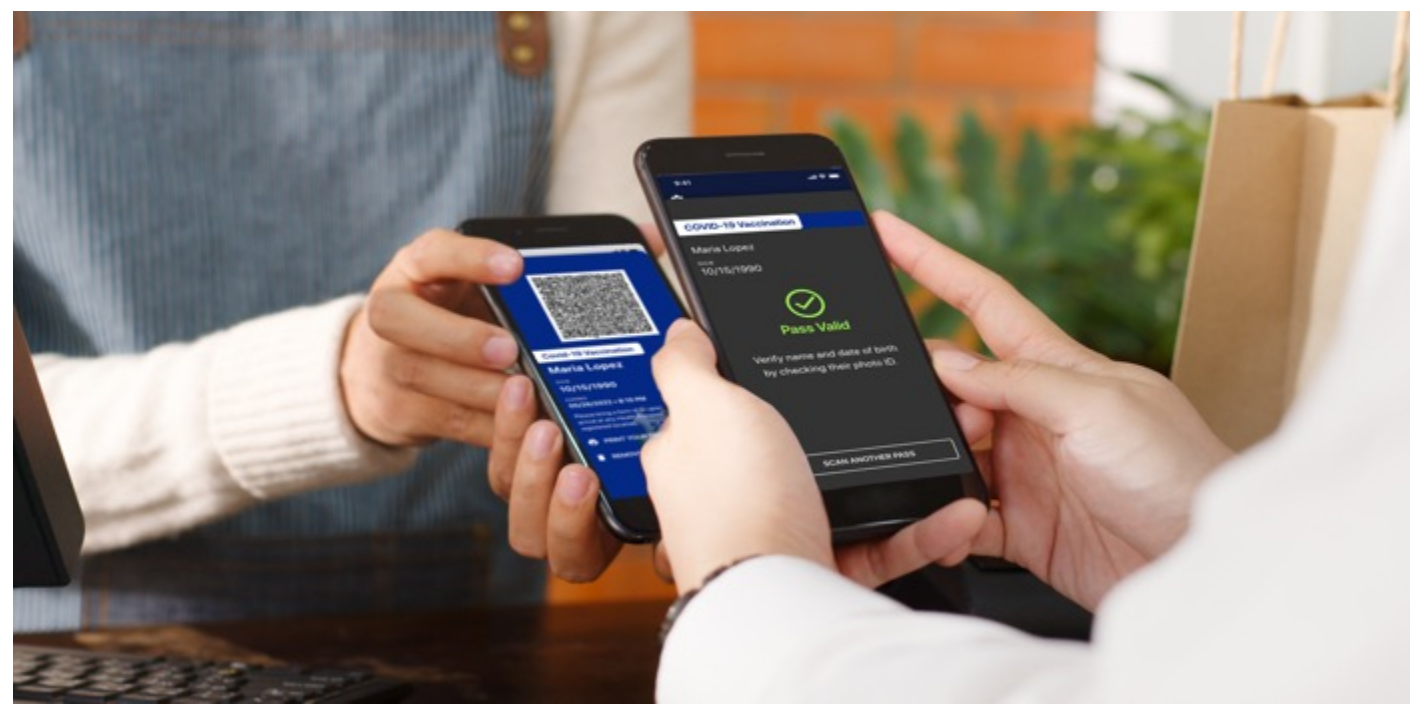


What comes next

And what to do about it

March 2022



What comes next

Web3 for healthcare

Healthcare is national security

Increasingly aggressive
government stance on
healthcare

What is happening

Healthcare credentials are here

652,000+ Americans died from
COVID

Defense production act &
Presidential Executive order(s)

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Prepare for nontraditional healthcare participants

Prioritize agility, visibility and resiliency

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resiliency

COVID-19 is still spreading, even as the vaccine is here. Wear a mask, social distance and stay up to date on New York State's vaccination program.



Services

News

Government

Local

Q Search

COVID-19 Vaccine

What You Need to Know

Distribution Plan

Safety

Providers

Education

FAQs

Vaccine Tracker

Excelsior Pass

Be a Part of New York's Safe Reopening

Excelsior Pass provides a free, fast and secure way to present digital proof of COVID-19 vaccination or negative test results.

GET A PASS

• Initial Phase of Pilot Successful During Brooklyn Nets Game at Barclays Center and New York Rangers Game at Madison Square Garden

• Proven, Secure Technology

• Confirm an Individual's Vaccination or Recent Negative COVID Test

• Fast-Track Reopening Theaters, Stadiums & Other Businesses as More New Yorkers are Vaccinated

• Developed in Partnership with IBM



Jane

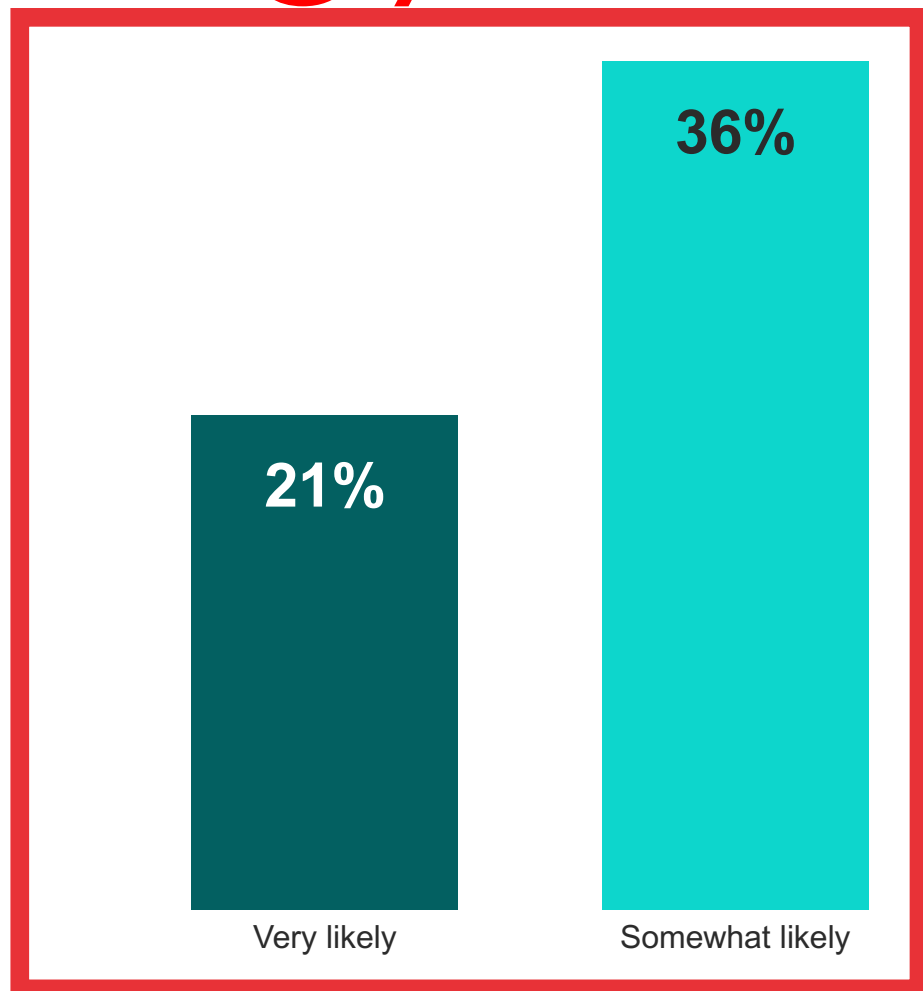
Jane stores a credential attesting to her COVID status on her phone



Jack

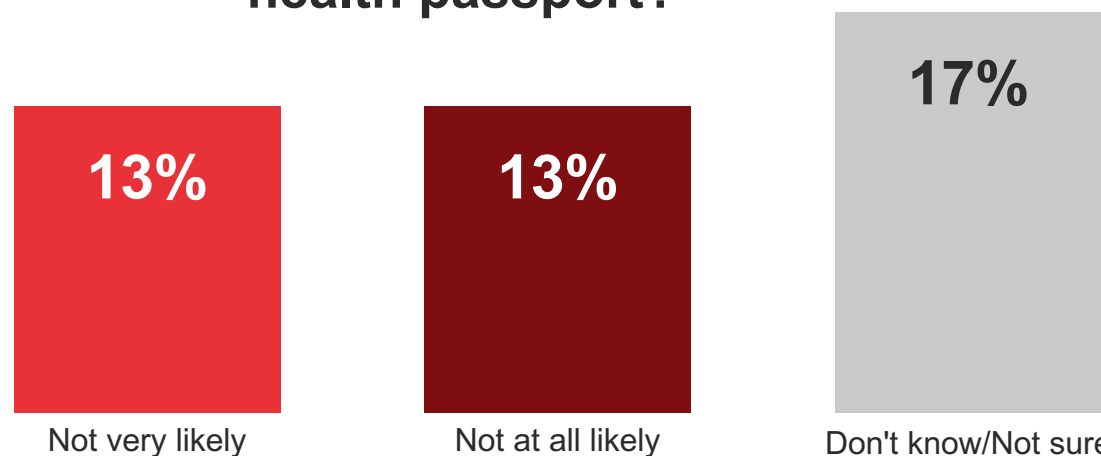
Jack scans Jane's credential and confirm her COVID status

57%



Digital health passports are a way for consumers to share information about a COVID-19 test result or vaccination record with companies and organizations as needed.

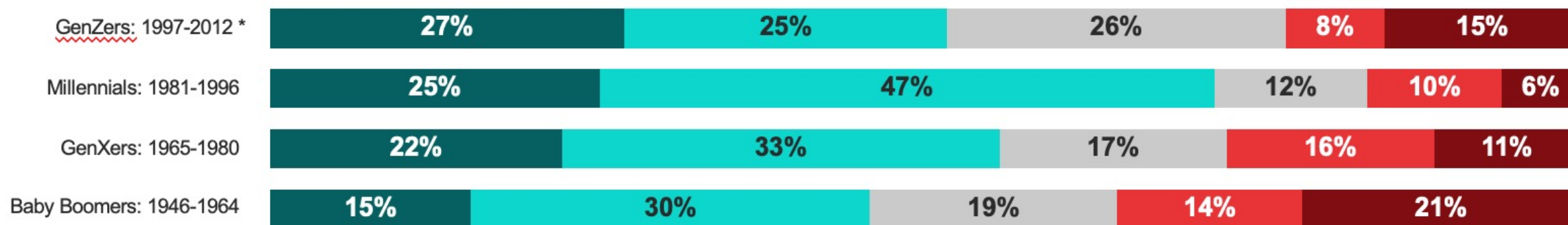
Assuming you had access to one, how likely would you be to use a digital health passport?



But lets go behind the numbers, how does age influence?

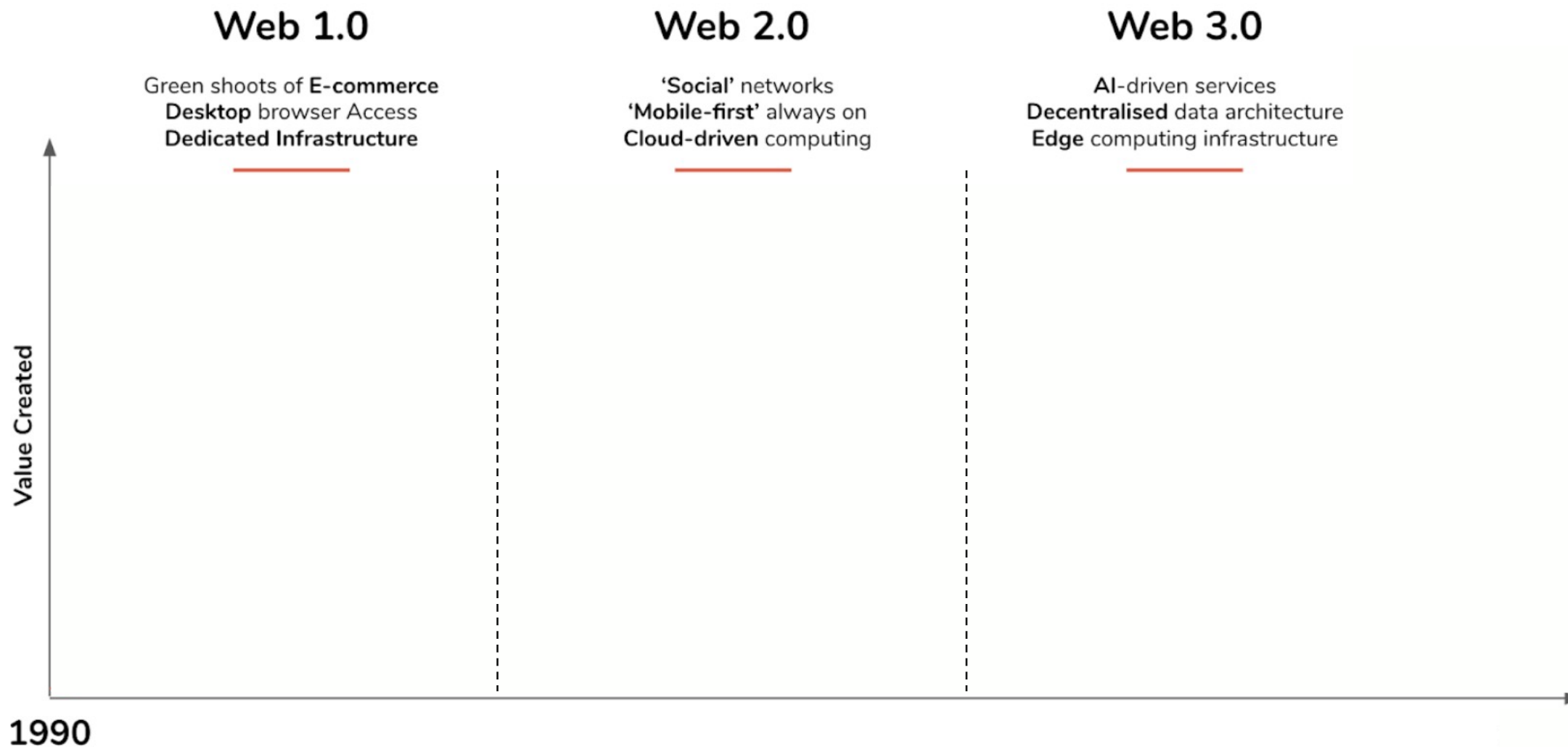
Digital health passports are a way for consumers to share information about a COVID-19 test result or vaccination record with companies and organizations as needed. Assuming you had access to one, how likely would you be to use a digital health passport?

● Very likely
 ● Somewhat likely
 ● Don't know/Not sure
 ● Not very likely
 ● Not at all likely



The Evolution of the Web

Internet companies chart created by
Fabric Ventures



* Internet companies market cap as of 2000

The Evolution of the Web

Internet companies chart created by
Fabric Ventures, Generations added
by Chris Moose

Web 1.0

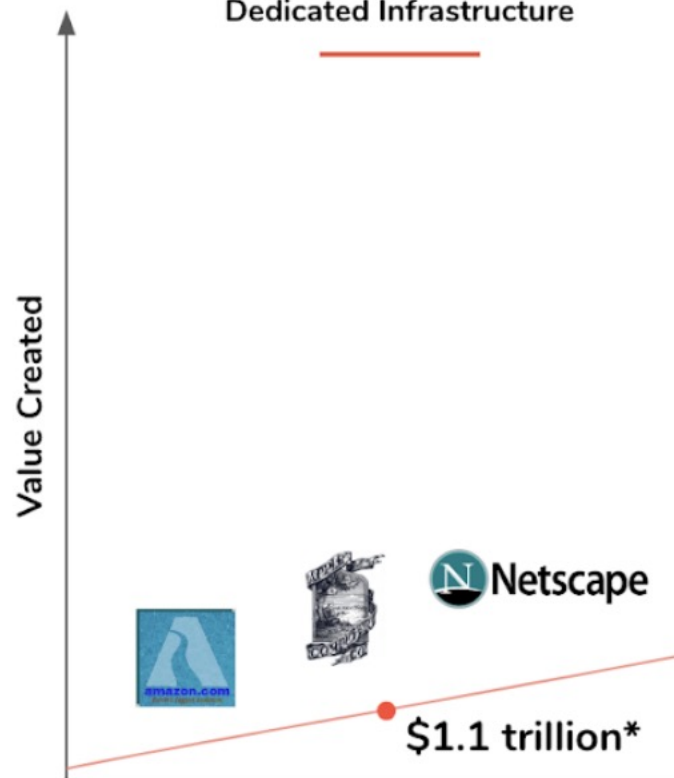
Green shoots of E-commerce
Desktop browser Access
Dedicated Infrastructure

Web 2.0

'Social' networks
'Mobile-first' always on
Cloud-driven computing

Web 3.0

AI-driven services
Decentralised data architecture
Edge computing infrastructure



GenZ	Not born
Millennials	7 years old
GenX	23 years old

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Internet companies chart created by
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Web 1.0

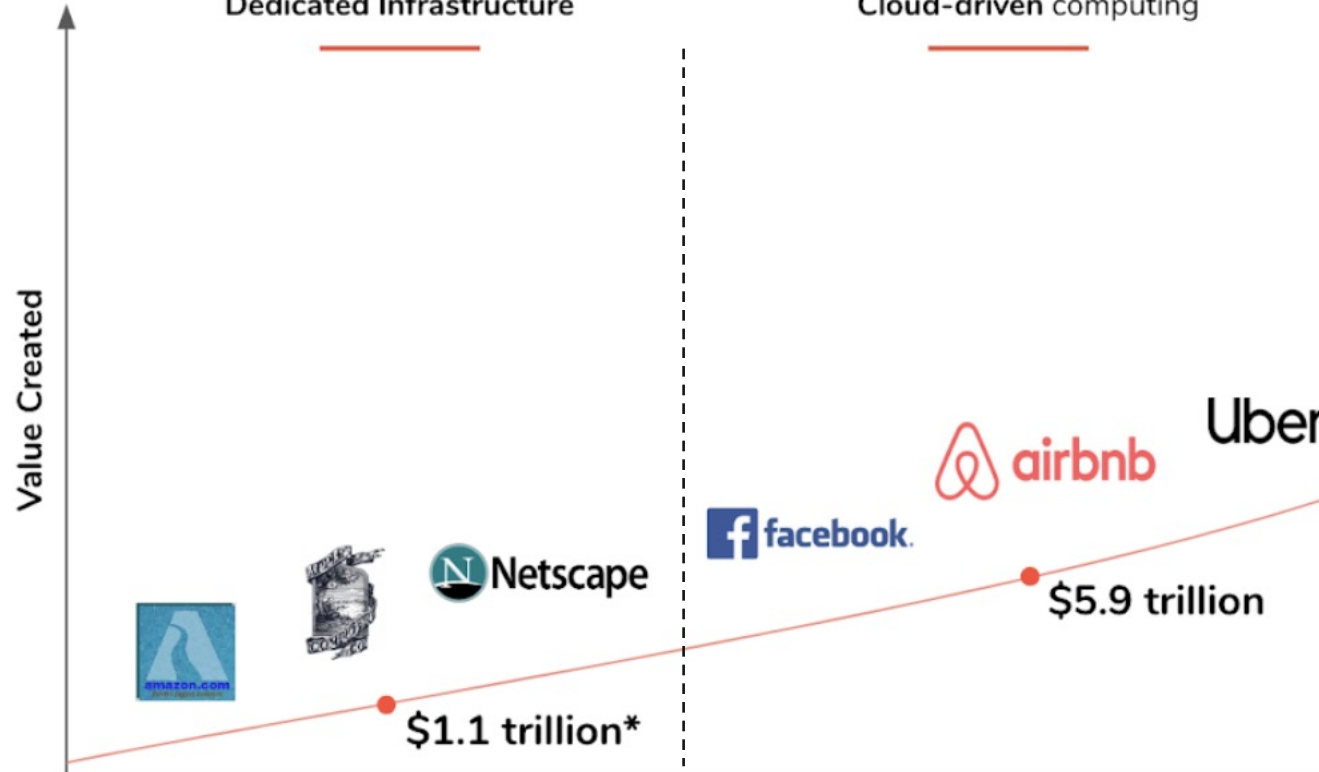
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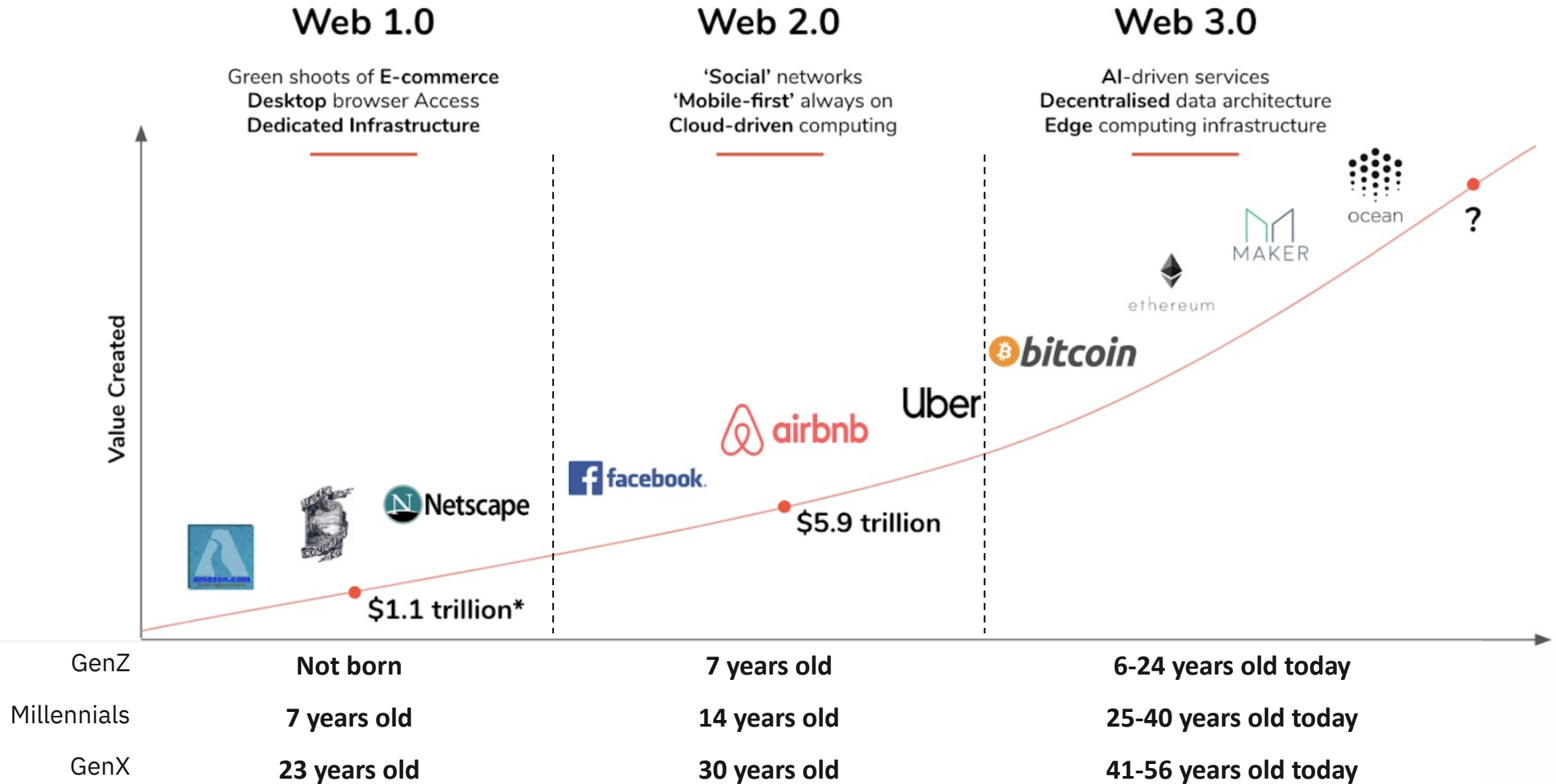
AI-driven services
Decentralised data architecture
Edge computing infrastructure



GenZ	Not born	7 years old
Millennials	7 years old	14 years old
GenX	23 years old	30 years old

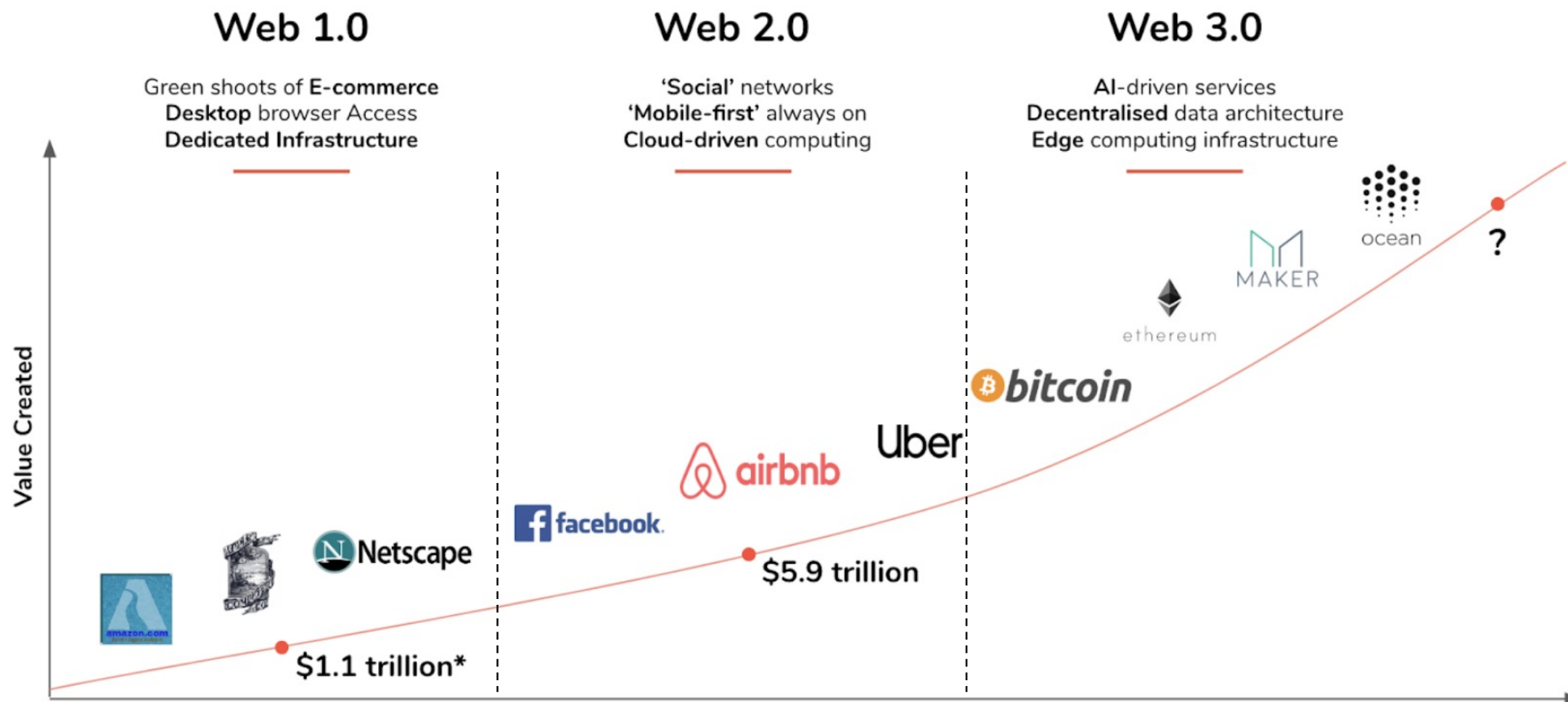
The Evolution of the Web

Internet companies chart created by Fabric Ventures, Generations added by Chris Moose



The Evolution of the Web

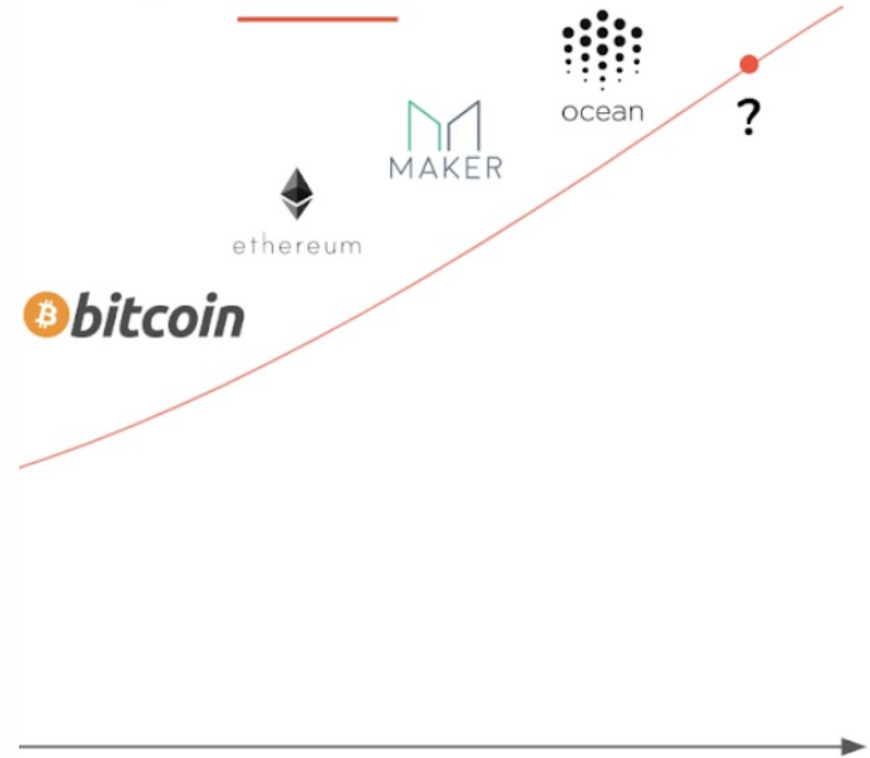
Internet companies chart created by Fabric Ventures, Generations added by Chris Moose



GenZ	19.7% State of XX population
Millennials	26.9% State of XX population
GenX	11.7% State of XX population

Web 3.0

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Edge computing infrastructure



What is the trajectory?

(its more than money)

**Value
and/or
Utility**

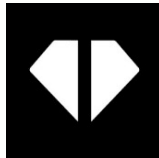


Bitcoin



USDC

**Non-fungible
Token (NFT)**



Royal.io



OpenSea

**Decentralized
Autonomous
Organizations
(DAOs)**



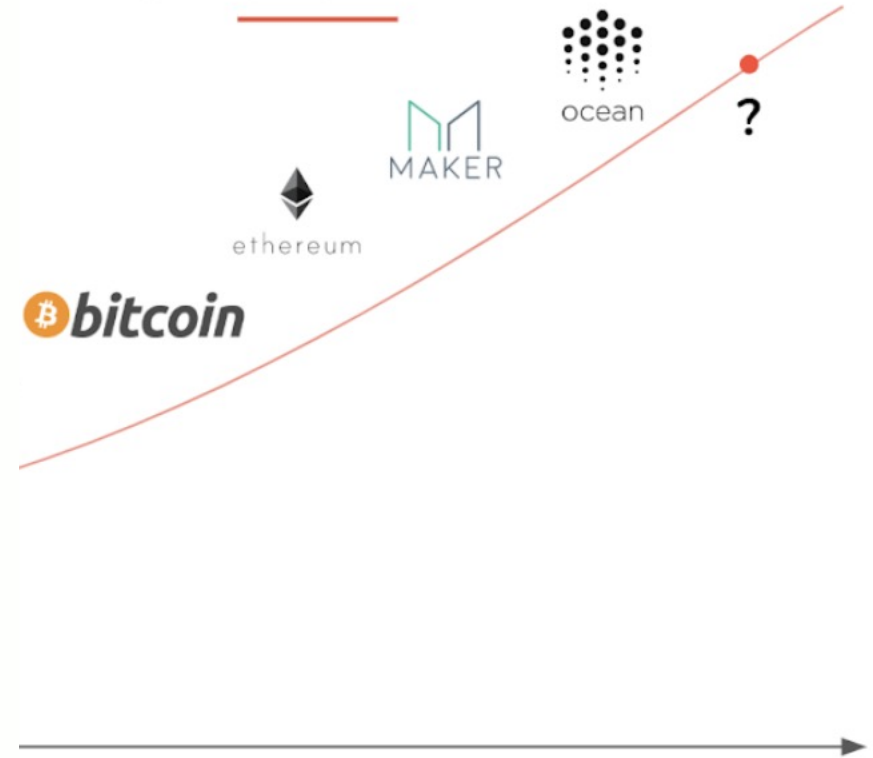
Compound



Uniswap

Web 3.0

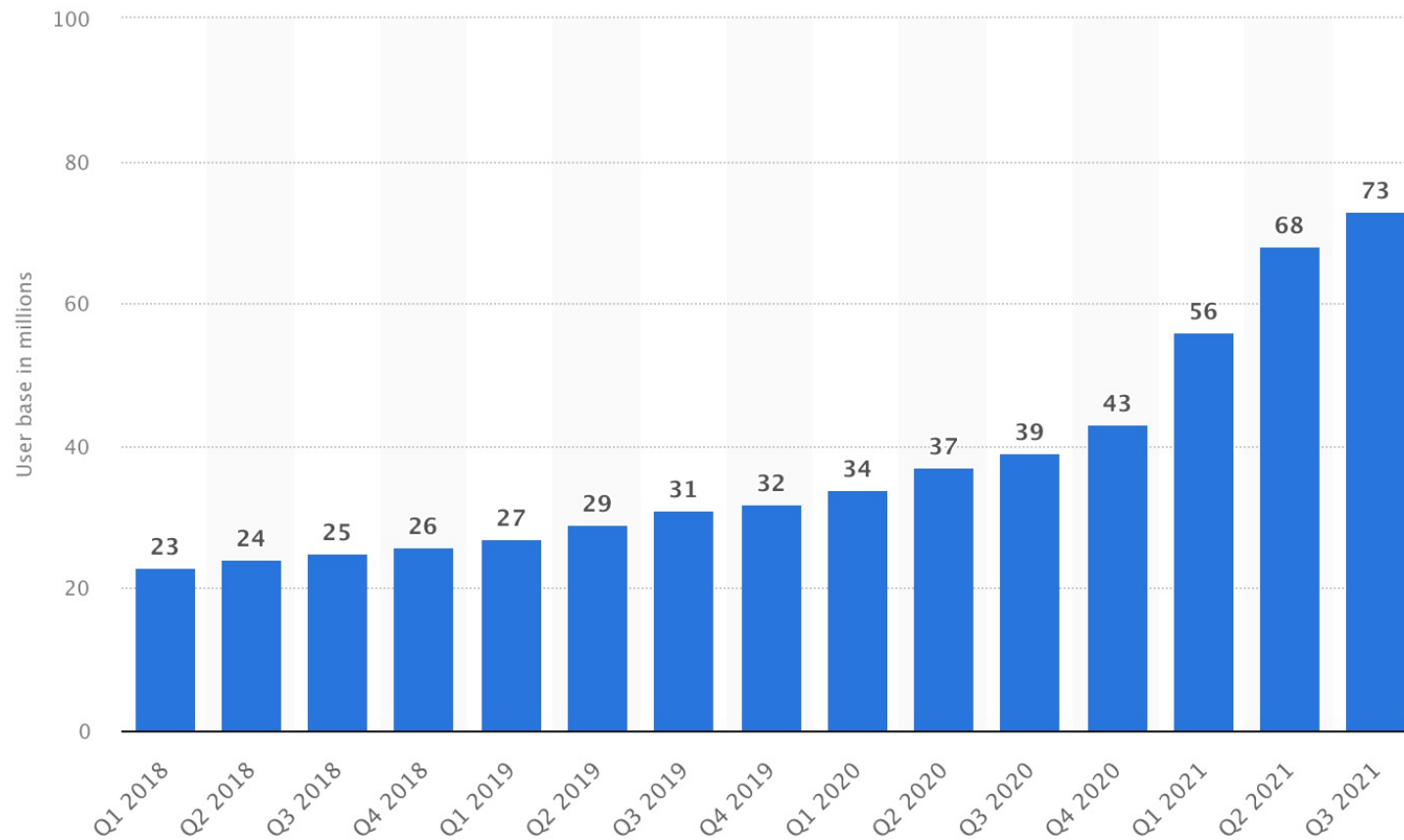
AI-driven services
Decentralised data architecture
Edge computing infrastructure



What is the trajectory?

(its more than money)

coinbase



Source: statista

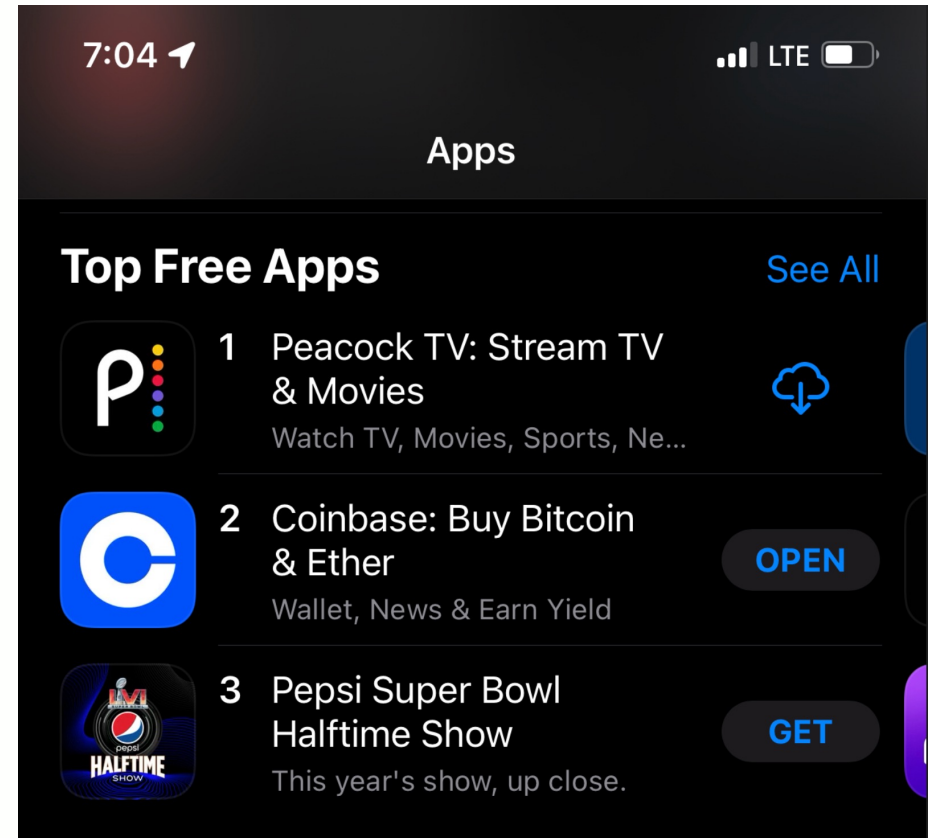
Registered users up 3x in less than 4 years

With non financial assets coming (NFT's, et.)

coinbase

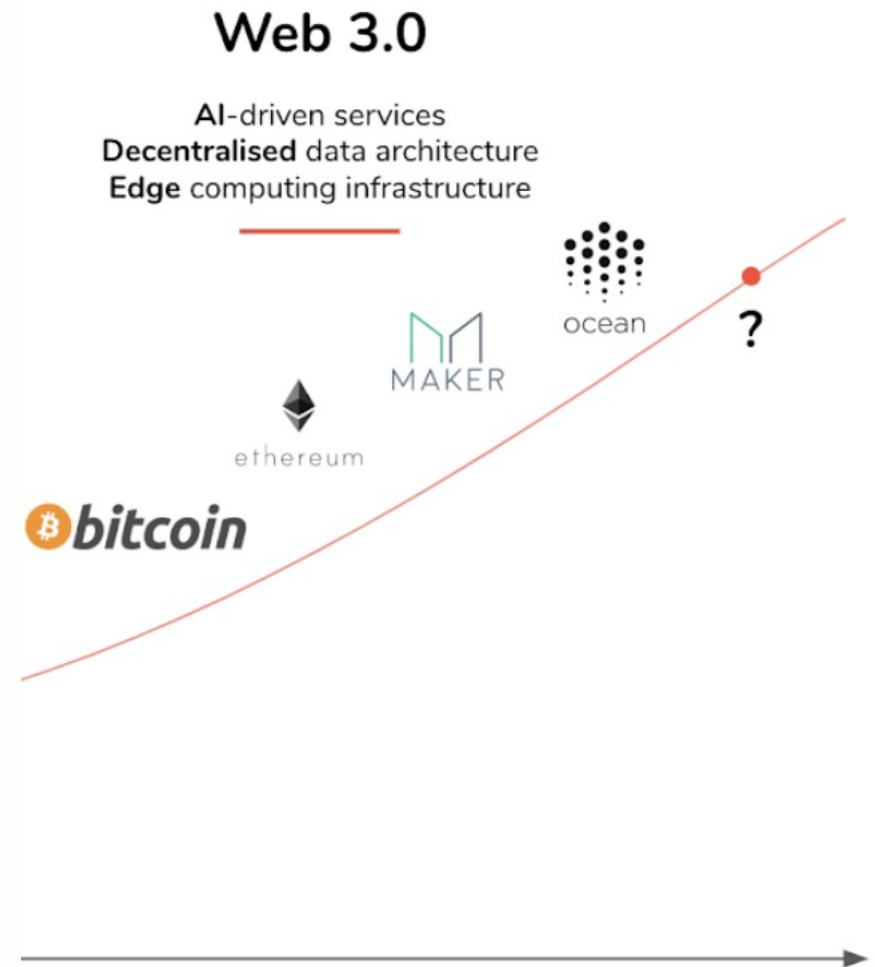


Sunday night during Superbowl



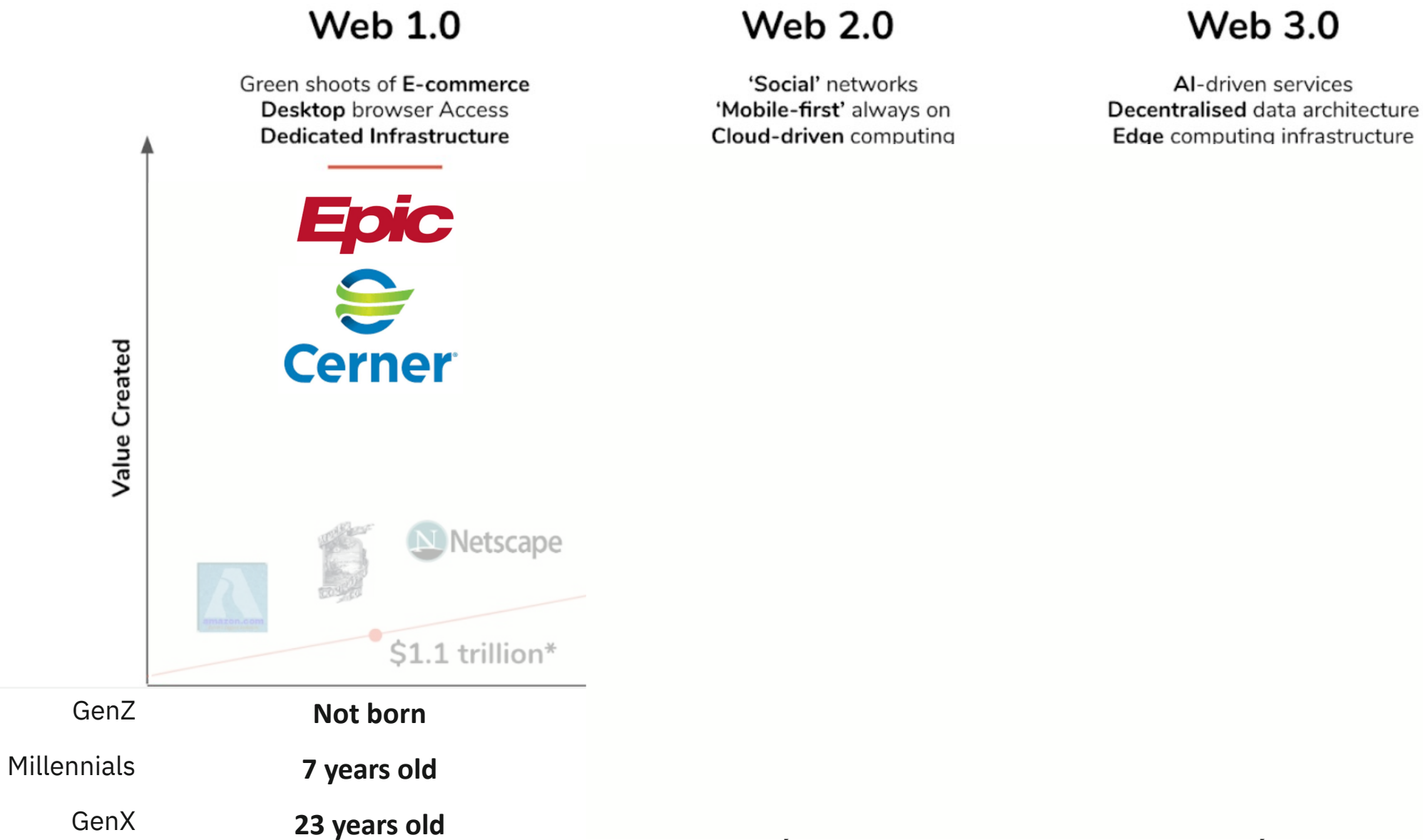
The next morning

But what does any of this mean for healthcare?



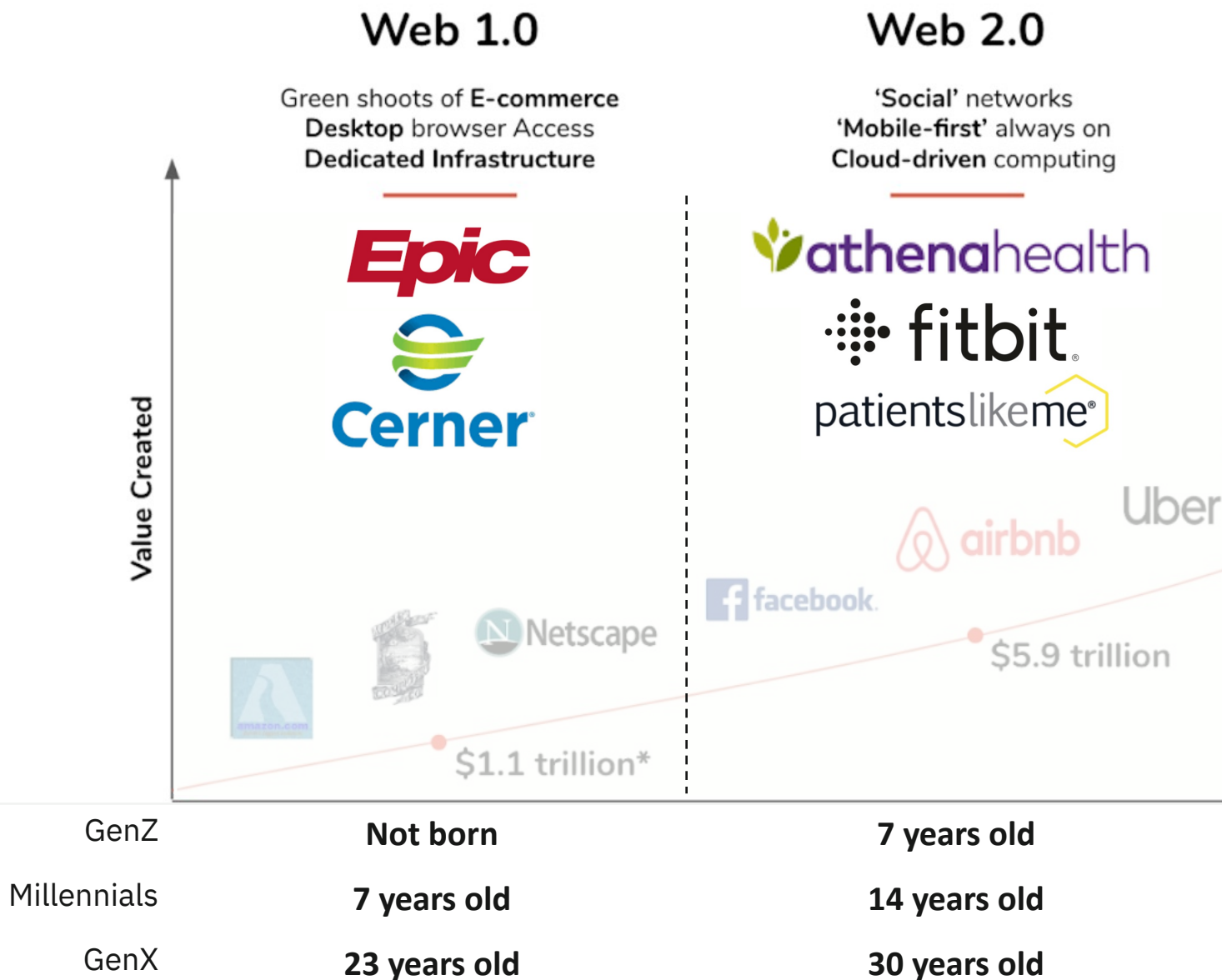
The Evolution of the Web *and Healthcare?*

Internet companies chart created by
Fabric Ventures, Generations and
Healthcare added by Chris Moose



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Decentralised data architecture
Edge computing infrastructure



Netscape

\$5.9 trillion

\$1.1 trillion*

GenZ

Not born

7 years old

Millennials

7 years old

14 years old

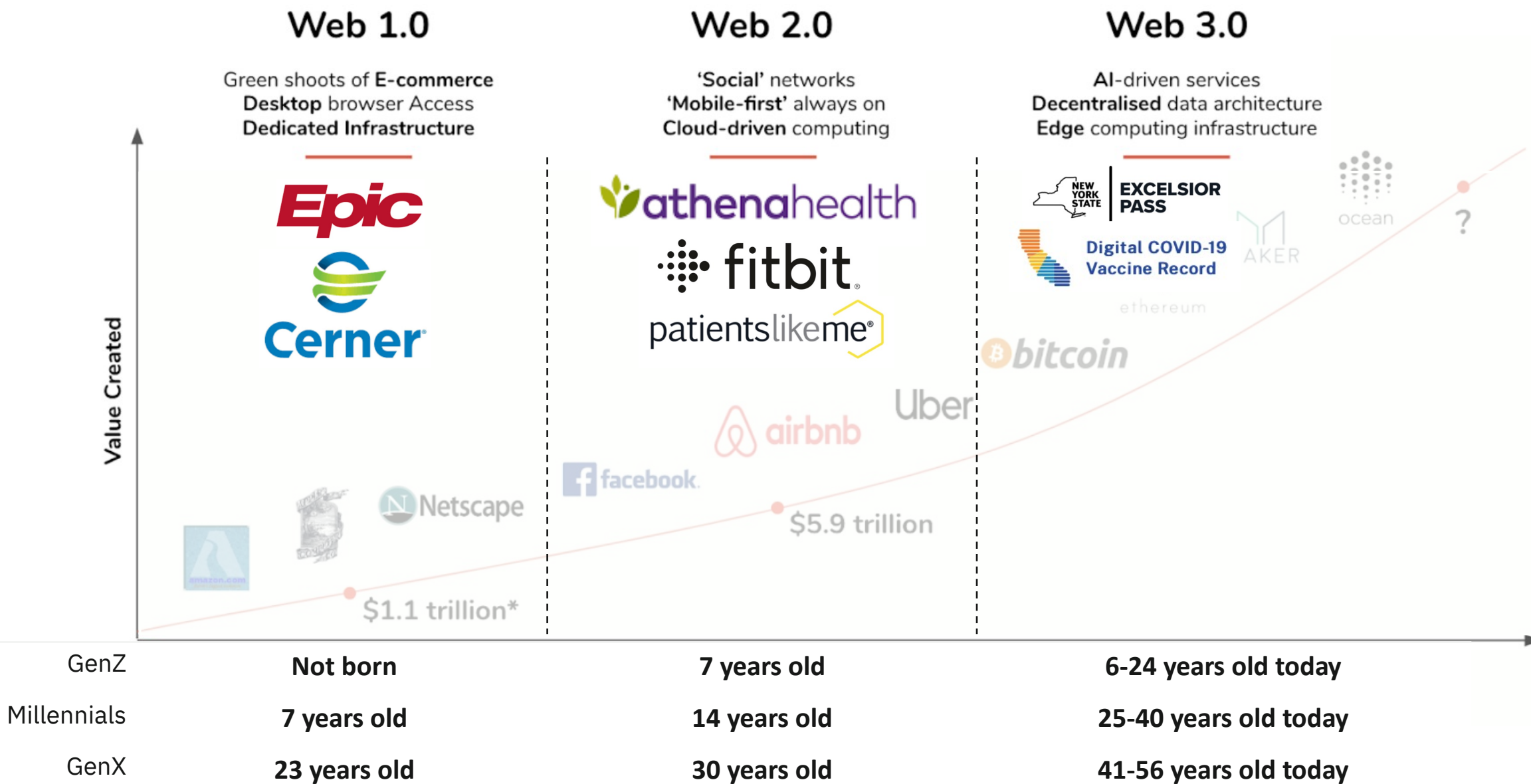
GenX

23 years old

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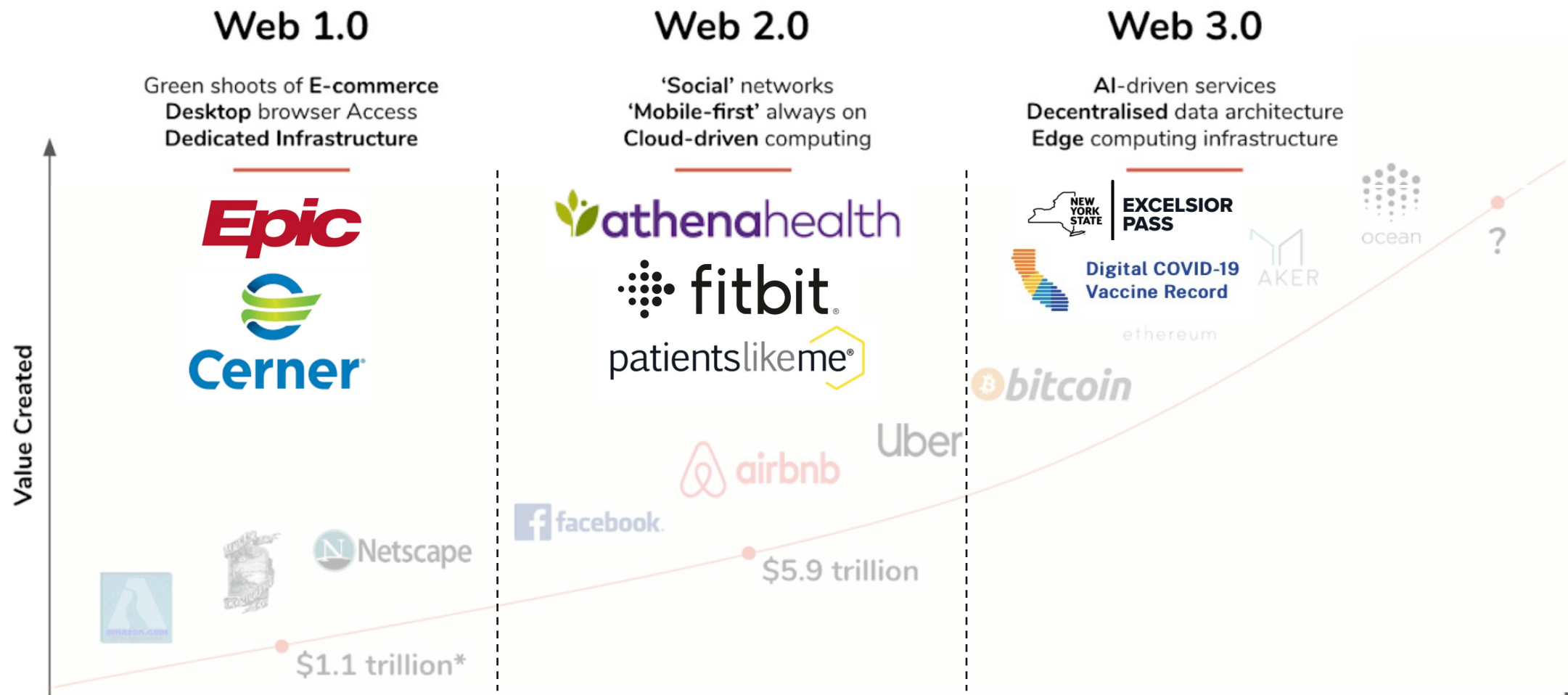
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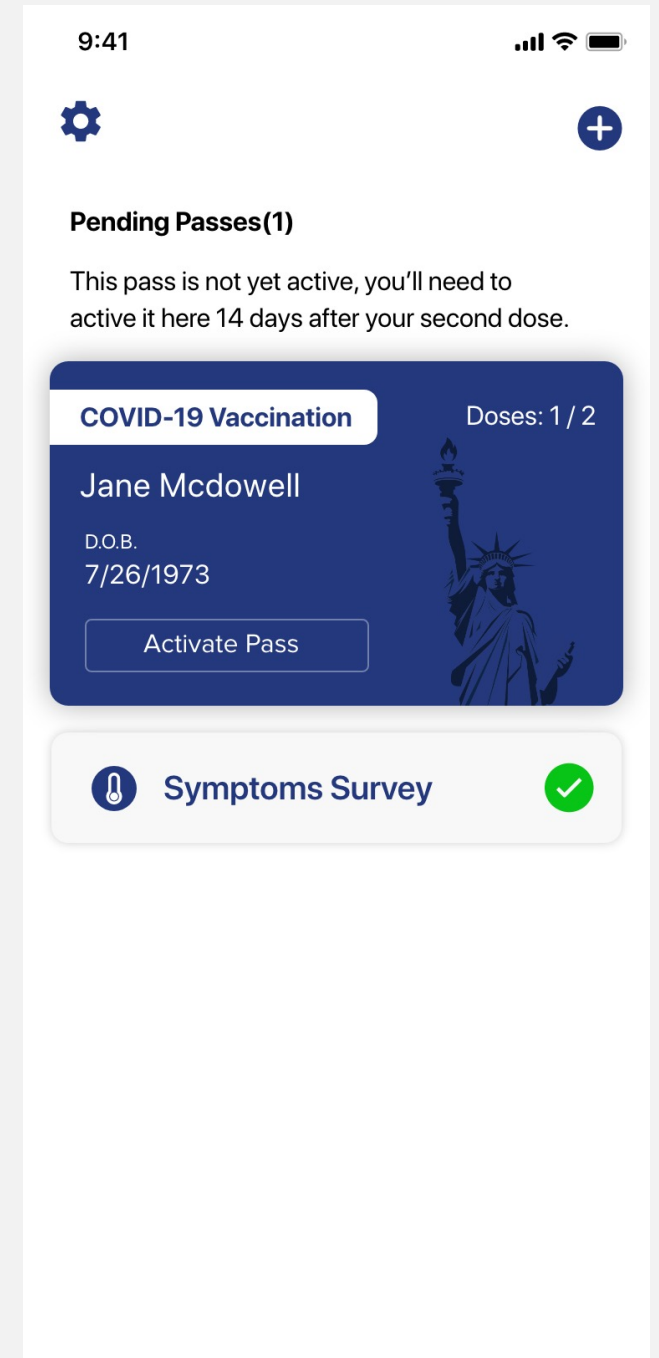
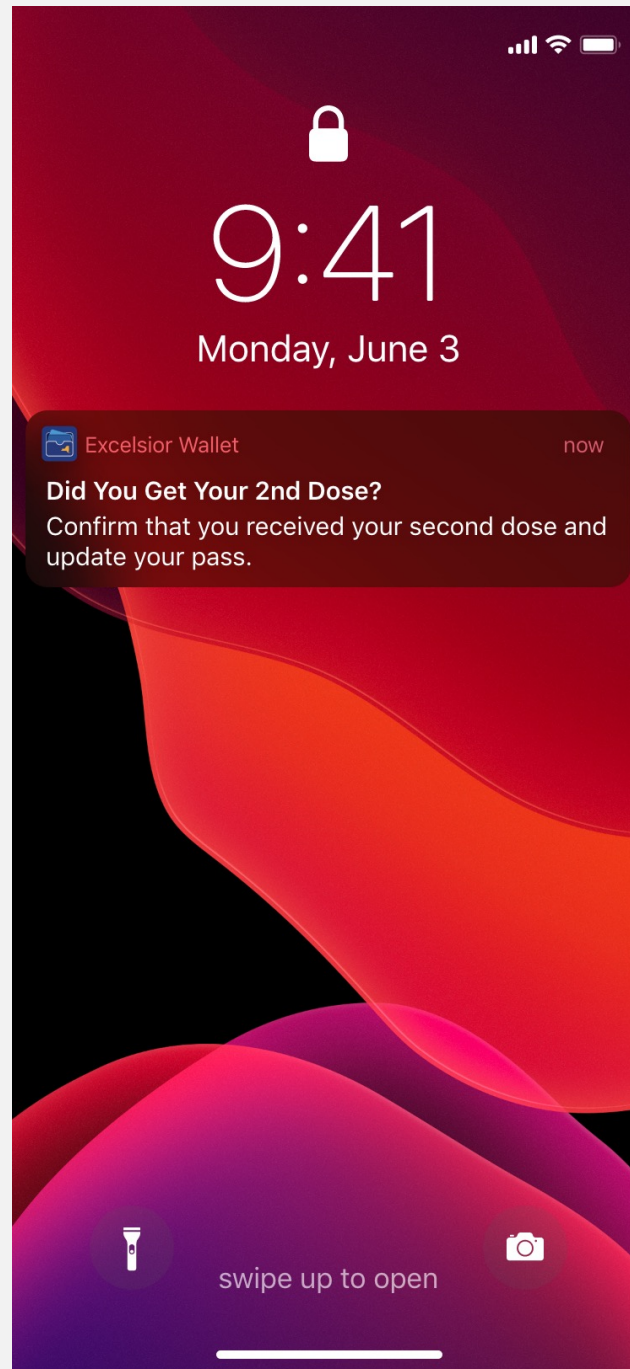


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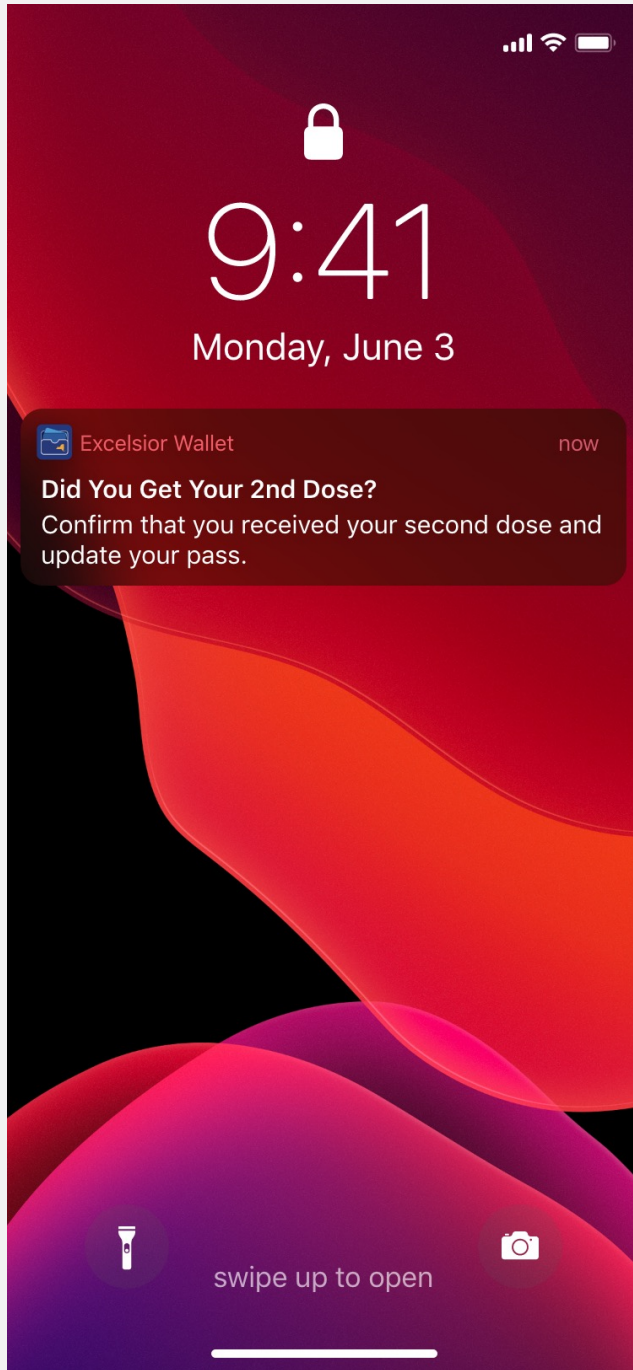
Jane

Jane stores a credential attesting to her COVID status on her phone





Jane



Supply Chain

Patient/HCP Engagement

Commercial

Clinical

Population Health

What is happening

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652,000+ Americans died from COVID

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We assess that the United States and the world will remain vulnerable to the next flu pandemic or large-scale outbreak of a contagious disease that could lead to massive rates of death and disability, severely affect the world economy, strain international resources, and increase calls on the United States for support.

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STATEMENT FOR THE RECORD

WORLDWIDE THREAT ASSESSMENT OF THE US INTELLIGENCE COMMUNITY

Daniel R. Coats

Director of National Intelligence

Senate Select Committee on Intelligence

29 JANUARY 2019



**BEAR
STEARNS**



The federal government has spent \$3.40 trillion in response to COVID-19. i

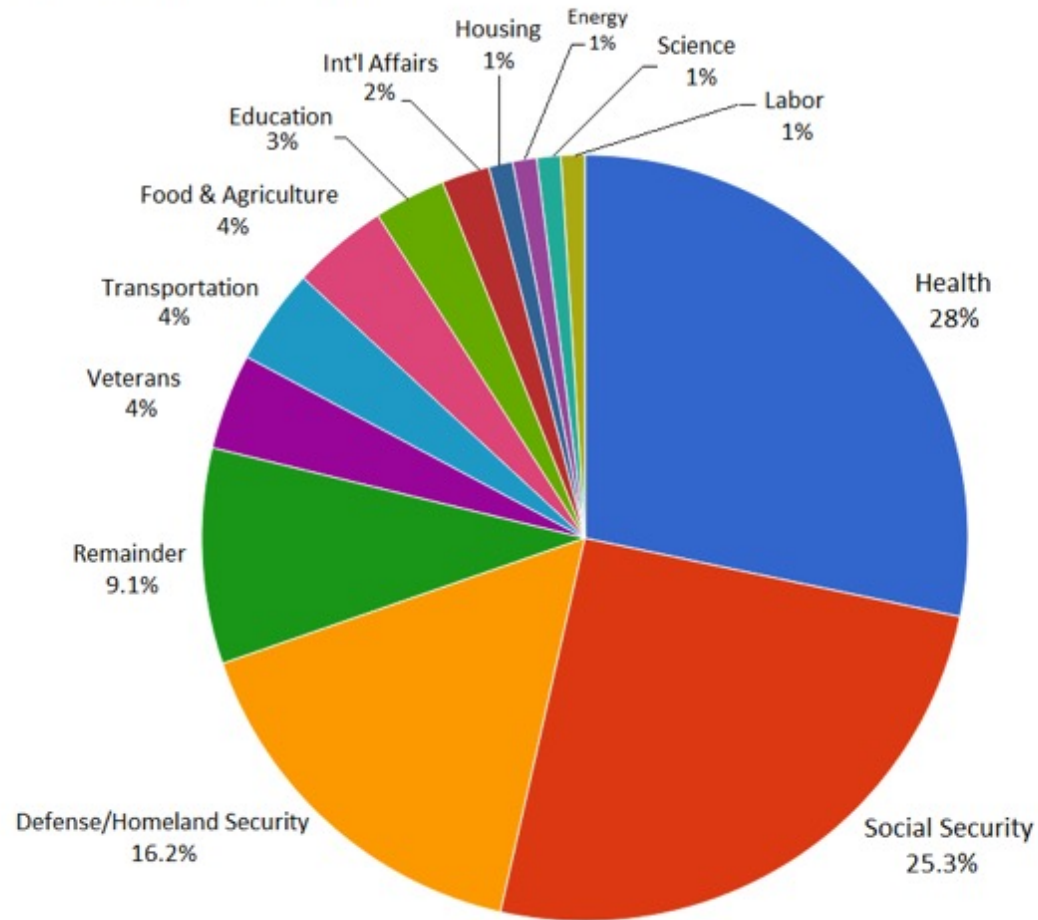
[View all COVID-19 spending](#)

USAspending is the official open data source of federal spending information.

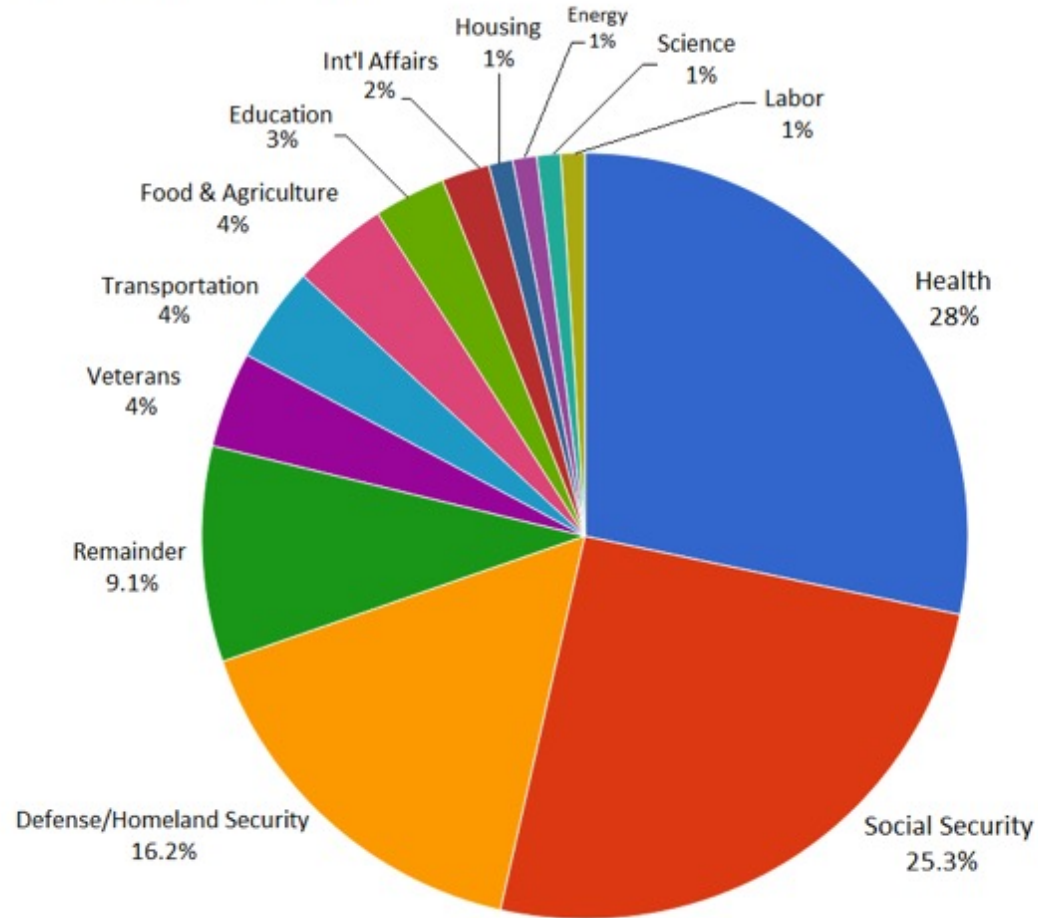
We track how federal money is spent in communities across America and beyond. Learn more about government spending through interactive tools that explore elements of the federal budget, such as federal loan, grant, and contract data.



Percent of spending, including discretionary and mandatory



Percent of spending, including discretionary and mandatory



Pharmaceutical Manufacturing in America

BARDA'S COMMITMENT TO EXPANDING PHARMACEUTICAL MANUFACTURING IN THE UNITED STATES

With funding provided by Congress under "Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020" and "Coronavirus Aid, Relief, and Economic Security Act" (CARES Act) and the "America Rescue Plan - Domestic Manufacturing Capacity & Supply Chain" (Section 2303) signed in March 2021, BARDA is leading the expansion of U.S.- based pharmaceutical manufacturing capacity.

[READ MORE](#)

BARDA has made previous investments to expand U.S.- based biological manufacturing capacity by helping private sector partners build or retrofit manufacturing lines, establishing three Centers for Innovation and Advanced Manufacturing (CIADMs), and a Fill Finish Manufacturing Network (FFMN). COVID-19 funding and authorization enabled BARDA to build on that experience by expanding into new public-private partnerships that further increase U.S.- based pharmaceutical manufacturing capabilities and strengthen the MCM supply chain. These new partnerships highlighted below provide a unique opportunity to develop an end-to-end domestic manufacturing capability to significantly improve our Nation's domestic pharmaceutical supply chain and preparedness for future pandemics.

BARDA'S Impact of Diagnostic Investments

Rapidly deploying test kits to Americans

[View More](#)

144.4M+

Diagnostic Test Kits Shipped by Partners
*as of August 27, 2021



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Executive Order on Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States

— ECONOMY & JOBS | Issued on: August 6, 2020



Key points

- Intended to develop domestic healthcare supply capabilities
- Encourages agencies to source domestically
- Addresses ‘demand side’ by encouraging long term contracting
- Publicly reports government sourcing
- Ongoing requirement with annual reporting

EXECUTIVE ORDERS

Executive Order on Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States

ECONOMY & JOBS | Issued on: August 6, 2020



Executive Order on Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States

EXECUTIVE ORDERS

ECONOMY & JOBS | Issued on: August 6, 2020



Drug and Biologic Essential Medicines, Medical Countermeasures, and Critical Inputs for the List Described in Section 3(c) of the Executive Order 13944

*List of drugs for critical care does not include the following: diagnostic agents and medical gases other than isoflurane for general anesthesia
 + Additional critical inputs have been identified by FDA but have not yet been expressly identified on this list because of the need to consider how to share this additional critical input information in a manner that is consistent with applicable disclosure law while providing our federal partners with the information they need to implement their obligations under the EO

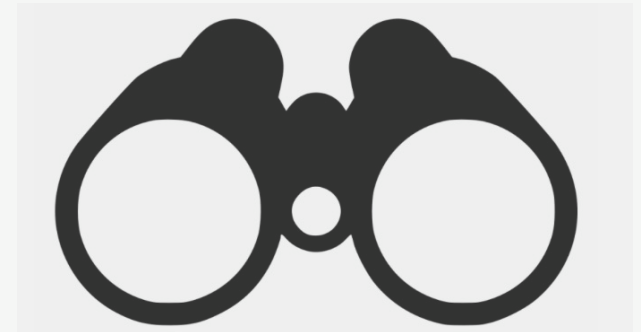
DRUG NAME*	DOSAGE FORMS	CRITICAL INPUTS	IN MCM USE ONLY
Drug Category: Gastrointestinal Agents			
Famotidine	oral / IV	API only	
Lactulose	liquid	API only	
Loperamide	oral	API only	
Pantoprazole	IV	API only	
Drug Category: Anticonvulsants			
Phenytoin	IV	API only	
Levetiracetam	oral / IV	API only	
Drug Category: Antiemetics			
Ondansetron	IV	API only	
Drug Category: Anticoagulants / Antiplatelet			
Alteplase	IV	API only	
Apixaban	oral	API only	
Aspirin	oral	API only	
Ticagrelor	oral	API only	
Enoxaparin	SQ	API, heparin, crude heparin	
Heparin	IV	API and crude heparin	
Protamine	IV	API, source proteins	
Vitamin K	IV	API only	
Andexanet alfa injection	IV	genetically modified variant of human FXa	

Executive Order on Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States

ECONOMY & JOBS | Issued on: August 6, 2020



The image shows the cover of a report titled "Drug Shortages: Root Causes and Potential Solutions 2019" from the U.S. Food & Drug Administration. The cover features a collage of images: a woman in a blue headscarf, a close-up of a syringe and vial, an ambulance, and a nurse. The FDA logo is visible at the bottom left.



Executive Order on Ensuring Essential Medicines, Medical Countermeasures, and Critical Inputs Are Made in the United States

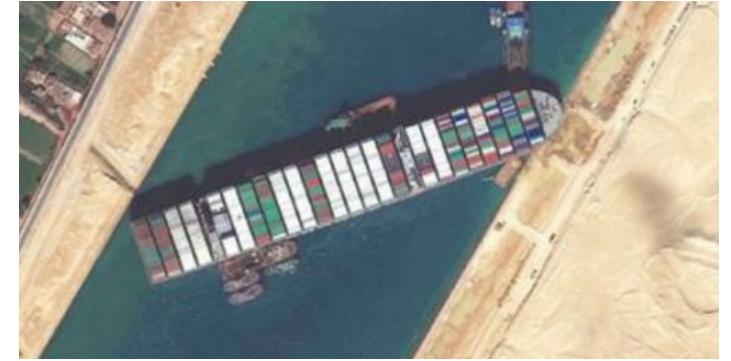
ECONOMY & JOBS | Issued on: August 6, 2020



Drug Shortages: Root Causes and Potential Solutions 2019

Executive Summary

FDA U.S. FOOD & DRUG ADMINISTRATION

A collage of four images: top right shows a smiling woman in a blue headband; middle right shows a close-up of a syringe and a vial; bottom left shows a red ambulance in motion; bottom right shows a nurse in blue scrubs. The FDA logo is at the bottom left.



CHRISTIAN
BALE
STEVE
CARELL
RYAN
GOSLING
BRAD
PITT

AN ADAM MCKAY FILM
**THE
BIG
SHORT**
THIS IS A TRUE STORY

**"FASCINATING
AND FUNNY.
IT'S A TRIUMPH."**
Joe Morgenstern,
THE WALL STREET JOURNAL



Regulation

Stress tests
Liquidity ratios

...

“FASCINATING
AND FUNNY.
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THE WALL STREET JOURNAL

Executive Order on Essential Medicines Countermeasures, and Inputs Are Made in the States

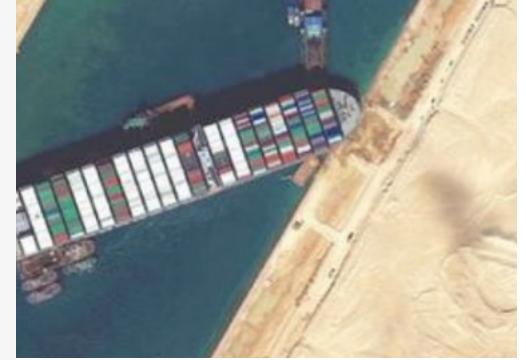
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\$6.58 billion

\$6.58 billion

\$4.58 billion

\$6.58 billion

\$4.58 billion

Let's ask for \$5m

Product visibility business case for one company

Just addressing a small subset sales reserves & allowances (“SR&A”)

Sales reserves and allowances are often 2-5% of a pharmaceutical company's net sales.

Product visibility business case for one company

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	Cost to implement	Returns Cost
Year 0	\$5m	
Year 1		\$780m
Year 2		\$638m
Year 3		\$637m

Product visibility business case for one company

Just addressing a small subset sales reserves & allowances (“SR&A”)

		Cost to implement	Returns Cost	Benefit of 1% returns reduction
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1% improvement in just the returns portion of SR&A yields

1 year simple payback
\$11.9m NPV over 4 years
311% ROI

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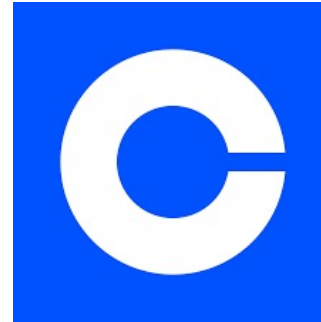
@MooseChris
Chris.moose@us.ibm.com



coinbase

coinbase

Coinbase
(the platform)



We know who you are because we hold your stuff

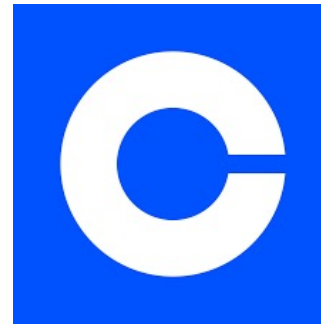
Coinbase
(the wallet)



You control your stuff and we don't know about it

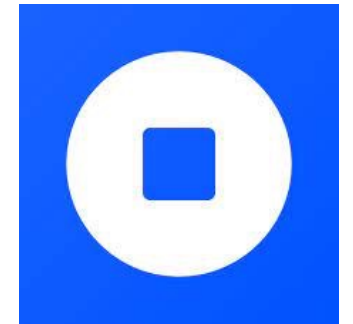
coinbase

Coinbase
(the platform)



Leave it in the bank

Coinbase
(the wallet)



Put it under my mattress



What did Coinbase do with my funds?

Digital currency that is considered abandoned based on the unclaimed property laws of the account holder's state of residence are converted into U.S. dollars. The proceeds from this conversion are then sent to the account holder's state unclaimed property office to be held until the owner makes a claim to recover the U.S. dollar proceeds of this conversion. There is no conversion necessary for abandoned U.S. dollars held in a customer's USD Wallet. Coinbase is exploring methods to turn over digital currency in its native format, but no state has yet put a system in place to accommodate this.



Basic Attention Token

Monthly Active Users

54.5 Million

Daily Active Users

16.0 Million

Crypto and DeFi are hard to use and the \$330 billion digital advertising industry is failing users, publishers and advertisers. With Basic Attention Token and Brave we want to take Crypto to the next 1B users and solve the endemic inefficiencies and privacy violations hobbling the digital ad industry.



Basic Attention Token

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People are entering into alternative ways of monetizing information about themselves

This will come for healthcare data

- Crypto enables micro incentivization methods, and data markets, at scales not previously economical
- This will reshape consent
- Potentially how global privacy issues are resolved

People are entering into alternative ways of monetizing information about themselves



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Basicattentiontoken.org
Feb 13, 2022



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Drug shortages task force findings

Comparing 1 company and rest of industry, 2018 – July 2020



Key findings:

1. Lack of incentives to produce less profitable drugs
2. Market does not recognize and reward manufacturers for mature quality management systems
3. Logistics and regulatory challenges make it difficult for market to recover after a disruption

Lack of transparency in the pharmaceutical industry impairs reputable manufacturers from being rewarded for mature, safe, manufacturing solutions.

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Lack of transparency in the pharmaceutical industry impairs reputable manufacturers from being rewarded for mature, safe, manufacturing solutions.

Shortage reason	Industry	1 Co Only	
API procurement delay	4		
API shortage	11		
API Supply Issue	4		
Available	20		
Delay in manufacturing	3		
Delay in shipping of the drug	11		
Delays due to manufacturing issues.	4		
Demand increase due to Covid-19	3		
Demand increase for the drug	432	13	3%
Demand increase for the drug and manufacturing delays	1		
Demand increase for the drug and shortage of an active ingredient	4		
Demand increase for the product	2		
Demand increase of the drug	2		
Discontinuation of the manufacture of the drug	49	6	12%
Discontinuation of the manufacture of the drug.	1		
Increase in demand	14		
Limited API availability	11		
Manufacturing delay	42		
Manufacturing delays	9		
Manufacturing interruptions and demand increase	1		
Other	1		
Other	418	26	6%
Regulatory delay	1		
Requirements related to complying with good manufacturing practices	8		
Requirements related to complying with good manufacturing practices & demand increase for the drug	11		
Requirements related to complying with good manufacturing processes	4		
Shortage of active ingredient	17		
Shortage of an active ingredient	20		
Shortage of an active ingredient, Delay in shipping of the drug, and Demand increase for the drug	6		
Shortage of an active ingredient.	11		
Shortage of an inactive ingredient	1		
(blank)	1641	227	14%
Grand Total	2767	274	10%