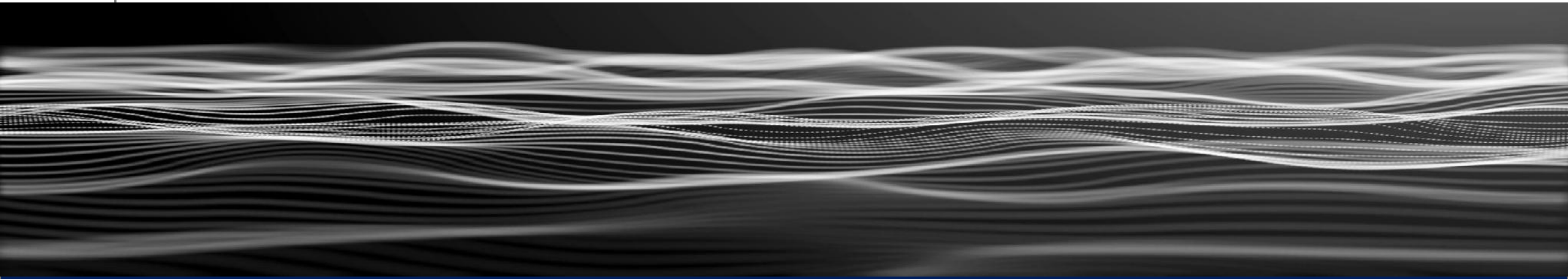


Technology Trends in Healthcare

- Finding the pattern in the noise



WHERE WE START....

1854

One map. One pattern. One decision



THE DATA

John Snow mapped cholera deaths — no tech, just data and observation.



THE PATTERN

The deaths clustered around one water pump on Broad Street.



THE ACTION

He convinced the council to remove the pump handle.



THE RESULT

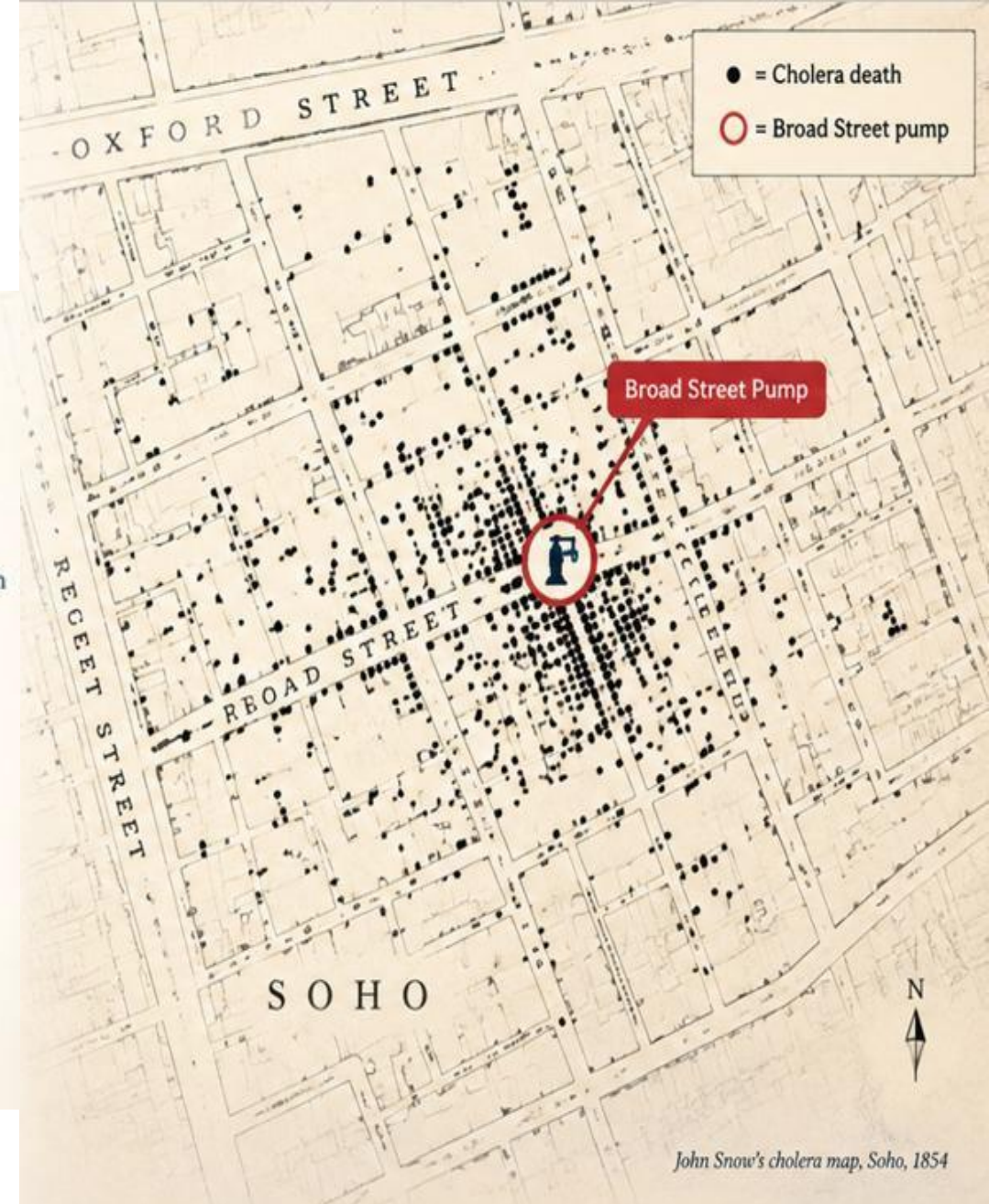
The outbreak collapsed within days.



*“ He didn’t have a microscope.
He didn’t have a data warehouse.
He didn’t have AI.*

*He had data — organized well enough
to see a pattern, and the courage to act
before he had perfect certainty.”*

— JOHN SNOW



John Snow's cholera map, Soho, 1854

SAME JOB. BIGGER SCALE. HIGHER

TECHNOLOGY FAULT LINES



Digital Divide

Not everyone can access care.



Interoperability Crisis

Critical information doesn't connect.



Privacy Tightrope

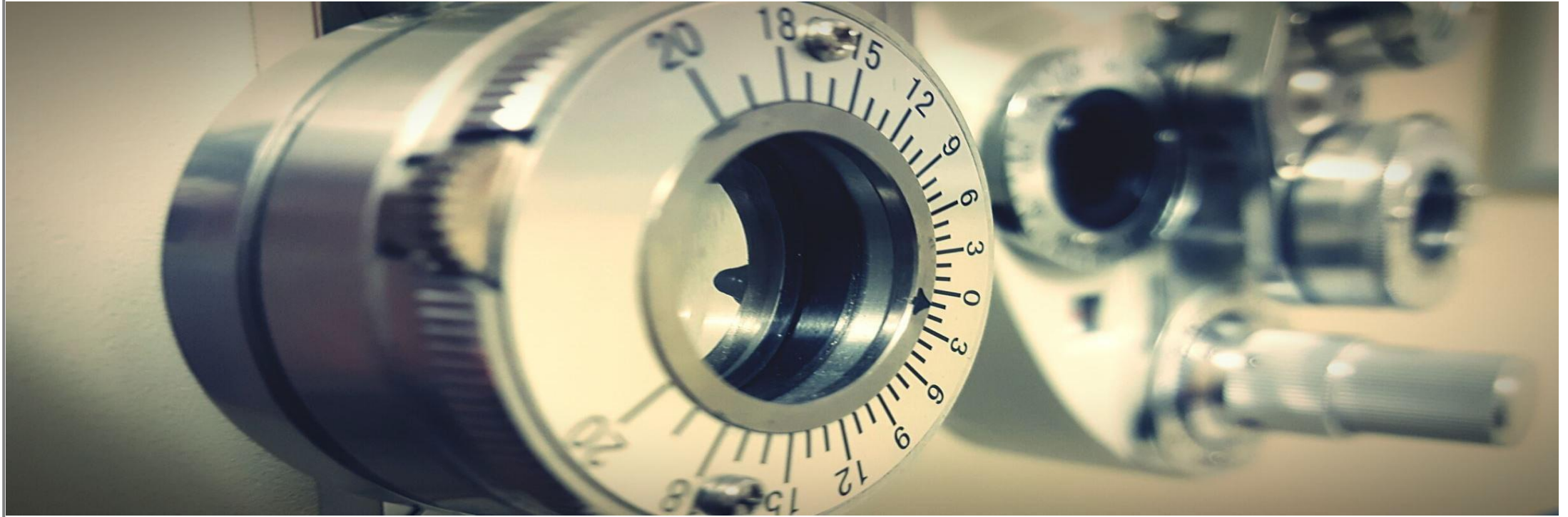
Trust is fragile.



A Shrinking World

Outbreaks cross borders.

THE CHALLENGES AREN'T NEW – THEY ARE JUST MORE VISIBLE



TECHNOLOGY TRENDS ...

From Healthcare Lens

Separating Signal from Noise

Technology Trends that earns its keep



Remote Monitoring & Wearables

A connected device that keeps someone with a chronic illness out of the emergency room.



Drones & Robotics

Vaccines and medicine to remote areas.
Keeping health workers out of harms way. Robotic Surgeries



Digital Communication & Outreach

Well-timed text reminding about
screening Medical awareness Campaign

SAME TECHNOLOGY, DIFFERENT ADAPTION, DIFFERENT IMPACT IN HEALTH CARE .

The Technology Race and the unglamorous Heroes



Cloud Modernization

Cloud-native Architecture, Microservices
API first design
Elastic capacity for a surge



Geographic Information Systems

Chronic disease visually mapped against social and environmental data



Data Platforms

The unglamorous hero.
The data mesh and federated pipes that move information in real time
an outbreak doesn't wait for a nightly batch job.



Big Data & Predictive Analytics

John Snow's map grows with terabytes of structured and unstructured data
Analysis through machine learning models



Cybersecurity

No longer a checkbox.
Baked in design decisions from the start
Cyber security technology race is real

TECHNOLOGY SUPPORTED POLICY MAKING . SIMULATE BEFORE YOU SPEND.

ARTIFICIAL INTELLIGENCE (AI)

how AI is marketed vs how it's used in most of public sector



What Happening

Not chasing AI
Where AI already earns trust inside the agency.

- High-volume
- well-defined
- Lower-stake use cases

AI augments .
It doesn't replace their judgment.



Document Processing

Reading and routing the millions of forms and applications that would otherwise sit in a human's inbox for weeks.



Contact Center Augmentation

Tier-One Chatbots

Grounded in verified information
freeing a human for the conversation that requires judgment.

Multilingual Contact Center Routing

Real-time, multilingual support in our contact centers
clearing the queue instead of leaving people on hold.



Newscape, Procurement & Contract Compliance, IT service & Operations Managements

Every one of these is high-volume, well-defined, and lower-stakes.
AI augments our people. It doesn't replace their judgment.

WHAT'S NOT HAPPENING

The autonomous “transformation”.

Most agencies aren't deploying AI to make autonomous decisions; where being wrong, through hallucination or bias could take away someone's benefits or access to care.



RETAIL ALGORITHM

Gets it wrong → a bad recommendation for your next purchase.



GOVERNMENT ALGORITHM

Gets it wrong → someone's rent check bounces.

Not Technophobia
Its Proportional Caution

Categorically different Consequences, require categorically different Governance



How We Hold the Line



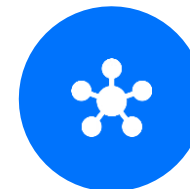
Legacy Systems



Mainframes



Siloed Databases



Interoperability

"If physician registry data can't talk to complaints data, our models will have blind spots we can't even see."

Building the Architecture of Trust

responsible AI governance Framework: 360 ° review of Data, Privacy, Algorithm, Model , Architecture , Security...

AI Governance should be part of the Design. Not a Footnote added after the fact

Responsible AI Governance Framework

The non-negotiable pillars of Holistic AI Governance in government healthcare.



Transparency



Explainability



Accuracy



Data Privacy



Human Oversight



Bias Auditing



Bias Auditing, Every Time

Train on historical utilization data without checking it, and a model can learn a lie: that people who got less care needed less care - when the truth is they couldn't get an appointment. Tested before it ever touches production.



Privacy-Preserving by Design

Techniques like federated learning train a model across multiple databases without ever centralizing a single patient's identifiable record.



Ethics Evaluation

Patient advocates, legal experts, and community voices are part of the evaluation - not an afterthought.

Not humans in the loop. Humans in the lead.



Lessons

that can help you wherever you are in your transformation and AI journey

Start With the Mission, Not the Technology



THE WRONG QUESTION

“Where can we use this technology?”



THE RIGHT QUESTION

“What problem needs solving right now, and does technology actually help solve it?”

Evaluate technology beyond the hype

- *Does it solve a real problem?*
- *Can it scale past a pilot?*
- *What's the actual risk if it's wrong?*
- *Is our data even ready for it?*
- *Will it still matter in three years or is it this decade's fax machine?*

Choose Momentum Over Glamour

Don't start with your hardest problem.

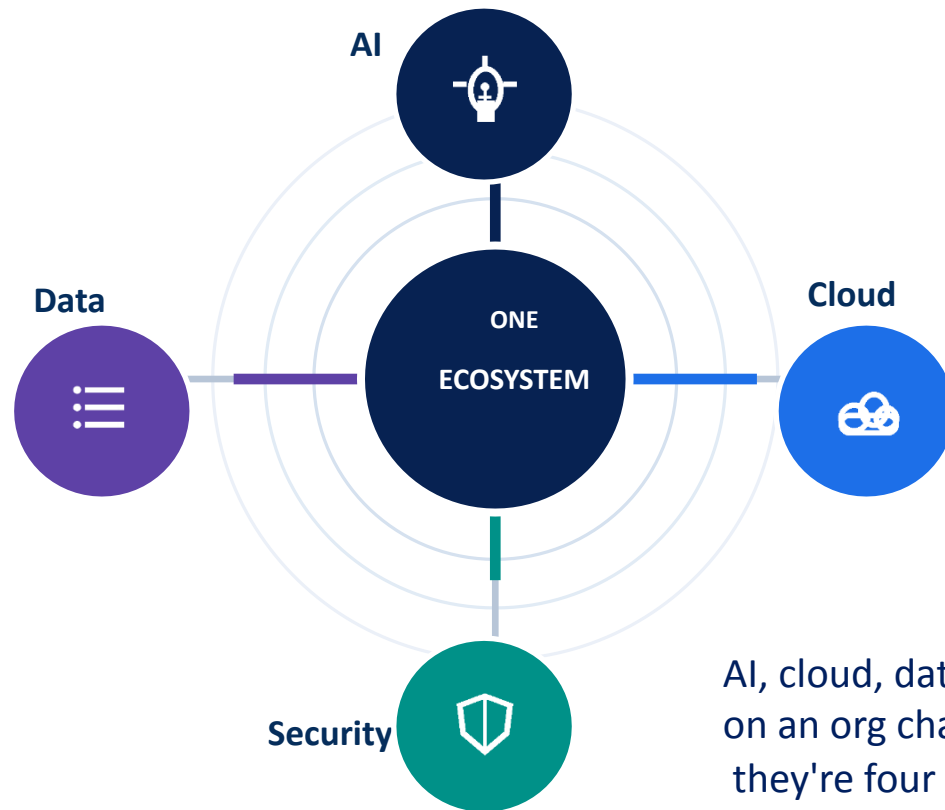
Start with the one where success is achievable, visible, and low-risk.

Initial success is what lets you scale to the harder problem next year.

Ask what needs solving. Not what Technology/ AI could do.

Break the Silos

Technology Silo



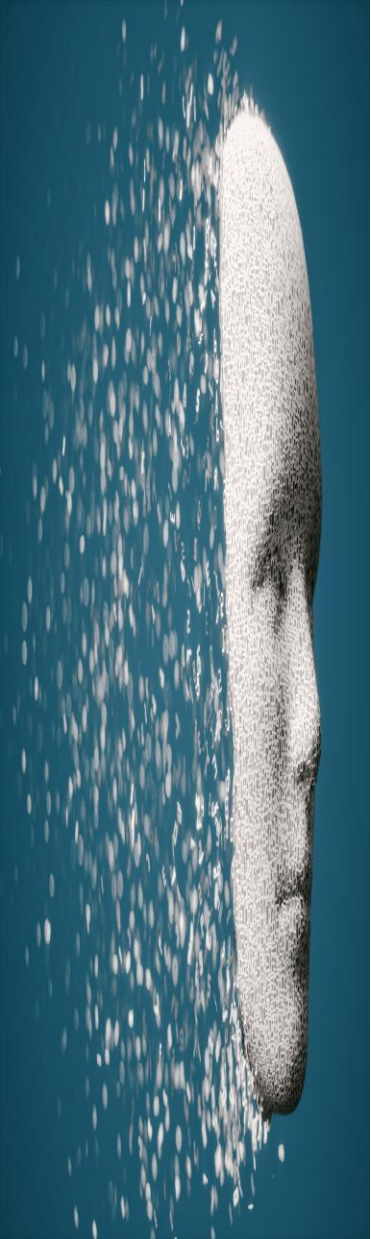
AI, cloud, data, and security aren't four boxes on an org chart
they're four wires in the same circuit.

People Silo

None of it works from inside a data science silo. It takes real partnership:

- *program experts*
- *technologists,*
- *legal*
- *cybersecurity experts etc.*

Stop Buying the Point Solutions □ Start Building an Ecosystem



Build Responsible AI In Don't Bolt It On

*Trust isn't a nice-to-have.
It's the whole operation.*

*The moment citizens believe
their data is being
mishandled, the relationship
is over*

*and it doesn't come back
easily*

Human in the Lead , not just **Human in the loop**

*The model doesn't own the
outcome. You do.*

*Humans need to own the results
and decision*

Don't rely on AI blindly.

Move from Pilot to Production

***Optimism is real but so is the
execution gap***

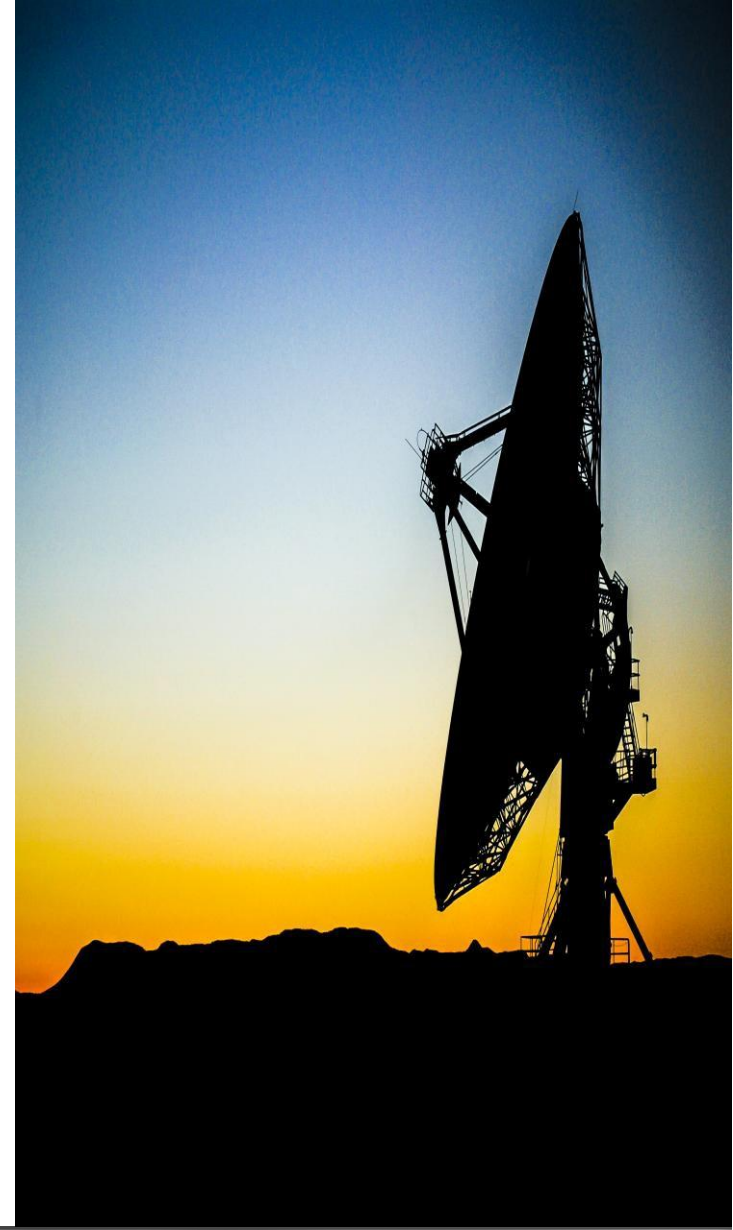
- *Build the discipline to move
from pilot to production*
- *Design for scale from day 1*
- *Build real MLOPs gal*
- *Put insight into workflows*

Invest in building AI literacy in your organization at all levels

Find the signal.

Ignore the noise.

Find Your, Pump Handle



Prachi Mondaiyka

Chief AI Strategy Officer, Deputy CIO, NYS Department of Health