



A SERVICE OF
nrc
HEALTH

The Business of Disease, Illness & Wellness

Brian Silverstein, MD
Chief Population Health Officer
Innovaccer

PREPARED FOR

The Governance Institute Leadership Conference
April 2022



1

"When 'I' is replaced by 'We' even illness becomes wellness."

~ Malcolm X



2

Agenda

Disease & Illness

Health & Wellness

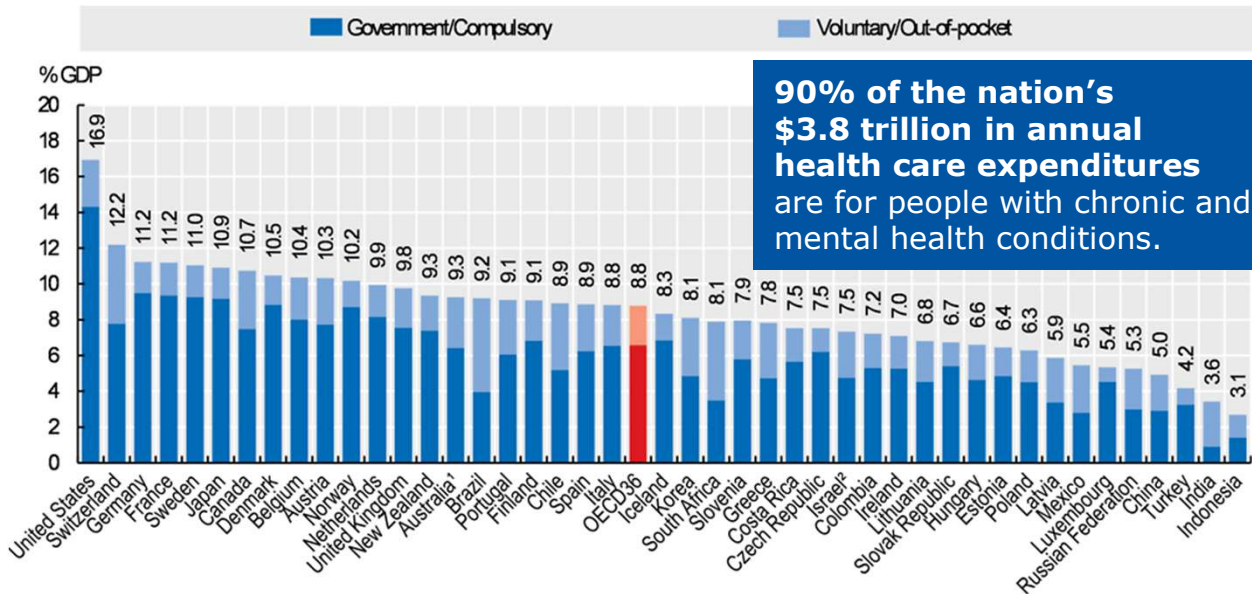
Business Models

Next Steps



3

Disease & Illness Is Big Business

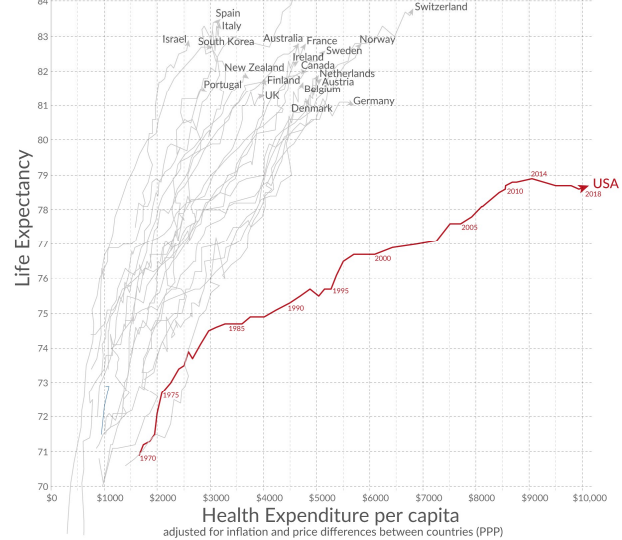


4

We Have A Systemic Problem

- The U.S. spends nearly twice as much as the average OECD country — yet has the lowest life expectancy
- The U.S. has the highest chronic disease burden and an obesity rate that is two times higher than the OECD average
- Americans had fewer physician visits than peers in most countries
- Americans use expensive technologies, such as MRIs, and specialized procedures
- Compared to peer nations, the U.S. has among the highest number of hospitalizations from preventable causes and the highest rate of avoidable deaths

Life expectancy vs. health expenditure



Organization for Economic Co-operation and Development (OECD)

TGI | April 2022

Page 5

5

COVID Has Been Devastating To Some Age Groups

2019 US 10 Leading Causes of Death by Age Group

Total number of COVID United States (through March 30, 2022):
Cases 81,742,831

Admissions 4,580,996

COVID Deaths 1,006,481

General excess deaths **1,005,000**

Rank	AGE GROUPS											All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+		
1	Congenital Anomalies 4,301	Unintentional Injury 1,149	Unintentional Injury 714	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 531,583	Heart Disease 659,041	
2	Short Gestation 3,445	Congenital Anomalies 416	Malignant Neoplasms 371	Suicide 534	Suicide 5,954	Suicide 8,059	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 89,837	Malignant Neoplasms 435,462	Malignant Neoplasms 599,601	
3	Unintentional Injury 1,149	Malignant Neoplasms 285	Congenital Anomalies 192	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Chronic Low Respiratory Disease 133,246	Unintentional Injury 173,040	
4	SIDS 1,248	Homicide 284	Homicide 155	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	Suicide 7,525	Liver Disease 8,098	Chronic Low Respiratory Disease 18,743	Cerebrovascular Disease 129,193	Chronic Low Respiratory Disease 156,979	
5	Maternal Pregnancy Comp. 1,245	Heart Disease 133	Heart Disease 91	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	Suicide 8,012	Diabetes Mellitus 15,508	Alzheimer's Disease 120,090	Chronic Low Respiratory Disease 150,005	
6	Placenta Cord Membranes 742	Influenza & Pneumonia 122	Chronic Low Respiratory Disease 69	Heart Disease 87	Congenital Anomalies 390	Liver Disease 1,112	Liver Disease 3,417	Diabetes Mellitus 6,348	Liver Disease 14,385	Diabetes Mellitus 62,397	Alzheimer's Disease 121,489	
7	Bacterial Sepsis 603	Perinatal Period 57	Influenza & Pneumonia 52	Chronic Low Respiratory Disease 81	Diabetes Mellitus 248	Diabetes Mellitus 887	Diabetes Mellitus 2,228	Cerebrovascular Disease 5,153	Cerebrovascular Disease 12,931	Unintentional Injury 60,527	Diabetes Mellitus 87,647	
8	Respiratory Distress 424	Septicemia 53	Cerebrovascular Disease 37	Influenza & Pneumonia 71	Influenza & Pneumonia 175	Cerebrovascular Disease 585	Cerebrovascular Disease 1,741	Chronic Low Respiratory Disease 3,592	Suicide 8,238	Nephritis 42,230	Nephritis 51,565	
9	Circulatory System Disease 406	Cerebrovascular Disease 52	Septicemia 36	Cerebrovascular Disease 48	Chronic Low Respiratory Disease 168	Complicated Pregnancy 532	Influenza & Pneumonia 951	Nephritis 2,269	Nephritis 5,857	Influenza & Pneumonia 40,399	Influenza & Pneumonia 40,399	
10	Necrotizing Enterocolitis 354	Benign Neoplasms 49	Benign Neoplasms 31	Benign Neoplasms 35	Cerebrovascular Disease 158	HIV 486	Septicemia 812	Septicemia 2,176	Septicemia 5,672	Parkinson's Disease 34,435	Suicide 47,511	
COVID DEATH TOTAL (2021)		124	53	151	1,534	6,517	16,408	37,695	76,062	308,278	446,824	
ALL CAUSE DEATH TOTAL (2021)		18,379	3,562	5,618	36,736	78,827	119,584	207,570	460,366	2,420,609	3,351,251	
POPULATION (2020)		3,745,000	15,713,000	42,257,000	43,165,000	45,866,000	42,935,000	41,356,000	43,259,000	54,303,000	332,601,000	

https://www.cdc.gov/mmwr/volumes/70/wr/mm7014e1.htm#F1_down
TGI | April 2022 <https://www.cdc.gov/nchs/covid19/mortality-overview.htm>

Page 6

6

Crisis Can Bring Rapid Changes

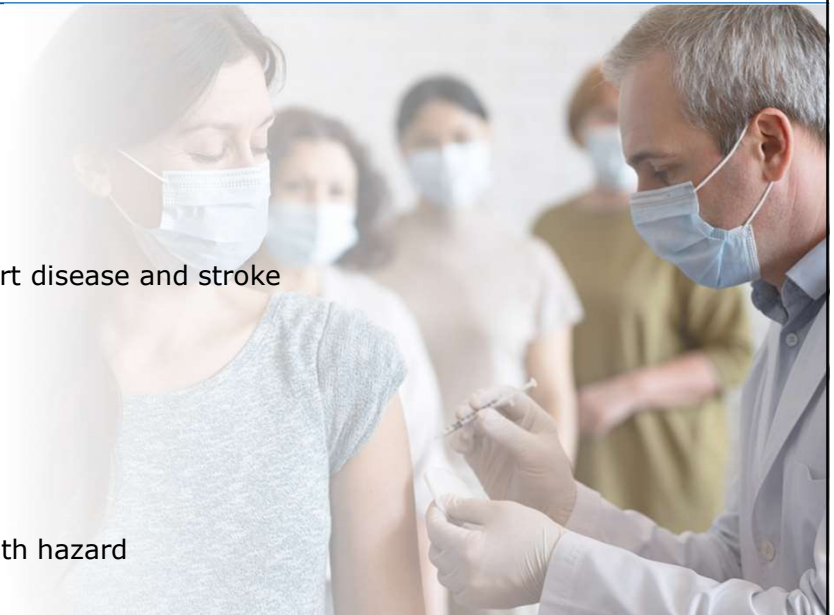
Pandemic	% of population	Death toll (Millions)	Population Billions	Year of Pop. Est.
BLACK DEATH	51%	200	0.39	1300¹
PLAGUE OF JUSTINIAN	19%	40	0.21	500
SMALL POX	12%	56	0.46	1500
ANTONINE PLAGUE	2.6%	5	0.20	200
SPANISH FLU	2.5%	45	1.82	1919
THE THIRD PLAGUE	1.0%	12	1.26	1850
HIV/AIDS	0.7%	30	4.46	1981
COVID-19	0.07%	5.5	7.90	2022 (January)

SOURCE: CDC, WHO, BBC, Wikipedia, Historical records, Encyclopaedia Britannica, Our world in data

7

Improvements In Disease & Illness Have Come From Public Health

- Vaccination
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water
- Recognition of tobacco use as a health hazard



8

Agenda

Disease & Illness

Health & Wellness

Business Models

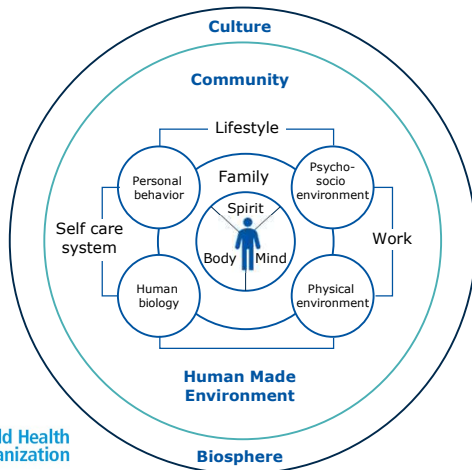
Next Steps



9

Health is a State of Being, Whereas Wellness is Living a Healthy Lifestyle

Health is a state of complete physical, mental and social well-being

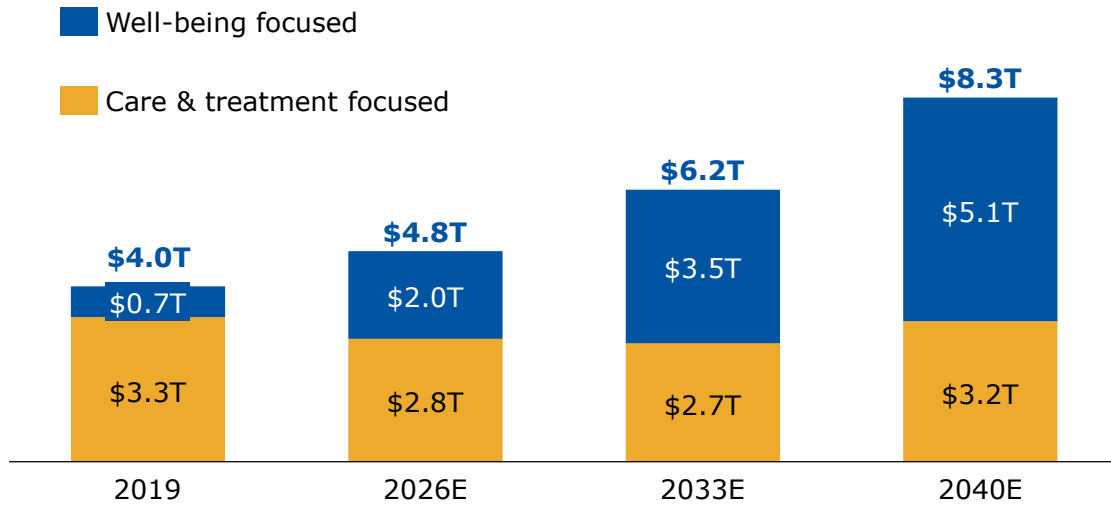


Wellness is multidimensional and holistic, encompassing lifestyle, mental and spiritual well-being, and the environment



10

Medical Spending May Shift From Disease & Illness to Health & Wellness



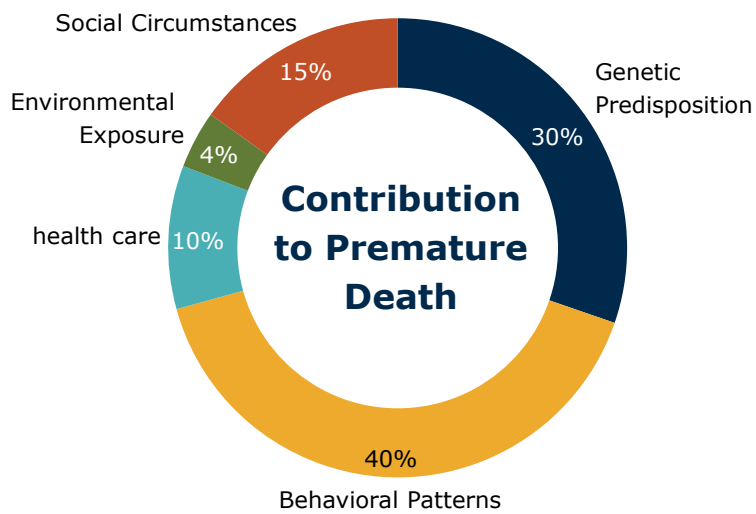
Source: Deloitte Insights

TGI | April 2022

Page 11

11

The State of US Health



Key drivers of health status

-  Obesity
-  Physical Inactivity
-  Smoking
-  Stress
-  Aging

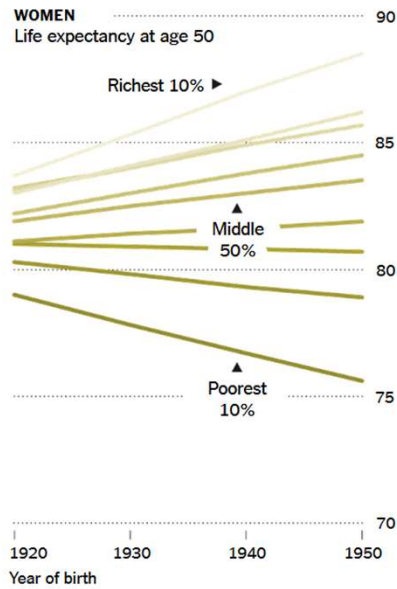
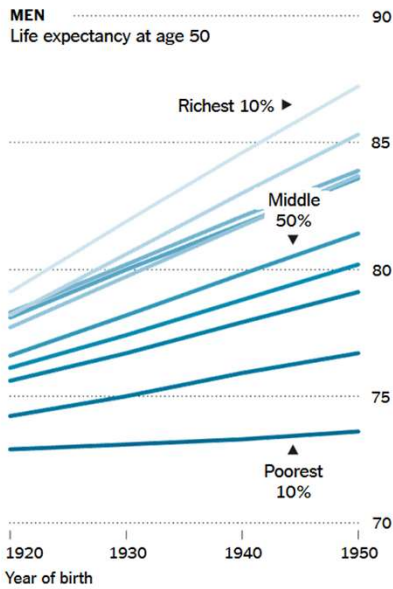
Schroeder S. N Engl J Med 2007;357:1221-1228

TGI | April 2022

Page 12

12

Health Equity Is Real



TGI | April 2022 Source: Brookings Institution; U. of Michigan Health and Retirement Study

Page 13

13

Adverse Childhood Experiences Matter

Abuse



Physical



Emotional



Sexual

Neglect



Physical



Emotional

Household Dysfunction



Mental Illness



Mother treated violently



Divorce



Incarcerated Relative



Substance Abuse

ACE-related odds of having a physical health condition

Health condition	0 ACEs	1 ACEs	2 ACEs	3 ACEs	4+ ACEs
Arthritis	100%	130%	145%	155%	236%
Asthma	100%	115%	118%	160%	231%
Cancer	100%	112%	101%	111%	157%
COPD	100%	120%	161%	220%	399%
Diabetes	100%	128%	132%	115%	201%
Heart Attack	100%	148%	144%	287%	232%
Heart Disease	100%	123%	149%	250%	285%
Kidney Disease	100%	83%	164%	179%	263%
Stroke	100%	114%	117%	180%	281%
Vision	100%	167%	181%	199%	354%

TGI | April 2022

Page 14

14

Agenda

Disease & Illness

Health & Wellness

Business Models

Next Steps



15

Value Based Health Care Is Different

Value-Based Health Care Benefits

Patients

Lower costs & better outcomes



Providers

Higher Patient Satisfaction Rates & Better Care Efficiencies



Payers

Stronger Cost Controls & Reduced Risks



Suppliers

Alignment of Prices with Patient Outcomes



Society

Reduced Healthcare Spending & Better Overall Health



16

Payment Is Slowly Encouraging The Business Model To Shift

Volume of Services Provided



Fee For Service (FFS)

Value Based Payments

- ↑ Quality
- ↑ Patient Experience
- ↓ Cost
- Pay for Performance



	FFS	Link to quality & Value	APMS built on fee-for-service architecture	Population-based payment
2019	39%	25%	31%	5%
2025	1%	32%	50%	15%

<https://hcp-lan.org/>

TGI | April 2022

Page 17

17

CMS & CMS Innovations Center Strategy

Lessons Learned Over the Last Decade

1. Ensure health equity is embedded in every model.
2. Streamline the model portfolio and reduce complexity and overlap to help scale what works
3. Tools to support transformation in care delivery can assist providers in assuming financial risk
4. Design of models may not consistently ensure broad provider participation.
5. Complexity of financial benchmarks have undermined model effectiveness.



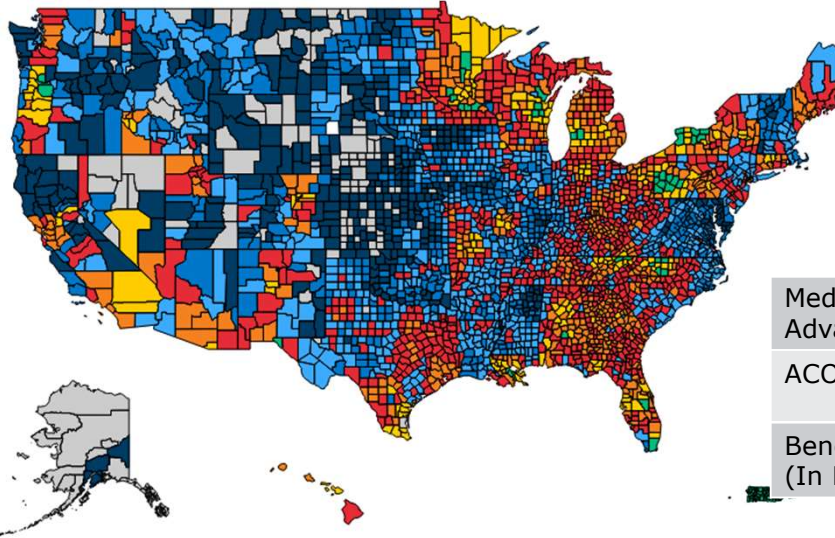
TGI | April 2022

Page 18

18

Seniors Are Migrating to New Models

Medicare Advantage Penetration



County Breakdown

- 1%-10%
- 11%-20%
- 21%-30%
- 31%-40%
- 41%-50%
- 51%-60%
- 61% or more
- Less than 1%

	2005	2020	2030
Medicare Advantage	13%	39%	51%
ACOs	0%	18%	
Beneficiaries (In Millions)	42	62	78

19

Spectrum of Primary Care Models

Traditional Primary Care	PCP Aggregators / VBC	Access Models	Adjacent

20

Agenda

Disease & Illness

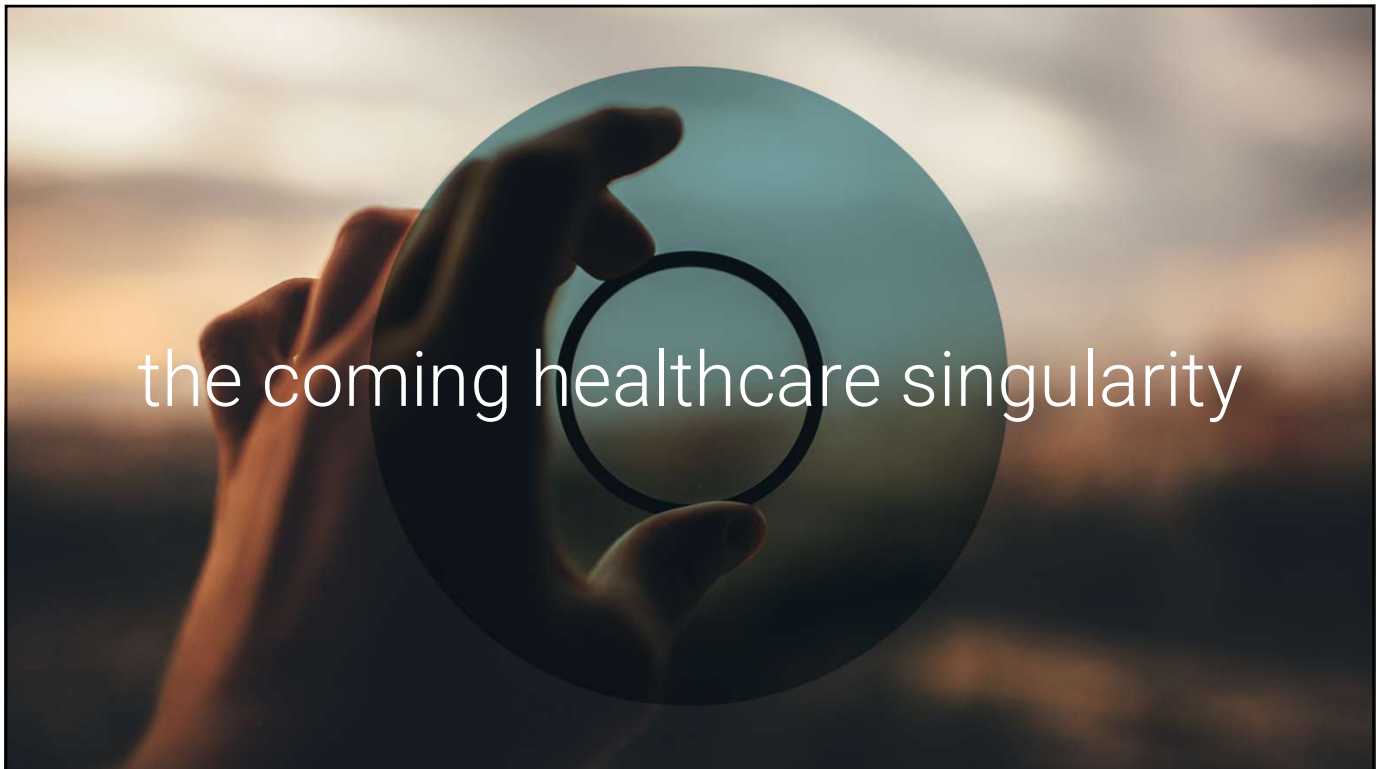
Health & Wellness

Business Models

Next Steps



21



22

Digital Health Requires Significant Capabilities



Layer of engagement

Systems of consumer and patient engagement (e.g., search, wearables, e-commerce, behavioral health apps, IoT)



Layer of intelligence

Systems to convert data elements into insights and intelligence to inform or drive actions



Layer of infrastructure

Systems of data capture, curation management, and interoperability



Supports payment and financing

- Payment structuring and financing
- Digital and automatic payments
- Savings accounts
- Benefits/insurance coverage



Leverages support services

- Transportation service
- Faith institutions
- Community
- Family
- State assistance

Financial data

Social structure data

Advanced Analytics

HEALTH plan platform

Provider-generated data

Patient-generated clinical data



Connects consumers with traditional modalities of care

- Pharmacy
- Hospital
- Ambulatory clinic
- PCP/specialist
- Care team coordination
- Diagnostic tools & support
- Scheduling
- Quality



Health and wellness data

Tracks daily life activities

- Nutrition
- Fitness
- PT & Rehab



Integrates home, near-home, and virtual care services

- Self-service solutions
- Monitoring tools
- Compliance & adherence tools
- Home health
- Virtual care
- Retail clinics

23

Forbes



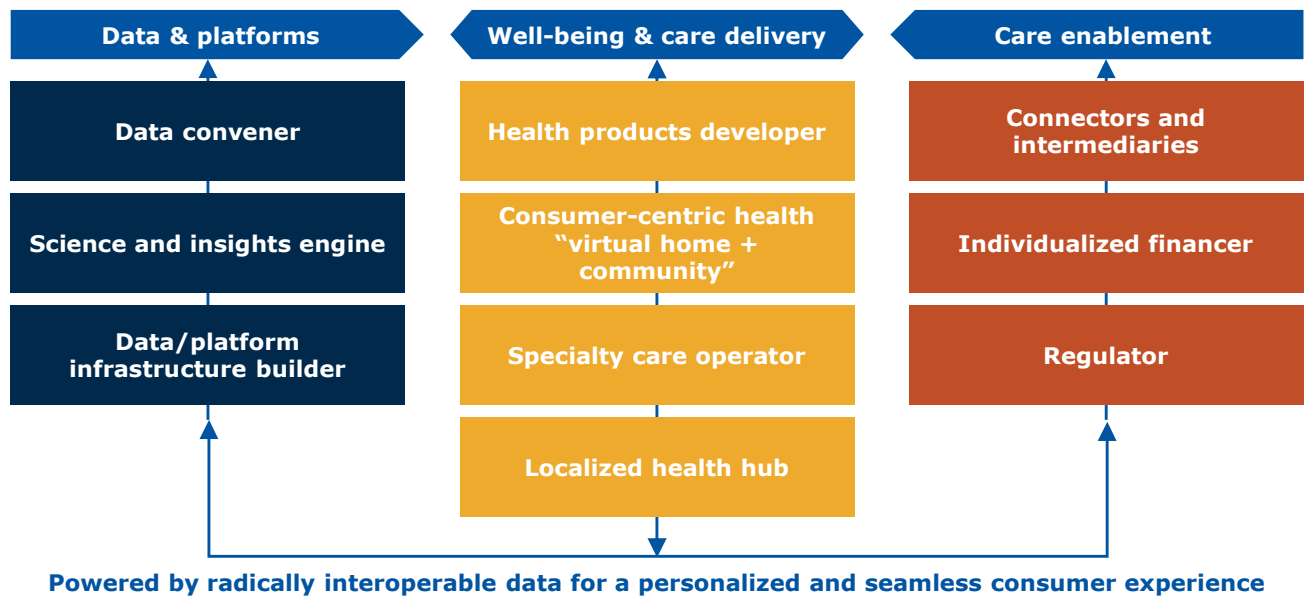
The EHR Is Dead. Long Live The EHR Platform

24

PAGE 12

The Governance Institute's Leadership Conference – Hybrid Event
April 11–12, 2022

Winning Business Archetypes



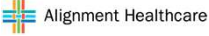







TGI | April 2022

Page 25

25

Valuation of Medicare Advantage Focused Firms

Entities		Type of entity	Est. # of patients	Valuation	\$/Person
Oak Street Medical		PCP Group	90,000	\$13B	\$196,000
Agilon Health		PCP MSO	170,000	\$11.4B	\$67,000
Clover Health	Clover Health	MA Insurer	57,000	\$3.5B	\$61,000
Alignment Health		MA Insurer	81,000	\$4.2B	\$52,000
Iora Health		PCP Group	38,000	\$2.1B	\$55,000
Village MD		ACO PCP Company	500,000	\$10 Billion - Target	\$20,000
Devoted Health		MA Insurer	17,000	\$3B	\$176,000
CANO Health		PCP Group & MSO	103,000	\$4.4B	\$43,000
Bright Health		Insurer	220,000	\$11.3B	\$51,000

<https://www.healthaffairs.org/doi/10.1377/hblog20210927.6239/full/>

TGI | April 2022

Page 26

26

Digital Transforms Business In Ways That Seem Impossible

Why Cambridge Analytica



Starting from Scratch

When we started on the campaign (second week of June) the Trump Campaign had no speakable data infrastructure.

- No database of record
- Many disparate data sources
- No data science program (models)
- No proper digital marketing apparatus
- Research being done by up to 5 pollsters at one point

Any most importantly: **No unifying data, digital and tech strategy.**



27

THANK YOU



28