Balancing Innovation and Privacy:

Implementing an AI scribe in Alberta healthcare.

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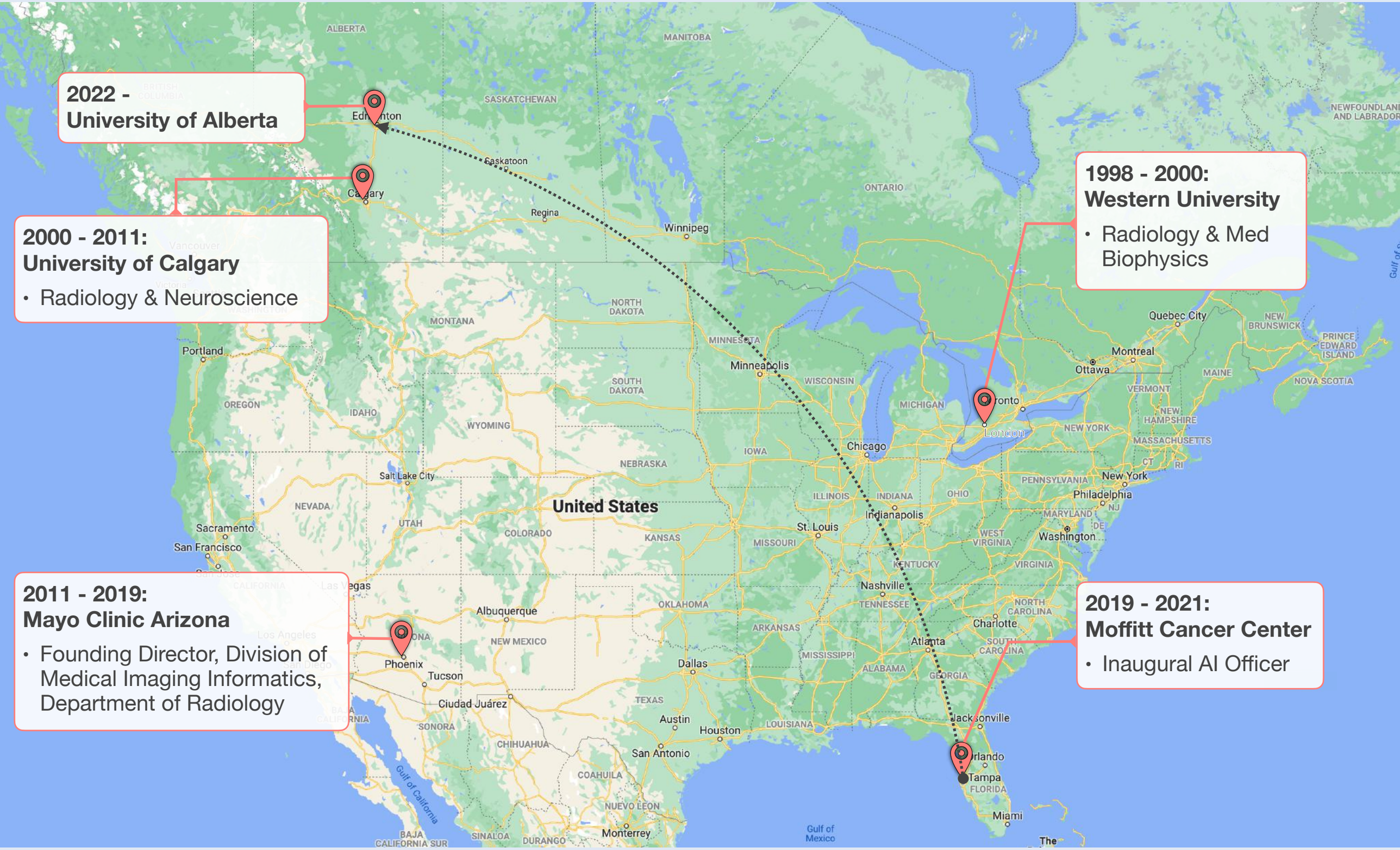
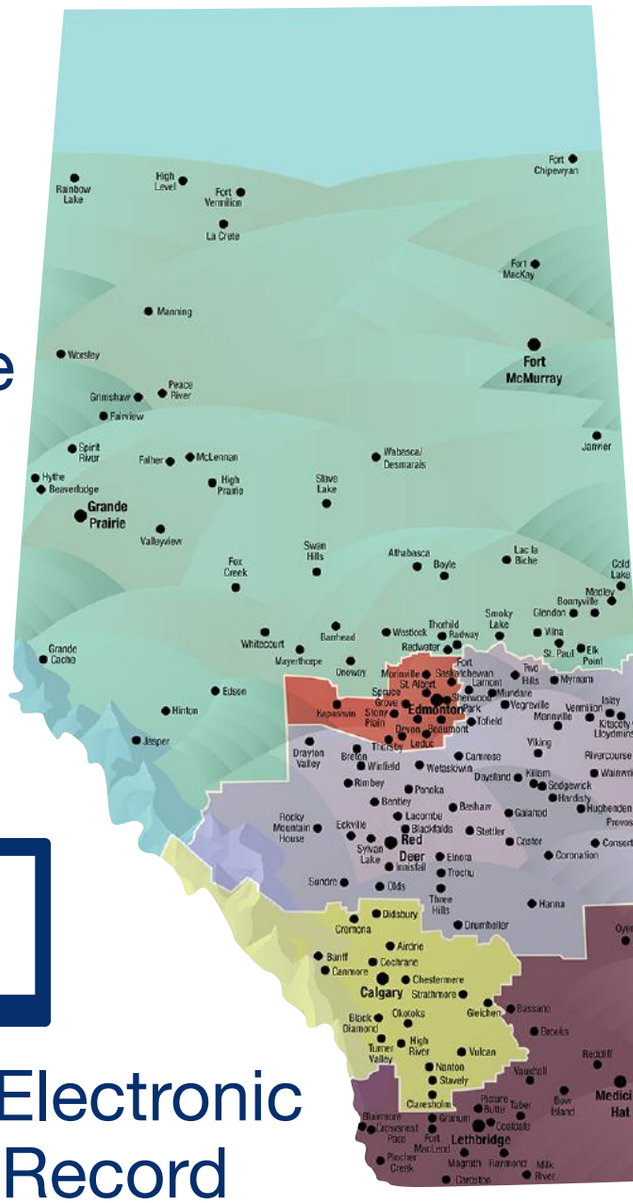
Resume: AI in healthcare scientist for 30 years



Ecosystem: Where Data Meets Intelligence

The Scale: Alberta Health Services

5M People



20 Years of Population-Level Data

Single Electronic Health Record (Connect Care)

106 Hospitals

The Brains: Amii

Top-3 Global AI Hub

Home to Turing Award Winner Richard Sutton

62 Fellows (incl. ~50 Chairs)
1100+ Grad Students

$30M GPU cluster

Healthcare Unburdened

“In a strained health care system we are constantly asked for more - Can you work another shift? Can you see another patient? Can you find another bed? AI Scribing represents a future where something can finally come off our plate instead.”

- Dr. Michael Weldon, Emergency Physician

The Landscape: Over 50 commercial AI scribes exist. Why build another?

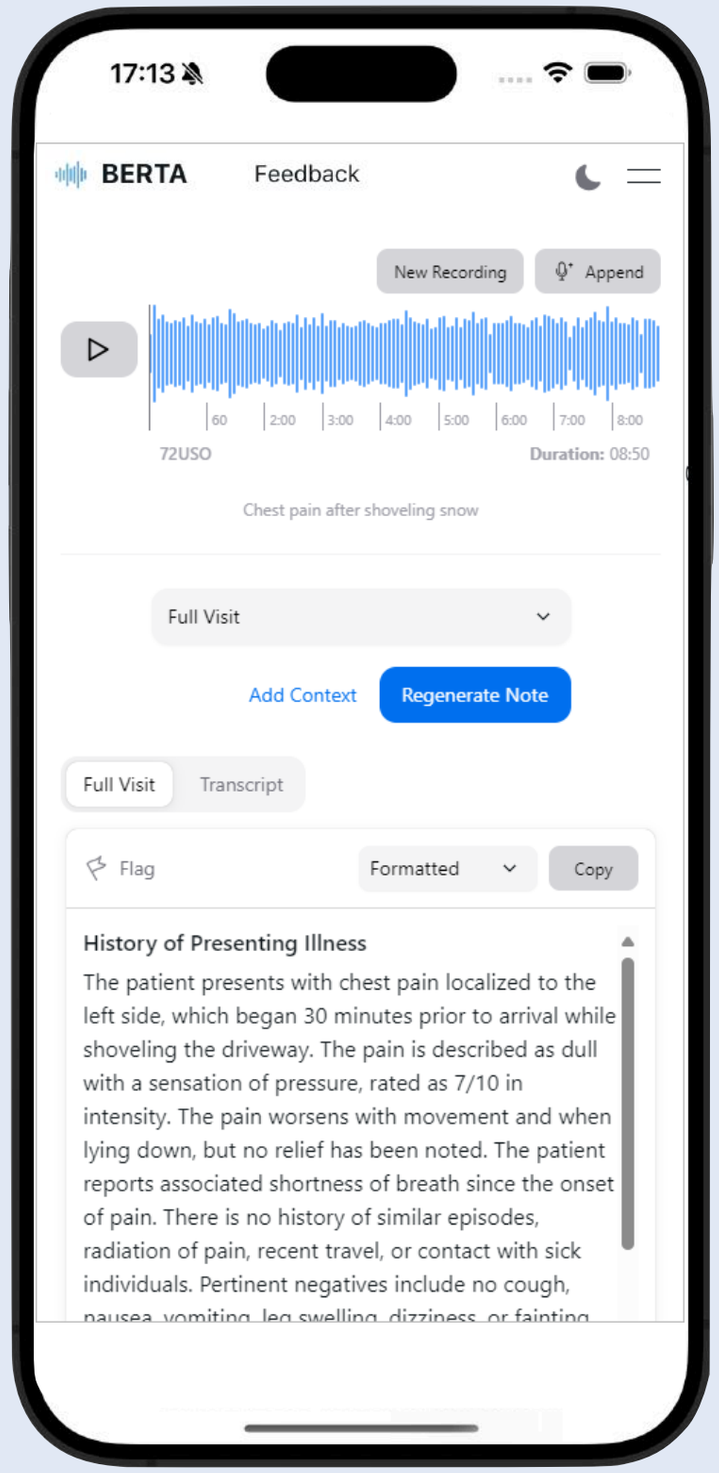
Berta: A Open Source, Secure AI Scribe

Developed by U of Alberta and Alberta Health Services

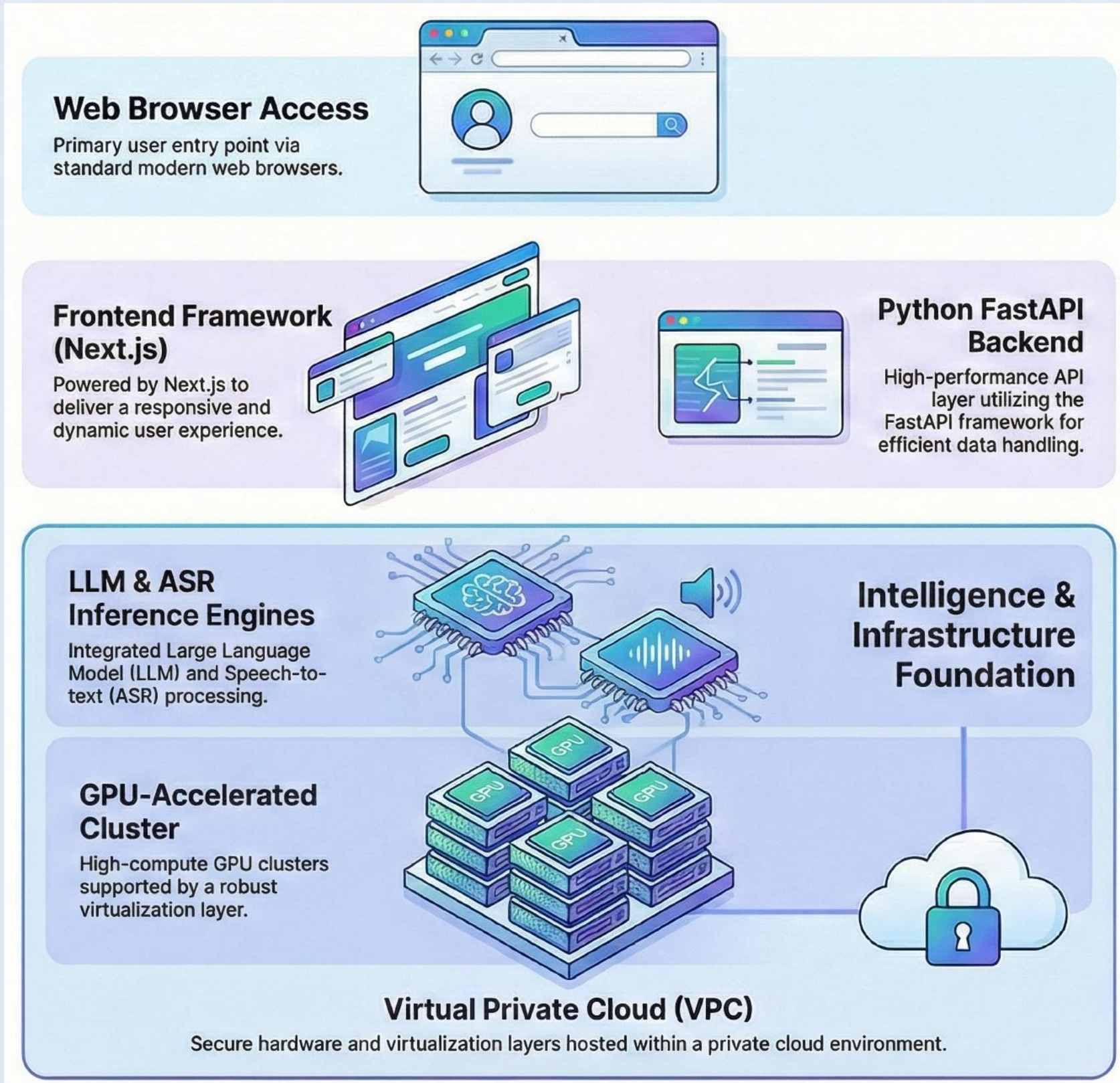
Why Build?

- ✓ Transparency: inspect code
- ✓ Flexibility: deployment, models, notes
- ✓ Sovereignty: 100% data governance
- ✓ Compliance: NHS & OIPC guidelines
- ✓ Cost: < $30 / physician / month
- ✓ Integration: *EMR connection for forms, referrals, summaries (soon)*

https://github.com/phairlab/berta-ai-scribe



Berta Architecture: Full Stack App



Demo

Pilot Results: Rapid Adoption & Impact

Timeline: Nov 2024 - July 2025

22,148
Sessions Processed

198
Physicians Onboarded

5,530
Monthly Session Volume by July

42%
Users Customizing Prompts

Efficiency Gain: +20% Productivity

Equates to 3 additional patients seen per shift.

Berta Expansion

- 378 emergency physicians onboarded (Acute Care Alberta)
- 30 primary care physicians piloting (Primary Care Alberta)
- Okaki Inc. Product: *CliniQuill*

Privacy & Innovation

Building Berta was hard. Getting data is harder.

Data access:

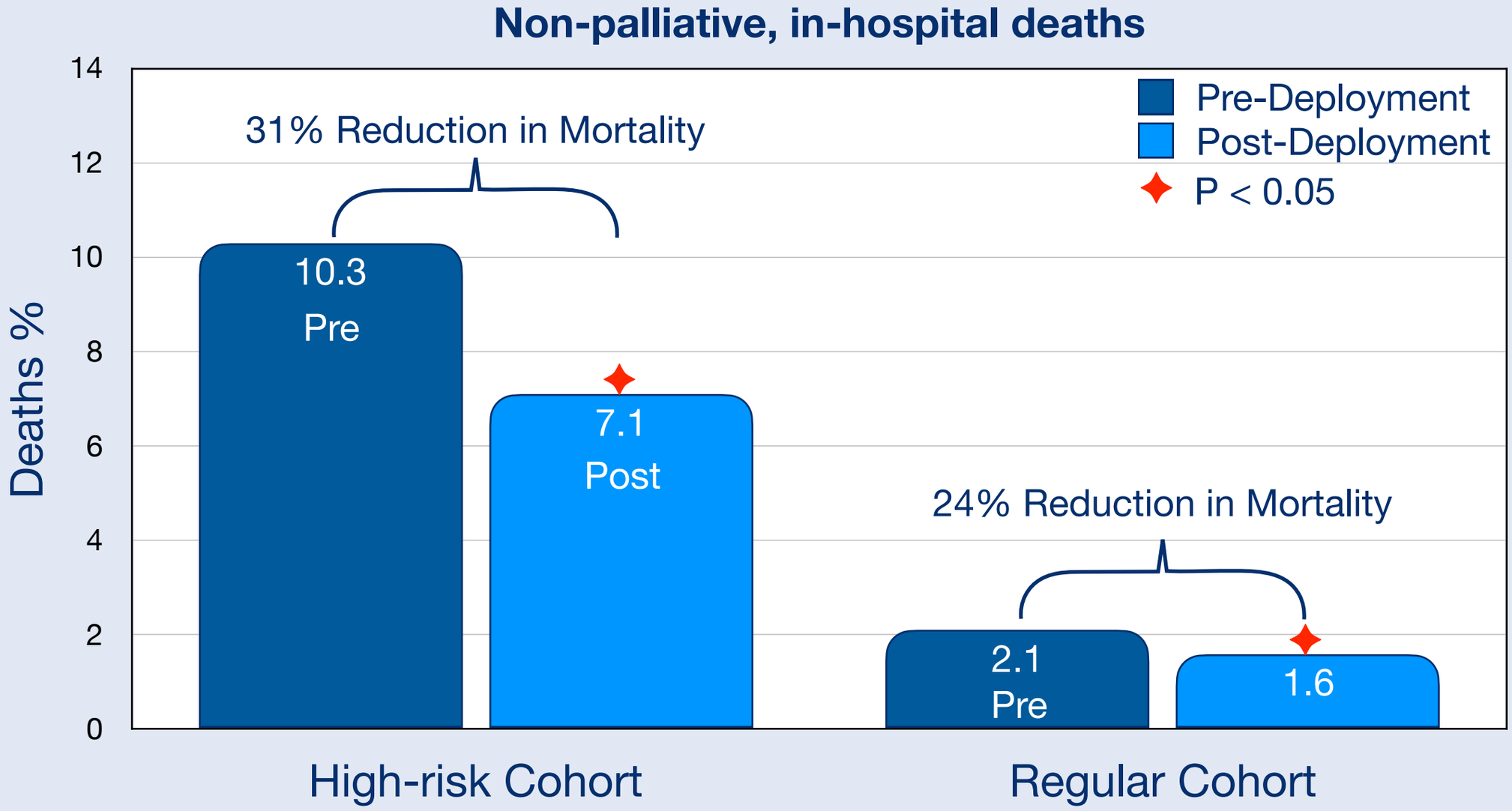
- Identify smallest dataset than can answer question
- Apply to health research ethics board
- Apply to data custodian to create data cut
- Custodian de-identifies data cut
- Sign contract limiting data access, use, location and loan period

Issues:

- Concerns that AI can learn to re-identify patients
- No ‘large’ datasets
- No access to clinical text
- Cultural friction: academics sometimes seen as threats, not allies
- Often wait 1 year+

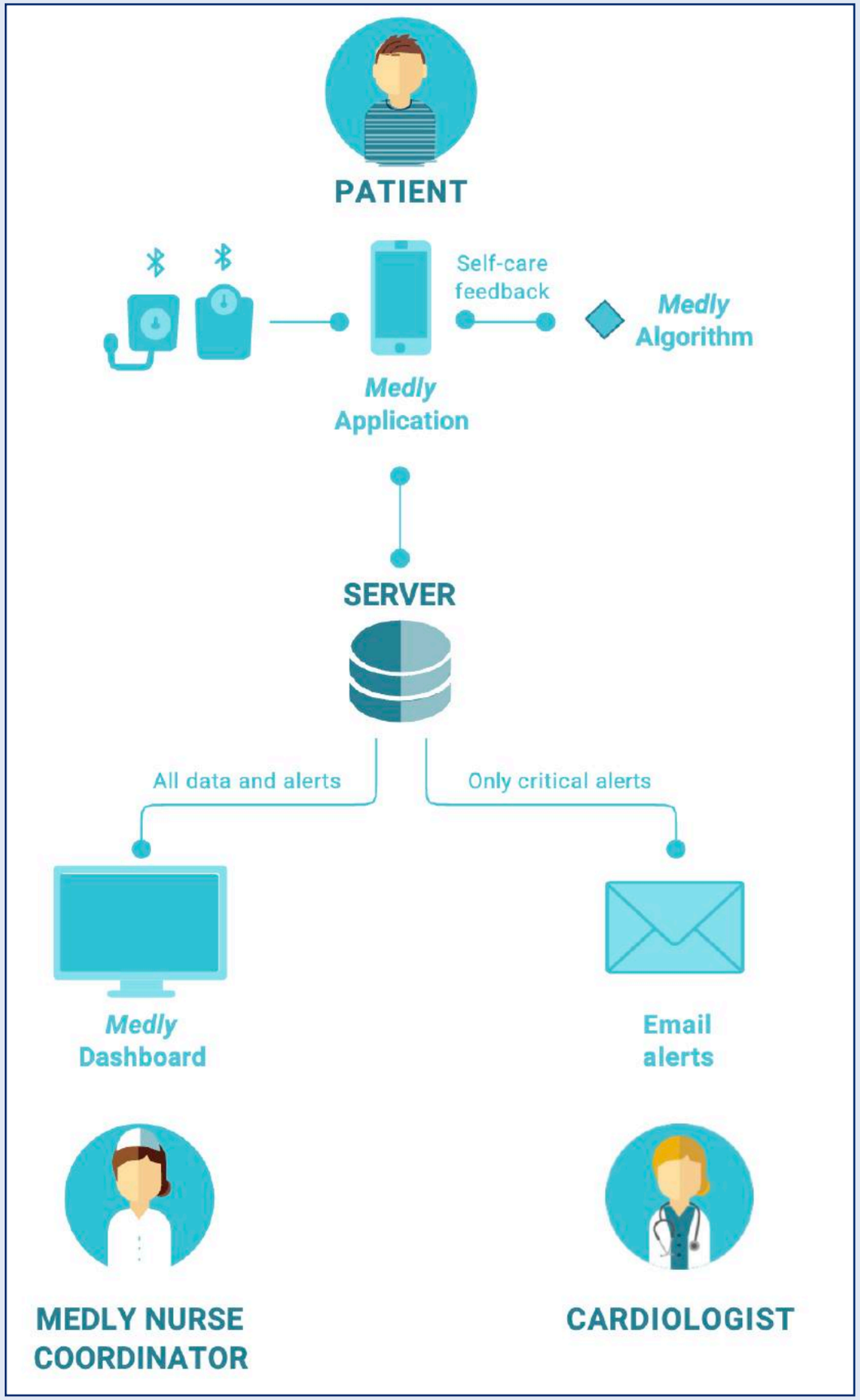
Case Study: CHARTwatch (St. Michael's Hospital)

- Real-time monitoring 100+ variables, all medical beds
- Sends text to staff warning of possible patient decline



- Restricting data access can cost lives
- Adopting AI is hard

Medly: Remote Heart-Failure Monitoring



Developers: UHN & Center for Dig. Therapeutics

2500 Patients Enrolled*

50% Fewer HF-Related Hospitalizations

24% Fewer All-Cause Hospitalizations

35% Fewer In-Person Appointments

*Source: https://medly.ca white paper

What if…

We built an AI-based early warning system that reduced heart attack and stroke by 25% in Alberta?

What would that mean in a typical year?*

2,225 Fewer Deaths

11,500 Fewer Hospitalizations

$800M Saved

Conditions:

- Patients consent, opt-in, agree to be notified

However:

- AI scientists need access to entire data warehouse to train model
- Then: model needs access to many variables, all the time

** Estimates based on data from StatsCan and CIHI*

Rethinking Data Stewardship
for the 21st Century

Old Laws (1990's)

- Cause no harm
- Focus: avoid risk at all costs
- Results:
  - Isolation from academia
  - Little innovation
  - Morbidity & mortality
  - Complexity
  - Staff burnout

New Laws (2020's):

- Data stewardship
- Focus: balance risk & reward
- Results:
  - Collaboration with academia
  - Massive innovation (spinoffs)
  - Reduced M&M
  - Reduced costs
  - Reduced wait times
  - New biomedical discoveries (treatments)

- Secure Health Ministry funding
- Need to separate data custodian from data broker

Health Research Data Board

Considers risk & reward, priority, implementation pathway

Thank you!