



The Constantly Evolving Future of Healthcare – Early Mid Stage of the COVID19 Pandemic

The Introduction and Context for Discussion – 2020

Foundational Healthcare Trends Disrupted

Old and New Transformational Trends Evolve

Conclusions, Critical Takeaways and Relevance – 2021/2022

OCTOBER 2020



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The Constantly Evolving Future of Healthcare

– Presentation Overview

The Introduction and Context for Discussion – 2020

- The COVID19 Pandemic Effect on US Macro Economic Trends and the Healthcare Economy
- Changing Healthcare Trends – What Has Happened and What is really Happening Today

Foundational Healthcare Trends Disrupted

- Disruption in the “Healthcare Food Chain” and Its Consequences
- Aggregator Strategies and Critical Mass Continue to Rule the Day but Differently than Pre-Pandemic

Old and New Transformational Trends Evolve

- New Directly Contracted “Value Based” Products – The CIN/Federated Model, MSSP, CMMI, etc.
- The Super Consumer/Member/Patient Experience – Non Virtual and Virtual Components
- RNA and COVID19 Vaccines – A Strange Turn of Technologies from Cancer to Infectious Disease

Conclusions, Critical Takeaways and Relevance – 2021/2022

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- The COVID19 Pandemic Effect on US Macro Economic Trends and The Healthcare Economy
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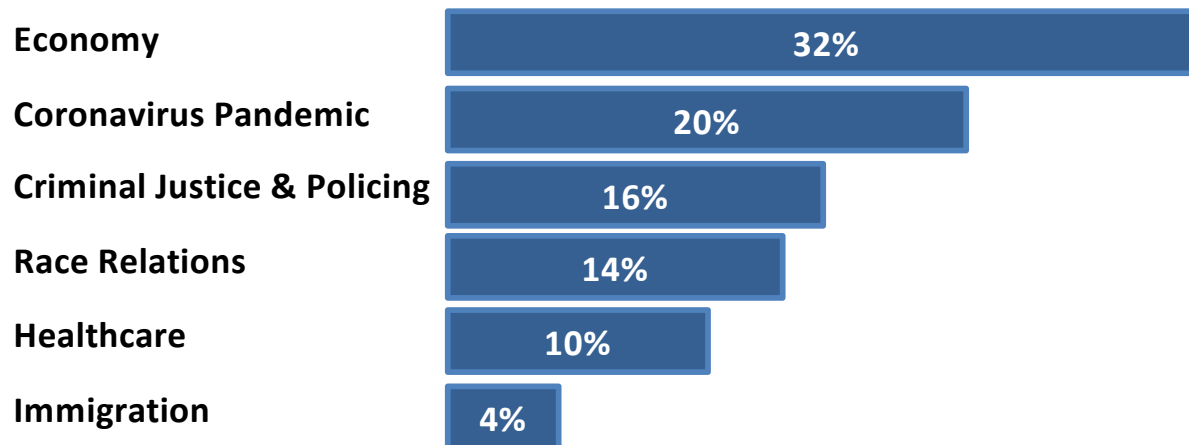
2020 – The Constantly Evolving Future of Healthcare

Introduction and Context for Discussion – 2020

– Where You Stand Depends on Where You Sit

C. Everett Dirksen, US Congressman and Senator

US Electorate as of September 2020*



*Source: Kaiser Family Foundation Health Tracking Poll (conducted 8/28 – 9/3/2020)/Pre RBG Death

Introduction and Context for Discussion

– The US Economy/Healthcare Economy

The 2019 US/Healthcare Economy

- 2019 Total US GDP = \$ 21.3 Trillion
- 2019 Healthcare Expenditures = \$ 3.7 Trillion
- Healthcare 17.7% of GDP

The 2020 US/Healthcare Economy (Estimated)

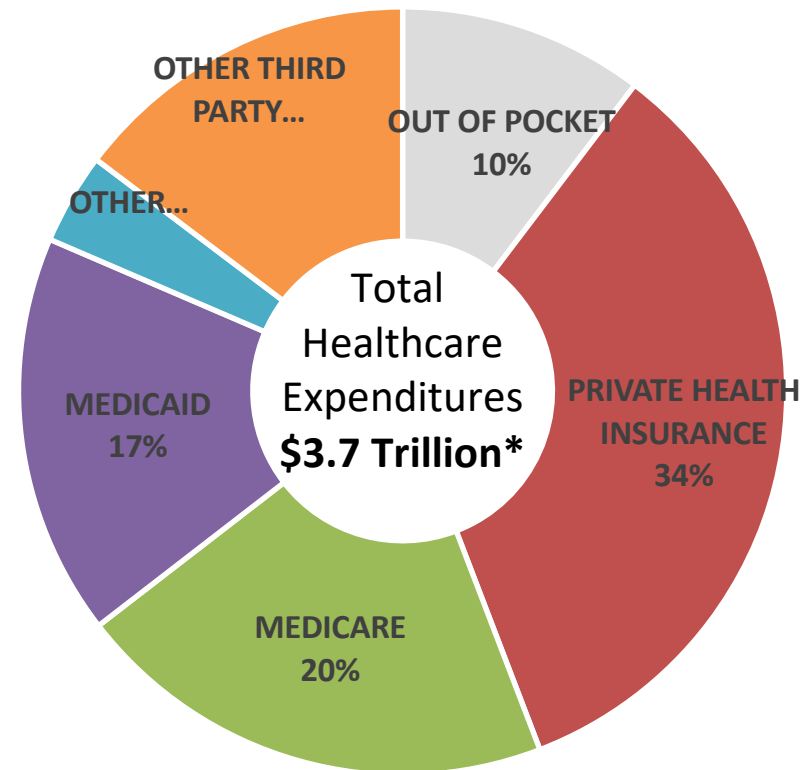
- 2020 Total US GDP = \$ 20.5 Trillion (Down \$ 800 Billion/4% Decrease)
- 2020 Healthcare Expenditures = \$ 3.7 Trillion Base (Down \$ 200 Billion/Negative 4% to Up \$ 200 Billion/Positive 4%)
- Healthcare 18%-20%+ of GDP

Introduction and Context for Discussion – 2020

US Economy 2019(GDP) = \$ 21.3 Trillion with Healthcare Spend = \$ 3.7 Trillion/ 17+% GDP
US Unemployment 2019 = 3.6% of Population

Healthcare Spending ↑5% 2018-2019

- Directly Contracted Commercial ASO/Value Based Plans (Long Delayed) – HAVEN, Walmart, United, BCBS, etc.
- Post Acute Care Sub Specialization- e.g., Home Health Care, Tele monitoring
- Pharma/Device Cost Escalation – Biologics/Biosimilars, Immunotherapy, Nano engineered Drugs
- Utilization Trends – Demographics/Aging Population/Medicaid and VA Expansion
- Alternative Care Sites – ASC's/OBL's/MSO's/etc.



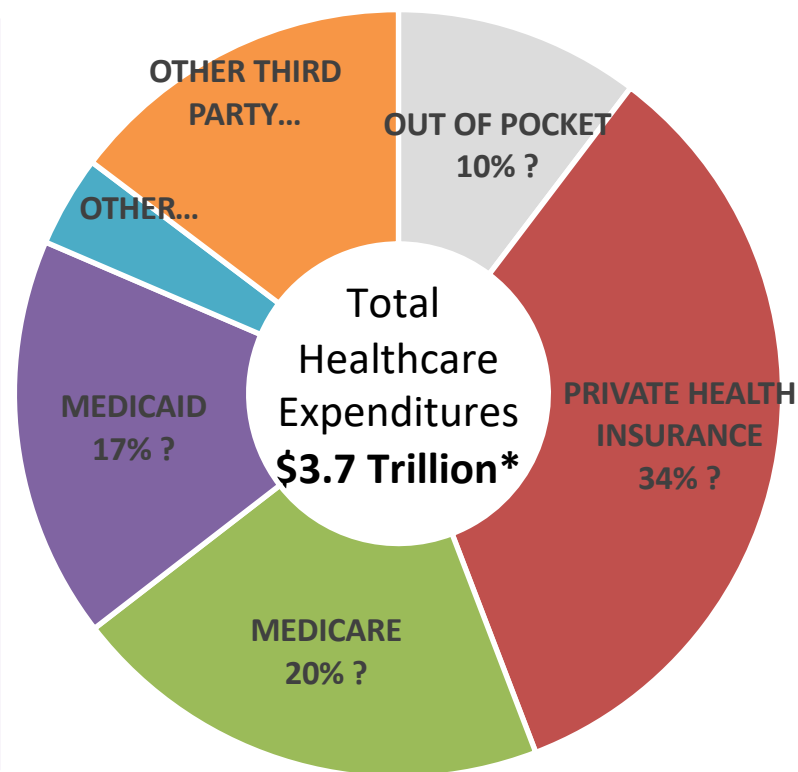
* Sources: CMS/NHE with 4.6% year over 2017-2018 and an estimated 2018-2028 Average 5.4% with 2018-2019 estimated at 5%

Introduction and Context for Discussion – 2020

US Economy 2020/GDP = \$ 20.5 Trillion with Healthcare Spend = \$ 3.7 Trillion/ 18+% GDP
US Unemployment = 3.6%(Jan) to 14.7%(April) to 8% (Sept) – 11 Million Job Loss Variation

Healthcare Spending “No Change” 2019-2020

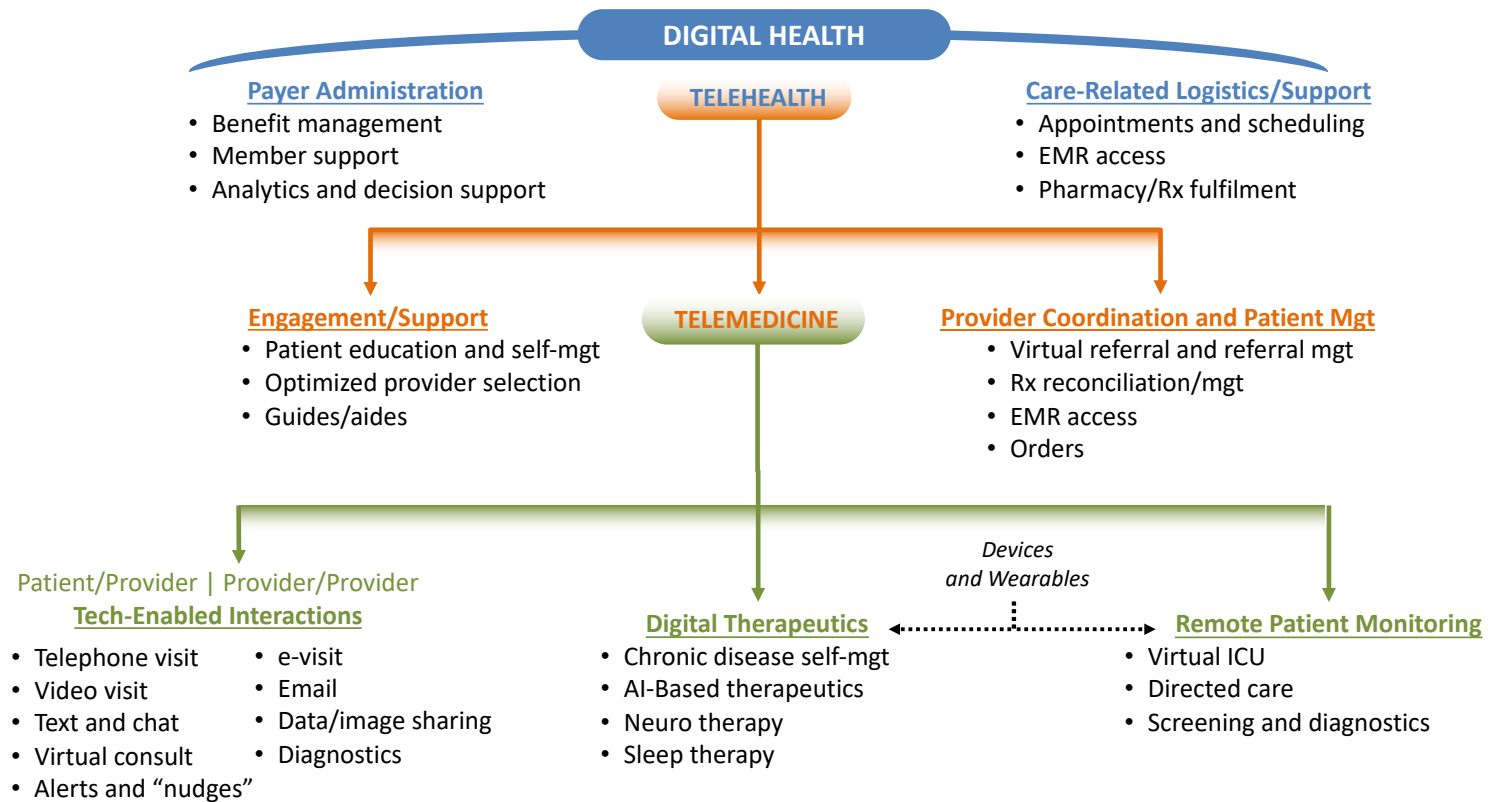
- “Uncertain Change” in the 2019 – 2020 in Health Care Spending still means an aggregate loss to parts of the Healthcare Economy of \$150-\$200+ Billion
- Job Loss/Job Status Fluctuation – Individuals laid off but did not loose insurance or Individuals laid off and go from Private Health Insurance to ACA, Medicaid or Nothing
- Primary Care Pivot to Digital/Telemedicine
- Specialists “Elective Procedures” on Hold
- Surge Capacity Crisis for Hospitals with loss
- Pivot from Cancer Dx and Vaccines to COVID19 Dx and Genetically engineered vaccines
- Utilization Trends – Demographics/Aging Population Disease Burden Increases without routine care
- ACA Uncertainties with Supreme Court Changes



* Sources: CMS/NHE with 4.6% year over 2017-2018 and an estimated 2018-2028 Average 5.4% with 2018-2019 estimated at 5%

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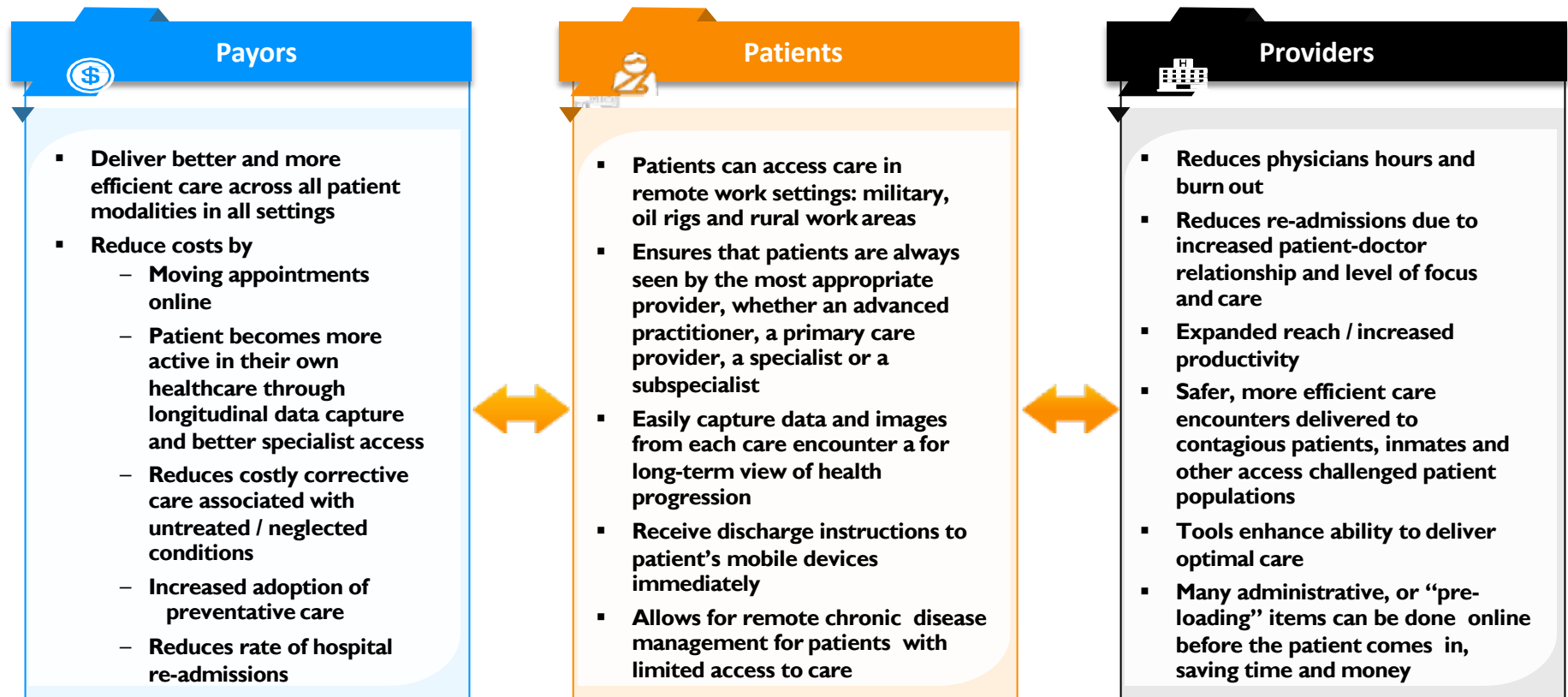
Digital Health/ Telehealth/ Telemedicine/ Tele Monitoring



Introduction and Context for Discussion – 2020

Will Digital Health/Telehealth/Telemedicine/Tele Monitoring Companies Be FAANG+M Targets?



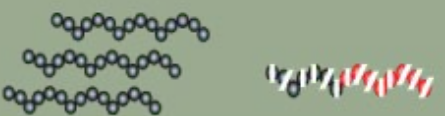
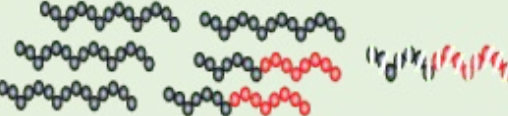
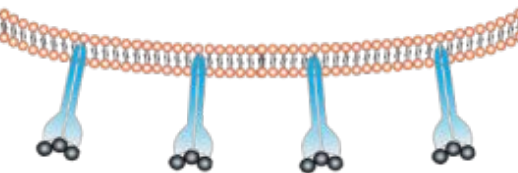
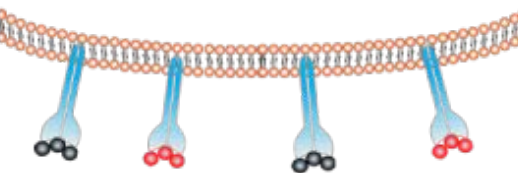
Comprehensive Care Integration



Introduction and Context for Discussion – 2020

mRNA Cancer Technology Transitions to **COVID19 Pandemic mRNA Dx and Vaccines**

– Early Detection of Cancer Made Possible by Discover of Recurrent RNA Variants in Tumors

Normal Cell	DNA mostly point mutations	Cancer Cell
	RNA FS variants (Transcription; RNA-splicing; DNA QC system (NMD))	
	Protein FS tail, often unfolded Protein QC system (UPS)	
	FS epitopes Presentation by MHC I & II	

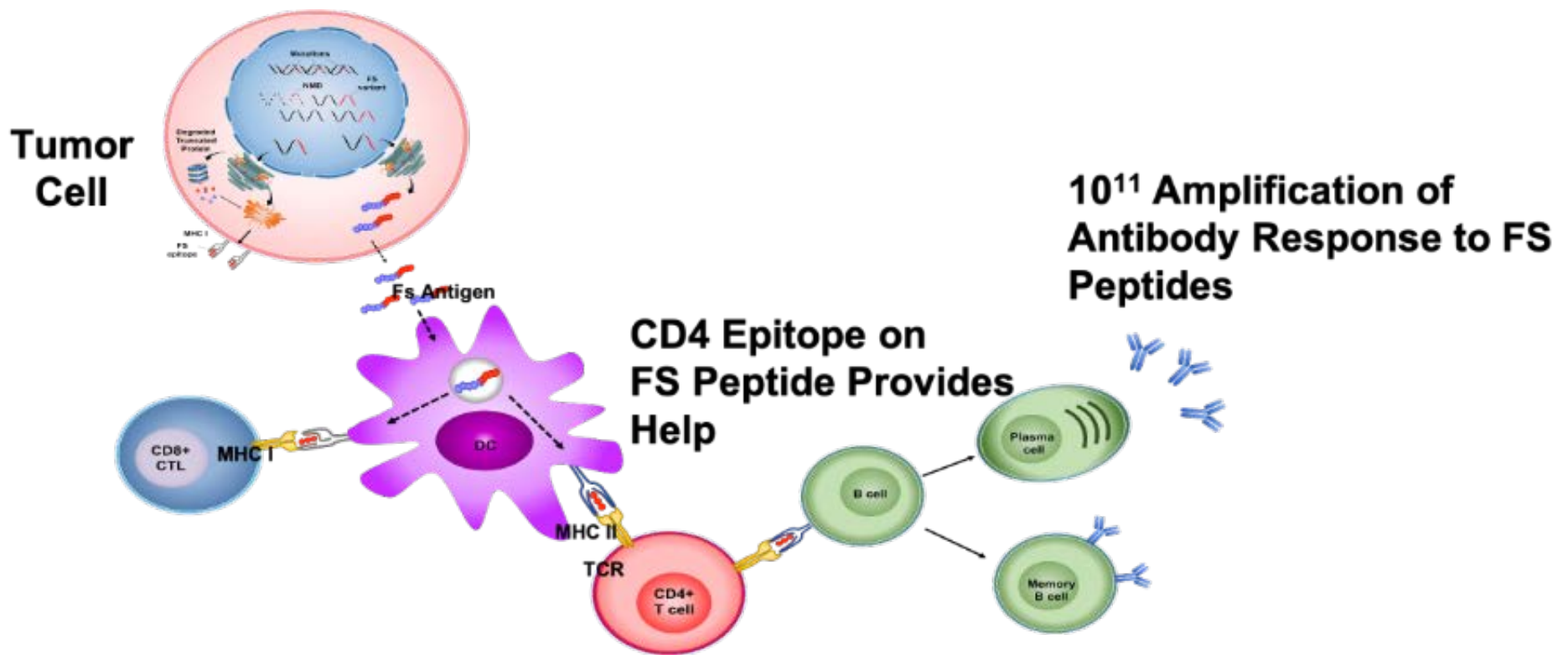
IN TUMORS:

DNA Mutations are Personal

RNA Variants are Recurrent

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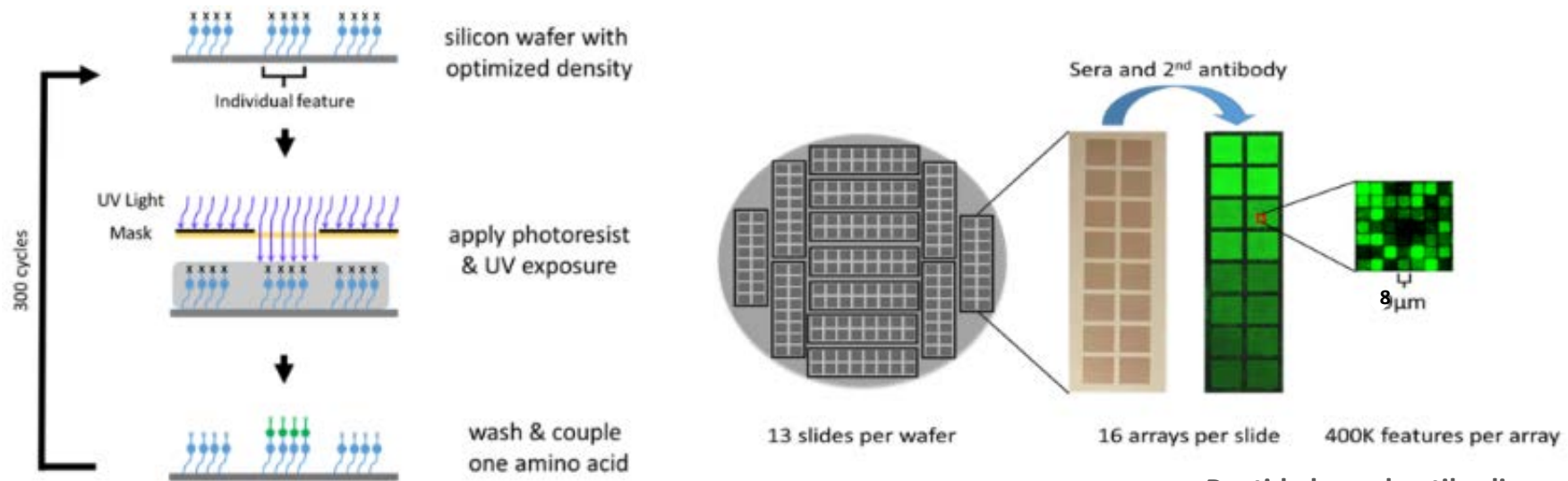
mRNA Cancer Technology Transitions to COVID19 Pandemic mRNA Dx and Vaccines
– Antibodies are Produced in the Patient to the RNA-based NeoAntigens



Introduction and Context for Discussion – 2020

Will Pharmaceutical Giants That Develop mRNA COVID19 Dx, Therapeutic and Vaccine Technology Rise in the Food Chain?

ImmunoSignature Peptide Arrays Can Capture All the Diversity of Antibodies to Tumor Peptides



- Peptides are synthesized on silica wafers by photolithography
- Each array displays 400,000 peptides spanning ~220,000 potential FS neoantigens

ARRAY

- Wafers are diced into silica slides that enable 64 arrays to be assayed in a single cassette
- Workflow resembles that of an ELISA

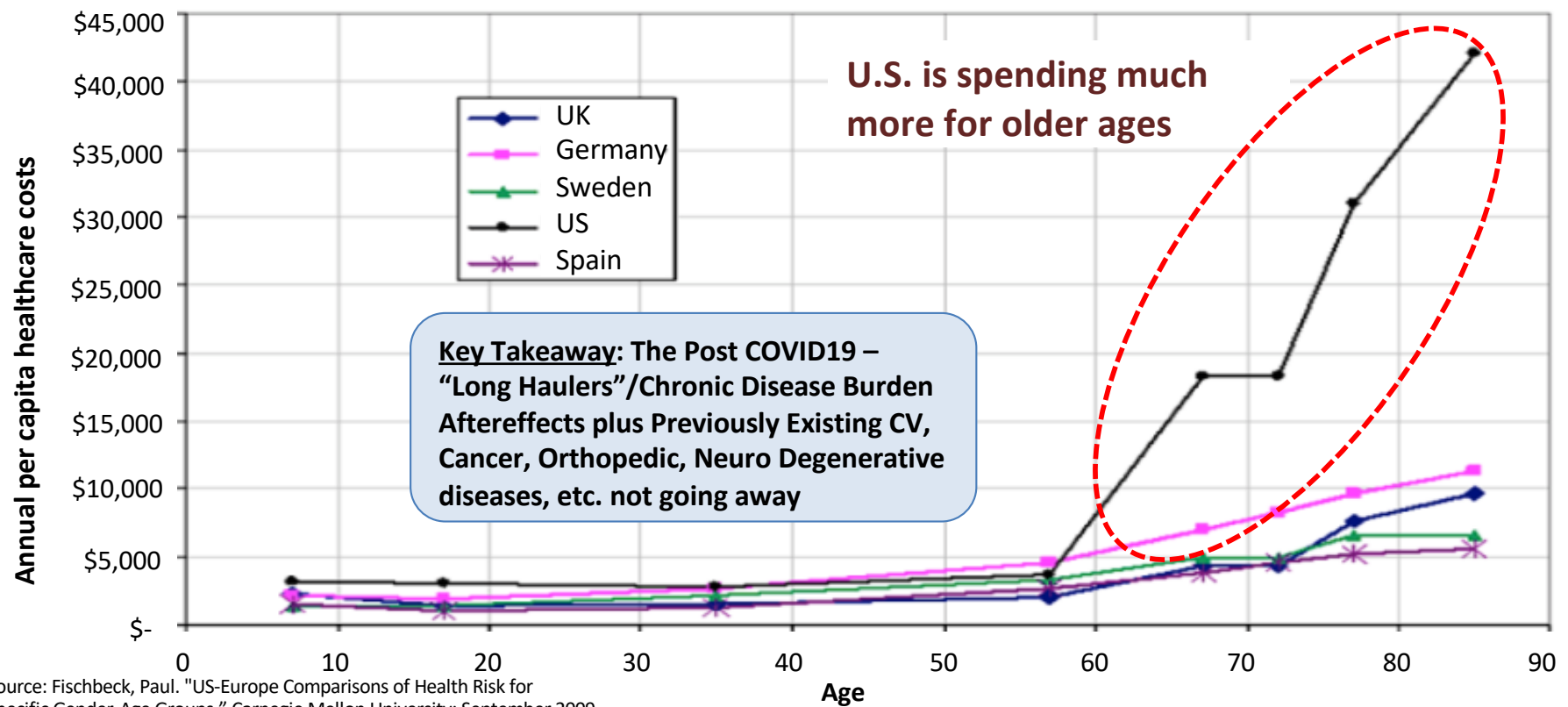
ASSAY

- Peptide bound antibodies are detected fluorescently and quantified by a scanner
- The digitized immune response is analyzed

ANALYSIS

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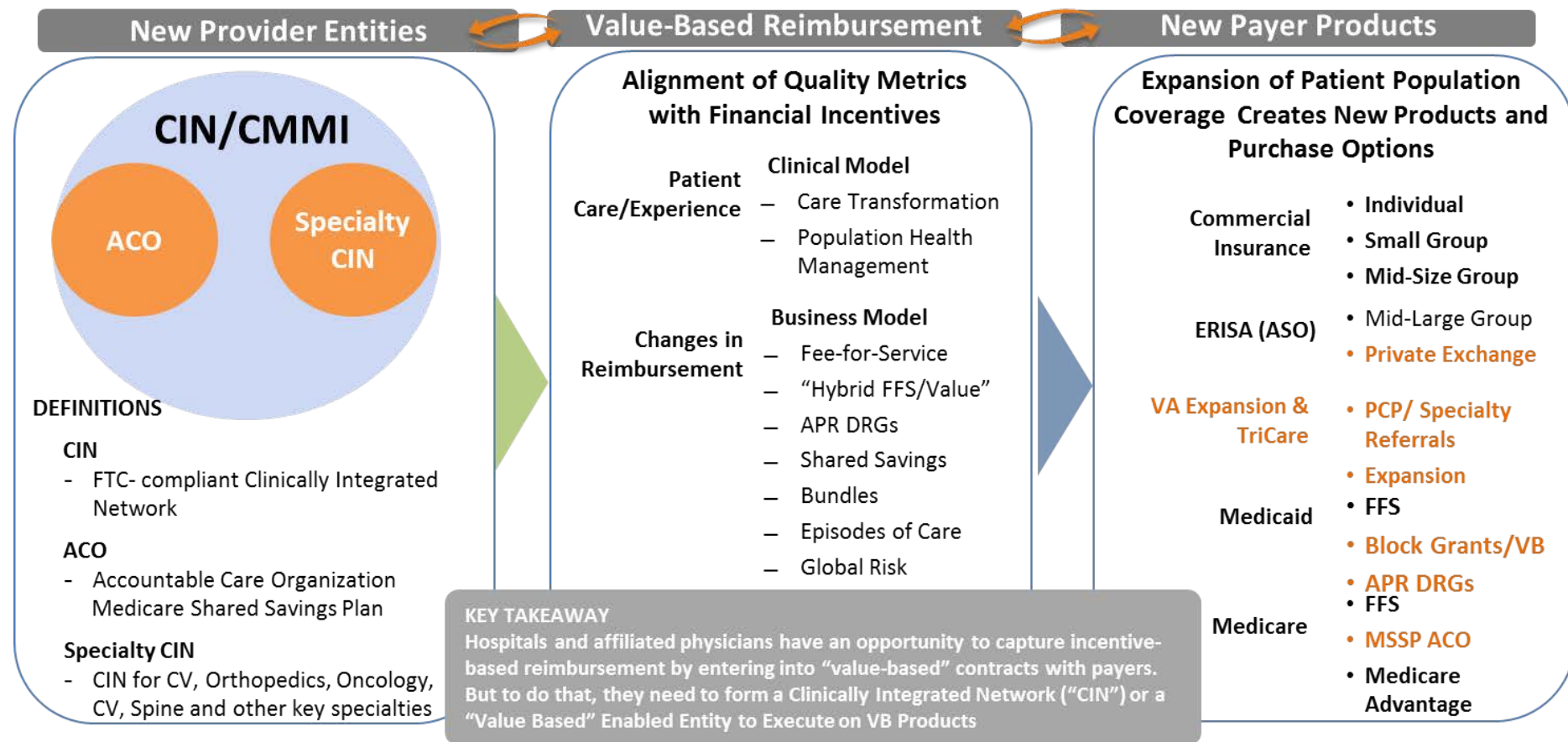
Major Senior/Vulnerable Population Exposure, Disparate Healthcare Access, Congregate Living Risk and Differential Risk Profile for Morbidity/Mortality and a Chronic Untreated Disease Burden Growing



Source: Fischbeck, Paul. "US-Europe Comparisons of Health Risk for Specific Gender-Age Groups." Carnegie Mellon University: September 2009

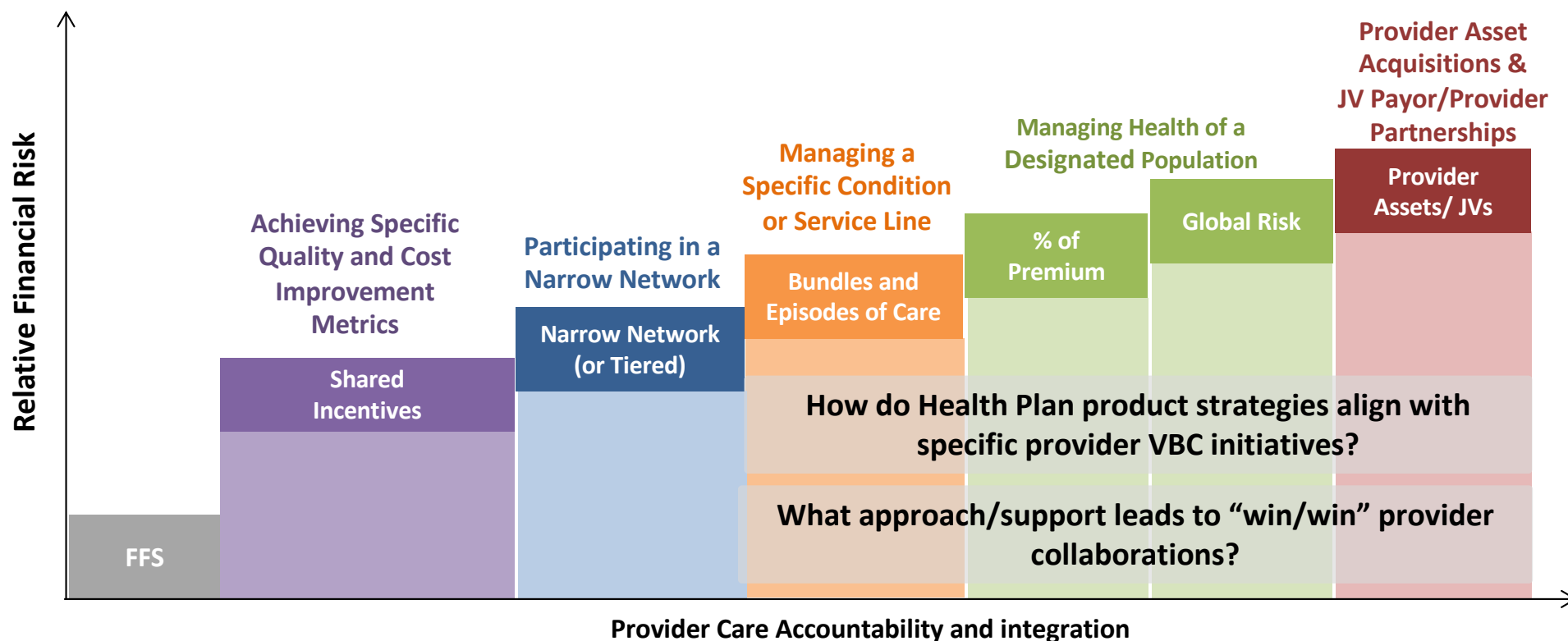
Introduction and Context for Discussion – 2020

CIN's, Value Based Contracts, and Risk Based Contracts All Stressed by Pandemic



Introduction and Context for Discussion – 2020

Payor/Provider Glide Path to Global Risk Continues But on a Highly Variable Geographic and Product Specific Basis



Foundational Healthcare Trends Disrupted

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- Aggregator Strategies and Critical Mass Continue to Rule the Day but Differently than Pre-Pandemic

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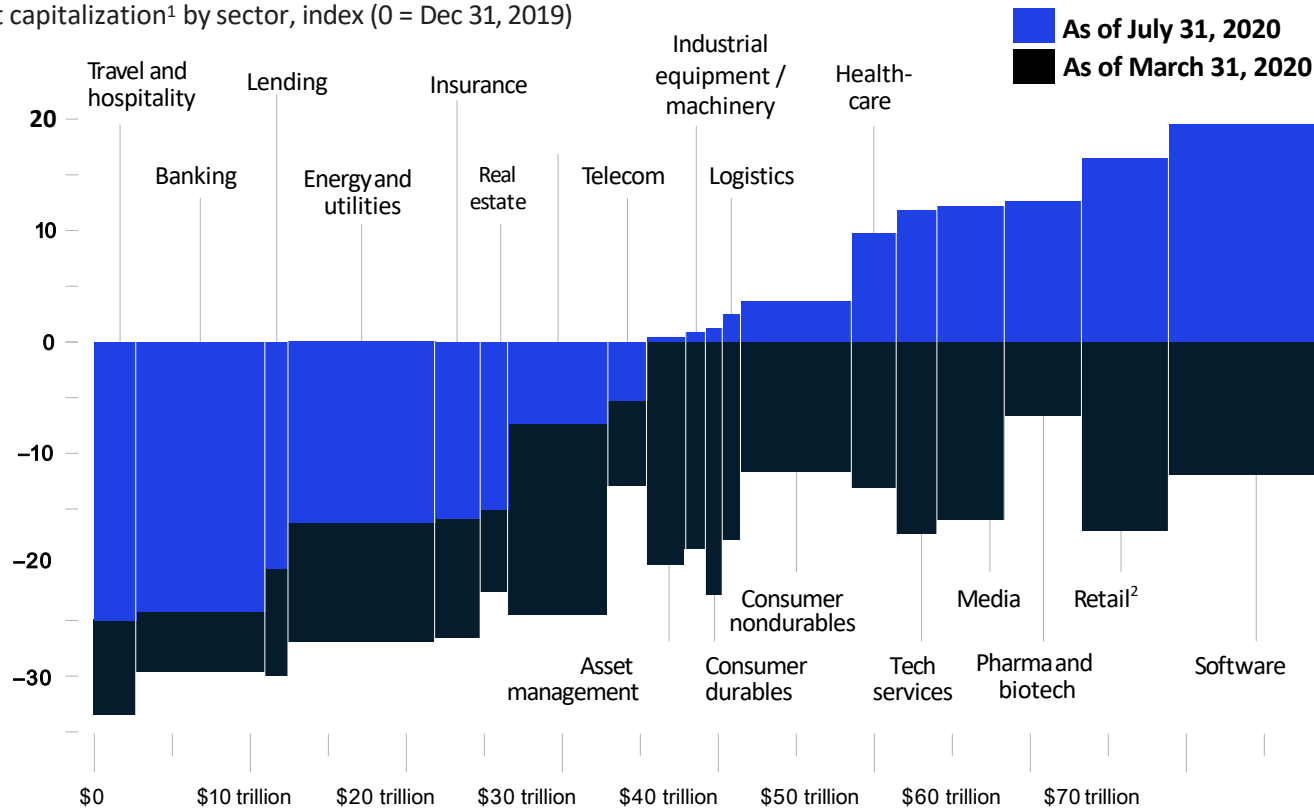
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Foundational Global Economic and Healthcare Trends Disrupted

A Rolling Disruption: COVID19's Implications for Market Capitalization of Different Company Sectors

Global market capitalization declined in all sectors and has since rebounded in some.

Market capitalization¹ by sector, index (0 = Dec 31, 2019)



¹For 15,500 public companies with revenue of more than \$100 million in their sectors. Adjusted for dividends and buybacks. Width of bar equals proportion of all value as of December 31, 2019.

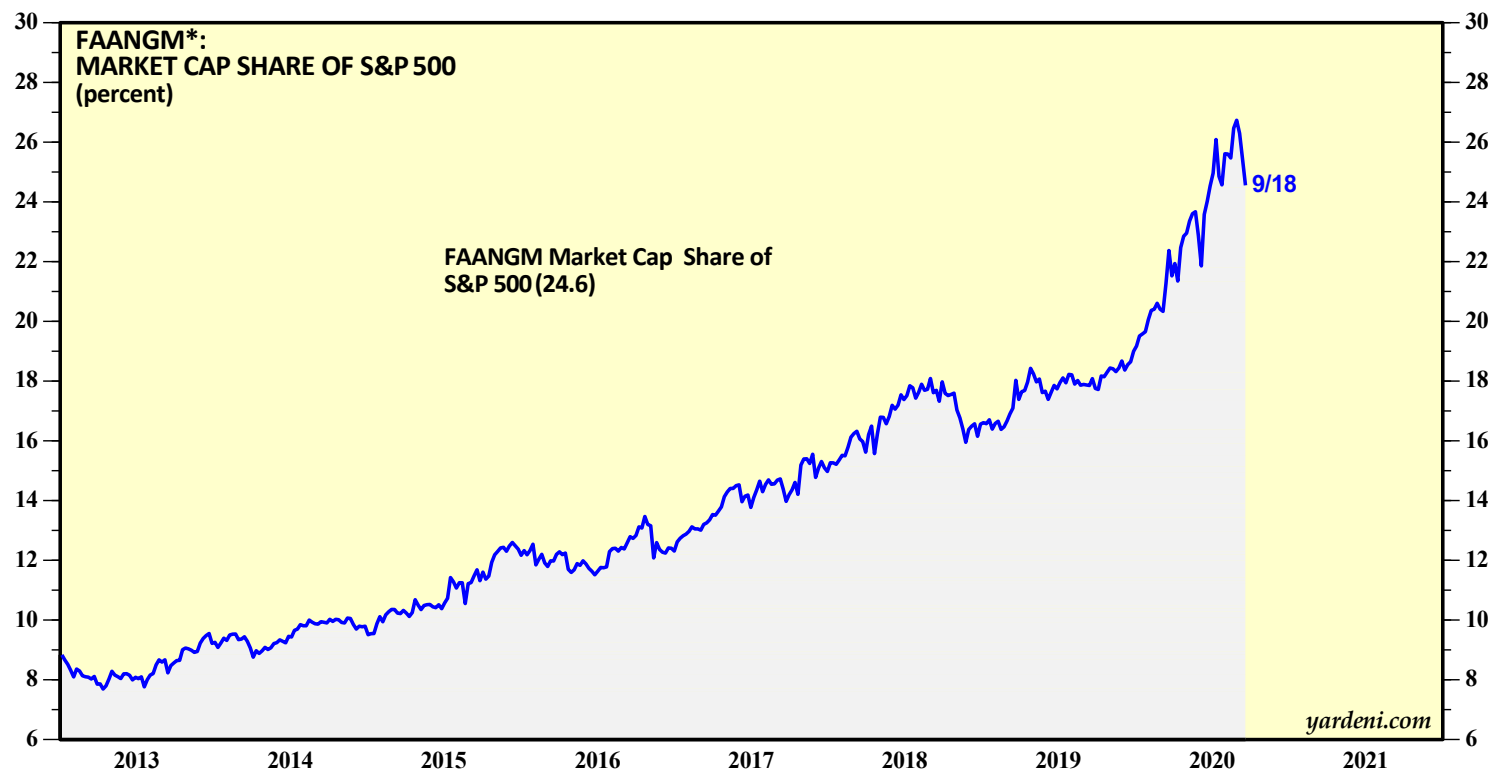
²Including e-commerce.

Source: S&P Capital IQ; McKinsey analysis

Disruption of the “Healthcare Food Chain” and Its Consequences

Facebook, Apple, Amazon, Netflix, Google & Microsoft Market Cap

FAANG+M Portfolio Contribution of \$12+ Trillion Analysis to S&P 500



* FAANGM stocks include Facebook, Amazon, Apple, Netflix, Google (Alphabet), and Microsoft. Both classes of Alphabet are included. Source: Standard & Poor's and I/B/E/S data by Refinitiv.

Disruption of the “Healthcare Food Chain” and Its Consequences

– Who Will Be the Shark(s) in the Community Pool in 2021? FAANG+M



FAANG + Microsoft

- Facebook → Data, Data, Data, etc.
- Apple → Medical Clinics, Wearables
- Amazon → Prescriptions, Cloud, PCP
- Netflix → No Healthcare Entry Yet
- Google/Alphabet → Oscar, Fitbit, Deep Mind, Calico and Verily, etc.
- Microsoft → Azure Blue Cloud, etc.

Market Capitalization

\$ 2 Trillion+ - \$ 1.5 Trillion+

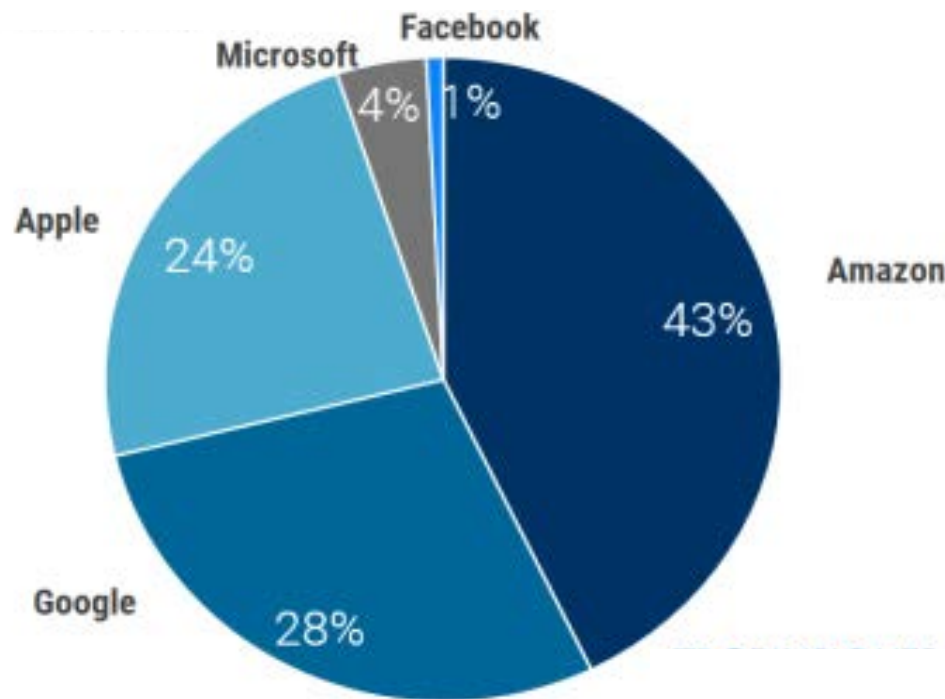
- Aetna/CVS → Whole Health/Minute Clinics
- Blue Cross → Direct to CIN, ACO, COE, etc.
- Cigna → Express Scripts / MD Groups
- Humana → Kindred / MA / TriCare/ Iora
- Anthem → Multiple Lines of Business
- United Health/Optum → VA CCN, PCPs, ASCs, etc.
- Kaiser → Social Determinants/ Members
- VA → VA Hospitals vs VA CCN
- Merck, Pfizer, J&J, Amgen → COVID, COVID, COVID, Cancer
- Leidos, IBM, etc. → COVID, Biologics, Biosimilars

Market Capitalization

\$ 500 Billion+ - \$200 Billion+

Disruption of the “Healthcare Food Chain” and Its Consequences

Which Tech Giant Will Have the Biggest Impact on Healthcare?



Source: Healthcare Insights by CBInsights/ Pre COVID19

Disruption of the “Healthcare Food Chain” and Its Consequences



Disruption in the “Healthcare Food Chain” and Its Consequences

Types of Healthcare Transactions and Enablers

- 1. Vertical & Horizontal Integrators** – Summit/CityMD, CVS Health/Aetna, Optum/DaVita Medical Group, Cigna and Express Scripts(Civica Rx), etc. These hybrid organizations are trying to lower costs of the supply chain by owning more of it and extending those savings to consumers. The challenge? **Execution risk is very high with poor history of success.**
COVID IMPACT – Variable/ Mostly Negative due to shift in insurance coverage and provider variability
- 2. Employer Sponsored Initiatives** – HAVEN -JPMorgan/Berkshire Hathaway/Amazon, Blackstone, etc. Combinations such as this are setting out to limit the growth of their own healthcare costs. The challenge? **Previous employer lead initiatives have had variable success and sustainability (e.g., SCE, Ford, Macy, Kaiser, etc.) and always require geographic concentration and scope of services scale.**
COVID IMPACT – Variable/Mostly Negative because primary business are reducing workforce
- 3. Technology Invaders** – FAANG+M, Lyft and Uber live in this class. These deals will command more space in the healthcare industry, and they have an advantage in their understanding of modern consumer expectations and new currently non existent healthcare relevant technologic advances. The challenge? **Technology invaders need technology that is applicable and actually provides real synergy in both the clinical and business facing applications.**
COVID IMPACT – Variable/Mostly Positive Because of Business/Valuation Shift to Big Tech
- 4. Health Retailers** – Retailers including Walmart, CVS Health, Amazon and Rite Aid want to gain market share by functioning as healthcare providers directly or as referral conduits. The challenge? **Scope of care, complexity of treatment, virtual medicine (tele health, tele monitoring, etc.) complicate the patient/provider/payer relationships.**
COVID IMPACT – Variable/Mostly Positive in healthcare consumables/ pharmaceuticals and negative in the retail space

Aggregator Strategies and Critical Mass Continue to Rule the Day

– Determine Organizational “Keepage/Leakage”

TopCo./HoldCo. Aggregators



Market Share/ Revenue/ Income

- Increased Price/Cost
- Increased Population Utilization
- Less Appropriate Facility Based Care

Fee For Service

“Keepage/Leakage”

Data Analytics in Healthcare



- Descriptive Analytics
- Diagnostic Analytics
- Predictive Analytics
- Prescriptive Analytics

Value Based Care/
Global Risk

- Decreased Aggregate Price/Cost
- Decreased Population Utilization
- More Appropriate Facility Base Care
- “Triple Aim” Optimization

Aggregator Strategies and Critical Mass Continue to Rule the Day

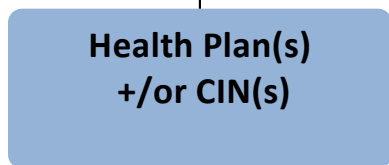
– Aggregators Emerge in Scale and Sponsorship

TopCo Functions as an aggregator of one or more business organizations

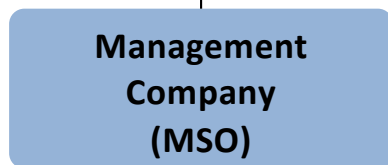


- Private Equity
- For-Profit Health Insurance/Optum
- Health Plans
- Hospital Systems
- Physician Organizations
- Large Technology/Employer Companies

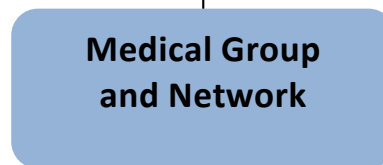
HoldCos



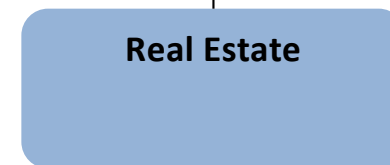
- Medicare Advantage Plans
- CMMI – Direct Contracting
- ACO/MSSPs
- Medicaid Plans
- Commercial Plans
- ASO–Large Employers Plans
- Payer Virtual Care Interface



- Delivery System or Health Plan/CIN Facing
- Risk Contract and Pop Health Analytics
- Delivery Virtual Care Interface
- MD Compensation Model
- Staffing and Recruitment Support



- Employed PCP and Specialty MDs
- Network MDs
- Urgent Care/Retail Services
- IPAs – Next Generation
- Workers Comp MDs



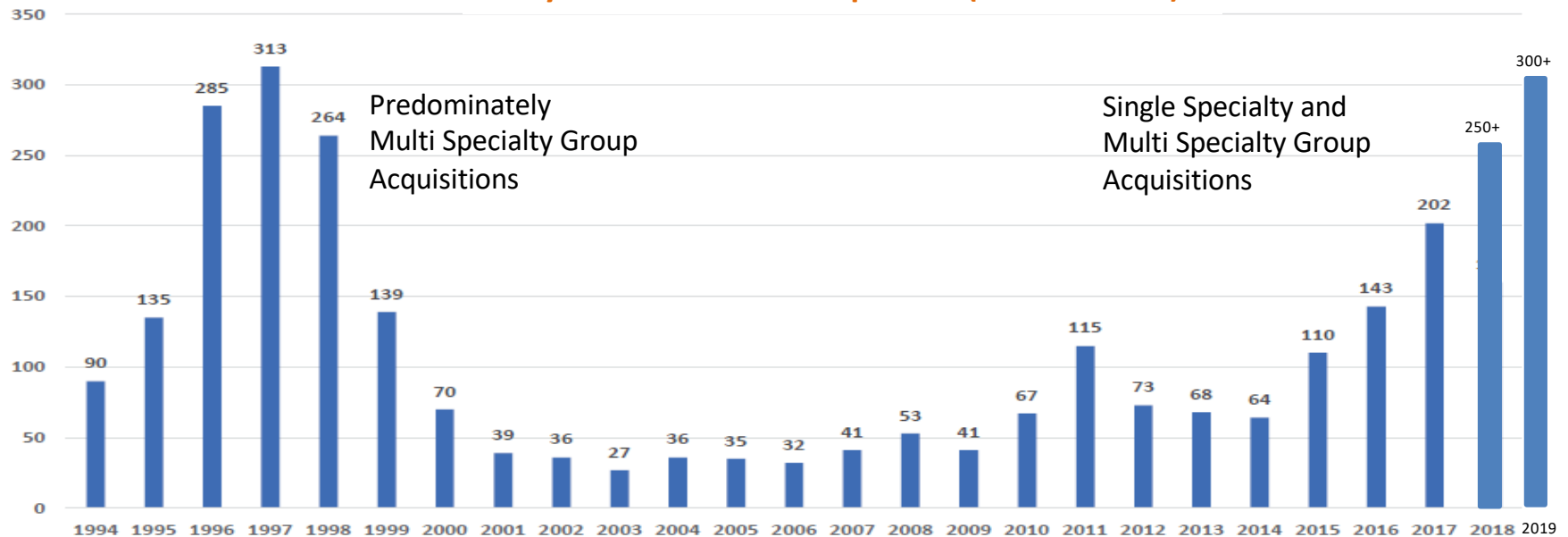
- Micro-Hospitals
- MOBs
- ASCs
- OBLs
- High Acuity Urgent Care Centers
- Retail Locations

Aggregator Strategies and Critical Mass Continue to Rule the Day

The Birth of “Unicorn” Physician Practice Management Companies- Case Studies

Volume of physician practice acquisitions has accelerated over the past three years

Physician Medical Group Deals (1994 to 2019)



Aggregator Strategies and Critical Mass Continue to Rule the Day

Private Equity to Publicly Traded Company Model

Envision/KKR Model

TopCo. = Envision/KKR

Value - \$5.5 Billion
Owner - KKR

**Health Plan(s)
+/-or CIN(s)
HoldCo.**

- Commercial – FFS
- Value Based Contracts
- Misc.

**Management Company
(MSO)
HoldCo.**

- Two Models
 - Distributive
 - Centralized
- Misc.

**Medical Group
& Network
HoldCo.**

- 25,000 Providers
- ED, Anesthesia, Other Specialties, etc.

**Real Estate
HoldCo.**

- Misc.

Aggregator Strategies and Critical Mass Continue to Rule the Day

Private Equity Model

Summit Medical
Group/CityMD

**TopCo. = Summit Medical
Group/City MD**

Value - \$3+ Billion
Owner – Warburg +
Physicians

**Health Plan(s)
+/-or CIN(s)
HoldCo.**

- Commercial
- Medicare Advantage
- MSSP
- Retail

**Management Company
(MSO)
HoldCo.**

- IT Platform
- Risk Contract Analytics
- Revenue Cycle Mgmt.
- Social Determinates of Health (SHOH)
- Wraparound Virtual Capabilities

**Medical Group
& Network
HoldCo.**

- 1200+ Summit Physicians
Employed
- CityMD Physicians Employed
and Part Time (100+ Locations)

**Real Estate
HoldCo.**

- Big Box, Medium Box,
Small Box
- MOBs
- ASCs
- High Acuity Urgent Care
Centers
- Retail Locations

Aggregator Strategies and Critical Mass Continue to Rule the Day

Publicly Traded Company Subsidiary Model

HealthCare Partners
/Optum Model

**TopCo. = HealthCare
Partners/Optum**

Value - \$4+ Billion
Owner – Optum/UHG

**Health Plan(s)
+/-or CIN(s)
HoldCo.**

- Medicare Advantage
- Medicaid
- Commercial
- ASO

**Management Company
(MSO)
HoldCo.**

- IT Platform
- Risk Contract Analytics
- Revenue Cycle Mgmt.

**Medical Group
& Network
HoldCo.**

- 40,000 + Employed PCPs/UHG
- 100,000+ Network MDs/UHG

**Real Estate
HoldCo.**

- Assorted Real Estate Assets

Aggregator Strategies and Critical Mass Continue to Rule the Day

OptumCare Acquisitions and Footprint



Source: <https://www.optumcare.com/about/about.html>

Old and New Transformational Trends Evolve

- New Directly Contracted “Value Based” Products
 - The CIN/Federated Model, ASO/MSSP, CMMI, etc.
- The Super Consumer/Member/Patient Experience
 - Virtual and Non-Virtual Components
- RNA and COVID19 Vaccines
 - A Strange Turn of Technologies from Cancer to Infectious Disease Driven by the COVID19 Pandemic

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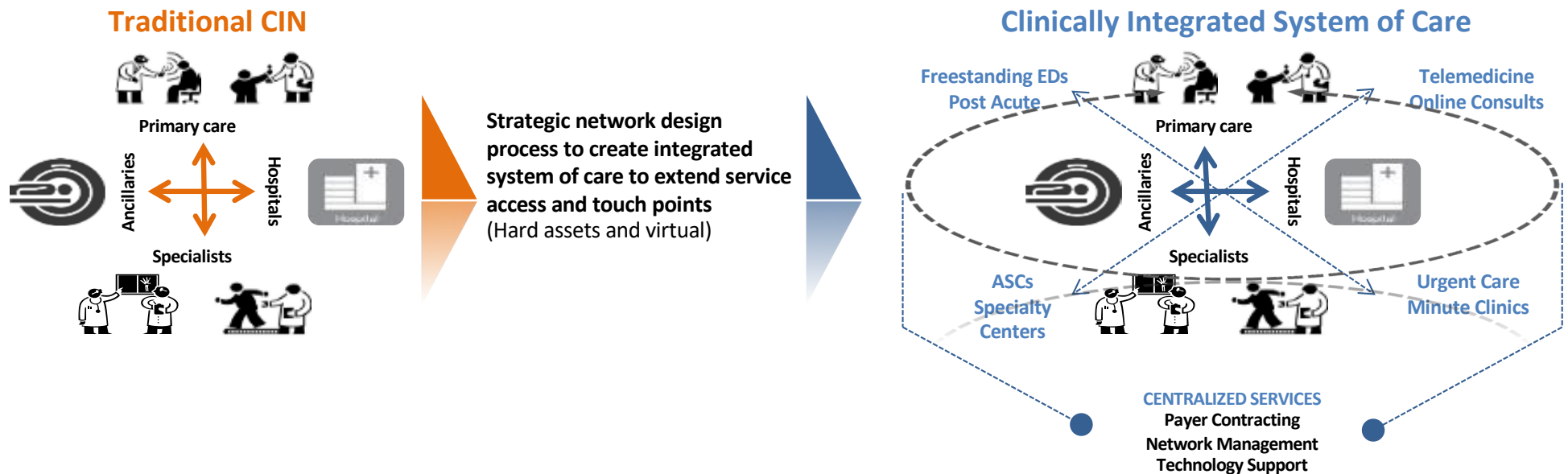
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New Directly Contracted “Value Based” Products

– CIN’s, Next Gen IPAs, ACOs/MSSPs, CMMI Direct Contracting, etc.

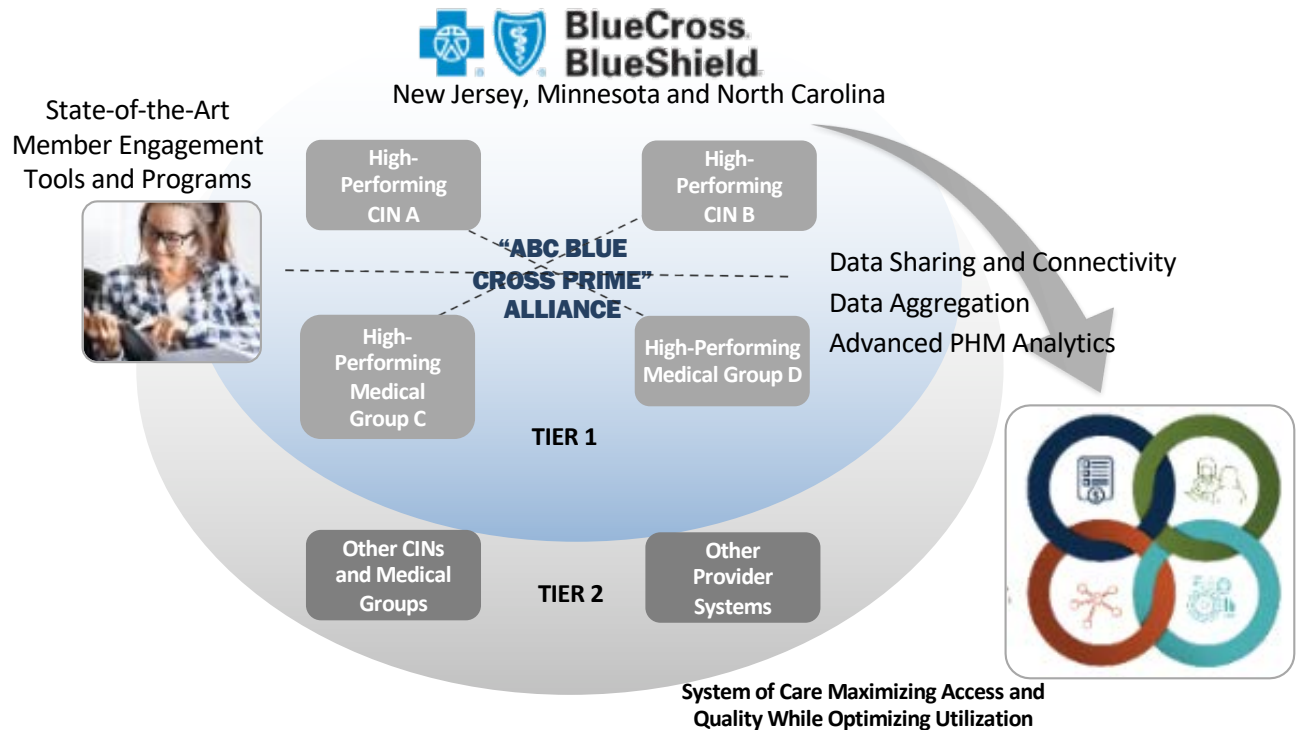
A clinically-integrated System of Care takes a more expansive view of care delivery, extending and integrating an array of member access points into network - United, Banner and Aetna already pursuing versions of this model

CLINICALLY INTEGRATED SYSTEM OF CARE OPTIMIZES AND INTEGRATES HEALTHCARE ACCESS POINTS ACROSS CONTINUUM



New Directly Contracted “Value Based” Products – CIN/Federated Model

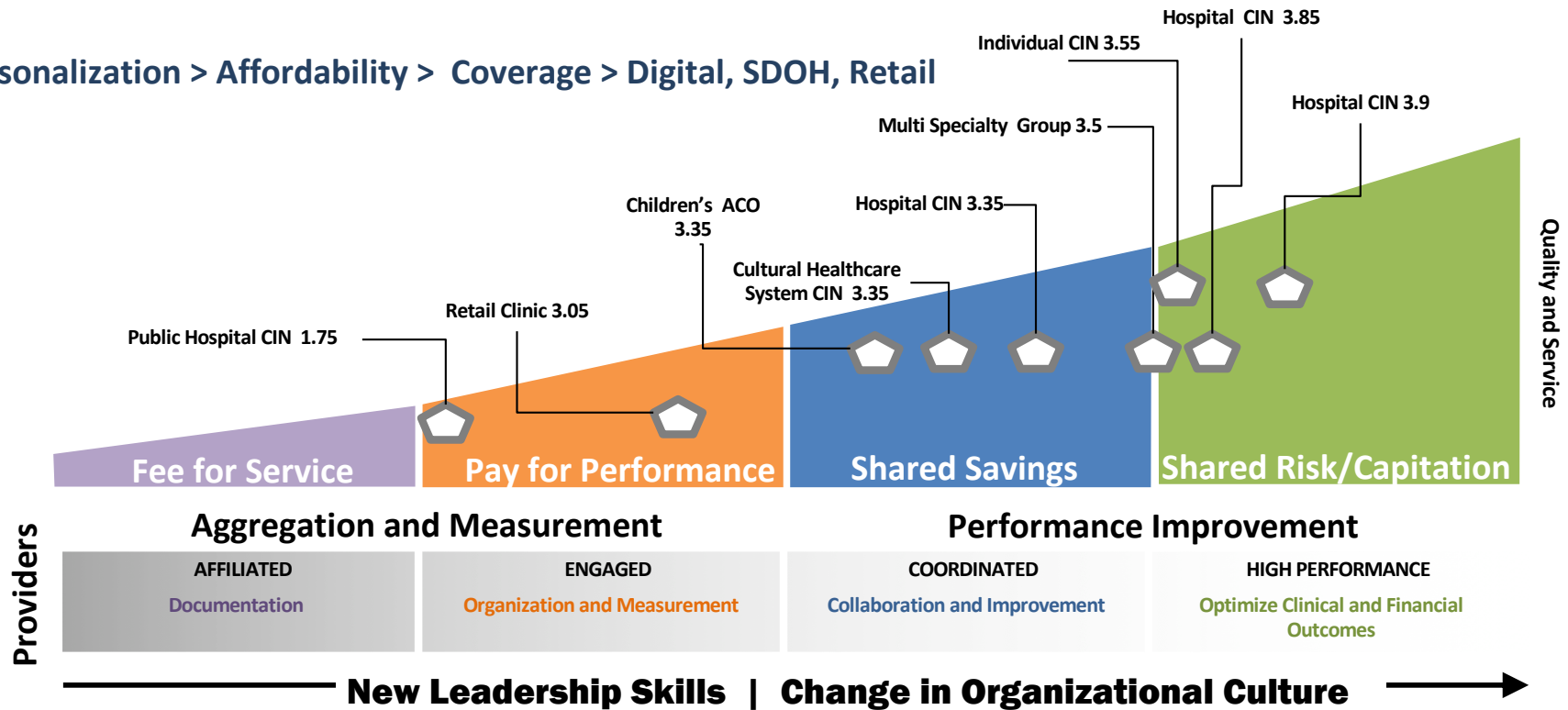
Multiple Blue Cross Plans including of New Jersey, Minnesota and North Carolina are developing aggressively priced commercial products that combine tiered physician networks (CINs, IPAs, etc.), provider incentives and a shared portfolio of member/provider engagement tools/programs to create an optimized customer/member/patient/provider experience with lower MLR and improved quality



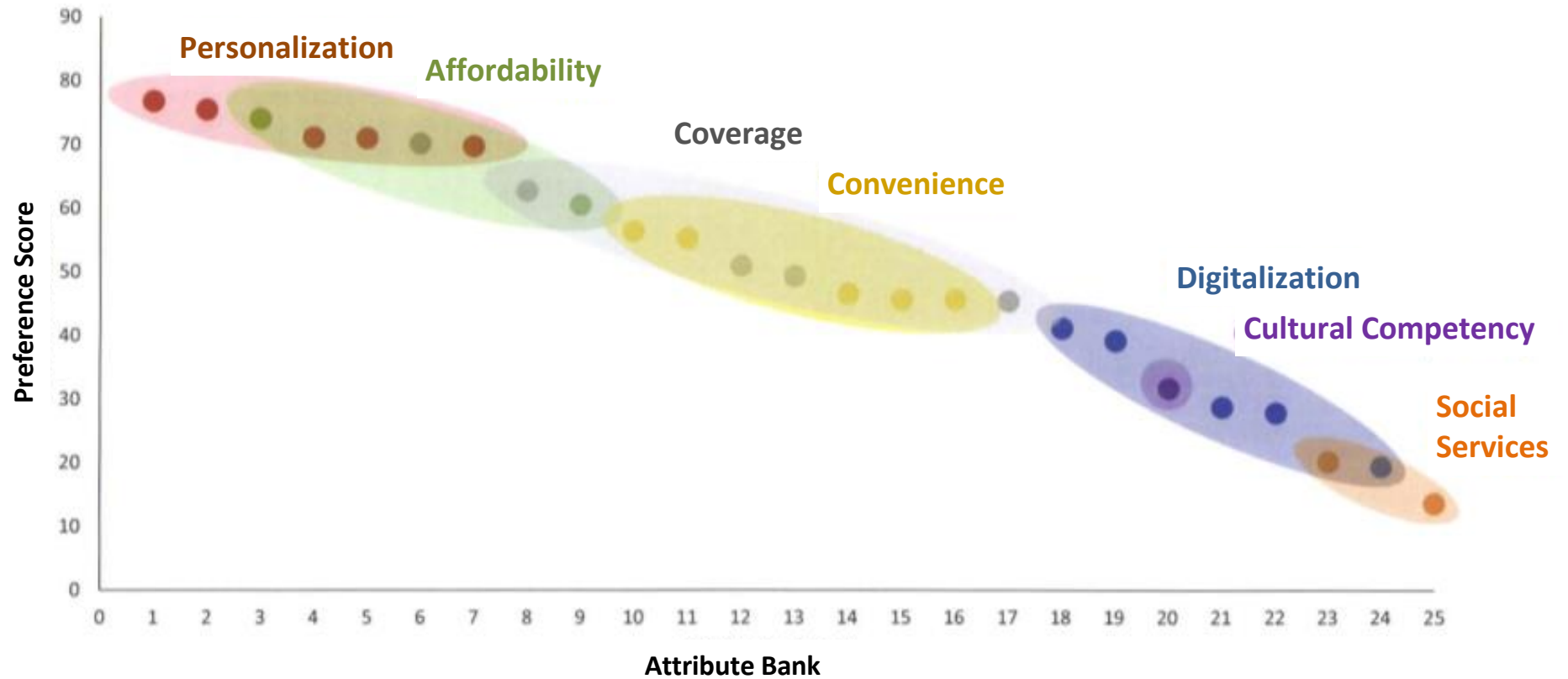
New Directly Contracted “Value Based” Products

Sampling of Assessed Provider Organizations for a Geographic Area

Personalization > Affordability > Coverage > Digital, SDOH, Retail



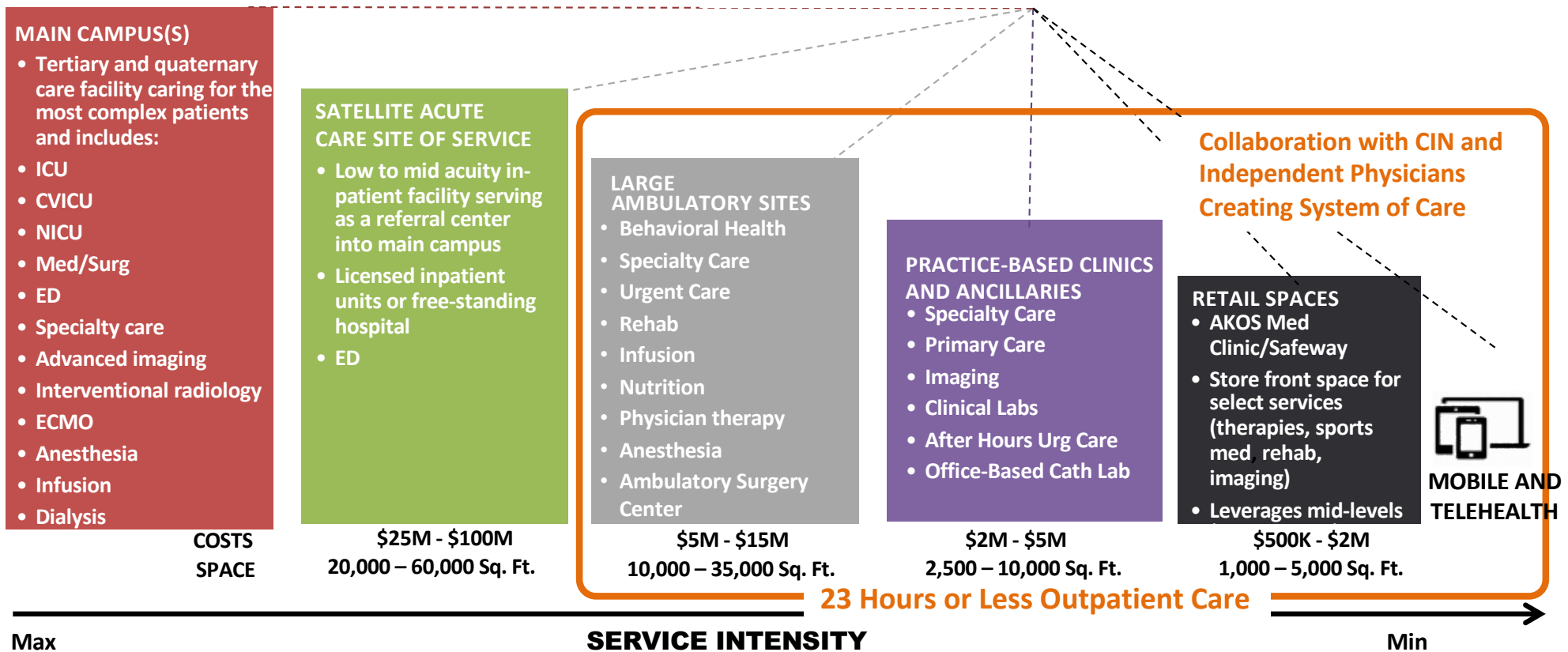
Super Consumer/Member/Patient Experience



Super Consumer/Member/Patient Experience

Combination of different digitally enhanced outpatient centers will reduce in-patient care

Right Care, Right Time, Right Cost/Facility



* - See Memorial Hermann example in presentation Appendix

The Super Consumer/Member/Patient Experience

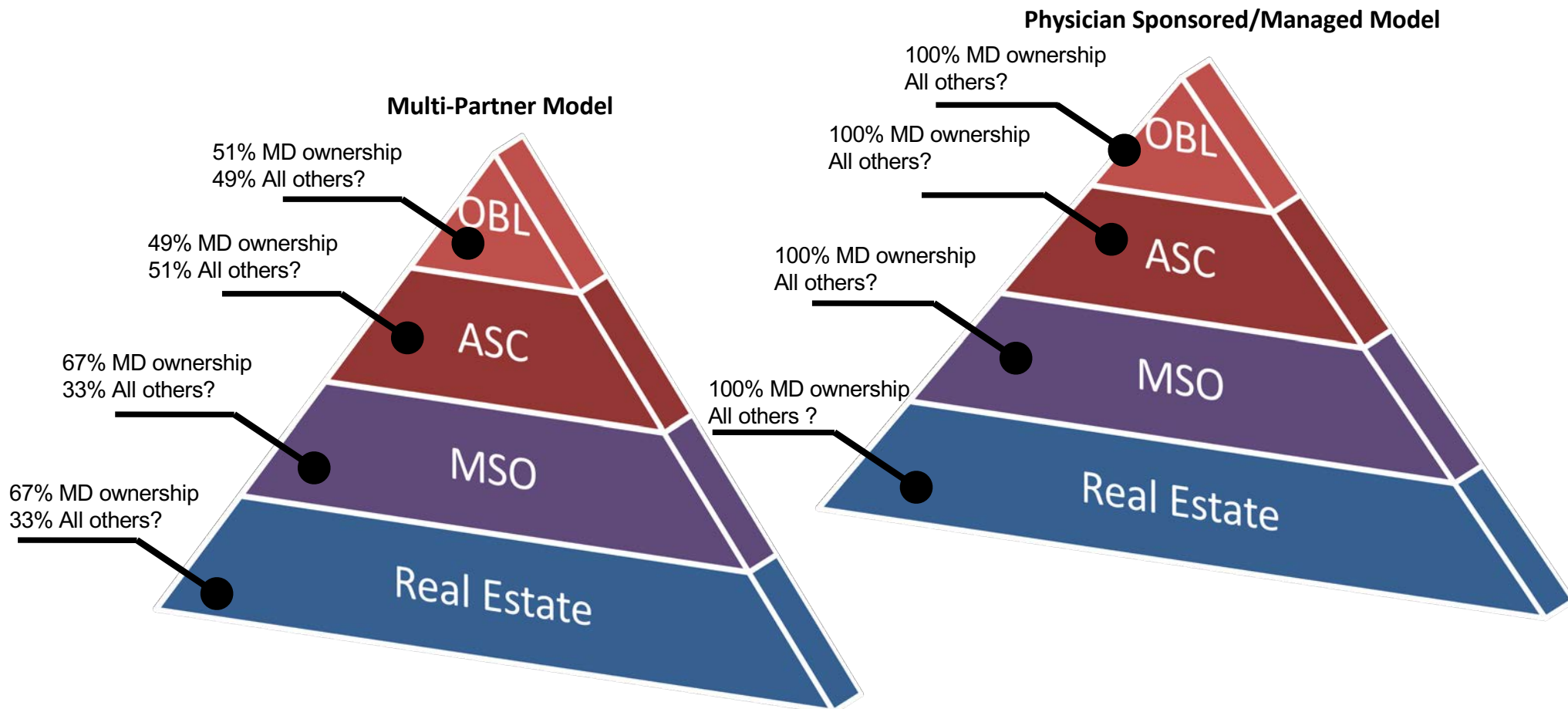
The Changing Ambulatory/Primary Care Front Door

Type of Care		Telehealth	At Home Complex Care	Retail Clinic	Primary Care ↔ Health	Behavioral Health	Employer 1°Care/ Workers Comp On-site Clinics	Urgent Care	Hybrid/ED Urgent Care	ED
		Rash, HTN, Diabetes, nonspecific back pain, wellness visit	CHF, Diabetes, High ED Utilizers	Bronchitis, Ear Infections, Sore throat	Wellness & Screening Rash, Non-allergy HTN, Diabetes	1° Mental Health Issues, Addiction, Hybrid Health Problems	Employee Primary Care & Workers Comp On-site Care	Injury, Sprain, Bronchitis URI, Ear Infections, Sinus, UTI, Open wounds	Chest pain, Fever, Shortness of breath, bleeding	Chest pain, Fever, Shortness of breath, bleeding
Expectation of Patient	Convenience	High	High	High	Med	High	High	High	High	Low
	Intensity Level	+ - +++	+++	+	+ - ++	+ - ++	+ - ++	++	++ - +++	+++
	Cost	\$ - \$\$	\$\$	\$	\$\$	\$\$	\$	\$\$	\$\$ - \$\$\$	\$\$\$\$

Grow: This is the Universal - Channel strategy matters in both the volume and value worlds. Channels drive growth and growth drives organizational investments and economies of scale. All organizations--- even those in predominately value-based payment environments--- need to grow – Home Health

The Super Consumer/Member/Patient Experience

– Multi-Partner Model & Physician Sponsored/Managed Model

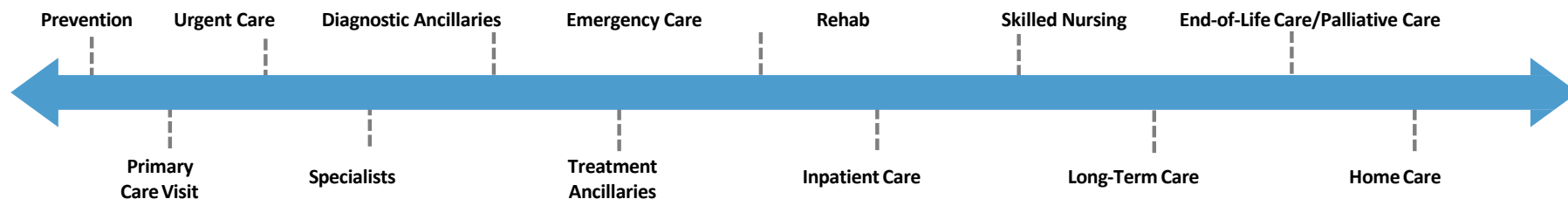


The Super Consumer/Member/Patient Experience

Digital Medicine enables unique virtual care solutions are transforming care delivery across different care settings in the healthcare ecosystem

Healthcare Reform and Cost Reduction	Chronic Disease Management	Increasing Patient Consumerism	Population Health Management
<ul style="list-style-type: none"> ▪ Shift in payment models toward rewarding quality of care; risk sharing entities ▪ Providers incentivized to minimize costs while maintaining the highest quality of care ▪ Virtual Health a “Force Multiplier” for risk-bearing providers to manage at-risk population 	<ul style="list-style-type: none"> ▪ Efficient management of chronic patient’s health status and driving medical adherence ▪ Minimizing utilization of higher cost resources ▪ At-risk patients can receive more frequent, lower cost interventions and preventive care to improve outcomes 	<ul style="list-style-type: none"> ▪ Growing direct to consumer models address consumer demand for greater control and convenience of healthcare across the care continuum ▪ Virtual Health delivers convenient, quality care on demand ▪ Consumers more cost conscience as they utilize more healthcare services 	<ul style="list-style-type: none"> ▪ Expanded access to care for patient populations with limited access to the traditional healthcare system ▪ Improved care coordination, workflow, and patient journey ▪ Telehealth leverages provider resources more efficiently to improve outcomes

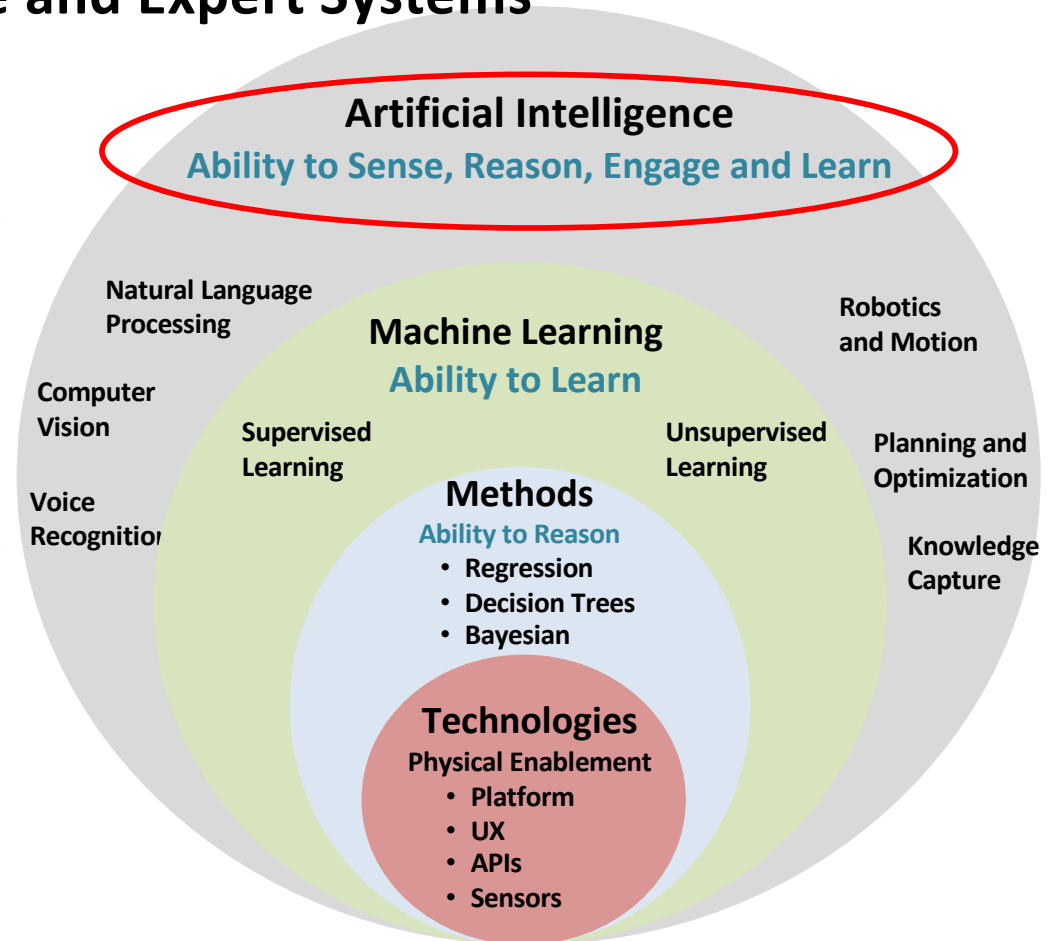
Offering the Best Care Throughout a Patient’s Journey



The Super Consumer/Member/Patient Experience – Advanced Artificial Intelligence and Expert Systems



What is Artificial Intelligence?



Source: James Bates, AdviNow

The Super Consumer/Member/Patient Experience

– Digital Health / Telehealth / Telemedicine / Tele-Monitoring

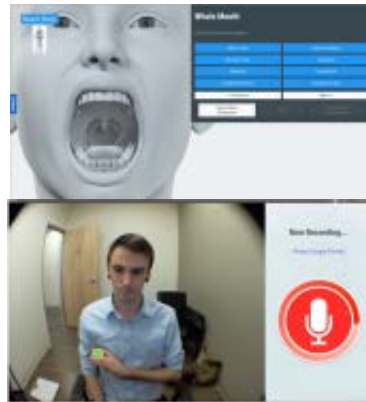
AI Enabled Virtual Clinic



- Phone/ Medical Station
- ID/Insurance Card Scan, OCR
- Facial Recognition
- AI dynamic Q/A
- Care Coordination

2 Minutes

AI-Driven Exam



- Chief Complaint Collected
- AI Completes Q&A
- AR Guided Medical Measurement
- Otoscope, Stethoscope, Blood Pressure, Thermometer, Pulse Oximeter, Scale
- AI Engagement until Diagnosis

10 Minutes

Curated Working Diagnosis



- Diagnosis Probability & Justification
- Images, Sounds, Measurements
- AI Suggested Treatment Options
- AI Charts Patient

1 Minute

Optimized Provider Consult



- Provider Verifies AI Collected Data
- Diagnosis & Treatment Confirmation
- AI Scribes EHR SOAP Notes
- AI Scribes Discharge Notes
- AI Orders Script, Lab, Images Ordered
- AI Completes Chart for Billing

2 Minutes

The Super Consumer/Member/Patient Experience

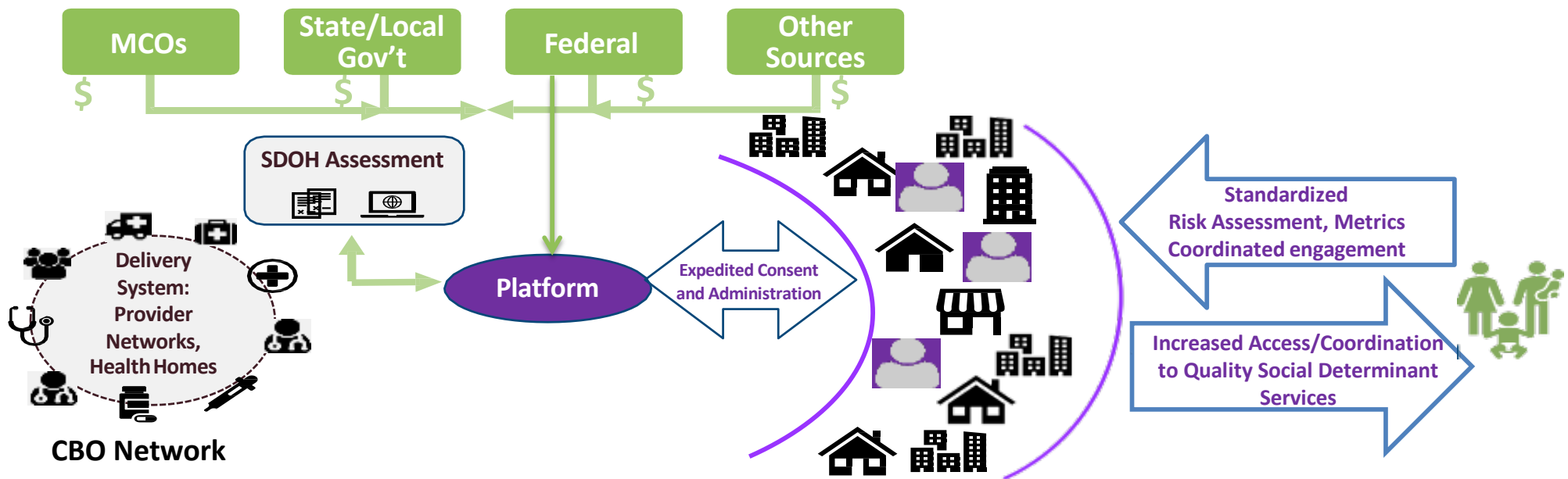
Equality Health – “Culturally Focused” Programs Excellence – Case Study

- Equality Health is the nation's first integrated healthcare delivery system focused solely on improving care delivery for the underserved through the lens of their own culture
- Equality helps managed care organizations improve health outcomes transition to value-based care and better engage their most vulnerable members through culturally-relevant care
- Equality Health initially focused on the Hispanic/Latino community in Arizona. with plans for southwest expansion



The Super Consumer/Member/Patient Experience

– Social Determinants of Health (SDOH) Care Guide/Data Base *



*Adapted from multiple SDOH sources including Equality Health

The Super Consumer/Member/Patient Experience

Mayo Clinic Destination Medical Center – Minnesota, Arizona and Florida Campuses, National Medical School, Common Platforms, Innovation Centers, etc.



- Mayo Clinic is embarking upon a \$5.6 billion Destination Medical Center (DMC) project within the research and technology center of Discovery Square in Rochester, construction expected this next year. The DMC is slated to be a 10-20 year build-out project aimed at turning Rochester into America's healthcare capital. Given the initial receptivity of the Rochester initiative additional resources and focus are being directed to the Mayo Scottsdale and Florida Campuses.

- The Mayo Clinic DMC will be facilitated by the Rochester Area Foundation, Mortenson Co. in construction, and HCDG/SSB in leading Mayo's expressed focus in accessing **New Markets Tax Credit** financing. Because of the long-term, expansive nature in developing the DMC and attentive projects in the Discovery Square area, HCDG/SSB envisions this effort as running for many years with the opportunities for better than a decade's worth NMTC, state tax credits, opportunity zones and related transactions. The following graphic is a rendition of the overall project area in Rochester, MN.

COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

In 1992, The First Report of Gene/Nucleic Acid/DNA
Vaccination Offered to Revolutionize Vaccines

nature

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nature > letters > article

Published: 12 March 1992

Genetic immunization is a simple method for eliciting an immune response

De-chu Tang, Michael DeVit & Stephen A. Johnston

Nature 356, 152–154(1992) | Cite this article

443 Accesses | 1198 Citations | 12 Altmetric | Metrics

Abstract

To produce an immune reaction against a foreign protein usually requires purification of that protein, which is then injected into an animal. The isolation of enough pure protein is time-consuming and sometimes difficult. Here we report that such a response can also be elicited by introducing the gene encoding a protein directly into the skin of mice. This is achieved using a

- Introduction of a plasmid encoding a foreign Protein creates an immune response
- Vaccines would be simple and inexpensive
- Their production would be standardized
- New vaccines could be developed very quickly
- No cold chain required
- Gene Vaccines Were IDEAL

COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

But Gene Vaccines Encountered the "Simian Barrier"

They Work Great in Any Animal



West Nile Virus Vaccine



Melanoma Cancer Vaccine

Except Humans and Monkeys. 100s of Clinical Trials, NO Success

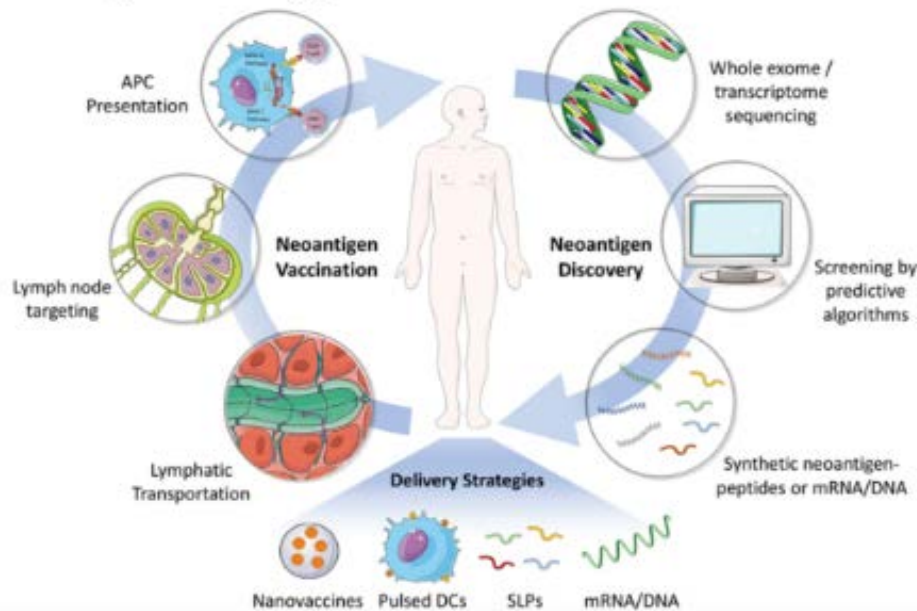
COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

Solution: Skip the DNA, Go Straight to RNA

Personal Cancer Vaccines Strategy of Moderna/BioNtech

neoantigenvaccines.jpg



Faced with Needing to Make Vaccines for Each Person Fast Moderna/BioNtech Developed Technologies to Quickly Scale RNA Production

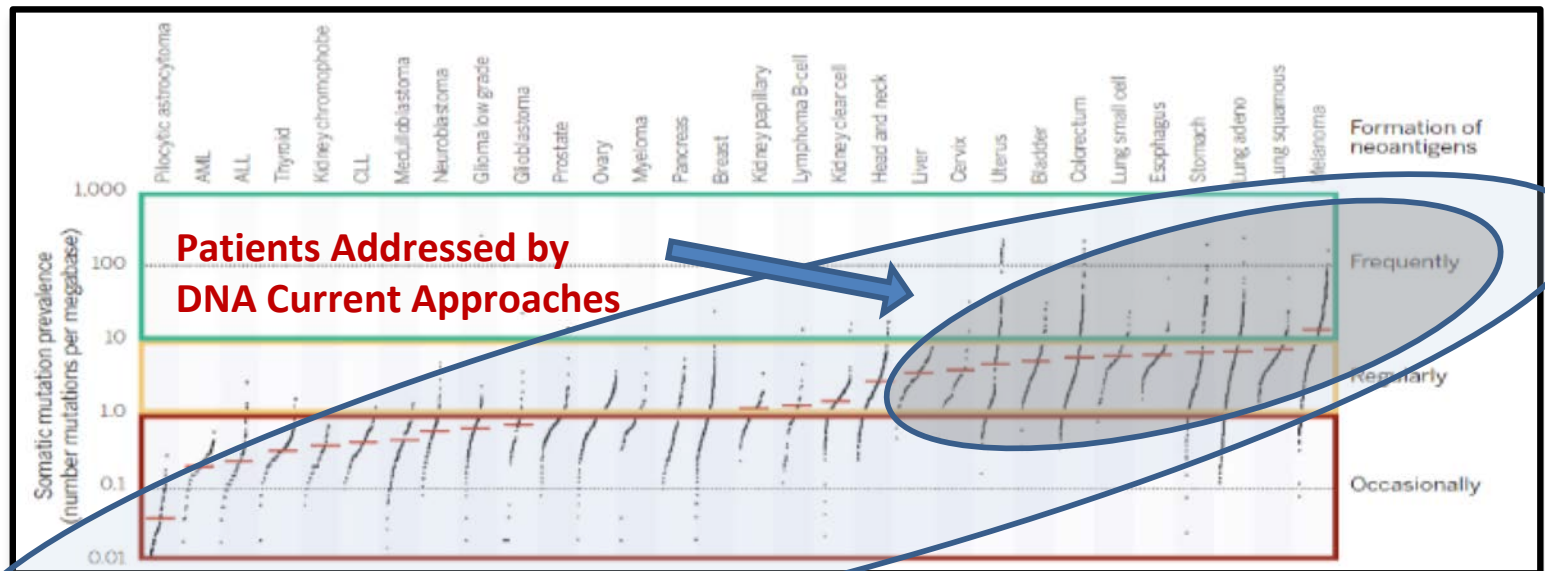
COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

RNA Neo-epitopes Drive New Cancer Diagnosis and Treatment Models

Production of Personalized Cancer Vaccines for “Hot and Cold Cancers”

RNA Neo-epitope Approach Could Address All Patients



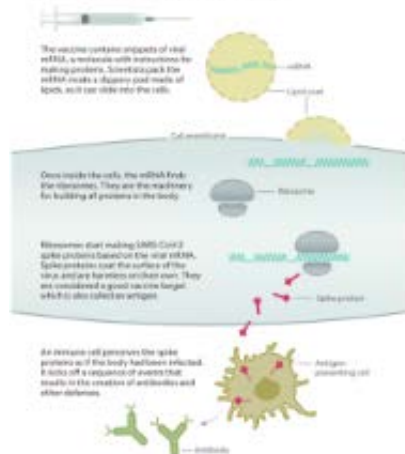
COVID19 Vaccines – A Strange Turn of Technologies From Cancer to Infectious Disease

COVID19 Strikes: Project Warp Speed for Vaccine

Two Leading COVID19 Vaccines are RNA-based From Cancer Vaccine Companies

The promise of mRNA vaccines is changing how we think about COVID-19 immunization.

The most traditional methods of vaccine development introduce the body to either an inactivated or weakened form of a virus or to one of its viral proteins. The immune system responds by producing antibodies that recognize particular proteins of the virus. Those antibodies could fight future infections as long as the virus doesn't evolve. mRNA vaccines take a novel approach that has never been licensed for human use. Their development is faster as it bypasses the more laborious tasks of inactivating viruses or isolating proteins.



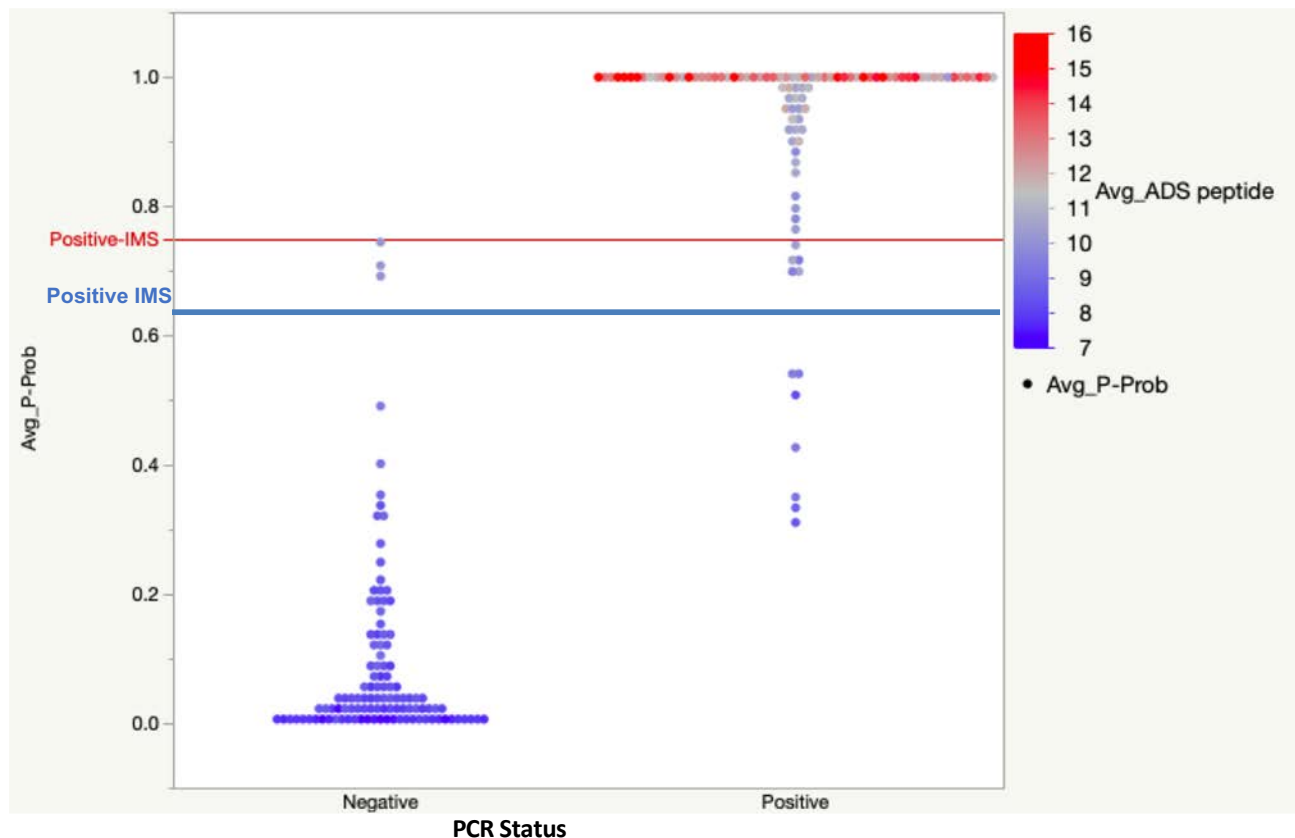
Pfizer, BioNTech start their COVID-19 vax phase 3

Moderna Announces Phase 3 COVE Study of mRNA Vaccine Against COVID-19 (mRNA-1273) Begins

COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

COVID19 Vaccines IMS is Quantitative But Can Be Designed as a Cut-Off Test for COVID Positive vs. Negative (like an ELISA)



Advantages of IMS COVID Diagnostic

- 30x more sensitive
- Can Detect Infection Early
- Distinguish Disease Severity
- Tell Good/Bad Vaccine Response

*Emergency Use
Application (EUA) filing
with FDA 9/21/20*

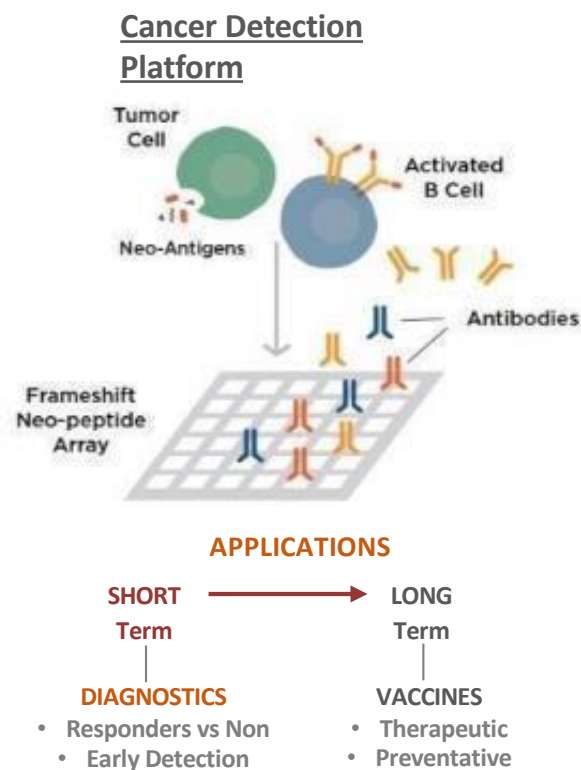
COVID19 Vaccines

– A Strange Turn of Technologies From Cancer to Infectious Disease

RNA Frameshift Errors Enables Development of New Diagnostics and Vaccines Effective Against Cancer

Approach

- Tumor cells release frameshift peptides, which are neoantigens to a patient's immune system; B cells produce antibodies specific to the neoantigen
- CALVIRI produces microarrays with all possible RNA-error generated frameshift peptides, and a small sample of patient blood is applied
- Peptide/antibody binding profiles associated with a cancer serve as a diagnostic; bound peptides serve as compositions for both therapeutic and preventative cancer vaccines



Conclusions, Critical Takeaways and Relevance – 2021/2022

OCTOBER 2020

2020 – The Constantly Evolving Future of Healthcare

Conclusions, Critical Takeaways and Relevance – 2021/2022



FAANG+M Creating Multi-Layered Direct/ Indirect Effects in Healthcare

- FAANG + M – Facebook, Apple, Amazon, Netflix, Google + Microsoft with 25%+ of the S&P Value pushing aggressively into healthcare and healthcare adjacencies– delivery, insurance, distribution, pharma, device, platform development, etc.

TopCo. / HoldCo.

Aggregators of All Types Making Inroads

- Physician “Unicorns” – Summit/CityMD, Envision, and DaVita Are the First Private/Then Sometimes Publicly held \$ 3 Billion+ non-Mayo Clinic, non-Cleveland Clinic, PPM entities with Regional/National Impact. Optum/ Private Equity Organizations actively purchasing PCP practices driving up prices repeatedly over the billion dollar mark.



Digital Health / Telehealth /Telemedicine/ Tele monitoring + Development of Adaptive Artificial Intelligence

- “Tele Everything” plus Adaptive artificial intelligence and expert systems to enhance and support high performing, population-specific clinically integrated health plans/delivery systems. Early adopters already in the market largely for administrative function simplification – registration, eligibility, payment, etc.

Conclusions, Critical Takeaways and Relevance – 2021/2022



Development of Directly Contracted “Value Based” Products – The “Federated” Model, CINs, ACOs, CMMI

- Value Based Health Plans –BCBS Prime Products, UnitedHealthcare NexusACO, AetnaCVS Whole Health Branded Products, etc. will drive an increasingly “Federated Approach” to Value Based Contracting with Providers on a continuum of reimbursement structures ranging from “Shared Savings Upside/Downside Models” to “Percent of Premium/Capitation Models”



Super Consumer/ Member/ Patient Experience with Multiple “Front door” and Destination Enhancements

- The Super Consumer /Member/ Patient Experience will be altered by Facilities, Digital Technology Wraparounds, and Virtual Complex Care.
- Destination Medical Centers similar to Mayo – Rochester, Scottsdale and Florida development plans will become common with Medical Center, Medical School and Community Expenditures exceeding \$ 10+ Billion over the next 10 years at certain institutions alone.



Next Generation mRNA COVID19 and Cancer Therapies

- mRNA frame shift array technology will accelerate COVID19 Vaccine Development but the real benefit will be early Dx, Treatment, and Vaccines for multiple cancers not anticipated using legacy DNA tools. First, Prophylactic Cancer Vaccine results will be in Dog Trials 2021.

Conclusions, Critical Takeaways and Relevance – 2021/2022

1. Post COVID19 pandemic changes in the US Economy will be profound and upset industries that may take a decade return to pre COVID19 levels.
2. The Post COVID19 Healthcare Economic impact will be widespread at multiple patient, provider and payor levels and while appreciated today in immediate impact areas, chronic long term population effects/“Long Haulers” are largely unknown and underappreciated.
3. The “Law of Unexpected Consequences” is already in full swing regarding the economy, the corona virus out break, and the peripheral ramifications.
4. Unexpected Consequences can set the stage for unexpected acceleration of positive clinical developments (e.g., Telehealth, mRNA Dx, Rx and Vaccines, etc.).



For a longer version of this presentation please
contact us at spearce@ssbmail.com



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Phone: (480) 427-3943 ■ www.ssbsolutions.com

Overview of SSB Clients and Services

CLIENT CATEGORIES



Academic Medical Centers/ Teaching Hospitals/Health Systems Health Systems

- AAMC
- Regional non-profit systems
- For-profit hospital systems
- Community hospitals (urban/rural)



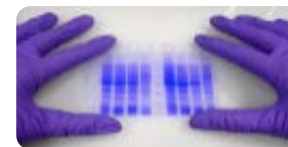
Physician Organizations

- Large groups
- Intermediate-sized groups
- National associations



Health Plans

- Commercial
- Medicare
- ERISA plans
- Healthcare exchanges



Healthcare Suppliers

- Healthcare IT
- Pharma/Biotech
- Medical Devices

SSB SOLUTIONS

STRATEGIC ADVISORY SERVICES

Clinical Integration Planning and Implementation

- ACOs, CIOs and Specialty CIOs
- Population health management
- Care management and clinical quality
- Shared savings and bundled payment Initiatives
- Governance and management
- Physician communications

Market-Driven Physician Alignment

- Physician employment
- Service line Co-management
- Specialty institutes and Centers of Excellence
- Professional services agreements

Payer Strategies and Contracting

- Transitioning to value-based reimbursement
- Risk analysis
- Performance assessment
- Network development

Strategic Partnering and Collaboration

- Introductions and assessment of strategic fit
- Due diligence
- Integration planning
- Leadership recruiting
- Post-integration advisory services

SSB 2021 Umbrella

SSB

SSB Solutions, Inc.

- Payers
- Providers
- Pharmaceutical Companies
- Device Companies
- Biologics/Cancer Vaccines
- Large ERISA Employers
- VA, DOD, NSA
- Healthcare IT Companies /Platforms
- Block Chain Healthcare Applications

SSB Equity Investments/Governance Participation

- Partners in Care*
- Humana*
- MedCath*
- Hospira*
- MyHealthDirect*
- NeuLife Rehab*
- TopCo/Summit Medical Group
- GlobalMed
- Calviri
- AKOS
- Equality Health
- Universal Health Coin/Exchange
- Paraffin International
- Trill Project/Logical Non-Sense**
- Women Centered**

SSB Financial Services/HCDG

- NMTCs/CDE
 - Phoenix Children's Hospital
 - Martin Luther King Medical Center
 - Critical Access Hospital – Cuyuna
 - Mayo Clinic – Destination Medical Center
 - Rochester Area Foundation

SSB Governmental Services

- Veterans Accountable Care Group (VACG)
- Intrepid Clinical Care

*Liquidated
 **AIKS/MRK Holdings

Appendix

OCTOBER 2020

2020 – The Constantly Evolving Future of Healthcare

2020 – “Digital Darwinism” and The Evolution of Healthcare – Relevance

Health/Healthcare “Digital Darwinism” – Drivers of Precision & Digital Medicine

- “A theory that inherent dynamic forces, unique to the study of Health/Healthcare, have a higher vulnerability than more quantitative, data intensive disciplines. Thus rendering the interface between Descriptive Analytics, Diagnostic Analytics, Predictive Analytics and Prescriptive Analytics more complex requiring greatly expanded interdisciplinary approaches.”

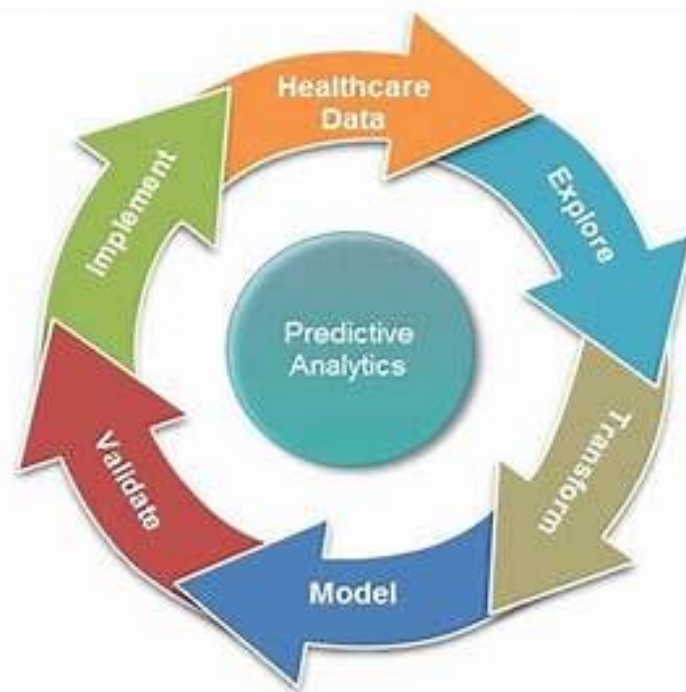
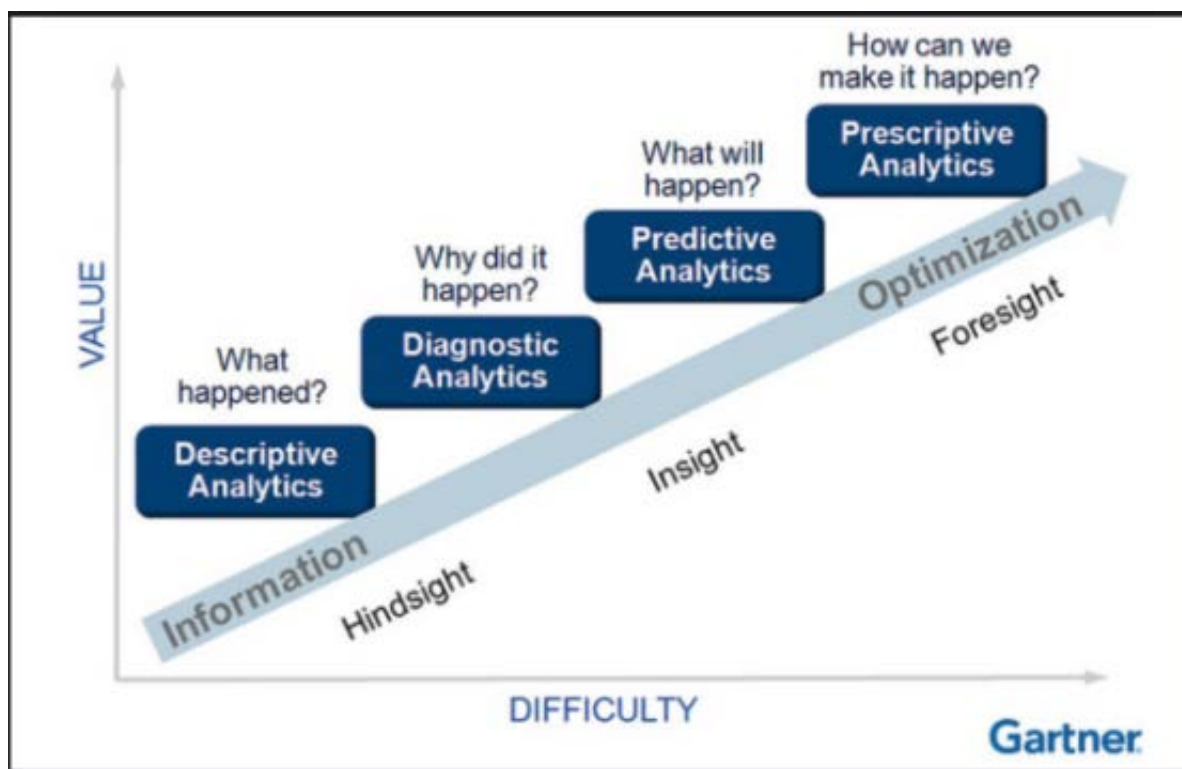
– Adapted from Multiple Sources by
Jacque J. Sokolov, MD

Virtually every evolutionary, transformational, disruptive, and revolutionary healthcare trend has its’ roots in interdisciplinary digital and non-digital interface relationships. The Organizations that understand those relationships before others will benefit from “Digital Darwinism.”

Digital Platform Evolution

Health Plan Facing MSOs and Delivery Systems Facing MSOs (e.g. SDOH)

Types of Data Analytics in Healthcare



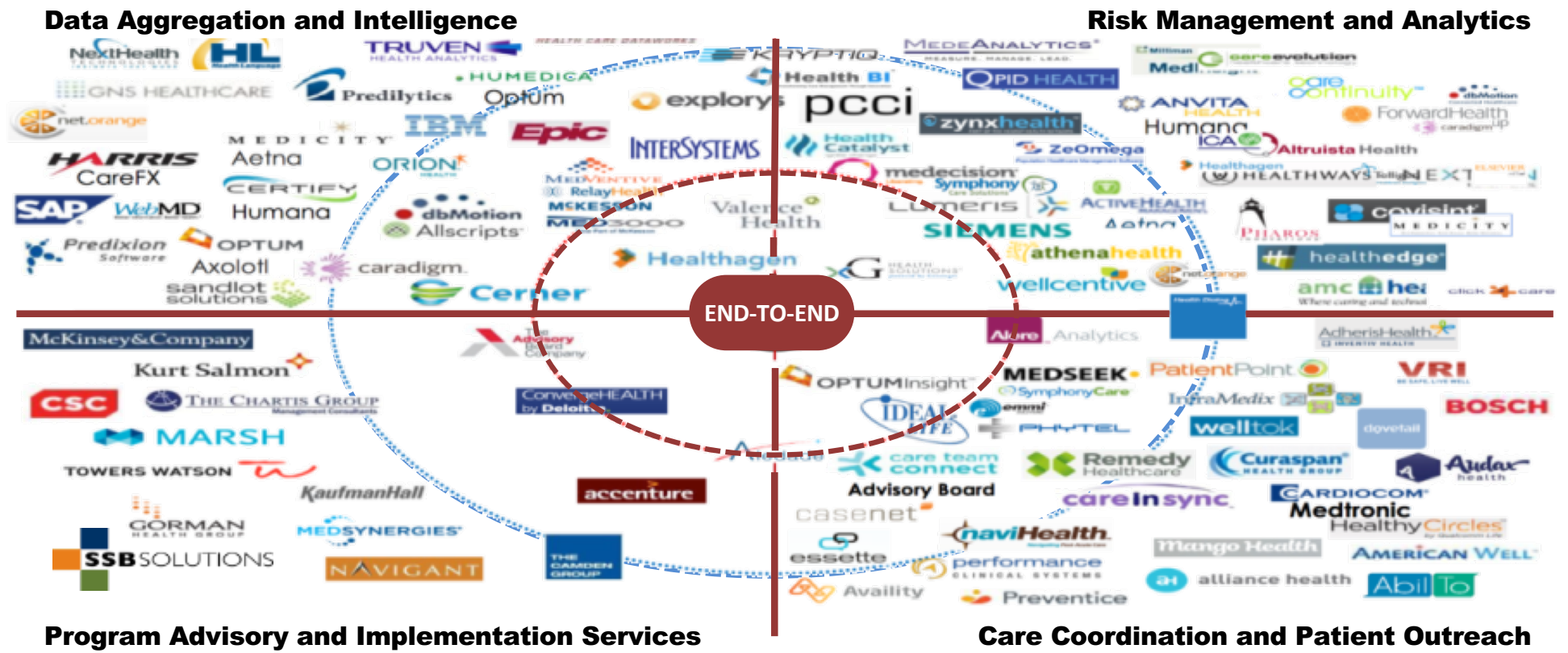
Maturing Transformative Healthcare Trend Continue

- Disruption in the “Healthcare Food Chain” and Its Consequences



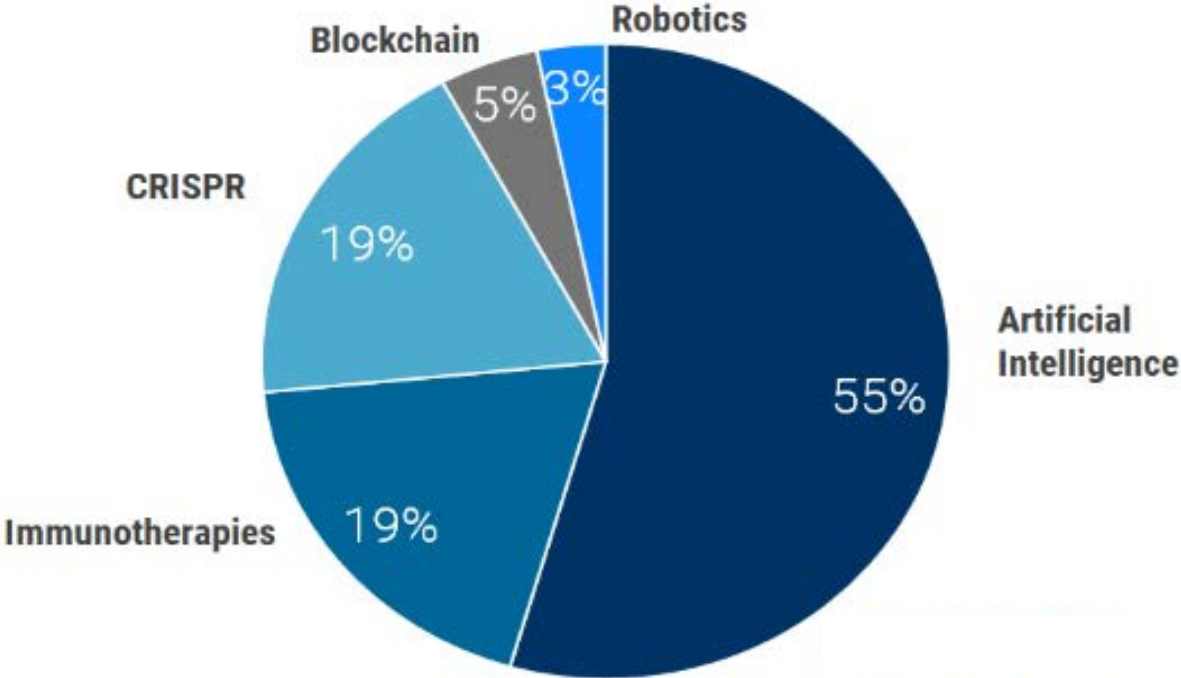
Disruption in the “Healthcare Food Chain” and Its Consequences

– The Community Pool in 2018



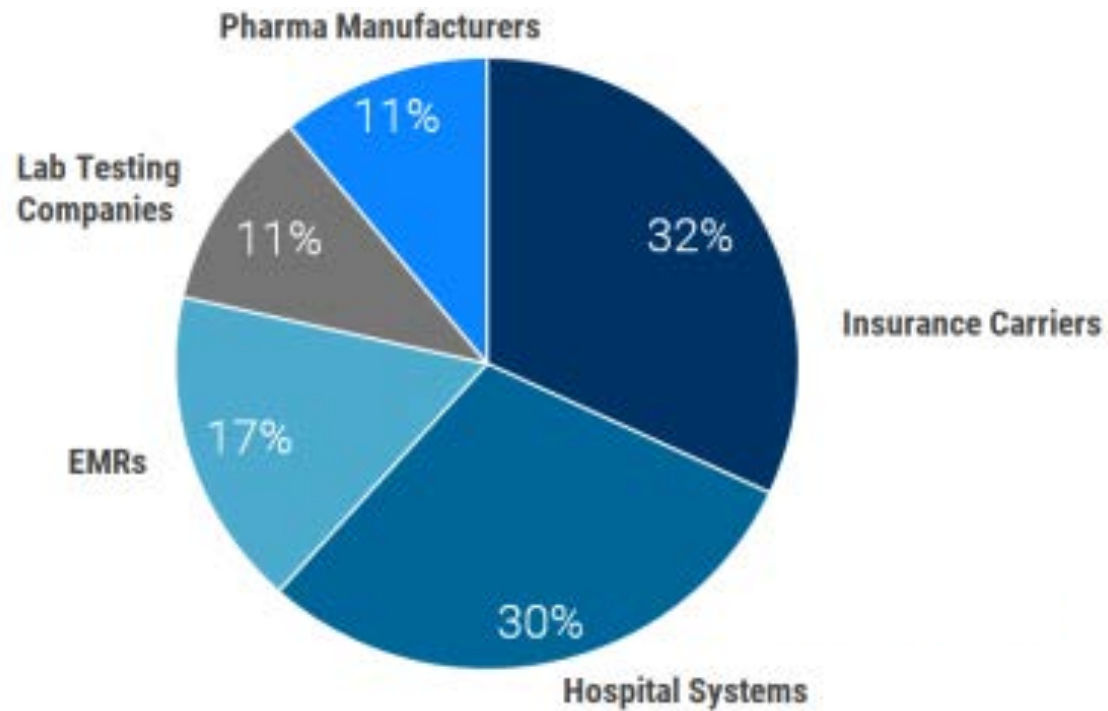
Source: Curating the Best of Digital and Population Health, Dr. Gordon Jones
http://www.slideshare.net/elcid84/phmslideshare2014?qid=331b8a6e-df33-4f6b-8bbf-ee7bc139c465&v=default&b=&from_search=3

Which of the Following Technologies Will Have the Most Impact of Healthcare?



Source: Healthcare Insights by CBInsights

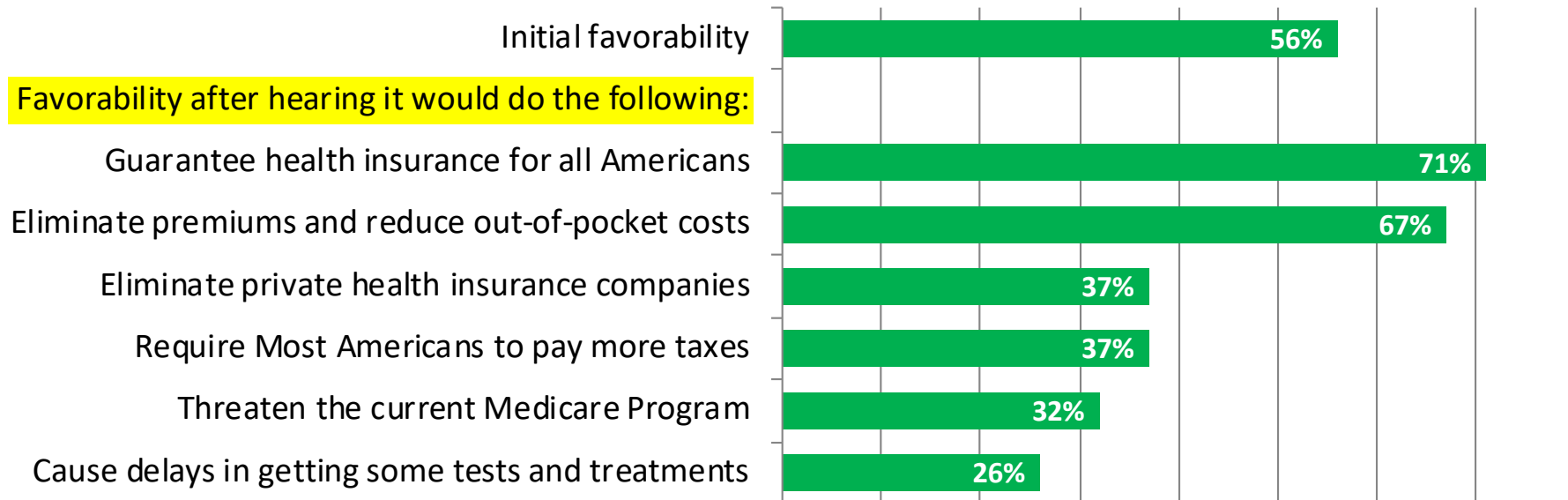
Which of the Following are Most At-Risk for Disruption?



Source: Healthcare Insights by CBInsights

“Medicare for All” – No One Has a Common Definition or Common Understanding

“Medicare for All” Favorability Given Possible Impacts*
Survey of U. S. Adults



Source: Healthcare Insights by CBInsights – *625 Adults surveyed

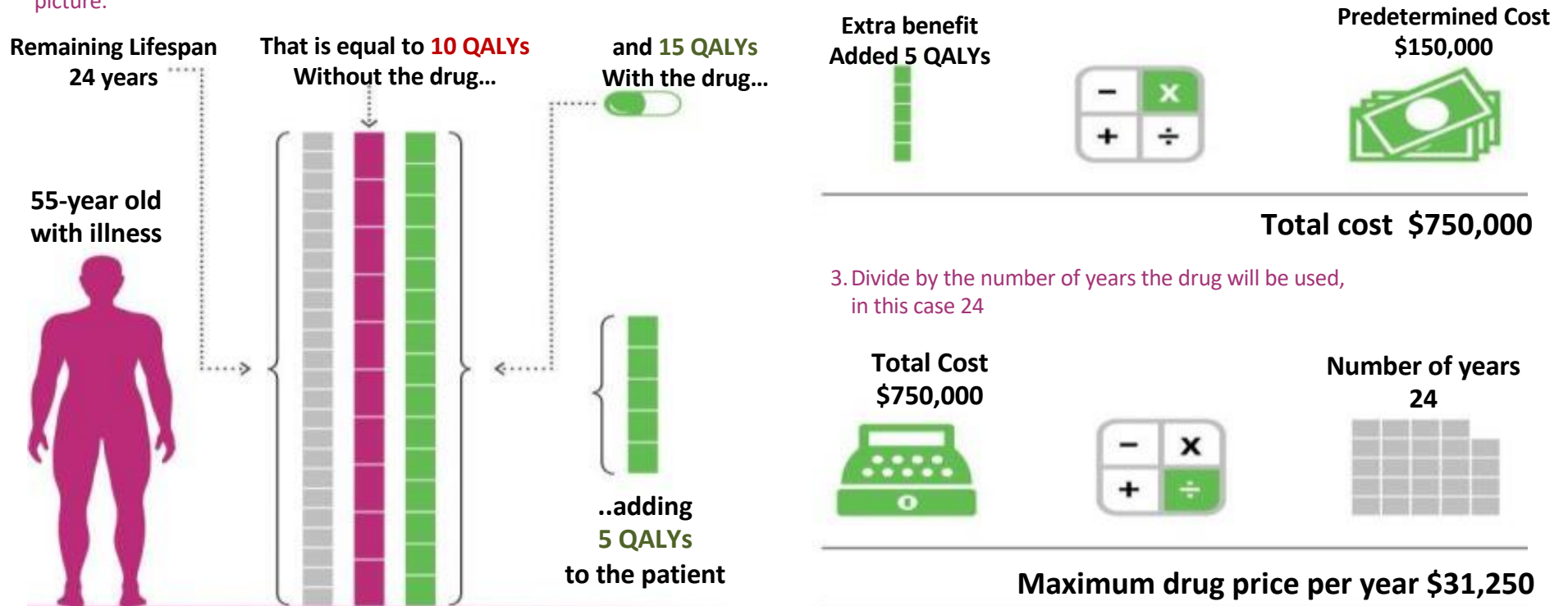
Quality Adjusted Life Year (QALY)

How to Price a Drug Methodology/Rational

Economists have for decades used a unit called a QALY (quality-adjusted life year) to determine the fair price of a drug. One QALY equals one year in perfect health. Here's how it works:

1. Take a 55-year-old with an illness, who would be expected to live another 24 years. The health problems would reduce his QALYs to less than 24, but a drug would improve the picture.

2. Multiply those extra QALYs by \$150,000, a predetermined cost per QALY's by \$150,000, a predetermined cost per QALY.

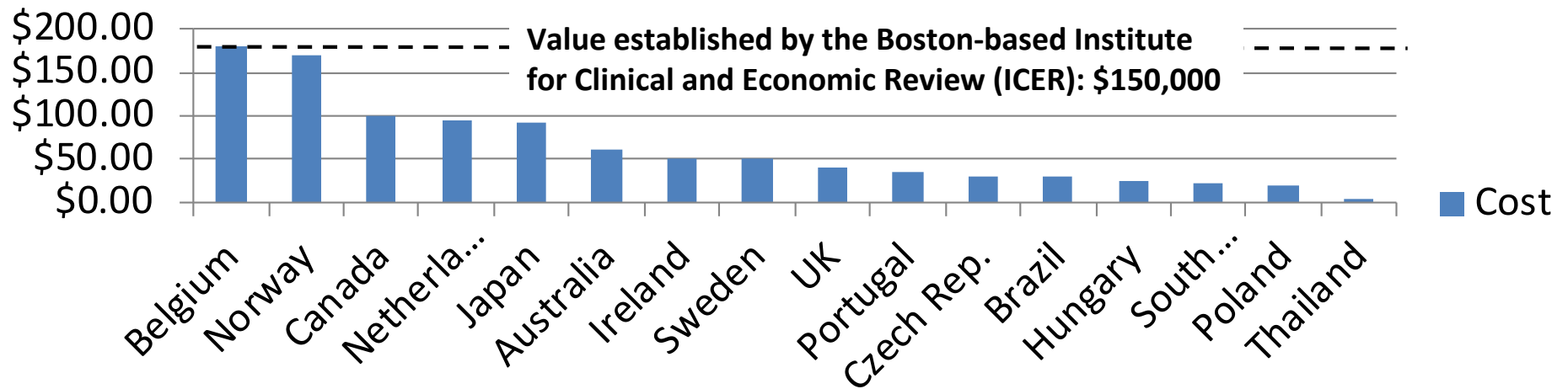


Source: The Wall Street Journal Nov. 5, 2019 Note: Figures are for a simplified, hypothetical example. Sources: WSJ analysis; Karl Claxton, Centre for Health Economics, University of York

Obscure Model Puts a Price on Good Health—and Drives Down Drug Costs

Concept called QALY places dollar value on the health medicines can restore; 'starting to influence decision-making'

Countries that use QALY thresholds assign widely different values for a year of healthy life.



Source: The Wall Street Journal : Obscure Model Puts a Price on Good health - Nov. 5, 2019

Maturing Transformative Healthcare Trend Evolve

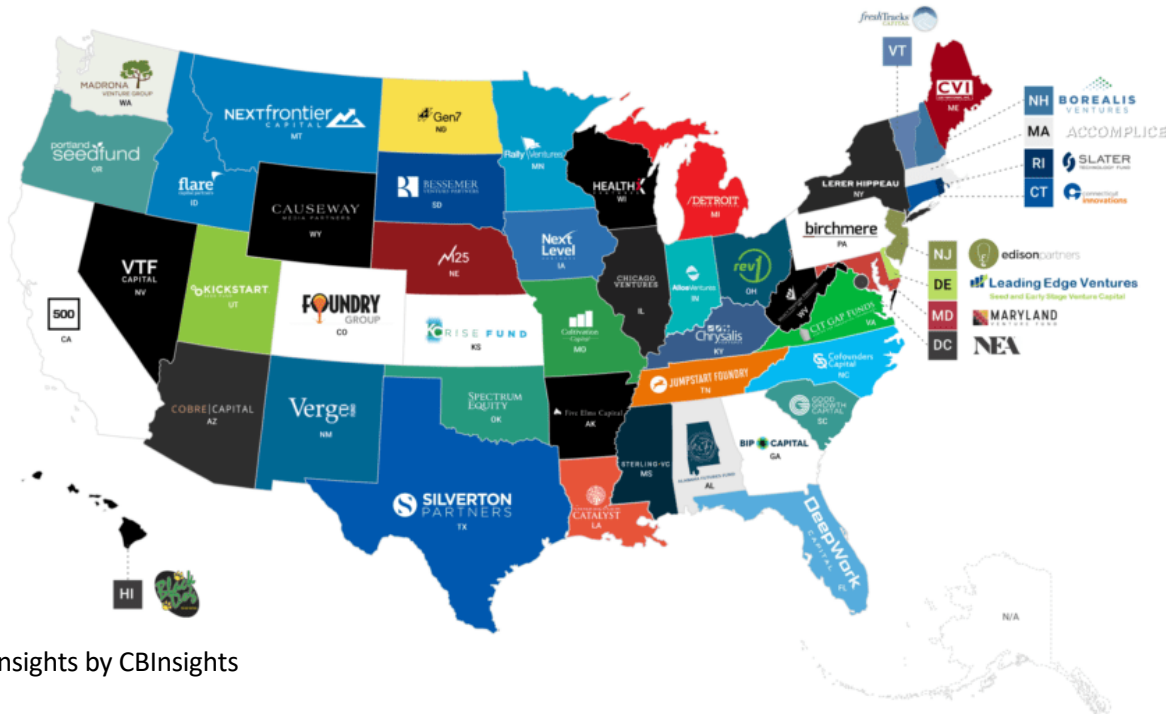
– Aggregator “Unicorn” Physician Practice Management Companies Emerge



Disruption of “Healthcare Food Chain” – Financial Aggregators Vision Investors vs EBITDA Investors




THE UNITED STATES OF VENTURE CAPITAL

Most active VC in each US state, based on unique tech portfolio investments.



Source: Healthcare Insights by CBInsights

Strategic Aggregators Driving Market Consolidation and Captive Ecosystems

Merger	Lives	Care Delivery Assets	Geographic Span
 <p>OPTUM Good for the system.[™] Davita</p>	40M	<ul style="list-style-type: none"> • 40,000 physicians • 285 urgent care centers • 211 ASCs 	<ul style="list-style-type: none"> • In 30 markets today • Targeting 75 markets covering 2/3 of US population
 <p>CVS Health Aetna</p>	22M	<ul style="list-style-type: none"> • 10,000 CVS locations • Limited employed physicians 	<ul style="list-style-type: none"> • 70 % of US population is within three miles of CVS location • Development of new Health Hub model at 1,500 sites
 <p>Humana Kindred Healthcare</p>	9M	<ul style="list-style-type: none"> • 2,600 physicians • 55 practices • 40,000 home health caregivers 	<ul style="list-style-type: none"> • Located in 40 states • Covering 60% of Humana's MA members

Sources:

- 1) <https://www.wsj.com/articles/unitedhealth-to-buy-major-doctor-group-for-4.9-billion-from-davita-1512560700?mg=prod/accounts-wsj>
- 2) https://www.nytimes.com/2017/12/06/health/unitedhealth-doctors-insurance.html?_r=0
- 3) <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.0858>
- 4) https://www.manatt.com/uploadedFiles/Content/5_Insights/White_Papers/Retail_Clinic_RWJF.pdf
- 5) <https://www.pressreader.com/usa/los-angeles-times/20171107/281981787862549>
- 6) <https://www.wsj.com/articles/SB10001424052970203347104578100774135846646>
- 7) <https://www.humana.com/about/careers/what-we-do/physicians>
- 8) <https://www.forbes.com/sites/brucejapsen/2017/12/19/humana-wants-to-modernize-home-care-with-stake-in-4b-kindred-deal/#13fbb3952710>

TopCo Category Examples – Private Equity

	Health Plan(s) +/-or CIN(s)	Management Company (MSO)	Medical Group or Network	Real Estate
Envision (KKR)	<ul style="list-style-type: none"> ▪ Commercial – FFS ▪ Value-based contracts ▪ Misc. 	<ul style="list-style-type: none"> ▪ Two models <ul style="list-style-type: none"> - Distributive - Centralized 	<ul style="list-style-type: none"> ▪ 25,000 Providers ▪ ED, anesthesia, Other Specialties 	<ul style="list-style-type: none"> • Various
Summit Medical Group CityMD	<ul style="list-style-type: none"> ▪ Medicare Advantage ▪ Medicare ▪ Commercial 	<ul style="list-style-type: none"> ▪ IT platform ▪ Risk contract analytics ▪ Revenue cycle mgmt. 	<ul style="list-style-type: none"> ▪ 1,500+ employed MDs ▪ 2,500+ network MDs 	<ul style="list-style-type: none"> ▪ Various

TopCo Category Examples – Hospital Systems and Physician Organizations

	Health Plan(s) + /or CIN(s)	Management Company (MSO)	Medical Group or Network	Real Estate
Memorial Hermann (Houston)	<ul style="list-style-type: none"> Commercial – FFS ASO Medicare Advantage Medicaid 	<ul style="list-style-type: none"> IT platform Risk contract analytics Revenue cycle management Pop health resources Staffing support 	<ul style="list-style-type: none"> 500+ PCPs/MDs employed by hospitals and UT 2,500+ affiliate network providers 17+ hospitals 	<ul style="list-style-type: none"> MOBs ASCs Rehab/PT High acuity urgent care centers Urgent care and retail locations
Ochsner Clinic (New Orleans)			<ul style="list-style-type: none"> 4500+ employed PCPs, specialists and affiliated network Providers 	

TopCo Category Examples – Health Plans

	Health Plan(s) +/-or CIN(s)	Management Company (MSO)	Medical Group or Network	Real Estate
UHG/Optum	<ul style="list-style-type: none"> ▪ Full spectrum of payer contracts with focus on value-based care arrangements 	<ul style="list-style-type: none"> ▪ IT platform ▪ Risk contract analytics ▪ Revenue cycle management ▪ Population health management resources ▪ Market planning 	<ul style="list-style-type: none"> ▪ 50,000 employed or affiliated physicians through OptumHealth and OptumCare ▪ Spread across multiple ambulatory care centers, urgent care and surgery centers as well as behavioral pharmacy 	Various

The Birth of “Unicorn” Physician Practice Management Companies – Single Specialty/Multi Specialty

Optum has been an active acquirer of primary care practices since 2010 through a variety of strategies – 40,000+ MDs

OptumCare Acquisitions



Adapted from SSB Partnership databases

The Birth of the “Unicorn” Physician Practice Management Company

Zoonie/Summit Health Management (SHM)



Summit Health Management Expands from NJ to OR & AZ Markets

- Physician owned, managed, governed – No Debt
- For profit, projected collections \$ 950+MM in 2018 with over %50% of Revenue from Value Contracts
- 1,000+ providers in 70+ medical specialties
- 3 States have 100+ Locations
- High Acuity Urgent Care Centers with Multiple Population Specific Designs
- 4,000 employees
- 125,000+ patient treatments per month
- Care to 700,000+ unique patients, 280,000+ attributed patients and 150,000+ at risk lives
- Comprehensive Diagnostic Radiology & Lab/Pathology
- MD Anderson Cancer Center Partnership
- Multiple “Horizon” % of Premium Contracts
- Pioneers in Clinical IT Solutions
- Physician growth of 400 Physicians in 2014-2018
- 250,000 SF expansions/consolidations in Development



The Birth of the “Unicorn” Physician Practice Management Company

Zoonie/Summit Health Management – Key Elements for Success in Both FFS and “Hybrid FFS Value Based” Reimbursement

Operations Management

- Consolidation & Clinical Integration
- Maximize Practice Performance
 - Access, capacity, utilization, productivity, staffing
- Technology Infrastructure Management
 - Roadmap for integration
- Strategic real estate development

Revenue Management

- Revenue cycle optimization
- Financial Statements & Budgeting
- Contracting
- Coding Compliance & Education
- Regulatory change management
- Payer contracting assessment

Physician Governance and Leadership

- Facilitate goal development
- Create alignment of Clinical and Management responsibilities
- Effectuate culture change to successfully transitions from FFS to FFV

Population Management

- Care management models
- Quality reporting
- Clinical intelligence
- Strategic clinical programs

The Birth of “Unicorn” Physician Practice Management Companies

– Summit/CityMD Example - \$ 3+ Billion Market Cap

SUMMIT/CITYMD

SUMMIT HEALTH
MANAGEMENT

MANAGEMENT SERVICE AGREEMENTS



SUMMIT
MEDICAL
GROUP

ARIZONA

SUMMIT ATLANTIC
SURGERY CENTER



SUMMIT
MEDICAL
GROUP
OREGON



CityMD

LARGEST URGENT CARE
ORGANIZATION IN NORTHEAST

EXTENSIVE FOOTPRINT IN
NEW YORK CITY

WARBURG PINCUS INVESTMENT POSITION

Aggregator “Unicorn” Physician Practice Management Companies

– Performance Positive to New Jersey Market

Successful Summit Medical Group Year-Over-Year Savings for Its Commercial ACO with Horizon Blue Cross New Jersey While Maintaining Robust SMH Margins



Birth of the “Unicorn” Physician Practice Management Company

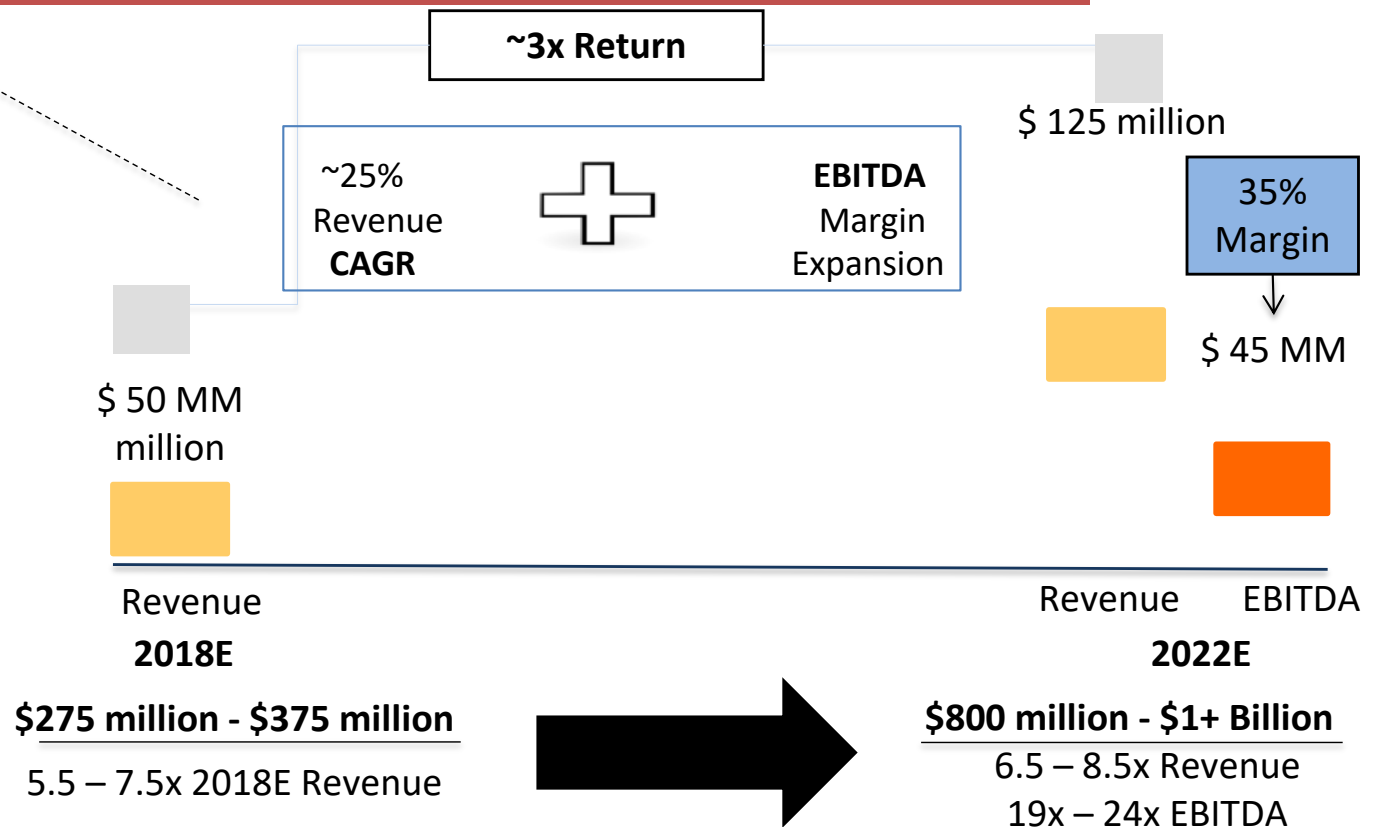
Significant Upside Supports Premium Valuation – Generic Example *

Financial Buyers are competing head to head with Strategic Buyers for Physician Organizations, IT Platform Companies, etc.

Multiple Levers for Continued Value Creation

Source of Additional Value Creation

- Transition of out patient reimbursement to In patient reimbursement methodologies
- Economies of scale
- Margin expansion
- Accretive acquisitions
- Organic growth
- New product development and innovation
- Expansion of addressable market
- Growing recurring revenue streams
- Multiple expansion based n greater scale, market position



*Generic Example Adapted from KeyBank/Cain Brothers/SSB materials

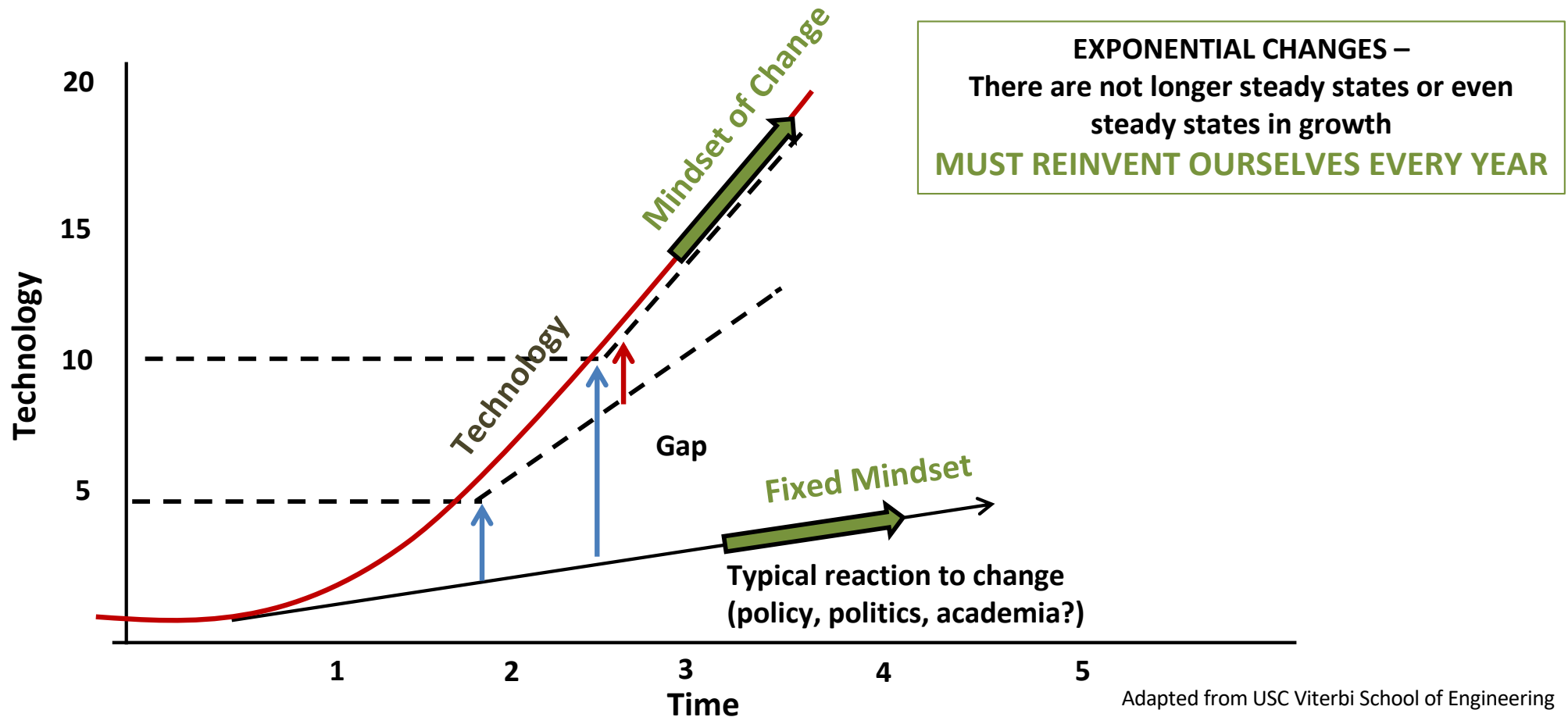
Maturing Transformative Healthcare Trend Evolve

– Adaptive Artificial Intelligence, Expert Systems and Block Chain Technology



Adaptive Artificial Intelligence, Expert Systems and Blockchain Technology

The Exponential Pace of Technology Brings Constant Disruption/Transformation



Adapted from USC Viterbi School of Engineering

Adaptive Artificial Intelligence, Expert Systems & Blockchain Technology

AAI Examples – CTI, Babylon, Leidos, etc.

- AAI: Adaptive Artificial Intelligence (Terminology is often Incorrect)
 - Evolving self-learning expertise
 - Access to relevant context data
 - Pattern identification – UK Use for Imaging Purposes
 - Deconstructionist
 - Appropriate logic
 - Internal assessment and adjustment
 - Risk management
 - **Minimal human involvement**
 - **Most Common/Important Use is in NSA Applications Today**



Adapted from CTI

Adaptive Artificial Intelligence, Expert Systems & Blockchain Technology

Expert Systems Examples – IBM Watson, Multiple Analytic, etc.

- Expert Systems created by Human Protocols
- Database Systems
 - Fixed pattern relations
 - Relations provided by human experts
- Rules Based Logic
 - Provided by human experts
- Human Interface Query Systems
 - Human operator final decision
 - Risk management human
- Fixed Systems
 - Large human involvement

Adapted from CTI

Adaptive Artificial Intelligence, Expert Systems and Blockchain Technology

Healthcare Blockchain Transactional System

- Universal Health Coin, etc.

How would a Healthcare Blockchain System Work?

- Every Healthcare Event (HCE) identified from whatever “Data Ingestion Source” (e.g., EHR, Lab, Claims, Pharma, etc.) would lead initially to a financial transaction with greatly enhanced speed, accuracy and work flow.
- The challenge is that current Blockchain structure allows for only 8 bytes of data to populate a singular block so that financial transactions would be doable but transferring clinical data with from HIE or another data structure would be difficult without modification and/or development of a new Blockchain structure (Health-Metadata-Blockchain solution ?).
- A system of smart contracts at pre negotiated rates would direct revenue flow into the financial healthcare Blockchain entity will cut down transaction costs and proportionally the middleman burden.
- Anonymity on behalf of the member

Adapted from Multiple Sources including Universal Health Coin

5 Ways Blockchain Is Being Used in Healthcare

Although blockchain has not become mainstream, the technology is being used within various sectors, including healthcare.

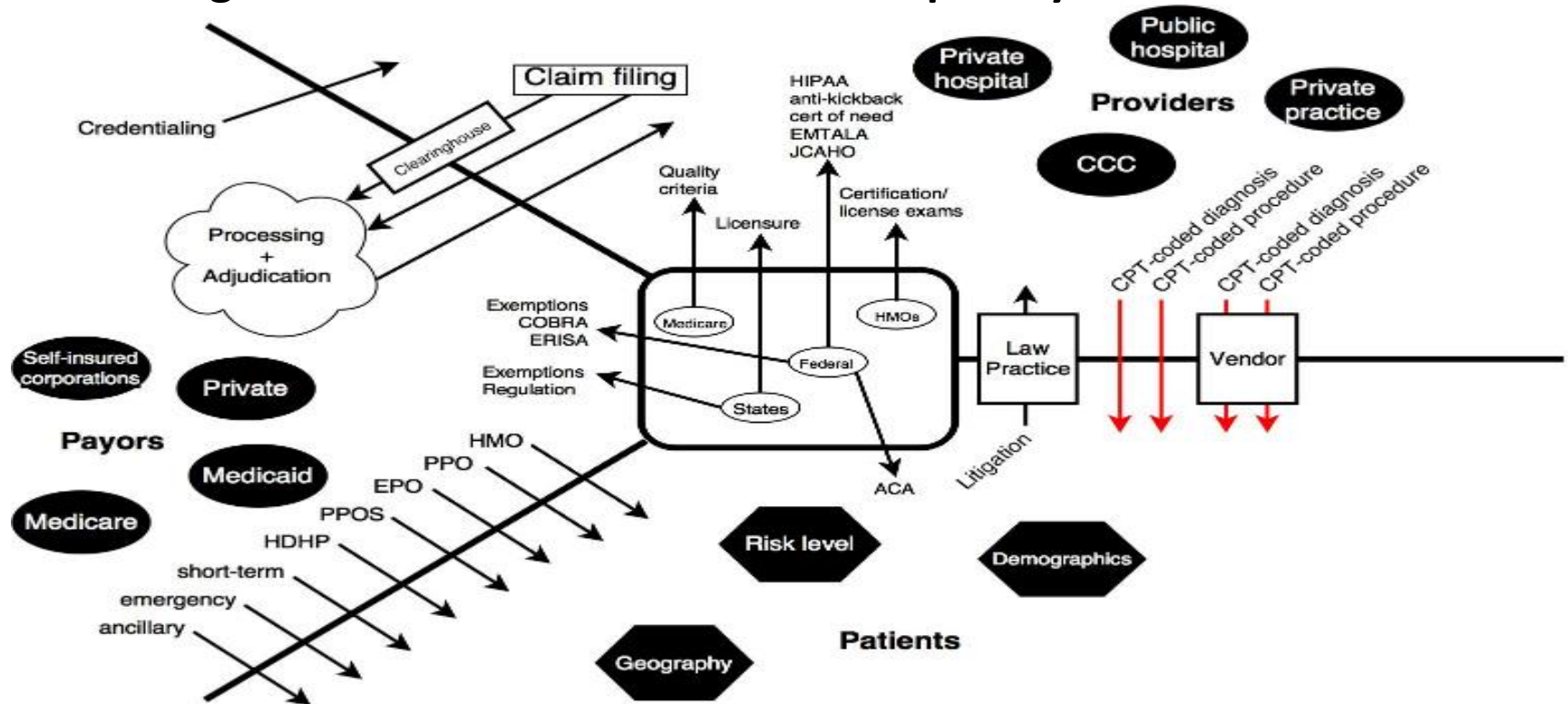
Below are five ways the technology is already being used in healthcare, according to [TechZone360](#).

1. To provide a clear and evident data exchange of patient information between physicians.
2. As a secure data storage to ensure patient privacy.
3. To help with hindering the high amounts of data breaches within the medical field.
4. To secure the tracking of records without fear of alterations or changes.
5. To provide consistency and efficiency with finances and payments.

Source: Becker's Health IT & CIO Report – July 25, 2019

Adaptive Artificial Intelligence and Expert Systems

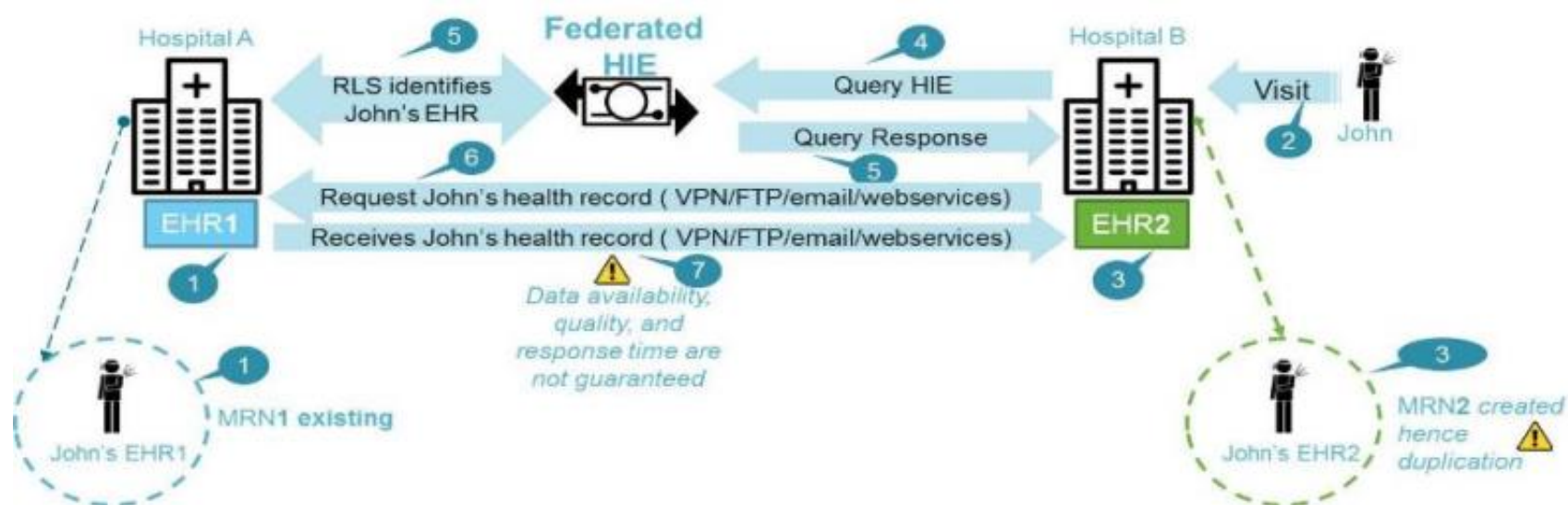
The Starting Point for Data Ingestion ? Multiple Data “Ingestion Points” and Variable Complexity of Process



¹ Blockchains and electronic health records; Ben Yuan, Wendy Lin and Colin McDonnell

Artificial Adaptive Intelligence, Expert Systems and Blockchain Technology

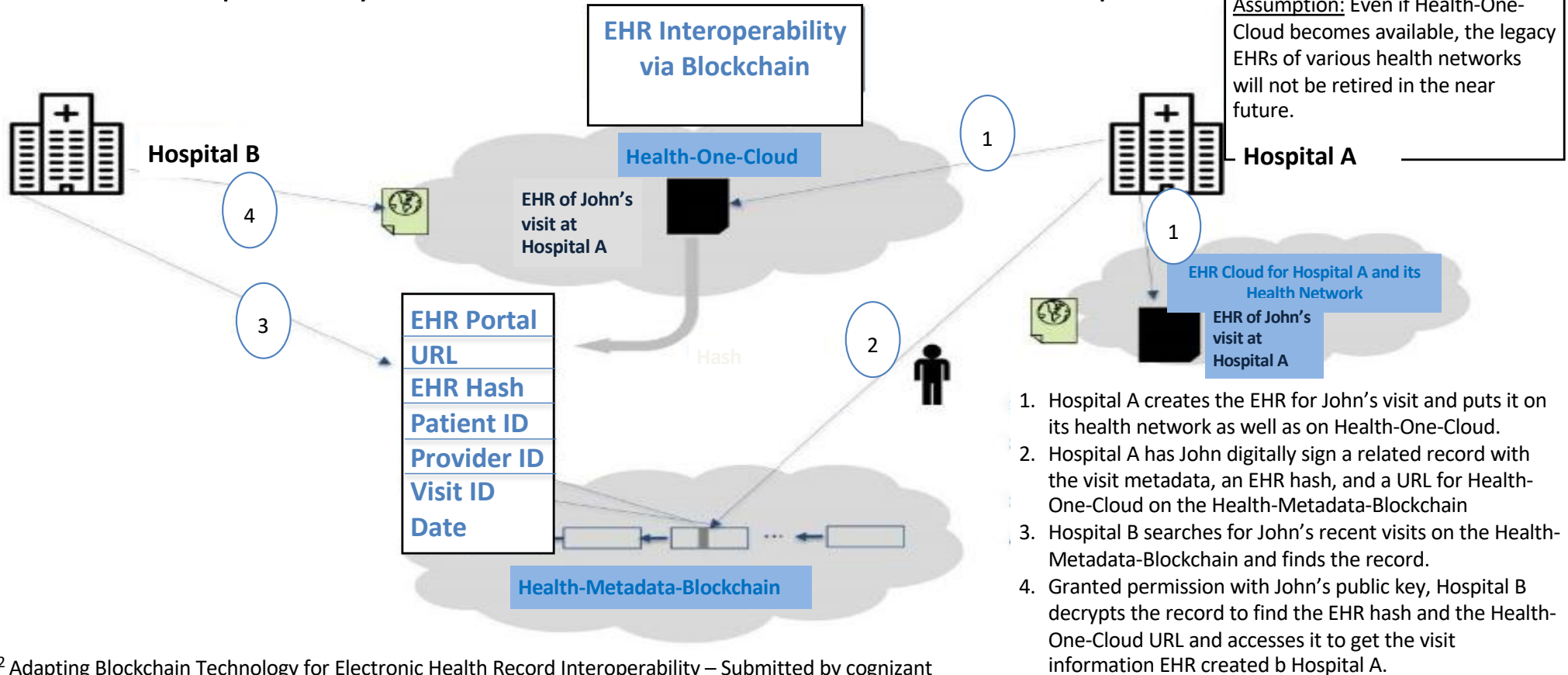
EHR Interoperability through a Health Information Exchange Example²



² Adapting Blockchain Technology for Electronic Health Record Interoperability – Submitted by cognizant Technology Solutions
Authors: Nitesh Gupta, Anand Jha and Purna Roy

Adaptive Artificial Intelligence, Expert Systems and Blockchain Technology

EHR Interoperability with Blockchain and Health One Cloud Example³

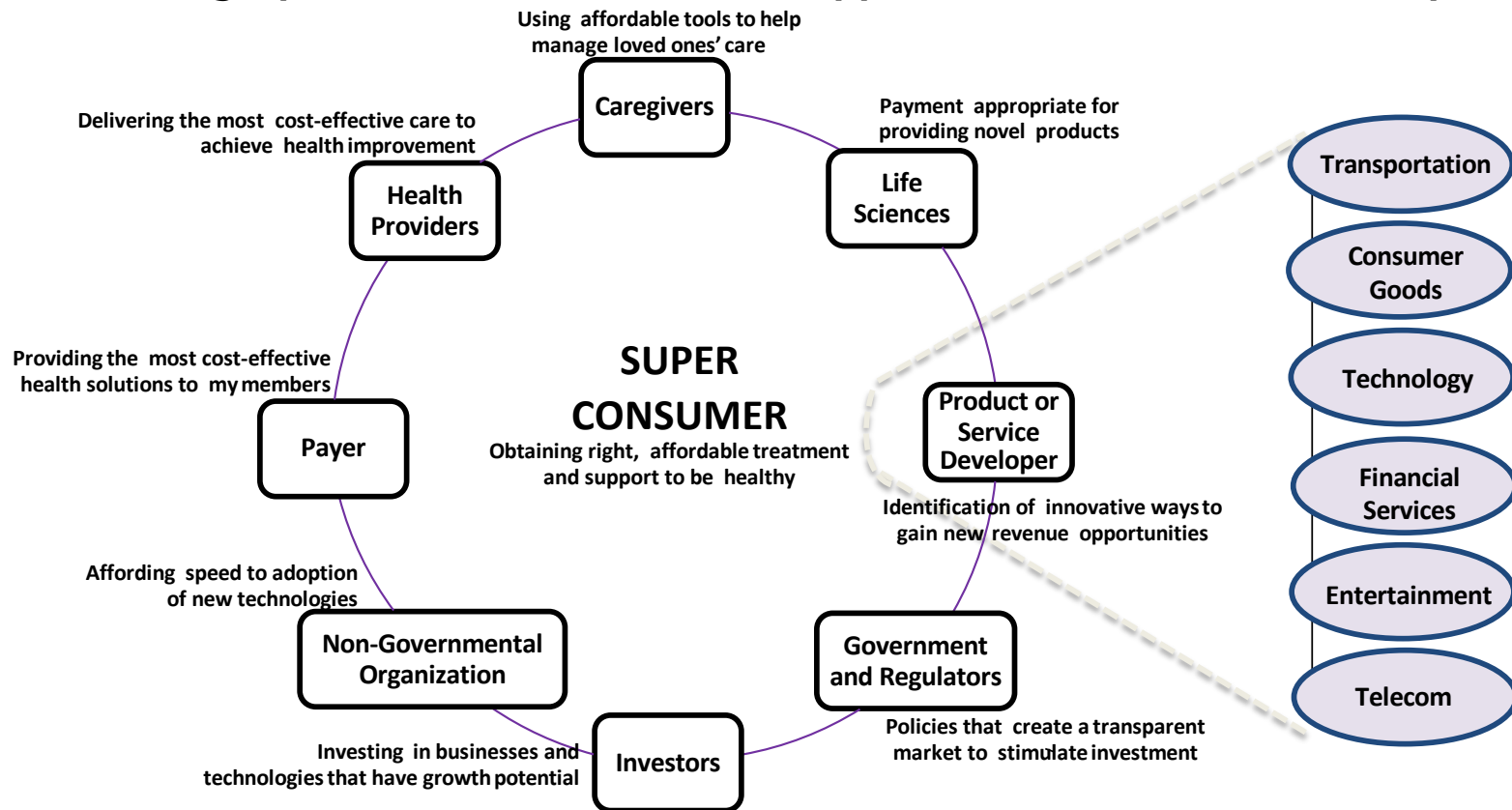


² Adapting Blockchain Technology for Electronic Health Record Interoperability – Submitted by cognizant Technology Solutions. Authors: Nitesh Gupta, Anand Jha and Purna Roy

Destination Medical Center Meets Destination Super Consumer Experience

– New “Footprint/Triple Aim” Considerations with Multi Platform Requirements

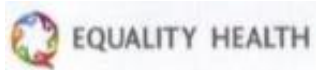
Clinical, Geographic and Cultural Models Support Health In the Community



Source: SSB adapted changes from EYGM Limited 2017 and CMS Sources

Destination Medical Center meets Destination Super Consumer Experience

Community Integration – “Meet the Customer/Patient Where They Are”



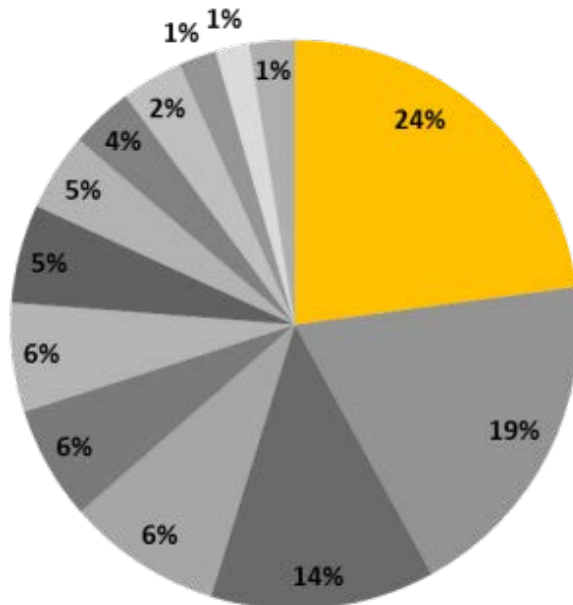
- ➡ Equality Health Initiatives exists to improve the health of individuals, families, and communities by addressing the social, economic and environmental determinants of health
- ➡ Excellent medical care alone is not sufficient to create healthy communities. To bring about demonstrable improvements in health. We partner with others to build health-promoting physical, behavioral, social and economic environments

Destination Medical Center meets Destination Super Consumer Experience

“Population Specific” Consumer Facing Regional Programs of Excellence

\$5B+ Total Assets
 \$4B+ Net Operating Revenue
 22,000 Employees; 5,000 Medical Staff

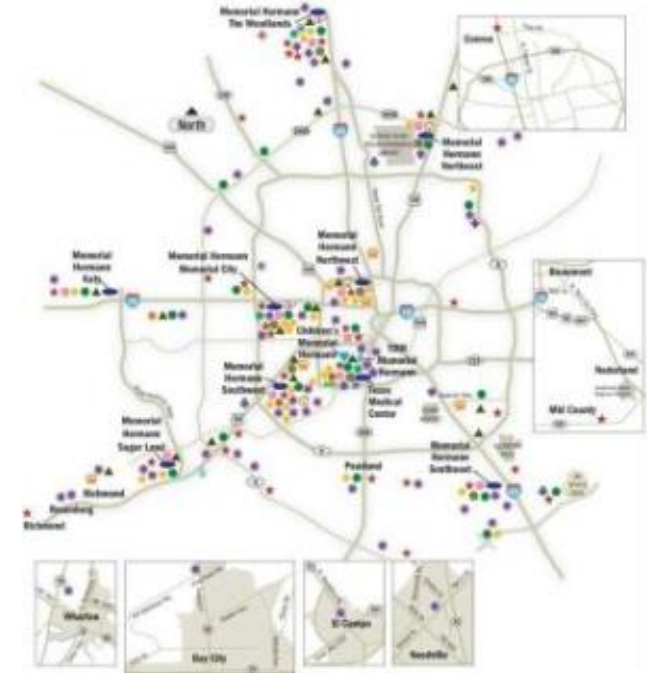
Inpatient Market Share



Market Share Ranking

- 1st: Aggregate Market Share
- 1st: Burns
- 1st: Cardiology
- 1st: ENT
- 1st: General Medicine
- 1st: General Surgery
- 1st: Neurology
- 1st: Neurosurgery
- 1st: Ophthalmology
- 1st: Orthopedics
- 1st: Rehab
- 1st: Thoracic Surgery 1st:
- Urology
- 1st: Vascular
- 2nd: Gynecology
- 2nd: Obstetrics
- 2nd: Neonatology
- 2nd: Spine
- 2nd: Oncology

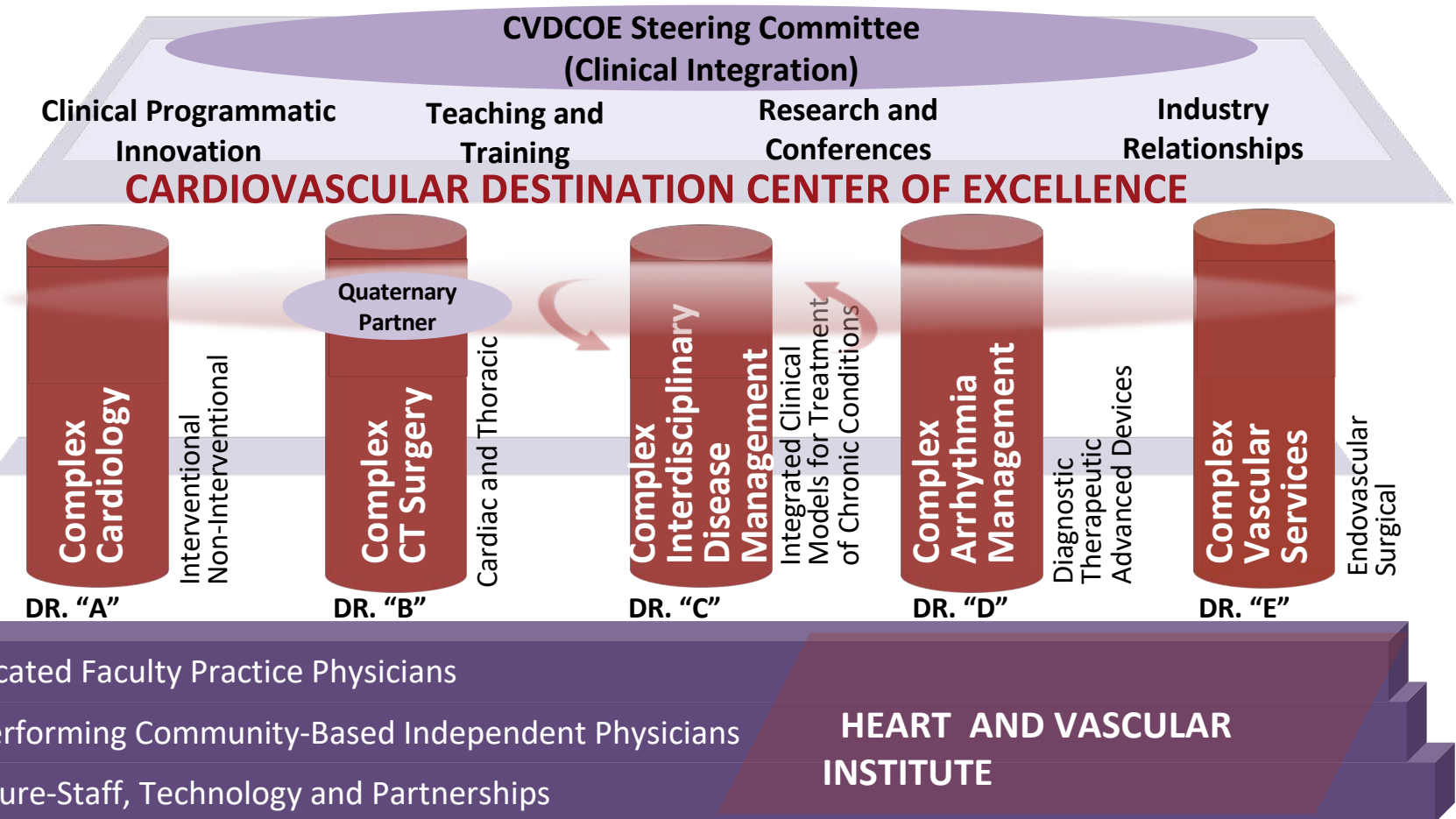
211 Locations



Greater Houston MSA 6.36 million population, projected to 6.9 million by 2018

The Super Consumer/Member/Patient Experience

Hospital
System CV
Destination
Center of
Excellence



New Disruptive Healthcare Trends Looming on the Horizon

- Development of Directly Contracted “Value Based” Products
 - The “Federated” Model
 - Not Possible without increasing “Digital Payor/Provider Alignment”

A close-up photograph of a document titled "HEALTH INSURANCE" in large, bold, black capital letters. The document is resting on a surface, and a silver pen is visible in the foreground, partially obscuring the text. The background shows a green patterned border, likely from a book or folder. The lighting is soft, highlighting the texture of the paper and the metallic sheen of the pen.

MSSP Glidepath to Risk 2018

	TRACK 1	TRACK 1 +	TRACK 2	TRACK 3	NEXT GEN ACO
Attribution methodology	Retrospective	Prospective	Retrospective	Prospective	Prospective
Max Savings Share Rate (depends on quality scores)	Up to 50%	Up to 50%	Up to 60%	Up to 75%	80% - 100%
Max Loss Share Rate	N/A	30%	40-60%	40-75%	80% - 100%
Cap on Losses	N/A	4% of Benchmark	5-10% of Benchmark	15% of Benchmark	5-15% (elected annually by ACO)
Physicians Eligible for Enhanced Reimbursement	Not eligible for Advanced APM	Eligible for Advanced APM*	Eligible for Advanced APM	Eligible for Advanced APM	Eligible for Advanced APM
2018 Participants	460 (103 new in 2018)	55 (all new in 2018)	8 (2 new in 2018)	38 (8 new in 2018)	58

OBSERVATIONS AND TAKEAWAYS

- Upside AND upside/downside arrangements
- Risk corridor widens over time (although upside is greater than downside)
- Cap on losses structured with smaller downside (vs. upside on savings)
- Potential for enhanced CMS reimbursement to physicians outside ACO program
- Historically build on three year agreements with renewal options
 - Regulations require participants to move to higher tracks at specific points

MSSP Model Shift for 2021: BASIC and ENHANCED

Replacement taxonomy for Tracks 1-3

- Next Gen ACOs continue on albeit with reduced participation as some participants depart back to MSSP

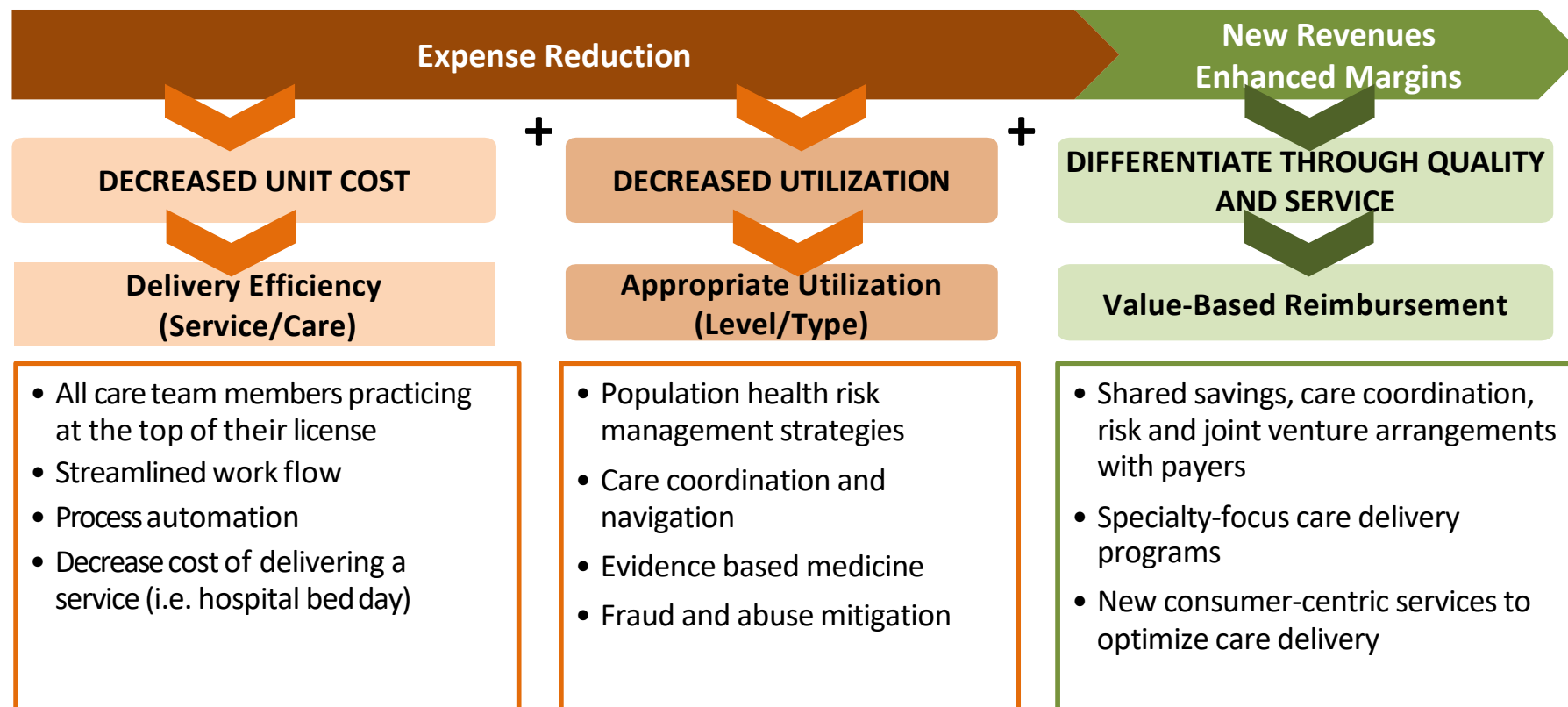
Five year agreement with ACO's on Basic track automatically advancing a level each year

	BASIC					ENHANCED
	LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E	
Shared Savings	First dollar up to 25% of total	First dollar up to 25% of total	First dollar up to 30% of total	First dollar up to 40% of total	First dollar up to 50% of total	First dollar up to 75% of total
Share Losses	N/A	N/A	First dollar losses up to 30% of total not to exceed 2% of FFS revenue or 1% of total benchmark	First dollar losses up to 30% of total not to exceed 4% of FFS revenue or 2% of total benchmark	First dollar losses up to 30% of total not to exceed 8% of FFS revenue or 4% of total benchmark	First dollar losses at rate of (1-Savings Rate) Not to exceed 15% of total benchmark
Enhanced Physician Reimbursement from CMS	MIPS APM				Advanced APM	Advanced APM
Predecessor	Track 1		N/A		Track 1+	Track 3
	Upside Only		Upside/Downside with Increasing Broad Corridor			

Source: <https://caravanhealth.com/thought-leadership/articles/three-things-to-know-about-cms-mssp-proposal/>

Getting to the Provider Promised Land

Strategic pathway for providers transitioning to value-based care



KEY QUESTION: How can payers help them get there?

The Population Specific MLR Reduction Intervention Strategies

Revenue Implications – FFS Medicare vs. Medicare Advantage

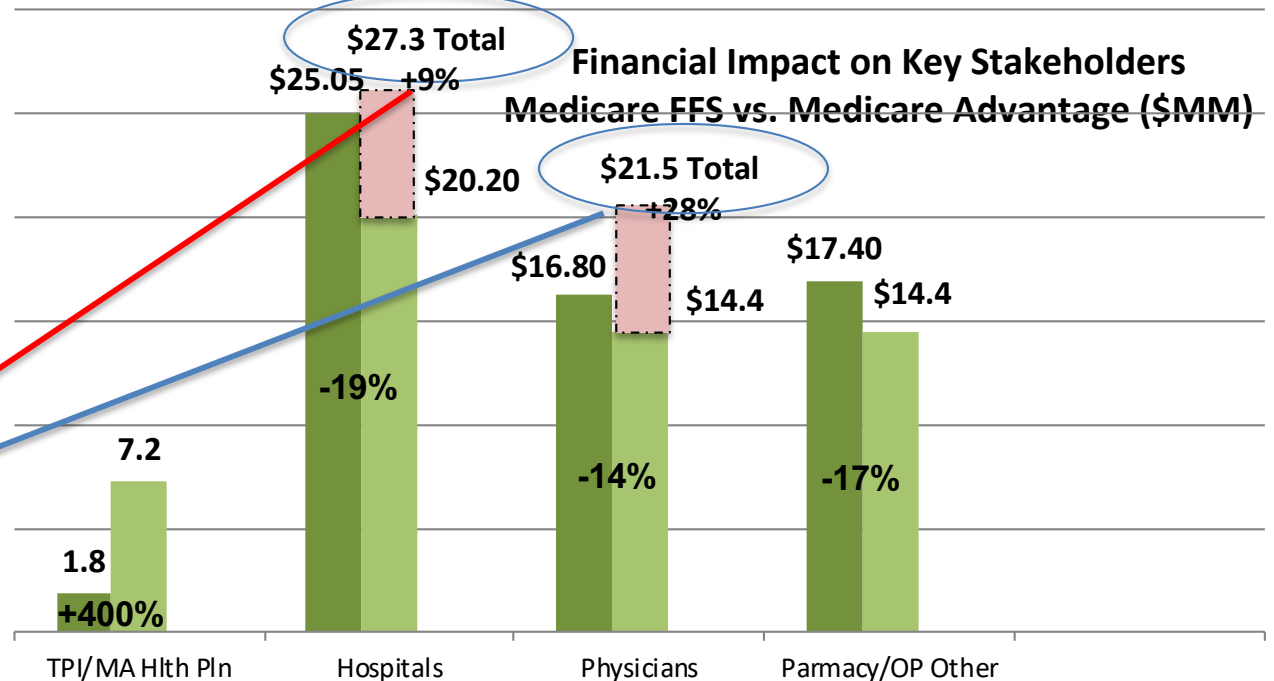
Assume 5,000 enrollees at \$1,200 PMPM (HCC= 1.23) without additional “star” reimbursement

\$72MM in Total Premium MA Revenue vs. \$60MM in total FFS Premium Revenue

MLR = 85% (industry incentives) to providers/Humana Model*

■ Medicare FFS ■ Medicare Advantage

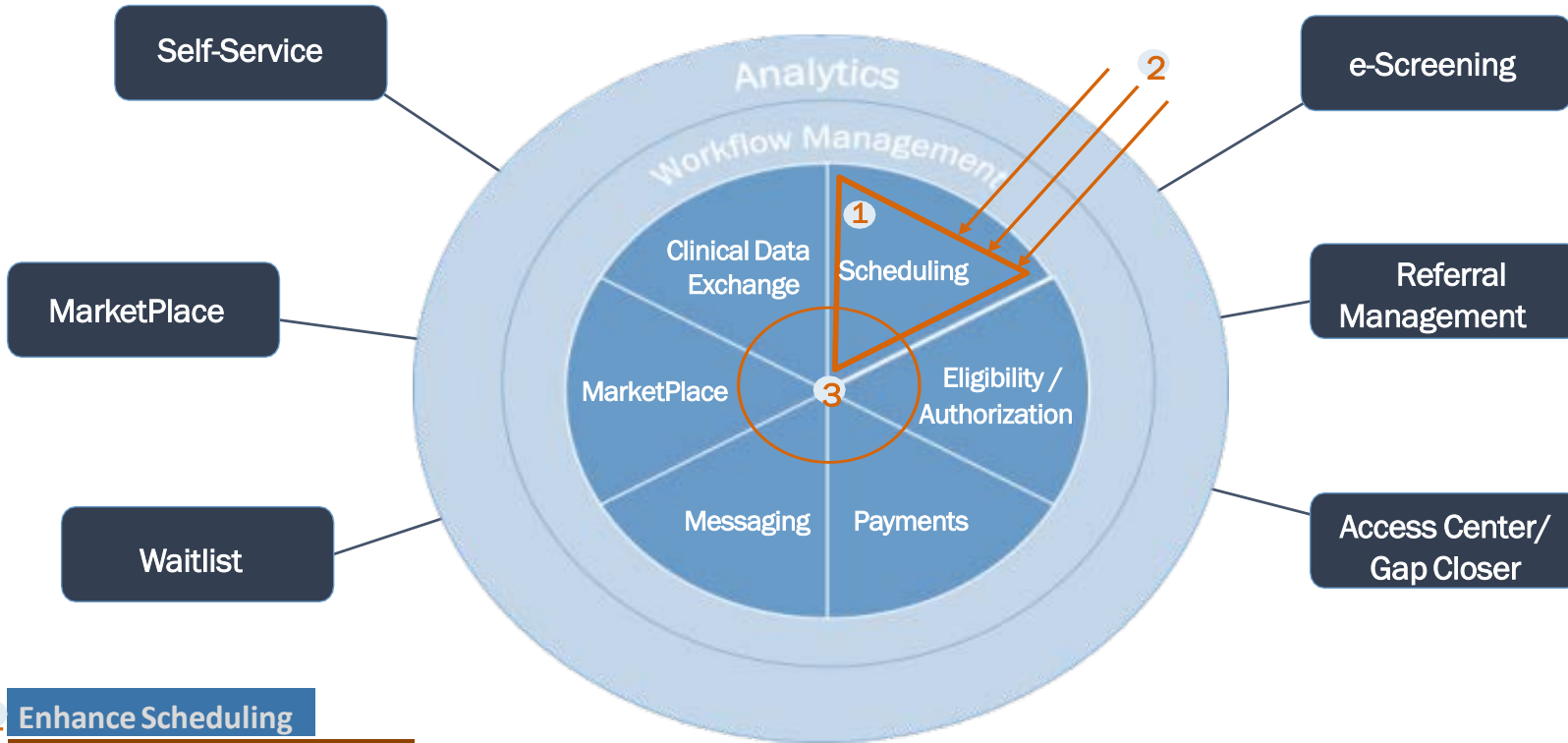
MA Health Plan	\$MM
Administration	7.2
Profit	3.6
Totals (15% MLR)	10.8
Providers	
Hospital (Inpatient)	20.2
Physician Services	14.4
Pharmacy/OP/Other	14.4
Totals (68% MLR)	57.1
Incentive Allocation	
Hospitals (50%)	7.14
Physicians (50%)	7.14
Totals (17% MLR)	14.3



*Humana = 81% MLR: Aetna FL 83% MLR
Without 5 Star incentive allocation (4%+)

The Basics – The Population Specific “Virtual Digital EPO”

Digital Medicare Advantage Narrow Network/EPO Technology –
Care Coordination Platform Improved MLR, Stars, & Performance Incentives



1 Enhance Scheduling

2 Increase Scheduling Access

3 Unify the Scheduling Experience

Solution

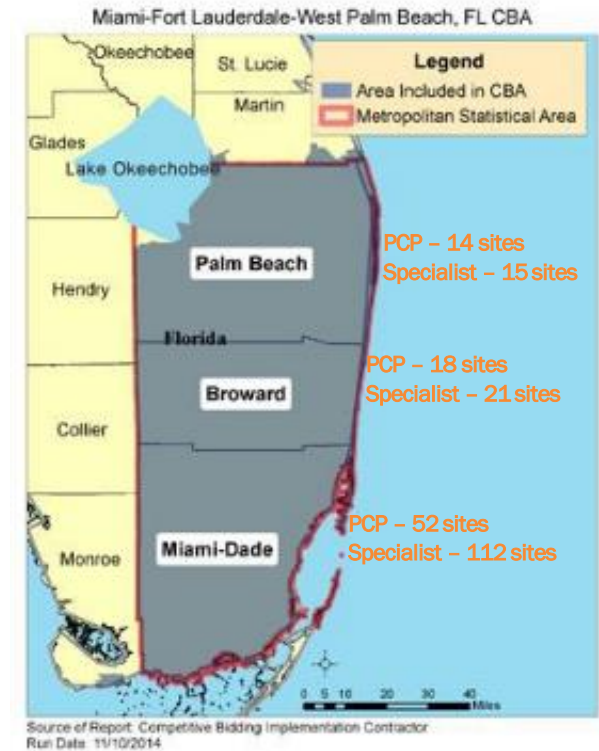
Capability

Platform

2018 The Population Specific “Virtual Digital EPO”

2019 South Florida Highlights

- Active PCP sites grew from 33 to 84
- Active Specialist sites grew from 46 to 148
- Monthly bookings grew from 384 to high of 2,093 (October)
- Current annualized booking pace = ~25,000 appointments
- Bookings across 30+ specialties
- Introduced Appointment Request in Q3 – ~1,500 requests to date (85% book rate)



2.5X

2018 PCP
Network Growth

3X

2018 Specialist
Network Growth

5X

2018 Monthly
Bookings Growth

RNA and COVID19 Vaccines

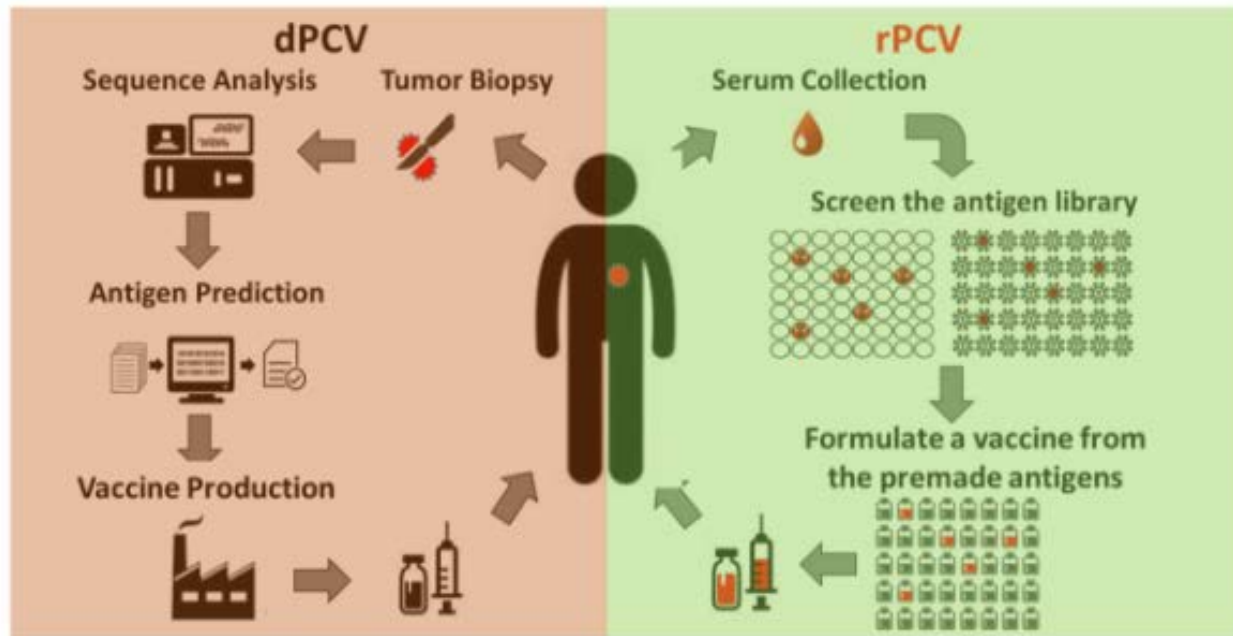
- A Strange Turn of Technologies from Cancer to Infectious Disease



RNA Neo-epitopes Drive New Cancer Diagnosis and Treatment Models

Current Personal Vaccine Approach

RNA Neoepitope Approach

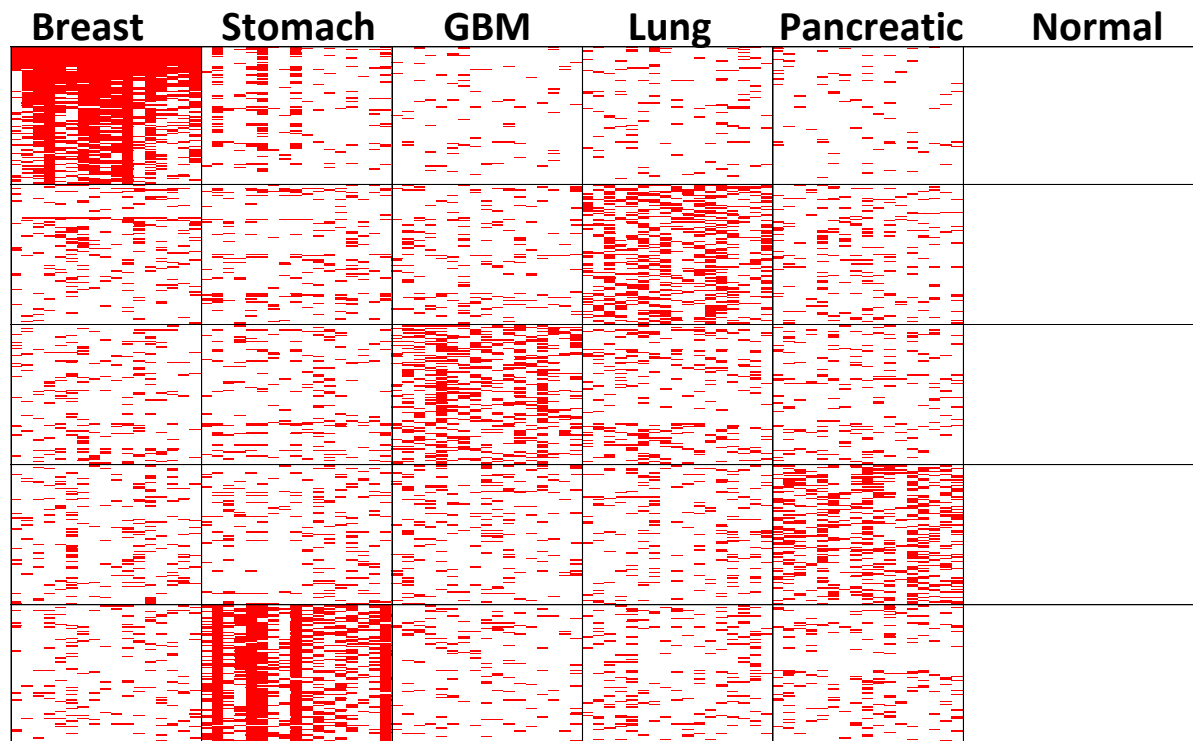


A Simpler, faster approach to Personal Vaccines

	dPCV	rPCV
Ag Identification	≥ 2 weeks	1 day
Ag Immunogenicity	predicted	confirmed
Vaccine Production	≥ 2 weeks	1 day
Cost	\$\$\$	\$

RNA Neo-epitopes Drive New Cancer Diagnosis and Treatment Models

Modes Diagnosis of 5 Cancers in Humans- Frame Shift (FS) Peptides



**Companion
Diagnostic:**

92% Accuracy
98% Sensitivity
85-92% Specificity