The most important characteristics for an entrepreneur are the same that guide all of life: Passion, Integrity, Courage and Resilience.
INTENSE
Pittsburgh Made
And Proud...
Entrepreneur

Serial Entrepreneur
Applying new technologies
To old problems.

MedRespond

CMU – Based Artificial Intelligence to Simulation Conversations with Patients

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<table>
<thead>
<tr>
<th>Metric</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Population</td>
<td>Over 200 Open Heart Surgery Patients</td>
</tr>
<tr>
<td>Utilization</td>
<td>75%</td>
</tr>
<tr>
<td>Patient Engagement</td>
<td>Mean: 95 min. (Median 80)</td>
</tr>
<tr>
<td>Videos Accessed per Patient</td>
<td>Mean: 120</td>
</tr>
<tr>
<td>Sessions per Patients</td>
<td>Mean: 2.9</td>
</tr>
<tr>
<td>Press Ganey Patient Satisfaction</td>
<td>Increased 93% to 99%</td>
</tr>
<tr>
<td>Surgeon Assessment</td>
<td>Convinced It is Making a Difference</td>
</tr>
<tr>
<td>Patient Assessment</td>
<td>It Provides Critical Guidance and Eases Anxiety</td>
</tr>
</tbody>
</table>

**OUTCOMES:**

Significant Reduction in Post Discharge Costs

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Discharge 30-day</td>
<td>50% Cost Reduction</td>
</tr>
<tr>
<td>Post-Discharge 180-day</td>
<td>30% Cost Reduction</td>
</tr>
</tbody>
</table>
Patient Engagement Solutions Market
$ 40 Billion by 2024

Global patient engagement solutions market, by services, 2013 - 2024 (USD Billion)
So ...

What’s the Big Deal About Healthcare?

It’s REALLY Big!
2017: U.S. Health Care Spending Reached $3.5 Trillion
18% of GDP
Two Key Sectors Represent Over Half Of All Spending

Health Care Spending

Hospitals and doctors account for 52%

- Hospitals: 32%
- Physician & clinical services: 10%
- Other healthcare spending: 5%
- Prescription drugs: 5%
- Non-medical residential services (substance abuse, etc): 4%
- Nursing home care: 3%
- Dental services: 3%
- Medical equipment: 2%
- Non-medical care (chiropractic, opticians, etc): 2%
- Home health care: 1%

2015 data
Source: Centers for Medicare & Medicaid Services

In 2015, this spending totaled $3.2 trillion, or about 17.8% of the nation's economy.
Service Delivery Is Well Understood And Accessible

Total Number of All U.S. Hospitals  6,210

Total Staffed Beds in All U.S. Hospitals  931,203

Total Admissions in All U.S. Hospitals  36,510,207

Total Expenses for All U.S. Hospitals  $1,060,933,249,000
Industry Analytics are Plentiful
So ...

What’s the Problem?
Healthcare Is:

I. Responsible for lives
II. Highly complex
III. Highly regulated
IV. Complex and evolving payment models
V. Under incredible pressure
I. Innovation Cannot Jeopardize Lives

1. Improve upon current standard of care
2. Above all – cause no harm
3. Improve efficiency

Key Challenge Is Proving It!
Challenge Proving It - Lack Of Data

1. Interoperability is still a challenge
2. Electronic health records are rigid
3. Critical data not coded
4. Clinical data separated from claims data
5. Lack of transparency of healthcare costs
6. Lack of defined standards – consistency

Proving Efficacy Is A Challenge!
II. Hospital Systems are Complex

1. Mergers and acquisitions create complex organizations
2. Several hospitals
3. Hundreds of practices, outpatient centers, labs and clinics
4. System level leadership
5. Hospital level leadership
6. Service line leadership
7. Layer in governing committees, clinical committees, .....

Who Is The Decision Maker And Process?
III. Healthcare Is Heavily Regulated

1. FDA
2. JAHCO
3. Legal requirements
4. Compliance
5. Internal Review Boards (IRB)
6. Confidentiality and HIPAA
7. Data security

The Scrutiny And Requirements Will Take Time!
Penalties can be significant – e.g.: HIPAA violations ...

Source: HHS, Federal Register.gov
Malpractice is Real

NY hospital mandated to pay $62 million to women who underwent an ectopic pregnancy surgery and ended up in intensive care and suffered three heart attacks. She ended up with skin grafts, a colostomy, and two below-the-knee amputations. The jury found the responsible physician guilty of straying from the required care standards.

In 2010, a NY physician performed a thigh operation on a woman which ended up as a botched surgery. The jury found him guilty of failing to advise his patient on the risks associated with the surgery and using an inappropriate surgical technique, he was ordered to pay $60 million.

In 2011, a 6-year-old boy was left with cerebral palsy and permanent brain damage after undergoing 25 surgeries in Chicago, Illinois. The boy was born with some health problems that were not life-threatening. It is alleged that the doctor used some unproven techniques to carry out several surgeries. They settled their medical malpractice case for $30 million in 2016.
IV. Complex Buying Process

1. Decisions often siloed
2. Many decision makers and levels
3. Many decision influencers
4. Many gate keepers
5. Formularies limit treatment choices

Points To Very Long Sales Cycle!
Evolving Payment Models

1. Formerly Fee-for-service
2. Evolving to value-based and bundled payments
3. Hybrid is negotiated payments, e.g. liver transplant
4. Who benefits from an innovation can shift

Strategy Must Support The Evolving Landscape!
V. Providers are incredibly stressed

1. Victims of doing more with less – overloaded
2. Operating under razor-thin margins
3. Innovation is an additional burden
4. Cynical that innovation will help workflow
5. Gaining support of those who will use it

Innovations must be easy to buy, easy to use!
Personality Can Impede Adoption

1. Great investment in status quo
2. Physician culture – want control
3. Conflicting motivations within teams
4. Not invented here
5. Nobody does it better

All Can Lengthen And/Or Stop Sales Process!
Complex System of Payments

1. Third party – government or private
2. Insurers must approve innovation and price
3. Insurers may disagree
Complicated Payor Network

Sources of Health Insurance Coverage in 2016 (Millions of Persons)

- **Population**
  - Sum: 340*
  - Actual: 324

- **65+ yrs. Medicare**
  - 53

- **Under 65 yrs. Non-Institutional**
  - 272*

- **Military**
  - 15

- **Employer-Based**
  - 155

- **Other Coverage**
  - 90

- **Uninsured**
  - 27

- **Medicaid & CHIP**
  - 57

- **ACA Medicaid**
  - 11

- **ACA Exchange**
  - 12

- **Other**
  - 10

*Note: Due to multiple sources of coverage for some individuals, there is some double-counting in the components. The actual U.S. population in December 2015 was approximately 324m.

**Other**: The 10m was reduced to tie to the total for “Other” Coverage of 93m. “Other” includes 2.3m persons (9m non-ACA marketplaces, 9m disabled in Medicare, 5m other).

Source data:
- CBO “Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2016 to 2026” (March 2016)
- Census Bureau “Health Insurance Coverage in the United States: 2015 (September 2016)
So What Is The Take Away ... 

1. Target innovations that improve existing process rather than replace to ease adoption
2. Focus on ease of use
3. Map out workflows for all stake holders
4. Understand the buying process
5. Understand path to scalability early
6. Prepare for long sales cycle – need funds to survive
7. Prepare for low success rates – need deep pipe

Never give up!

© Virginia Flavin Pribanic, 2019
"It's hard to beat a person who never gives up."

- Babe Ruth
  Major League Baseball Hall of Famer.
Thank You!

Call if I can help you.

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Why Start Ups Fail

1. No market need 42 percent
2. Lack of cash 29 percent
3. Inappropriate team 23 percent
4. Strong competition 19 percent
5. Pricing and cost issues 18 percent
6. Bad core product 17 percent
7. Lack of a business model 17 percent
8. Bad marketing 14 percent
9. Customer neglect 14 percent
10. Bad timing 13 percent
11. Loss of focus 13 percent
12. Intra-team conflicts 13 percent
13. A pivot gone bad 10 percent
14. Lack of passion 9 percent
15. Bad location 9 percent

- A New Study Reveals the 20 Factors That Predict Startup Failure: Do Any Apply to You?
  www.entrepreneur.com/article/308447