and their families.[8]

Moving up the ladder and securing a higher-paying job does not shield women from all of the disparities and difficulties lower-income women face. High-achieving women often find new barriers to overcome as their careers mature. The intersecting expectations that women take on a disproportionate share of household and child-rearing responsibilities and the irregular and long hours that come with professional jobs can leave many women, especially mothers, in career limbo.[9] Nowhere is this dynamic more obvious than that wage gaps are the most prominent between men and women when women reach the age where many start families (thirty-five to forty-five years old).[10]

1 Alyssa Davis and Elise Gould, "Closing the pay gap and beyond," Economic Policy Institute, November 18, 2015, https://www.epi.org/publication/closing-the-pay-gap-and-beyond/.

2 Ibid.

3 Robin Bleiweis, Diana Boesch, and Alexandra Cawthorne Gaines, "The Basic Facts About Women in Poverty," Center for American Progress, August 3, 2020, https://www.americanprogress.org/issues/women/reports/2020/08/03/488536/basic-facts-women-poverty/.

4 Alyssa Davis and Elise Gould, "Closing the pay gap and beyond," Economic Policy Institute, November 18, 2015, https://www.epi.org/publication/closing-the-pay-gap-and-beyond/.

5 Ibid.

6 Meika Berlin and Morgan Hardwood,"National Snapshot: Poverty Among Women and Families, 2018,"National Women's Law Center, September 2018, https://nwlc.org/wp-content/uploads/2018/09/National-Snapshot.pdf, 1.

7 Ibid.

8 Robin Bleiweis, Diana Boesch, Alexandra Cawthorne Gaines, "The Basic Facts About Women in Poverty," Center for American Progress, August 3, 2020, https://www.americanprogress.org/issues/women/reports/2020/08/03/488536/basic-facts-women-poverty/.

9 Alyssa Davis and Elise Gould, "Closing the pay gap and beyond," Economic Policy Institute, November 18, 2015, https://www.epi.org/publication/closing-the-pay-gap-and-beyond/.

10 Jaison R. Abel and Richard Dietz, "When Women Out-Earn Men," Federal Reserve Bank of New York, August 5, 2015, https://libertystreeteconomics.newyorkfed.org/2015/08/when-women-out-earn-men.html.

In this age group, men earn fifteen percent more than women on average.[11] Since the United States lacks friendly work-family policies like adequate childcare funding and paid leave programs, American women face a far thicker glass ceiling than women in many other developed countries.

Women of Color and Economic Inequality

Combined, the wage gap and glass ceiling significantly suppress the economic potential of all women. However, women of color face far more dire situations due to the intersectionality of their identities as both women and minorities. While the overall gender wage gap is around 0.80 cents to the dollar, Black women earn 65.1 cents, and Hispanic women earn 58.9 cents to every dollar earned by a white man.[12] The root of the disparity between a white man's wages and a woman of color's is systemic racism.

Black women work more hours than white women, but their wage gap relative to white men has grown, not closed, over the past few decades.[13] Further, Black and Hispanic women make up a disproportionate share of employees in low-wage jobs.[14] Although there is a higher proportion of Black women with degrees and high-powered jobs than ever before, evidence has shown that as Black women move up in their careers, the wage gap between themselves and white men only grows.[15] For example, white male physicians earn, on average, $18 more per hour than Black women doing the same job.[16] Since Black women play a vital role in the economic well-being of their families, this earnings gap affects more than just themselves.[17]

The Added Burden of Covid-19

COVID-19 has exacerbated these economic inequalities. Since women make up a disproportionate share of low- and minimum-wage workers, they are the majority of workers on the frontline.[18] Black women are especially overrepresented in frontline positions like health care, childcare, food service, and retail.[19] Not only does this put them at higher risk of contracting the virus, it also makes them more susceptible to job loss as these businesses have closed or have been ordered to cease operations across the country.[20] Many women are also dependent on childcare providers so they can do their jobs. As these services shut their doors, many women bear the brunt of caregiving for their children leading many to reduce hours or quit their jobs entirely.[21] As a result, millions of women and their families are facing poverty.[22] Significant policy changes will be needed to help women recover and re-enter the job force.

Recommendations for Pursuing Economic Equality

The following recommendations aim to improve women's economic well-being by promoting policies that will help all workers impacted by unfair employment practices. Systemic income inequality, the undervaluing of female labor, and the dual demands of being a working mother all contribute to the gender wage gap. The wage gap is driven by systemic income inequality, the undervaluing of female labor, and the dual demands of being a working mother. By addressing these mechanisms, women will have more freedom to realize their full economic potential.

11 Ibid.

12 Alyssa Davis and Elise Gould, "Closing the pay gap and beyond," Economic Policy Institute, November 18, 2015, https://www.epi.org/publication/closing-the-pay-gap-and-beyond/.

13 Valerie Wilson, Janelle Jones, Kayla Blado, and Elise Gould, "Black women have to work 7 months into 2017 to be paid the same as white men in 2016," Economic Policy Institute, July 28, 2017, https://www.epi.org/blog/black-women-have-to-work-7-months-into-2017-to-be-paid-the-same-as-white-men-in-2016/.

14 Diane Boesch, Robin Bleiweis, and Areeba Haider, "Raising the Minimum Wage Would Be Transformative for Women," Center for American Progress, February 23, 2021, https://www.americanprogress.org/issues/women/news/2021/02/23/496221/raising-minimum-wage-transformative-women/.

15 Nikki Katz, "Black Women Are the Most Educated Group in the U.S.," ThoughtCo., June 20, 2020, https://www.thoughtco.com/black-women-most-educated-group-us-4048763;Valerie Wilson, Janelle Jones, Kayla Blado, and Elise Gould, "Black women have to work 7 months into 2017 to be paid the same as white men in 2016," Economic Policy Institute, July 28, 2017, https://www.epi.org/blog/black-women-have-to-work-7-months-into-2017-to-be-paid-the-same-as-white-men-in-2016/.

16 Ibid.

17 Jasmine Tucker, "It's 2020 and Black Women Aren't Even Close to Equal Pay," National Women's Law Center, July 2020, https://nwlc-ciw49tixgw5lbab.stackpathdns.com/wp-content/uploads/2020/07/Black-Womens-Equal-Pay-Day-Factsheet-7.27.20-v3.pdf, 3.

18 Ibid, 1.

19 Ibid, 2.

20 Ibid, 1.

21 Ibid.

22 Ibid, 1.

Congress should raise the minimum wage to $15 an hour. The Raise the Wage Act of 2021 would gradually raise the federal minimum wage to $15 over the next four years.[23] Twenty-one states still use the federal minimum wage of $7.25 as their standard and only nine states are on track to establishing a $15 minimum wage.[24] Increasing the minimum wage not only addresses wage stagnation and rising inequality but lifts all boats while significantly improving economic outcomes for women who make up a majority of low-wage earners. If the federal minimum wage were increased, it would boost the wages of over 35 million workers (55.9 percent of which are women).[25] Thirty-seven-point-one percent of women of color would see a bigger paycheck, as well as 27.3 percent of working mothers and 39.6 percent of single mothers.[26] Beyond increasing earnings, women would be better able to accumulate wealth that can be passed down to future generations and shield themselves and their families from unexpected financial shocks.[27]

Congress should pass the Child Care for Working Families Act.[28] This legislation aims to enact structural reforms to limit childcare costs, increase childcare assistance to low-income families, and ensure access to a variety of care options.[29] Access to affordable, high-quality childcare reduces the glass ceiling effect by providing women with the flexibility they need to pursue their career goals. In Washington, D.C., where preschool has been made universal, the maternal labor force participation has increased by ten percentage points for both low- and high-income families.[30] This case shows how, when women have access to childcare, their economic potential is greatly enhanced.

Conclusion

The gender wage gap and glass ceiling, driven by gender bias and overall rising inequality in the United States, puts a limit on women's economic potential. Since women of color are members of two oppressed groups, their situation is even more dire. When sexism suppresses women's economic potential, women and their families suffer the consequences. COVID-19 has further exposed these structural inequalities and made women even worse off, creating more demand than ever to respond to this issue. A $15 minimum wage and the Child Care for Working Families Act will lift up all Americans by delivering women the resources they need to achieve their full economic potential.

23 Diane Boesch, Robin Bleiweis, and Areeba Haider, "Raising the Minimum Wage Would Be Transformative for Women," Center for American Progress, February 23, 2021, https://www.americanprogress.org/issues/women/news/2021/02/23/496221/raising-minimum-wage-transformative-women/.

24 David Cooper and Krista Faries, "Twenty states raised their minimum wages on New Year's Day," Economic Policy Institute, January 13, 2021, https://www.epi.org/blog/minimum-wage-2021-increases/.

25 Alyssa Davis and Elise Gould, "Closing the pay gap and beyond," Economic Policy Institute, November 18, 2015, https://www.epi.org/publication/closing-the-pay-gap-and-beyond/.

26 Ibid.

27 Diane Boesch, Robin Bleiweis, and Areeba Haider, "Raising the Minimum Wage Would Be Transformative for Women," Center for American Progress, February 23, 2021, https://www.americanprogress.org/issues/women/news/2021/02/23/496221/raising-minimum-wage-transformative-women/.

28 "S.879-Improving Child Care for Working Families Act of 2021," Congress.gov, https://www.congress.gov/bill/117th-congress/senate-bill/897?q=%7B%22search%22%3A%5B%22Child+care+-for+working+families+act%22%5D%7D&s=2&r=1 .

29 Robin Bleiweis, Diana Boesch, Alexandra Cawthorne Gaines, "The Basic Facts About Women in Poverty," Center for American Progress, August 3, 2020, https://www.americanprogress.org/issues/women/reports/2020/08/03/488536/basic-facts-women-poverty/.

30 Rasheed Malik, "The Effects of Universal Preschool in Washington, D.C.," Center for American Progress, September 26, 2018, https://www.americanprogress.org/issues/early-childhood/reports/2018/09/26/458208/effects-universal-preschool-washington-d-c/.

Tackling Barriers to Women's Electability and Effectiveness Through Campaign Reform

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Although women have made great strides in political participation and representation over the past few decades, sexism and other systemic issues still threaten their electability and effectiveness in office. Women, especially women of color, lack the political connections needed to secure the funds required to mount a successful campaign. When women are able to enter races and win seats, they often face sexist colleagues and a minority status which hampers their effectiveness. In order to increase the number of women holding public office, I recommend that state and federal legislatures provide public campaign financing and political parties undertake targeted recruitment strategies.

Women's Representation: History and Barriers

In the United States, women have been historically underrepresented in politics and lawmaking. Although women gained the right to vote over a hundred years ago, two-thirds of all women ever elected to the House have been elected just since 1992.[1] Women's representation broke records in the 2021 election cycle, claiming over a quarter of the seats in Congress and increasing the proportion of state legislators and mayors to historic levels.[2] Contrary to this progress, both Senate and gubernatorial election outcomes have seen retrenchment, indicating that this trend is not universal.[3] Although the number of women in holding elected office has risen steadily as women's roles in society have expanded, representation remains an issue.[4]

This reality is not a reflection of gender bias at the polls, but systemic issues in campaign infrastructure. Surveys have shown that voters' gender bias has declined significantly in recent decades, from 47 percent of respondents indicating that men are better suited emotionally for politics in 1977 to just 17 percent in 2014.[5] In fact, about 34 percent of the electorate believe that female legislators are superior compromisers.[6] Female legislators noted that it wasn't attitudes on the campaign trail that threatened their chances of securing a seat but barriers to entering politics in the first place.[7]

Funding and Gatekeeping

Party gatekeepers overwhelmingly prefer well-funded, familiar candidates over new candidates in need of support from party infrastructure to win.[8] This decision-making process is known as the "wealth primary."[9] Unsurprisingly, women, especially women of color, are less likely to have the necessary funding (or the connections needed to secure it) to mount a successful campaign. The results of this initial assessment can be a lack of encouragement, outright dissuasion from party leaders, or even fall-guy tactics in which women are encouraged to run in races that gatekeepers believe their party will lose regardless of candidate or funding.[10]

Many hopefuls and current representatives cite securing the funds needed to mount a successful campaign as a central challenge. For one, incumbents,

1 Carrie Blazina and Drew Desilver, "A record number of women are serving in the 117th congress," Pew Research Center, January 15, 2021, https://www.pewresearch.org/fact-tank/2021/01/15/a-record-number-of-women-are-serving-in-the-117th-congress/.

2 Ibid; Robin Bleiweis, "State of Women's Leadership - And How To Continue Changing the Face of U.S. Politics," Center for American Progress, January 15, 2021, https://www.americanprogress.org/issues/women/news/2021/01/15/494672/state-womens-leadership-continue-changing-face-u-s-politics/.

3 Robin Bleiweis, "State of Women's Leadership - And How To Continue Changing the Face of U.S. Politics," Center for American Progress, January 15, 2021, https://www.americanprogress.org/issues/women/news/2021/01/15/494672/state-womens-leadership-continue-changing-face-u-s-politics/.

4 Carrie Blazina and Drew Desilver, "A record number of women are serving in the 117th congress," Pew Research Center, January 15, 2021, https://www.pewresearch.org/fact-tank/2021/01/15/a-record-number-of-women-are-serving-in-the-117th-congress/.

5 Judith Warner, "Opening the Gates," Center for American Progress, May 19, 2017, https://www.americanprogress.org/issues/women/reports/2017/05/19/427206/opening-the-gates/.

6 Ibid.

7 Ibid.

8 Ibid.

9 Ibid.

10 Ibid.

the majority of whom are men, have substantial financial and electoral advantages.[11] Second, systemic inequalities mean women face a disproportionately higher likelihood of lacking the personal wealth, spousal support to take over household duties, or career flexibility to pursue low-paying and time-consuming public positions, especially on the state level where salaries are especially low.[12] Generally, women are more concentrated in careers with fewer network connections, isolating them from the wealthier donors that are becoming increasingly central to campaign funding.[13] Compared to men, nearly 70 percent more of women's campaign funds are sourced from small donors who give, on average, $200 or less, leaving them severely underfunded.[14]

To overcome these obstacles, some nonprofits have launched services that help women run for political office. The Center for American Women in Politics has established programs that train future female leaders in ways that address barriers such as gatekeeping and insufficient access to fundraising networks.[15] They've even developed specific programs to address the unique challenges faced by women of color, including Elección Latina, Rising Stars for Asian American women, and Run Sister Run for Black women.[16]

Systemic Biases

Even if women can overcome these financial and institutional hurdles and win a seat, additional obstacles hinder their effectiveness as legislators. Female representatives cite the biases of their male colleagues, like being treated as inferior and as concerned with only "women's issues", as interfering with their work on a consistent basis.[17] Further, women are expected to juggle the responsibilities of public service and the societal expectations of motherhood, but when they need to bring their children to work or take a day off to fulfill both roles, they're seen as "distracted" while their male colleagues are lauded for being "involved."[18] Finally, women struggle to have their voices heard because of their collective underrepresentation.[19] When women are on committees with at least one other female colleague they are more likely to speak up and be backed up, allowing them to truly represent those who have elected them.[20]

Challenges for Women of Color

These barriers to entry and legislative effectiveness are even more pronounced for women of color. In 2021, Black women saw record representation with twenty-three Black women elected to the House of Representatives, one in three of whom were elected in majority-white districts.[21] Black representation is now roughly equal to their population share.[22] Latinx representation, however, is roughly half of their population share and just twelve of those elected to the House are Latinas.[23]

Despite some overall progress, it's not a reflection of less biased systems. Women of color repeatedly report being labeled as "nonviable," especially in majority-white districts.[24] The invisible "wealth primary" proves to be one of the biggest obstacles

11 Judith Warner, "Redefining Electability," Center for American Progress, August 14, 2020, https://www.americanprogress.org/issues/women/reports/2020/08/14/489444/redefining-electability/.

12 Judith Warner, "Opening the Gates," Center for American Progress, May 19, 2017, https://www.americanprogress.org/issues/women/reports/2017/05/19/427206/opening-the-gates/.

13 Ibid.

14 Chisun Lee, Gregory Clark, and Nirali Vyas, "Small Donor Public Financing Could Advance Race and Gender Equity in Congress," Brennan Center for Justice, October 15, 2020, https://www.brennancenter.org/our-work/research-reports/small-donor-public-financing-could-advance-race-and-gender-equity.

15 Linda Kramer Jenning, "Women of Color Face Significant Barriers When Running for Office. But They're Finding Support," yes!, July 31, 2018, https://www.yesmagazine.org/democracy/2018/07/31/women-of-color-face-significant-barriers-when-running-for-office-but-theyre-finding-support/.

16 Ibid.

17 Center for American Women in Politics, Representation Matters: Women in the U.S. Congress, Kelly Dittmar, Kira Sanbonmatsu, Susan J. Carroll, Debbie Walsh, and Catherine Wineinger, https://cawp.rutgers.edu/sites/default/files/resources/representationmatters.pdf , 46-48.

18 Ibid, 47.

19 Ibid, 49.

20 Ibid.

21 "Women of Color in Elective Office 2021," Center for American Women in Politics, https://cawp.rutgers.edu/women-color-or-elective-office-2021; Center for American Women in Politics, By the Numbers: Black Women in the 117th Congress, https://cawp.rutgers.edu/sites/default/files/resources/higher_heights_black_women_in_congress_fact_sheet_12.30.pdf, 1.

22 Katherine Schaeffer, "Racial, ethnic diversity increases yet again with the 117th Congress," Pew Research Center, January 28, 2021, https://www.pewresearch.org/fact-tank/2021/01/28/racial-ethnic-diversity-increases-yet-again-with-the-117th-congress/.

23 Ibid.

24 Ibid.

for women of color. It is especially difficult for them to secure the large donors needed to convince party leaders that they are "viable."[25] As a result, women of color have raised less on average than all other candidates in the past four House elections.[26] They rely heavily on small donations, raising 67 percent more of their funds from small donors than their white opponents.[27] Some states like Arizona, Connecticut, Hawaii, Maine, and Minnesota have made public funding available for legislative elections to increase marginalized groups' access to political representation.[28] All five of these states have female representation in their state legislatures at levels higher than the national average.[29]

If women of color can raise the appropriate funds, secure party support, and win a seat, they can still face significant opposition from their colleagues. Women of color often describe instances when white men have challenged them in ways these men would never take on their peers.[30] In some cases, as with Congresswoman Ocasio-Cortez's heated exchange with Congressman Yoho over her comments linking poverty to crime, female representatives of color find themselves on the receiving end of derogatory and unprofessional conduct.[31] Such behavior makes legislating and politicking especially difficult for these women.

This undermining of female voices and lack of representation is damaging not only for the interests of women but the interests of all Americans since women are more likely to collaborate across party lines and be more results-oriented than their male peers.[32] Women of color bring especially critical perspectives to decision-making as members of two oppressed groups: women and racial minorities.

Recommendations for Improving Women's Representation and Efficacy

The following recommendations aim to improve women's representation, especially for women of color, by breaking down financial barriers and providing women with the appropriate resources and political connections to enter races. These direct interventions are necessary given how entrenched and biased the current system is.

State and federal legislatures should provide public financing of campaigns to reduce the role of large donors and improve women's ability to enter politics. Public financing systems include block grants for candidates, vouchers or tax credits for small donors, or small donation matching at a fixed rate.[33] The For the People Act would provide public matching at the federal level.[34] Estimates indicate that, had this legislation already been in place, female candidates could have raised over $600,000 more per cycle over the last four House elections.[35] Additionally, in the 2018 cycle, it would have reduced the average funding deficit of women of color candidates by 34 percent.[36] When more women are elected, not only are womens' interests better represented but it strengthens women's capacity to enact change while in office.

Political parties need to tailor recruiting strategies to target women, especially women of color. Such strategies should take the form of numerical goals that parties seek to meet for primary

25 Judith Warner, "Opening the Gates," Center for American Progress, May 19, 2017, https://www.americanprogress.org/issues/women/reports/2017/05/19/427206/opening-the-gates/.

26 Chisun Lee, Gregory Clark, and Nirali Vyas, "Small Donor Public Financing Could Advance Race and Gender Equity in Congress," Brennan Center for Justice, October 15, 2020, https://www.brennancenter.org/our-work/research-reports/small-donor-public-financing-could-advance-race-and-gender-equity.

27 Ibid.

28 Judith Warner, "Opening the Gates," Center for American Progress, May 19, 2017, https://www.americanprogress.org/issues/women/reports/2017/05/19/427206/opening-the-gates/.

29 Ibid.

30 Center for American Women in Politics, Representation Matters: Women in the U.S. Congress, Kelly Dittmar, Kira Sanbonmatsu, Susan J. Carroll, Debbie Walsh, and Catherine Wineinger, https://cawp.rutgers.edu/sites/default/files/resources/representationmatters.pdf , 48.

31 "Alexandria Occasio-Cortez denounces 'sexist slur by congressman'," BBC, July 23, 2020, https://www.bbc.com/news/world-us-canada-53521143.

32 Center for American Women in Politics, Representation Matters: Women in the U.S. Congress, Kelly Dittmar, Kira Sanbonmatsu, Susan J. Carroll, Debbie Walsh, and Catherine Wineinger, https://cawp.rutgers.edu/sites/default/files/resources/representationmatters.pdf, 5.

33 Judith Warner, "Opening the Gates," Center for American Progress, May 19, 2017, https://www.americanprogress.org/issues/women/reports/2017/05/19/427206/opening-the-gates/.

34 Chisun Lee, Gregory Clark, and Nirali Vyas, "Small Donor Public Financing Could Advance Race and Gender Equity in Congress," Brennan Center for Justice, October 15, 2020, https://www.brennancenter.org/our-work/research-reports/small-donor-public-financing-could-advance-race-and-gender-equity.

35 Ibid.

36 Ibid.

elections.[37] Recruitment efforts can include working with groups that recruit and train women for public office or making long-term investments in preparing talented women who show promise to win future elections.[38] In 2008, 28 percent of women reported that such programs played a central role in getting them to run for the first time.[39]

Conclusion

Despite gains in recent decades, women's representation is still low at all levels of government. Current campaign infrastructure rewards candidates with incumbency, access to large donors, and time to spare. Women, especially women of color, are less likely to have any of these things. If women make it to office, their minority status and gender stereotypes prevent them from being effective legislators. Public financing and female- and minority-focused recruiting will enhance women's ability to enter races, leading to increased representation. Electing more women will not only push the country closer to equal representation but enhance government efficiency.

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37 Ibid.

38 Ibid.

39 Center for American Women in Politics, Poised to Run: Women's Pathways to State Legislatures, Kira Sanbonmatsu, Susan J. Carroll, and Debbie Walsh, 2009, https://cawp.rutgers.edu/sites/default/files/resources/poisedtorun_0.pdf, 15.

U.S. Housing Policies: Chicago Case Study

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Contemporary eviction and housing issues in Chicago are a byproduct of twentieth-century redlining and segregation policies. This paper links the history of housing policy development to the systemic oppression of Black Americans and other historically marginalized populations in Chicago. The paper first explores the history of Chicago housing policy and demonstrates how it manifests as racial segregation and oppression. Next, the paper examines how segregation persists today and analyzes its compounding consequences for Black Chicagoans. The paper analyzes racial inequities in evictions and reveals how COVID-19 exacerbates the disproportionate burden on people of color. Finally, the paper recommends two strategies to expel the mechanisms of systemic oppression ingrained in the tenets of Chicago housing policy.

I. Chicago: Intentionally Designed for Disparity

Systemic racism and segregation define the history of Chicago's housing policy. The first wave of Black migrants to the city faced an impenetrable barrier of racially restrictive housing policies. The Illinois Central Railroad provided Blacks escaping the South during the Great Migration a direct route to Chicago.[1] Subsequently, Chicago's Black population grew at an exponential rate, tripling between 1900 and 1920.[2]

In response to this exponential growth, property owners and entities like the Chicago Real Estate Board began implementing racially restrictive covenants as a strategy to maintain existing racial divisions.[3] These covenants were a type of neighborhood contract, requiring new property owners to uphold obligations, such as keeping their house freshly painted. A part of these obligations was to maintain "harmonious" neighborhoods that were racially homogenous and owners guaranteed they would never to rent or sell to Black people.[4] Racial covenants provided the bedrock to perpetuate inequality by segregating Black and white properties, resulting in the birth of Chicago's "Black Belt," which confined 85 percent of the Black population to neighborhoods on the South Side by 1920.[5]

The Great Depression stymied Chicago's capacity to build property at a rate proportional with this expanding population. Both the private and public housing markets responded by deploying segregationist strategies. The resources necessary for and the benefits of homeownership were conferred among the white population, leaving Black Chicagoans without the ability to accumulate wealth through homeownership.

Private Housing Segregation: Redlining and Discriminatory Mortgage Lending

In the wake of the Great Depression, private housing market resources were diverted away from the Black community and concentrated toward their white counterparts. The Federal Housing Administration (FHA) and the Home Owners Loan Corporation (HOLC) segregated the private housing market via redlining and exclusionary mortgage lending throughout the 1930s. The HOLC, which was created to mitigate the risk of foreclosure through mortgage refinancing, used the racial composition of neighborhoods to assess risk of purchasing and re-issuing mortgages on the brink of foreclosure. Based on the maintenance of segregation, HOLC maps coded Black neighborhoods as red and gave them a

1 James Grossman, "Illinois Central Railroad Links to Chicago," The Electronic Encyclopedia of Chicago, 2005, http://www.encyclopedia.chicagohistory.org/pages/3715.html.

2 Arnold R. Hirsch, *Making the Second Ghetto: Race and Housing in Chicago*, 1940-1960 (Chicago: University of Chicago Press, 2009), 24.

3 Arnold R. Hirsch, "Restrictive Covenants." The Electronic Encyclopedia of Chicago, 2005. http://www.encyclopedia.chicagohistory.org/pages/1067.html.

4 Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing, 2017), x.

5 Arnold R. Hirsch, *Making the Second Ghetto: Race and Housing in Chicago* 1940-1960 (Chicago: University of Chicago Press, 2009), 24.

"D" grade on an A to D scale to represent the highest risk.[6] Redlining thus confined Black Chicagoans to pre-segregated spaces.

During this time, the FHA issued low-interest mortgages exclusively to whites. The FHA's Underwriting Manual, first published in 1935, based property appraisal ratings on the racial occupancy composition. Properties with "protections" against "infiltration of inharmonious racial...groups" received the highest rating. Though not stated explicitly, the manual gave loans in suburbs exclusive preference over cities. Only three out of 374 FHA-guaranteed mortgages were located in the center city throughout 1935.[7]

As veterans returned from World War II, the federal government addressed promises and demand for housing by colluding with the private market through a framework for systemic racism. The FHA and the Department of Veterans Affairs (VA) worked in tandem to guarantee mortgages. The FHA financed development projects on the condition of all-white tenants, guidelines the VA also adopted. Building developers leveraged FHA approval into low-interest rate loans. Banks and developers mutually benefited from this scheme, as individual mortgages could be insured without "risk" or need for additional property appraisal.[8] The FHA automatically "insured mortgages to buyers because they already approved pre-construction plans." Thus, more than 77 percent of construction between 1944 and 1959 occurred in Chicago's suburbs.[9] The combination of redlining and racist preferences for development funding made obtaining a mortgage in a suburb essentially impossible for Black Chicagoans.

Private Housing Segregation Exacerbated by Chicago's Housing Shortage

Such policies limited opportunities for Black Chicagoans to relocate, and, as "more people moved into the Black Belt than were permitted to leave it," compounded a pre-existing housing shortage that originated with the Great Depression.[10] Though Black families had the financial capital to rent and own property, FHA policies dictated the type and restricted the amount of housing available.[11]

The bounds of Chicago's Black Belt grew but remained self-contained. Between 1940 and 1950, Chicago's Black population increased 77 percent.[12] White flight, spurred by the myth that property rates would decrease in the presence of Black neighbors, created space for the Black Belt to expand into formerly all-white areas. Speculators, who purchase homes at discounted prices for those looking to sell quickly, negotiated transactions between white sellers and Black buyers. These properties were rented or sold on contract via a series of payments. Speculators upsold properties to Black families at an average increase of 73 percent, with increases ranging from 35 to 115 percent.[13] The speculator also retained the title of the property and frequently subjected Black buyers to evictions for late or missed payments.[14] The negative effects of speculator practices placed disproportionate financial burdens on Black families and excluded Black families from homeownership.

Though the boundaries of the Black Belt expanded, the housing shortage posed additional threats to inequality. Overcrowding was a symptom of this shortage. In the mid to late 1940s, an estimated 375,000 Black Chicagoans lived in an area equipped only for 110,000 people.[15] While overcrowding also affected whites, the rates gradually decreased over the subsequent decade with movement into the suburbs, resulting in the dehumanizing effects of overcrowding disproportionately affecting Black families.[16] To address this overcrowding, landlords converted single apartments into "kitchenettes," a series of smaller apartments separated by temporary barriers.[17] Kitchenettes housed multiple families, often sharing a single bathroom. Disease and frequent fires resulted from landlord indifference and a lack of basic necessities, such as plumbing, water, or electricity.[18] The sentiments of one Black Chicagoan encapsulate this crisis, stating that landlords were "fast making slums" of middle-class housing, and though Black people are "capable of paying reasonable rents, [they] cannot have the privilege

6 Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing, 2017), 62.

7 Arnold R. Hirsch, *Making the Second Ghetto: Race and Housing in Chicago*, 1940-1960 (Chicago: University of Chicago Press, 2009), 10.

8 Richard Rothstein. *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing, 2017), 62.

9 Ibid, 48.

10 Ibid, 26.

11 Ibid, 41

12 Ibid, 37.

13 Ibid, 53.

14 Ibid.

15 Ibid, 43.

16 Ibid, 46.

17 Ibid, 45.

18 Ibid, 31.

of maintaining a home...in decent apartments without additional roomers."[19]Although faced with inequity and segregation in the private housing market, Black families did not have a better option in the public market, where similar practices were enacted throughout the early and mid-twentieth century.

Public Housing Segregation: CHA's Housing Projects

While the private housing market was segregated through redlining and speculator contracts, the Chicago Housing Authority (CHA) segregated the public housing market by proposing   public projects primarily in majority-Black neighborhoods.

In response to the nationwide housing crisis spurred by the Great Depression, the New Deal established the Public Works Administration (PWA). PWA's neighborhood composition rule required "federal housing projects [to] reflect the previous racial composition of their neighborhoods."[20] This rule reinforced divisions drawn by racial covenants in public housing. The CHA, created in 1937, took over PWA projects and was responsible for the future of Chicago's public housing.[21] All CHA pre-World War II efforts were centered almost exclusively in relatively easy-to-acquire Black neighborhoods where conditions were the worst.[22] Chicago's public projects built during this time reflected the guidance of the U.S. Housing Authority Administrator, Nathan Struas, who stated that "there will be no frills in any housing projects...All unnecessary features will be eliminated from any plans submitted."[23]

Between 1949 and 1968, the CHA responded to the housing shortage by constructing a series of high-rise housing projects, funded by the Housing Act of 1949.[24] The 1976 Supreme Court Gautreaux decision[25] would later find that the CHA perpetuated segregation by unconstitutionally selecting sites for these housing projects in Black neighborhoods (see *figure 1*).[26] The CHA site selections sustained housing segregation and buttressed pre-existing mechanisms that perpetuated social and economic inequality.

The projects were built in a high-rise fashion as a cost and space-efficient solution.[27] Design flaws plagued these projects and impacted social interactions. In an effort to humanize the space, some of the earliest projects had open-air galleries, a design later revealed as extremely energy-inefficient.[28] From a social perspective, the high-rise structure was not child-centered and created a greater physical distance between families and their children who might be playing outside or returning from school.[29]

The high-rise design strained community institutions and economic resources as a large population was concentrated over a relatively small space.[30] Rapid increases in population density encumbered businesses, shops, medical facilities, and public transportation with unmanageable burdens. The projects disproportionately housed Chicago's youth and twice as many youth lived in high-rises as adults. The structure of high-rises compounded the issues of high youth density and presented a challenge for families in maintaining social order, as youth could congregate relatively unsupervised. This imbalance also exerted an enormous burden on local schools and other social institutions.[31] Youth frustration and the failure of social institutions in this setting manifested in small-scale vandalism. Alternatively, the expression of youthful innocence through games incorporating the building infrastructure, such as "elevator tag," also led to the projects' deterioration.[32] Building manager reports identify youth as the main sources of damage to elevators, trash chutes, plumbing, and lighting.[33] Neither youth nor families were at fault. Rather, the

19 Ibid, 54.

20 Richard Rothstein, The Color of Law: A Forsgotten History of How Our Government Segregated America (New York: Liveright Publishing, 2017), 26.

21 Arnold R. Hirsch, "Restrictive Covenants," The Electronic Encyclopedia of Chicago, 2005, http://www.encyclopedia.chicago-history.org/pages/1067.html.

22 Bradford D. Hunt, Blueprint for disaster: The Unraveling of Chicago Public Housing (University of Chicago Press, 2009), 43.

23 Ibid, 44.

24 Harvey M. Choldin, "Chicago Housing Authority," The Electronic Encyclopedia of Chicago, 2005, http://www.encyclopedia. chicagohistory.org/pages/253.html.

25 Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing, 2017), 38.

26 Harvey M. Choldin, "Chicago Housing Authority," The Electronic Encyclopedia of Chicago, 2005, http://www.encyclopedia. chicagohistory.org/pages/253.html.

27 Bradford Hunt, Understanding the Demise and Transformation of Chicago's High-Rise (Dubai: Council on Tall Buildings and Urban Habitat, 2008), https://global.ctbuh.org/resources/papers/download/1277-understanding-the-demise-and-transformation-of-chicagos-high-rise-social-housing.pdf, 4.

28 Ibid.

29 Ibid.

30 Ibid, 3, 5.

31 Ibid, 5.

32 Ibid, 4.

33 Ibid, 5.

Figure 1. CHA Projects built by 1985
Source: "Chicago Housing Authority." The Electorinc Encyclopedia of Chicago.

design flaws of public housing were the direct cause of these issues. Political unwillingness to spend money on maintenance and improvements catalyzed Chicago's public housing deterioration and downfall.[34]

Throughout the 1900s, the federal and local government designed these mechanisms in public and private housing to sustain segregation and catalyze inequality. The repercussions of intentionally segregated public housing reverberate today (see *figure 2*). CHA's initial divisions remain entrenched in Chicago's cityscape. The lack of private housing options, limited by the FHA and HOLC redlining, denied Black families the opportunity to accumulate wealth through property ownership, whereas HOLC mortgages granted to white borrowers enabled them the opportunity to gain equity through amortization. The inexistence of available private housing, a result of prioritized suburban construction and discriminatory mortgage lending, excluded Black Chicagoans from this opportunity for wealth accumulation. The next section explores and analyzes the present-day impact of segregationist housing policies.

II. Redlining Legacies in Chicago Today

Historical racist housing policies drove Chicago's current level of Black-white residential segregation to be the tenth highest in the United States.[35] Ta-Nehisi Coates, a journalist for *The Atlantic*, notes how housing has the capacity to govern quality of life, as it "determines access to transportation, green spaces, decent schools, decent food, decent jobs, and decent services."[36] Homeownership has the capacity to influence socioeconomic outcomes as it is the primary tool for wealth accumulation for many Americans.[37]

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34 Stanley Zeimba, "How Projects Rose to Failure," *Chicago Tribune*, December 2, 1986.

35 Gregory Arcs, Rolf Pendall, Mark Treskon, and Amy Khare. The Cost of Segregation (Washington, DC: Urban Institute, 2017), https://www.urban.org/research/publication/cost-segregation/view/full_report.

36 Ta-Nehisi Coates, "This Town Needs a Better Class of Racist," *The Atlantic*, May 1, 2014, https://www.theatlantic.com/politics/archive/2014/05/This-Town-Needs-A-Better-Class-Of-Racist/361443/.

37 "Reducing the Racial Homeownership Gap," Urban Institute, May 31, 2019, https://www.urban.org/policy-centers/housing-finance-policy-center/projects/reducing-racial-homeownership-gap.
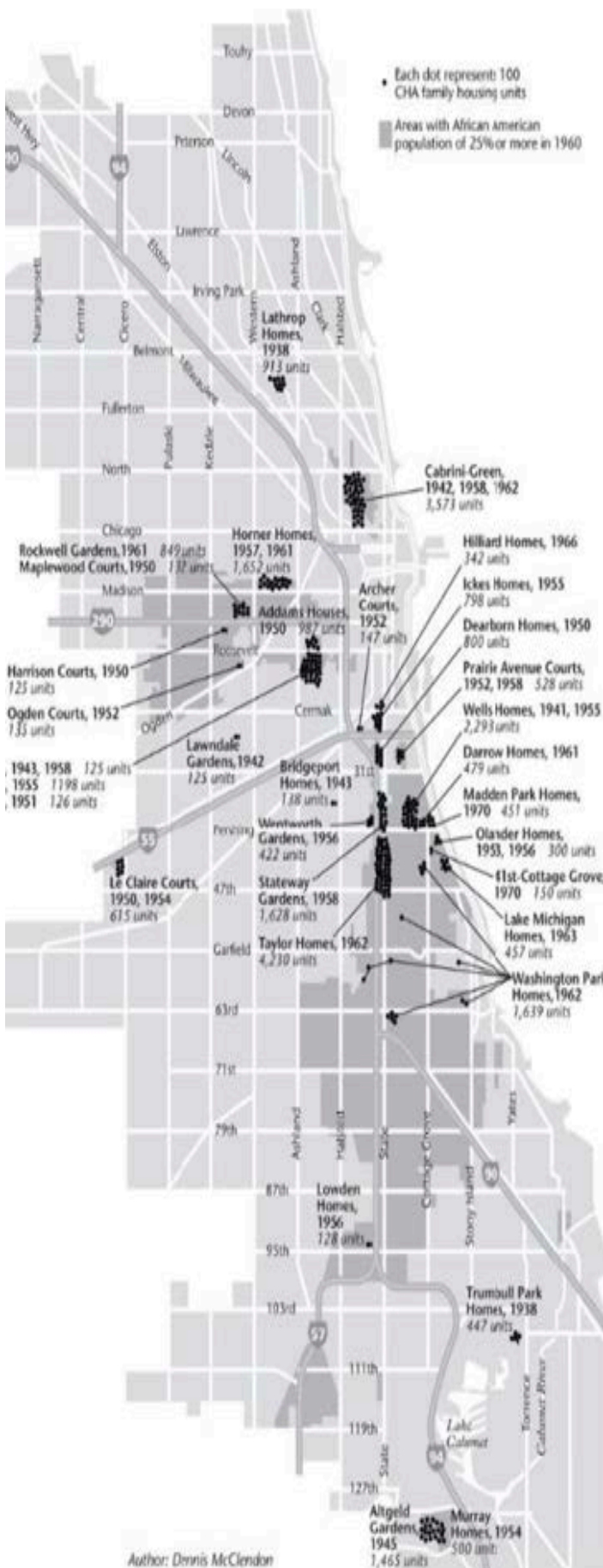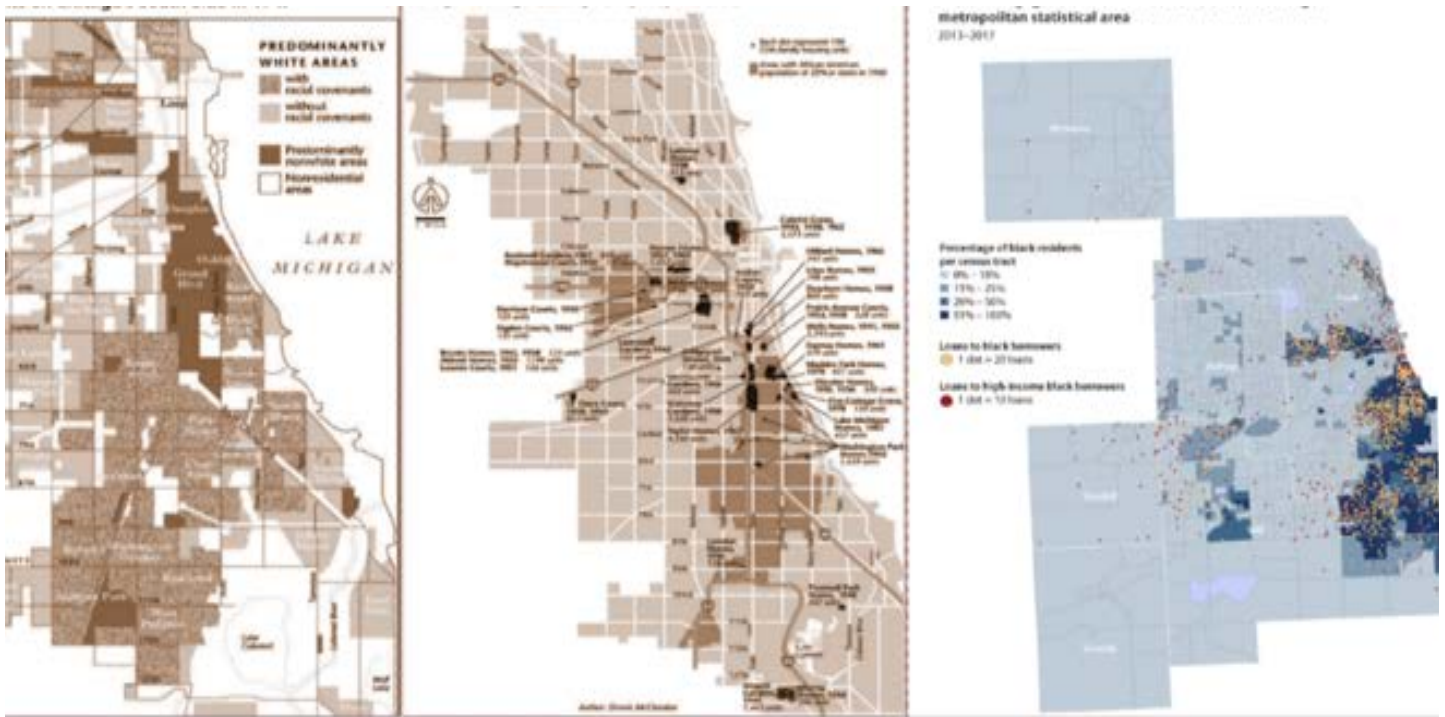
Figure 2. Visualization of housing poicies' ability to perpetuate secregation

*Sources (left to right):"*Racial Restrictive Covenants," The Electorinc Encyclopedia of Chicago; "Chicago Housing Authority," The Electorinc Encyclopedia of Chicago; Micahela Zonata, "Racia Disparities in Home Appreciation," Center for American Progress.

Residential segregation engenders enormous gaps in homeownership. A Brookings Institution examination of the Black-white wealth gap stresses the importance of wealth accumulation through assets such as homeownership, in relation to liquid assets such as income:

> "All of this matters because wealth confers benefits that go beyond those that come with family income. Wealth is a safety net that keeps a life from being derailed by temporary setbacks and the loss of income. This safety net allows people to take career risks knowing that they have a buffer...wealth allows people (especially young adults who have recently entered the labor force) to access housing in safe neighborhoods with good schools, thereby enhancing the prospects of their own children. Wealth affords people opportunities to be entrepreneurs and inventors. And the income from wealth is taxed at much lower rates than income from work, which means that wealth begets more wealth."[38]

By giving primarily Black neighborhoods a "D" grade and labeling them as "hazardous," the HOLC created conditions for economic inequality to persist and constrained Black families' ability to build the "safety net" described above.[39] Today, those neighborhoods are characterized by higher concentrations of Black residents, lower incomes, diminished property value, less economic opportunity, failing schools, and higher crime rates.[40] The North Lawndale neighborhood in Chicago embodies the disparities that accompany high levels of residential segregation.

Ramifications of Residential Segregation: North Lawndale

Residential segregation in North Lawndale created fraying socioeconomic conditions. The federally-endorsed redlining of North Lawndale "denied most black homebuyers access to the conventional

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38 Kriston McIntosh, Emily Moss, Ryan Nunn, and Jay Shambaugh. "Examining the Black-White Wealth Gap," Brookings, February 27, 2020, https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap/.

39 Tracy Jan, "Analysis | Redlining Was Banned 50 Years Ago. It's Still Hurting Minorities Today," *Washington Post,* March 28, 2018, https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/.

40 Bruce Mitchell and Juan Franco, HOLC "Redlining" Maps: The Persistent Structure of Segregation and Economic Inequality (Washington D.C.: National Community Reinvestment Coalition, 2018), https://ncrc.org/wp-content/uploads/dlm_uploads/2018/02/NCRC-Research-HOLC-10.pdf.

mortgage loans enjoyed by their white counterparts."[41] As noted in Part I, speculators created a system of home sale contracts between white sellers and Black homebuyers. Speculators used contracts to manipulate Black families into extremely inflated payments and evict them for minor indiscretions or late payments. Black citizens were unable to accumulate wealth and equity because speculators maintained ownership. A report from Duke University revealed that between 75 and 95 percent of North Lawndale homes were sold to Black buyers on contract in the 1950s and 1960s. During this time, home contracts expropriated an estimated 3.2 and 4 billion dollars from Black citizens across Chicago.[42]

Poverty in North Lawndale today is the direct result of the segregationist housing policies that robbed Black Chicagoans of the tools to build a "safety net" through property ownership. Prior to the establishment of the HOLC and the implementation of redlining practices, North Lawndale had a population of 112,000 in 1930.[43] In 2014, that number had dwindled to 36,000, 92 percent of which were Black residents.[44] Of those 36,000, 43 percent lived below the poverty line.[45] In 2020, homebuying is still unattainable for residents of predominantly Black neighborhoods such as North Lawndale because policies such as redlining created conditions for concentrated poverty and a dearth of affordable housing options. As a byproduct, today 40 percent of North Lawndale residents are renters.[46] Potential homebuyers interested in purchasing properties in North Lawndale are discouraged from doing so because of the high poverty rate.

Another side effect of segregation is community disinvestment. Property development has sidestepped formerly redlined neighborhoods. Today, 67 percent of the houses in North Lawndale were built before discriminatory housing policies took effect in the 1930s.[47] In contrast, houses built before 1940 compose only 43 percent of all housing in the city of Chicago.[48] These statistics highlight the trend of disinvestment in Black communities such as North Lawndale. While other areas in Chicago experienced housing development after the 1940s, North Lawndale and similar communities were largely neglected.

Residential segregation also leads to disparities in educational resources and outcomes. Fifty percent of school funding in Chicago comes directly from property taxes. Because of the low property values in Chicago, particularly in poorer neighborhoods, schools have been forcibly closed.[49] In the fall of 2020, North Lawndale residents began discussing proposals to close three schools in favor of consolidating resources toward one, new school.[50] An eight-year longitudinal study of North Lawndale student outcomes revealed that only 7.9 to 15.3 percent of high school students performed at the national average in reading, compared to the overall Chicago average of 21 percent.[51]

The confluence of limited resources and increased poverty also drives high crime rates. Chicago as a whole has garnered national attention for its crime rates, but shootings that often make headlines are disproportionately concentrated in impoverished neighborhoods, like North Lawndale. In 2016, across Chicago, over half of all homicides occurred in eleven communities that were majority people of color and had high poverty rates.[52] In North Lawndale, the homicide rate sits at 45 per 100,000 – three times

41 Samuel George, et al. "The plunder of Black wealth in Chicago: New findings on the lasting toll of predatory housing contracts," (Durham: Duke University, The Samuel DuBois Cook Center on Social Equity, May 2019). https://socialequity.duke.edu/wp-content/uploads/2019/10/Plunder-of-Black-Wealth-in-Chicago.pdf, 3.

42 Ibid.

43 Ta-Nehisi Coates, "The Case for Reparations," *The Atlantic*, June, 2014, https://www.theatlantic.com/magazine/archive/2014/06/the-case-for-reparations/361631/.

44 Ibid.

45 Ibid.

46 ArcGIS StoryMaps, "North Lawndale Community," December 8, 2019, https://storymaps.arcgis.com/stories/f24c7c5a3a3849c0a-4f027e24750a728.

47 Chicago Metropolitan Agency for Planning, "community data snapshotnorth lawndale, chicago communityarea," June, 2020, https://www.cmap.illinois.gov/documents/10180/126764/North+Lawndale.pdf, 6.

48 Ibid.

49 ArcGIS StoryMaps, "North Lawndale Community," December 8, 2019, https://storymaps.arcgis.com/stories/f24c7c5a3a3849c0a-4f027e24750a728.

50 Hannah Leone, "Blueprint for Change or Another Blow to North Lawndale? A Call to Close 3 Schools and Open Another Has Split a Chicago Community in Need of Rebuilding," The Chicago Tribune, November 30, 2020, https://www.chicagotribune.com/news/ct-chicago-schools-north-lawndale-20201130-u3m4ad-sc4rc6xc5avhluvvfgwa-story.html.

51 Valerie Leonard, "North Lawndale Education by the Numbers: Reading & Math," Nonprofit Utopia. http://forums.e-democracy.org/groups/chicago-team/files/f/1228-2009-10-31t144031z/north%20lawndale%20education%20at%20a%20glance-reading%20and%20math-revised.pdf.

52 Gregory Arcs, Rolf Pendall, Mark Treskon, and Amy Khare. *The Cost of Segregation* (Washington, DC: Urban Institute, 2017), https://www.metroplanning.org/uploads/cms/documents/cost-of-segregation.pdf., 7.

the city of Chicago's rate.[53] An analysis by the Metropolitan Planning Council (MPC) noted the link between the compounding disadvantages of economic and racial segregation and the high homicide rate:

> "Violence has a ripple effect: it removes residents from communities by death and incarceration, unravels families and traumatizes survivors. Each of these factors saps the capacity of students and workers and makes the city and region a less appealing place to live and work."

This link is evident in the data. The Urban Institute (UI) found a positive relationship between homicide rates and levels of economic and racial segregation in an analysis of the nation's 100 most populous cities. Chicago ranked fifth for the highest level of combined racial economic segregation.[54] If Chicago's economic and racial segregation levels dropped to the median level calibrated in the UI analysis, the citywide homicide rate would drop by an estimated 30 percent.[55]

The barriers that isolate and oppress North Lawndale are representative of the citywide trends. The residential segregation resulting from twentieth-century housing policies spills over into other social measures of poverty, making it difficult for those historically denied homeownership to achieve upward mobility. These disparate effects on Black residents perpetuate across the entire city of Chicago, thus inhibiting Black Chicagoans from rising out of poverty.

Unequal Access to Homeownership Across Chicago

As demonstrated by the case of North Lawndale, the adverse economic circumstances and high crime rates in Chicago are a direct result of segregationist housing policies such as redlining and contract-buying. Such circumstances deter lenders from providing mortgage loans in previously redlined neighborhoods.[56] This puts Black Chicogoans at a disadvantage that still propagates homeownership inequity in the twenty-first century. In 2015, 74 percent of white Chicagoans owned their homes compared to only 39 percent of Black Chicagoans.[57] Even when Black families achieve a degree of financial success, those making $100,000 typically live in the kinds of neighborhoods inhabited by white families making $30,000.[58]

Homes that have lower values also tend to be disproportionately owned by Black residents. Neighborhoods with high concentrations of Black residents experienced a six percent decline in home values between 2006 and 2013.[59] In contrast, primarily white census tracts experienced a three percent increase in home value during the same time period.[60] In addition to discrepancies in homeownership and value, current policies, such as homeowner tax breaks, only benefit those with existing wealth.[61] Thus, Black homeowners are at a disadvantage compared to their white counterparts because they have not been afforded the same opportunities to build generational wealth.

Shrinking the level of segregation in Chicago would by association improve myriad other adverse conditions. According to the UI study, if Chicago's level of segregation were at the national median, 83,000 people more in Chicago would have bachelor's degrees, incomes of Black Chicagoans would rise by $2,982 a year and the homicide rate would drop 30 percent.[62] Housing policy bore a landscape that sustains a feedback loop of poverty and disinvestment. This feedback loop severely limits Black Chicagoans socioeconomic mobility and the chances to build a wealthy "safety net."

53 Ta-Nehisi Coates, "The Case for Reparations," *The Atlantic*, June, 2014, https://www.theatlantic.com/magazine/archive/2014/06/the-case-for-reparations/361631/.

54 Gregory Arcs, Rolf Pendall, Mark Treskon, and Amy Khare. *The Cost of Segregation* (Washington, DC: Urban Institute, 2017), https://www.metroplanning.org/uploads/cms/documents/cost-of-segregation.pdf., 10, 18.

55 Gegory Arcs, et al, The Cost of Segregation (Washington, DC: Urban Institute, 2017), https://www.metroplanning.org/uploads/cms/documents/cost-of-segregation.pdf.

56 Leah Hope, "North Lawndale Residents Say Mortgages, Loans Still out of Reach in Some African American Communities," ABC7 Chicago, January 1, 2020, https://abc7chicago.com/5865899/.

57 Michaela Zonta, "Racial Disparities in Home Appreciation," Center for American Progress, July 15, 2019. https://www.americanprogress.org/issues/economy/reports/2019/07/15/469838/racial-disparities-home-appreciation/.

58 Ibid.

59 Ibid.

60 Ibid.

61 Ibid.

62 Gregory Arcs, et. al, The Cost of Segregation (Washington, DC: Urban Institute, 2017), https://www.metroplanning.org/uploads/cms/documents/cost-of-segregation.pdf, 6.

III. Impact of Race on Renting and Eviction

The mechanisms of systemic racism have not only excluded Black Chicagoans from owning homes, but have also saturated the rental housing market. As noted by the North Lawndale case, a large proportion of residents in previously redlined neighborhoods are renters. Despite the fact that numerous changes have been made to promote progress and equity, the long-term impacts of historical policies manifest in disproportionate eviction rates from rental properties for non-white Chicagoans.

Landlords take tenants to eviction court for any number of reasons, such as destruction of property, failure to meet contractual obligations, or, most commonly, failure to pay rent. Although rent is the most common cause of eviction filings, the amount of back rent owed is often small. Historical data from Chicago in 2017 shows over half of tenants taken to court over rent owe less than $2,500, with almost 14 percent of those tenants owing zero dollars in back rent.[63]

Eviction data from the Lawyers' Committee for Better Housing indicates that Black and Latinx tenants fare significantly worse than their white counterparts in the eviction system.[64] Landlords file eviction cases against Black tenants at rates five times higher than white tenants and two times higher than Latinx tenants.[65] The outcomes of those cases are equally as biased. Black and Latinx tenants are nearly ten times more likely to be given an eviction order from their proceedings than white tenants.[66]

With Black and Latinx tenants already at higher risks of being taken to court, a potential area of hope would be in legal representation. A 2013 study out of Manhattan found a 77 percent decrease in eviction notices granted by courts when tenants were represented.[67] Unfortunately, tenant representation rates follow the same patterns of bias by unfairly disadvantaging non-white tenants . Landlords, on average, enter eviction proceedings with significantly higher rates of legal representation than tenants. Regardless of race, tenant

representation in Chicago has never risen above 11 percent. Landlord representation, however, has never dipped below 68 percent.[68]

Evictions are detrimental to efforts to accumulate wealth because they have long-term impacts on credit access. Credit access poses the largest barrier to homeownership.[69] Credit can influence insurance rates, independent business pursuits, and the general ability to endure unexpected financial upsets. This all determines wealth accumulation, and because non-white citizens are evicted at disproportionate rates, they are deprived of this opportunity to build financial security and access emergency funding during times of financial hardship.

Evictions also impact renters' eligibility for rental assistance programs. For renters, Section 8, also known as the Housing Choice Voucher Program, serves as one of the most crucial programs to help low-income individuals or families find housing. Section 8 provides renters a subsidy to assist with their rent in the private market. While the program aids so many of those in need of affordable housing, an eviction on a person's record rescinds their eligibility for life.[70] Given Chicago's history of racially biased housing policies, particularly within the eviction system, most tenants receiving these benefits are non-white.[71]

A crucial component of evictions is the impact that they have on renters long after the eviction process ends. Evictions remain on rental histories for up to seven years, preventing many renters from finding stable housing afterward. Similarly, evictions affect a tenant's credit score for seven years.[72] Therefore, evicting tenants forces them into further economic distress by affecting their ability to gain wealth through other purchases.

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63 Lawyers' Committee for Better Housing, Most Families Forced Out For Less Than $2,500 Back Rent (Chicago: Lawyers' Committee for Better Housing, 2019), https://eviction.lcbh.org/reports/forced-out-for-less-than-2500.

64 Ibid.

65 Ibid.

66 Ibid.

67 Ibid.

68 Heidi Schultheis and Caitlin Rooney, "A Right to Counsel Is a Right to a Fighting Chance," Center for American Progress, October, 2, 2019. https://www.americanprogress.org/issues/poverty/reports/2019/10/02/475263/right-counsel-right-fighting-chance/. .

69 Dennis Rodkin, "Chicago Has Widest Racial Gap in Homeownership," Crain's Chicago Business, February 28, 2018, https://www.chicagobusiness.com/article/20180228/CRED0701/180229880/chicago-has-widest-racial-gap-in-homeownership-of-10-biggest-u-s-cities.

70 Lawyers' Committee for Better Housing, "No Time for Justice: A Study of Chicago's Eviction Court," December 2003, https://lcbh.org/sites/default/files/resources/2003-lcbh-chicago-eviction-court-study.pdf.

71 Ibid.

72 Jennifer White, "How Long Does an Eviction Stay on Your Record?" Experian, September 29, 2020, https://www.experian.com/blogs/ask-experian/how-long-does-eviction-stay-on-report/.

IV. Evictions and COVID-19

The COVID-19 pandemic has further disproportionately burdened Black and Latinx Chicagoans in the areas of homeownership and eviction. The biased evictions and subsequent impact on credit and ability to accumulate wealth through homeownership has meant that non-white Chicagoans have less ability to knit a "safety net" of wealth that "keeps a life from being derailed by temporary setbacks and the loss of income" that accompany a global pandemic.[73]

In an effort to lessen the devastation brought on by COVID-19, Illinois Governor J.B. Pritzker implemented a moratorium on evictions. The initial moratorium remained in effect until November 14, 2020, and has been extended multiple times. The most recent extension is into April 2021.[74] The moratorium protects renters from eviction by shutting down eviction courts.[75] Following the end of the moratorium, Chicago has created a two-month Protection Ordinance for renters. This ordinance extends the length of time landlords must wait for back rent from the usual five days to twelve, assuming the tenant has communicated a "COVID-19 impact" with their landlord.[76]

Additionally, renters in Chicago may qualify for protections against eviction from the federal government. The Coronavirus Aid, Relief, and Economic Security Act, also known as the CARES Act, originally passed in July 2020, protects renters against evictions if they meet certain criteria. The criteria consist of an income cap, declaration of lost income from COVID, proof of attempted government assistance, and proven likelihood of homelessness without the protection.[77] These federal protections were extended under the Biden administration and currently expire on June 30, 2021.

Illegal Evictions

Despite the numerous protections in place for renters during the pandemic, instances of illegal evictions have increased. Illegal evictions consist of all evictions not completed through a formal court proceeding and or with a signed magistrate's order to vacate. Three of the most common methods of illegal evictions are lockouts, simple eviction notices, and utility shut-offs.[78] Landlords can carry out these types of evictions by changing the locks on the building while tenants are not home, leaving their belongings on the streets or in the home; posting their own eviction notices; or shutting off utilities so tenants cannot live in the unit safely. Tenants often take these actions as legal evictions and vacate, leaving them without recourse.

Looking ahead

COVID-19 has impacted the rental market in ways that have yet to be fully realized. COVID-19 will likely further entrench and cement the racial divide that has always existed in access to building the wealth "safety net" through secure housing opportunities. Researchers anticipate that eviction counts will rise drastically after COVID moratoriums are lifted. For Chicago, eviction numbers are expected to grow from approximately 23,000 per year before the pandemic, to over 50,000 in 2021.[79] Research clearly shows the link between racial bias and eviction policies; therefore, it seems likely that these trends will continue once eviction courts open to full capacity. Though it has yet to be seen, Black and Latinx tenants stand a very real risk of facing eviction at significantly higher rates than white tenants in the post-COVID era. This increased risk will compound the lack of credit access and financial burdens for many Chicagoans of color. Without policy interventions to racially integrate Chicago neighborhoods and afford the same opportunities to both white and non-white homeowners and renters, the racial wealth gap will continue to widen and non-white Chicagoans will continue to suffer from disproportionate poverty conditions.

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V. Recommendations

Subsidize Homeownership Opportunities via New Homes for Chicago 2.0[80]

The CHA should launch the New Homes for Chicago 2.0 program, which would convert city-owned vacant lots into homeownership opportunities. This program would generate opportunities for Black homeownership. In the long run, homeownership parity would reduce Chicago's Black-white wealth gap by 31 percent.[81] The 2018 pilot program converted and sold 1,296 new housing units to moderate and low-income families.[82] If Chicago committed to 100 homes under the New Homes for Chicago 2.0 program, the estimated revenue will be $1.5 million, and the city will be closer to the goal of homeownership parity.[83] Neighborhoods would be targeted based on low homeownership rates and increased investor sales activity. The program would also engage community and institutional partners to support first-time homeowners. The program would provide homebuyers with direct subsidies to purchase the newly constructed houses.

Increase Tenant Representation in Eviction Court[84]

Chicago should allocate funding to a "Right to Counsel" program for tenants facing claims in eviction court. Multiple cities, including New York and Philadelphia, have passed and implemented the right to counsel for low-income residents. In New York, tenants qualify for right to counsel if they live below 200 percent of the federal poverty line and living in zip codes that have high eviction rates, which will eventually be expanded to cover the entire city as the policy becomes more established.[85] In New York, the Office of Civil Justice contracts with nonprofit legal services organizations for tenants in eviction court.[86] Of all tenants who received representation because of New York's policy, 86 percent were able to remain in homes because of that legal counsel.[87] Broad estimates on the general impact of legal representation for tenants find that it decreases the likelihood of the court case ending in an eviction order by 25 percent.[88] Chicago should enact similar legislation to guarantee tenants in eviction court a right to counsel. The long-term outcome of such a policy would be to reduce the inequity faced by Black and Latinx tenants, who have faced disproportionately high eviction rates and are now facing exacerbated inequity from the COVID-19 pandemic.

VI. Conclusion

Chicago's long history of racially biased housing policies has created a significant gap in generational wealth and homeownership. Discriminatory housing policies have perpetuated informal segregation in Chicago, contributed to the marginalization of Black Chicagoans, and built a framework that perpetuates inequity extending beyond the realm of housing. The systemic nature of these issues continues to harm minority communities, now affected by the looming eviction crisis. By enacting the recommendations, Chicago would begin the process of dismantling racist systems that perpetuate inequities in homeownership attainment. The result would help narrow the racial wealth gap.

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