Digital Health Start-ups from Not-For-Profit Health Systems

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Disclosures

- Cedars-Sinai
  - Professor of Medicine, Medical Staff
- Beginning July 2021
  - Chief Innovation Officer SCAN Health
- Ending July 2021
  - Chief Clinical and Innovation Officer Premier, acquirer of Stanson
- Former Co-Founder and CEO of Zynx and Stanson

Digital Health Company Ideas

- Your innovations/discoveries
- Have they improved care at your organization?
- Could they improve care at other organizations?
- Is the IP portable, scalable?
- Would another organization pay for the IP?
- If yes…

unitydc.co.uk/funnels

Services Insights
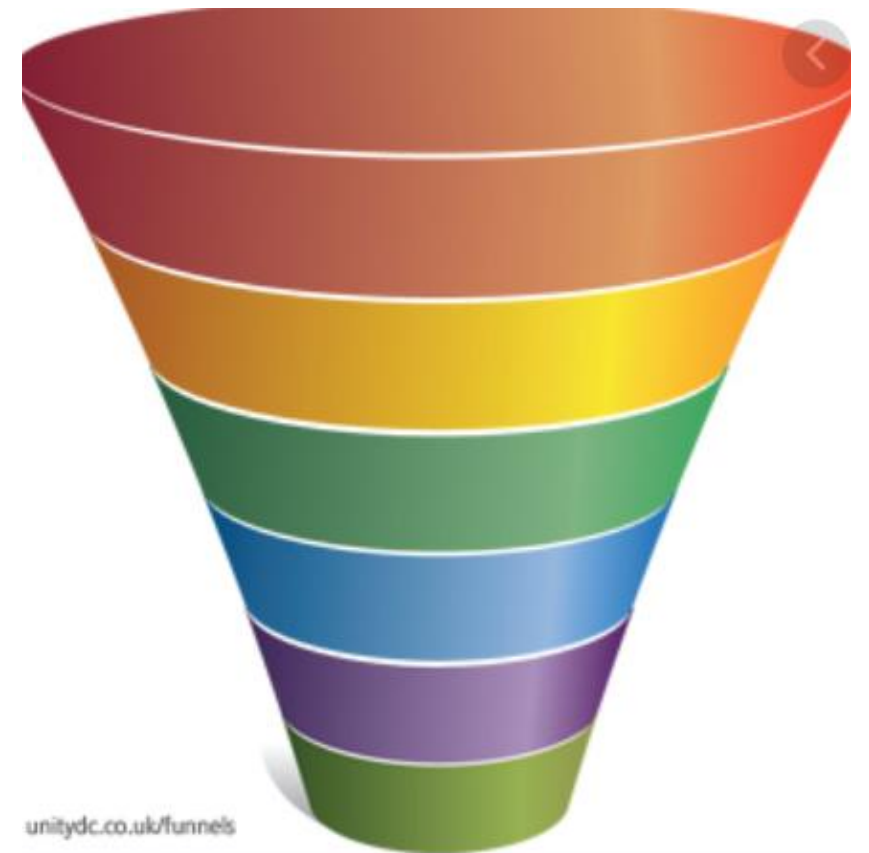
Why the evolving healthcare services and technology market matters

"Major technological advances (e.g., interoperability, advanced analytics, machine learning, digitization, the Internet of Things) have found numerous applications in healthcare—and present important opportunities to address the half a trillion dollars of annual spending resulting from low productivity and waste."

"Given that the available headroom for improvement in healthcare is more than $500 billion, the future growth potential of the healthcare services and technology market is substantial."

Mercom: Telemedicine investments led 2020's $14.8B in digital health fundraising

While equity investments in telemedicine rose 139% to $4.3 billion, other areas like data analytics and mobile health apps also earned strong support from investors.

Venture Funding in Digital Health Sector Up 66% with a Record $14.8 Billion Raised in 2020

Healthcare venture fundraising rises to a new high of $17 billion

The mark was propelled by a strong IPO environment and robust private merger and acquisition activity.

Flood of Investment into Digital Health

DIGITAL HEALTH FUNDING AND DEAL SIZE

2011-Q3 2020

ROCK HEAL+H

TOTAL VENTURE FUNDING

 # OF DEALS

Year	Total Venture Funding	# of Deals
2011	$1.1B	92
2012	$1.5B	142
2013	$2.1B	196
2014	$4.1B	293
2015	$4.7B	320
2016	$4.6B	340
2017	$5.8B	367
2018	$8.2B	383
2019	$7.4B	378
Q3 2020	$9.4B / $12B (est.)	311 / 400 (est.)

AVERAGE DEAL SIZE

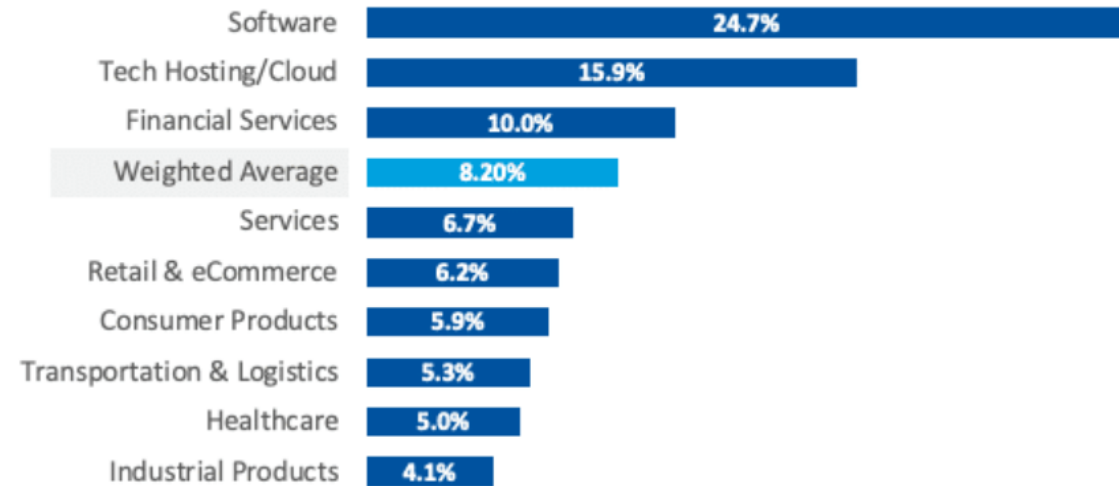| Year	Average Deal Size
2011	$12.1M
2012	$10.6M
2013	$10.7M
2014	$13.9M
2015	$14.7M
2016	$13.5M
2017	$15.9M
2018	$21.5M
2019	$19.7M
Q3 2020	$30.2M

Note: Only includes U.S. deals >$2M; data through September 30, 2020
Source: Rock Health Funding Database

Case for Additional Growth in Digital Health

- 2020 - $4 trillion spent on healthcare in US
  - 18% GDP
  - 2020 healthcare IT spend $136 billion
- Average spend on IT across all industries 8.2%
- Average spend on for financial services 10%
- Average spend on health care 5%
- If healthcare 10%, additional spend >$100 billion

IT Spend by Industry
% of revenue

Industry	%
Software	24.7%
Tech Hosting/Cloud	15.9%
Financial Services	10.0%
Weighted Average	8.20%
Services	6.7%
Retail & eCommerce	6.2%
Consumer Products	5.9%
Transportation & Logistics	5.3%
Healthcare	5.0%
Industrial Products	4.1%

N=303

Source: Flexera 2020 State of Tech Spend Report

Runway Ahead

Health Systems Creating Start-ups

Wages rising faster than reimbursement, potentially fund mission, including community benefit, education, research and subsidize Medicare losses

Rich innovation talent

Understand problems that can be solved

Can serve as a "wet lab"

Prove the concept - then export

Potential Benefits of Health System Accelerating Digital Maturity

Higher-maturity companies reported industry-leading revenue growth and profit margins

Percentage of respondents reporting metrics significantly above industry average, by level of digital maturity

	Net revenue growth	Net profit margin
Lower maturity	15%	15%
Medium maturity	31%	31%
Higher maturity	45%	43%

Note: Comparisons to industry averages were self-reported by the respondents.

Source: Deloitte analysis.

>13 million admissions

UK

2015, 2016

Relationship between digital maturity and…

- Harm free patient care
- Length of stay

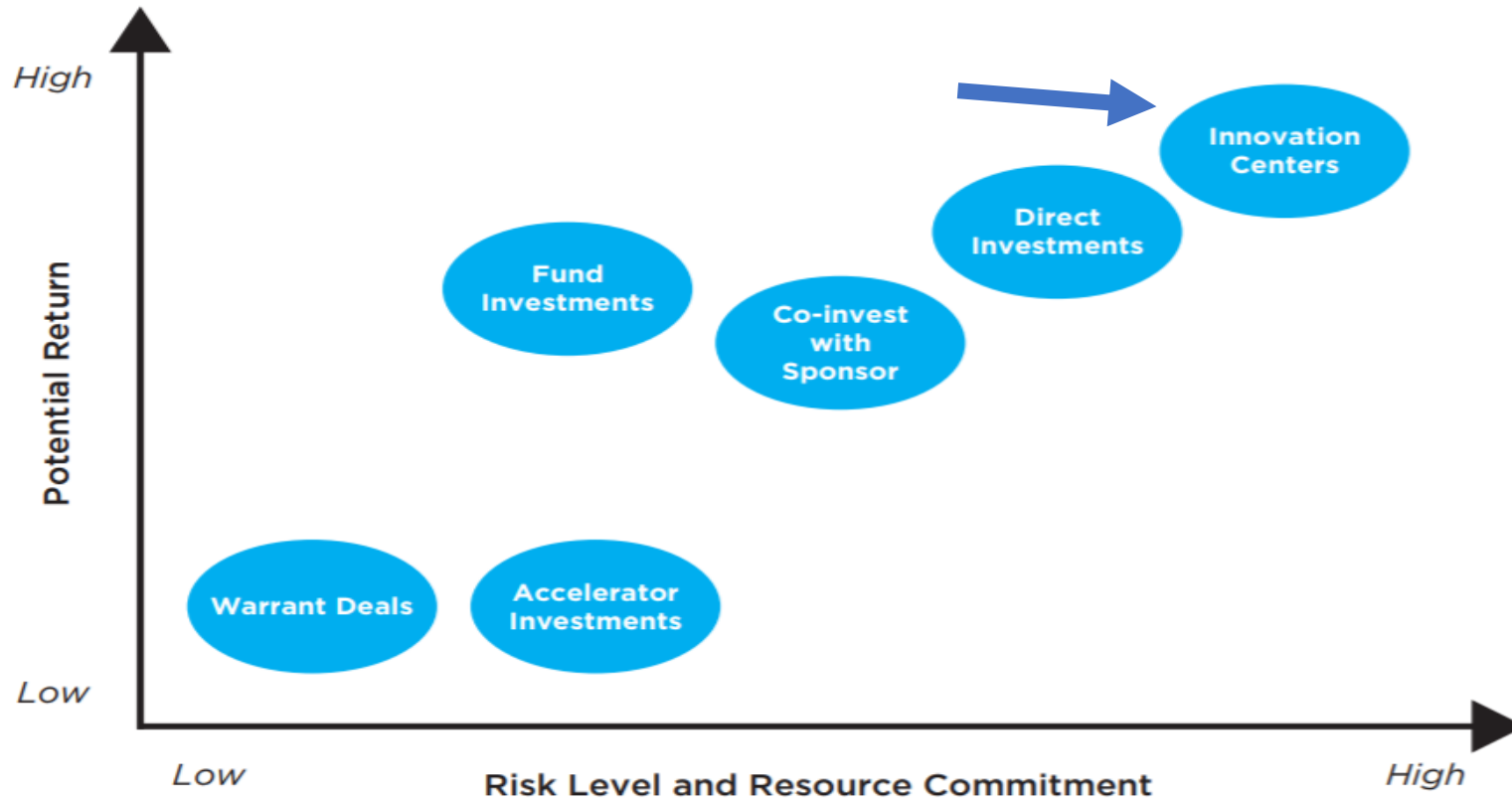No relationship between digital maturity…

- Mortality
- Readmissions

Evaluating the impact of organisational digital maturity on clinical outcomes in secondary care in England

Guy Martin ✉, Jonathan Clarke, Felicity Liew, Sonal Arora, Dominic King, Paul Aylin & Ara Darzi

Exhibit 4.2

Universe of Investment Options and Their Trade-Offs

Potential Return — vertical axis (Low to High)

Risk Level and Resource Commitment — horizontal axis (Low to High)

- Warrant Deals
- Accelerator Investments
- Fund Investments
- Co-invest with Sponsor
- Direct Investments
- Innovation Centers

Rise of the Accelerators: The Growth of Health System–Based Investment and Innovation Programs

by Ezra Mehlman

Start-ups are from Mars, Health Systems are from Venus

Health systems

- Pillars of their communities
- Buildings named after donors
- Founded years ago
- Methodical decision making
- If 9 physicians vote "yes" and 1 physician votes "no"
- Failing fast can be bad
- Goal is not an "exit"

Start-ups

- A garage, pizza, and a dog?
- Weird names
- Rapid decision making
- Failing fast can be good
- 1/10 have successful exits?

"The biggest downside of funding IT startups...
is being called 'dude'!"

Start-ups vs.
Health Systems and
Acquiring Companies

Health Care
Technology-enabled services vs. Services

- Technology makes companies more valuable in health care

- 2021 75th percentile EV/revenue tech-enabled services vs. services 10.0 vs 2.3
- 2021 75th percentile EV/EBITDA   tech-enabled services vs. services 47.8 vs 14.7

Lessons from Optum

- Optum revenue $136.3 B in 2020
- Q4 2020 Optum's earnings greater than UnitedHealthcare's earnings
  - Diversification earnings > core business earnings
- Is this possible for a health system?

Cedars-Sinai

Swan–Ganz pulmonary artery catheters

Invented 1970
2020 $940 million USD

Market Watch, March 9, 2021

Initial Questions at Cedars

- Mission alignment
- Preserve not-for-profit tax status
- Brand preservation
- Structure to enable success
- Start-up competencies
- Conventional wisdom: 1 out of 10 start-ups have a successful outcome

Results

Zynx

- Evidence-based order sets, care plans
- As of 2012….
  - 2,000 hospitals in US
  - Clients cared for 55% of inpatients US
  - UK, Middle East
  - Small total investment
  - Exit to Cerner and then to Hearst

Stanson

- Clinical decision support and automating prior authorization
- >300,000 providers
- Exit to Premier
- 3.5 ROI in 5 ½ years

Lessons Learned

Mission-focus

Health systems bombarded by vendors who claim just about anything

Prove at health system with data

Prove at beta sites

Early Zynx and Stanson — "The Untold Story"

Business plan vs. what happened

Some luck

Start-up Creation

- Identify innovation
- Pair innovators with commercialization competency
- Business plan
  - Portability
  - Scalability
  - Total addressable market
  - Competition
  - Barriers to entry
  - Potential profitability

Jobs added, "I'm actually as proud of the things we haven't done as the things I have done. Innovation is saying 'no' to 1,000 things. You have to pick carefully."

Start-up Execution

- Structure
- Bring in people with previous commercial success in start-ups
- Incentives to recruit and retain entrepreneurial talent
- When to (and when not to) take funding

Time will tell…

- How many health systems will seek to diversify revenue?
  - Pros
    - Help fund Medicare losses, offset wage-revenue imbalance, fund mission of community benefit, education, research
    - Turn medical informatics from cost center to profit center
  - Cons
    - Diversion from core business, may require new competencies
- How many health systems will meaningfully diversify revenue?