

Collaborative AI Research and Development in Government

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VA/Deep Mind Collaboration Published in Nature

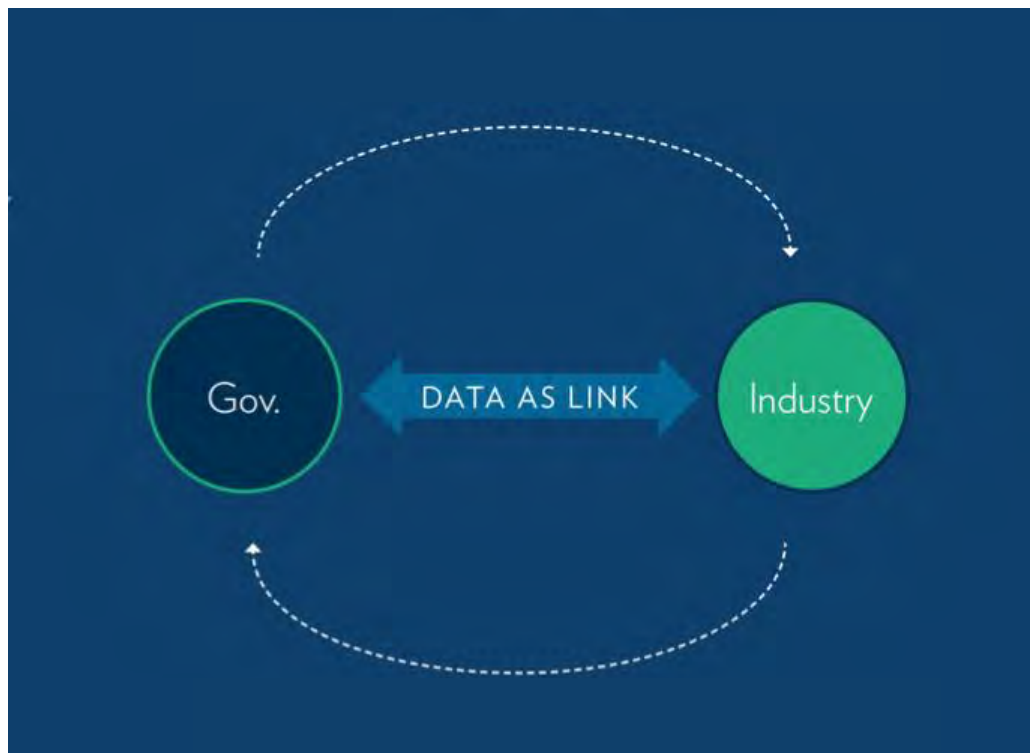
- Predict Acute Kidney Injury (AKI) 48 hours in advance
- Early warning enables time to take preemptive action
- Helps prevent kidney injury



Letter | Published: 31 July 2019

A clinically applicable approach to continuous prediction of future acute kidney injury

Incentivizing a Bidirectional Data Link



We can make “AI-able Data”

- We can design data formats to get the most out of AI.
- We can create an ecosystem of datasets, platforms, and tools to enable standardized AI piloting, deployment, testing.
- We can leverage iterative release of datasets for training AI models, validation, and testing
- Develop honest broker with testing platform and/or standardized agreements for testing protocols.



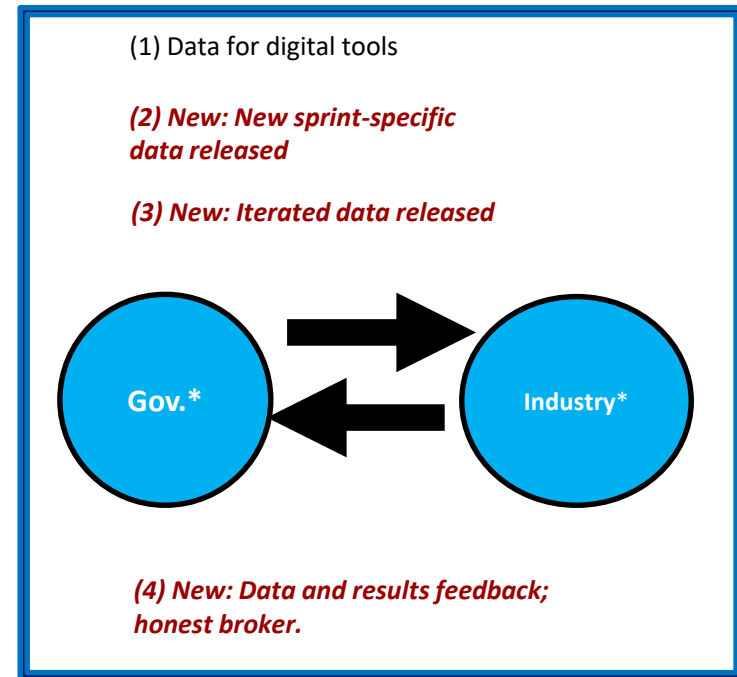
AI-able Data Ecosystem Piloted in Health Tech Sprint and AI Tech Sprint

- Artificial Intelligence (AI) for Novel Therapeutics Accessibility (NTA)
- An AI ecosystem around three datasets built for Health Tech Sprint around clinical trials in structured, machine readable information
- Resources/personnel across dozen agencies
- Participation included federal and other companies/organizations: Flatiron Health, Microsoft Healthcare, Oracle, Philips (Research), Rush Medical, and TrialX (in collaboration with the Global Lyme Alliance).
- AI Tech Sprint (led by VA)- piloting standardized data use agreement, AI-able data ecosystem and recognition.

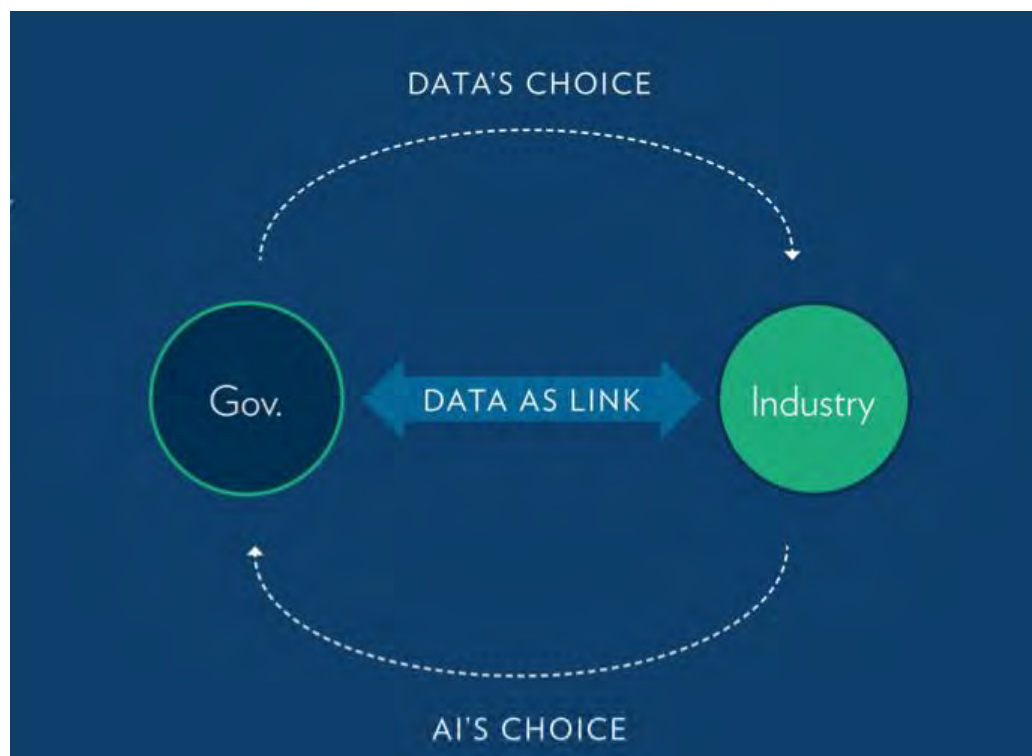
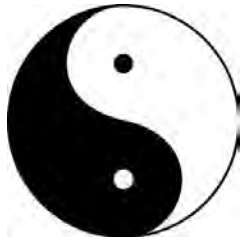


AI-able Data Ecosystem Framework

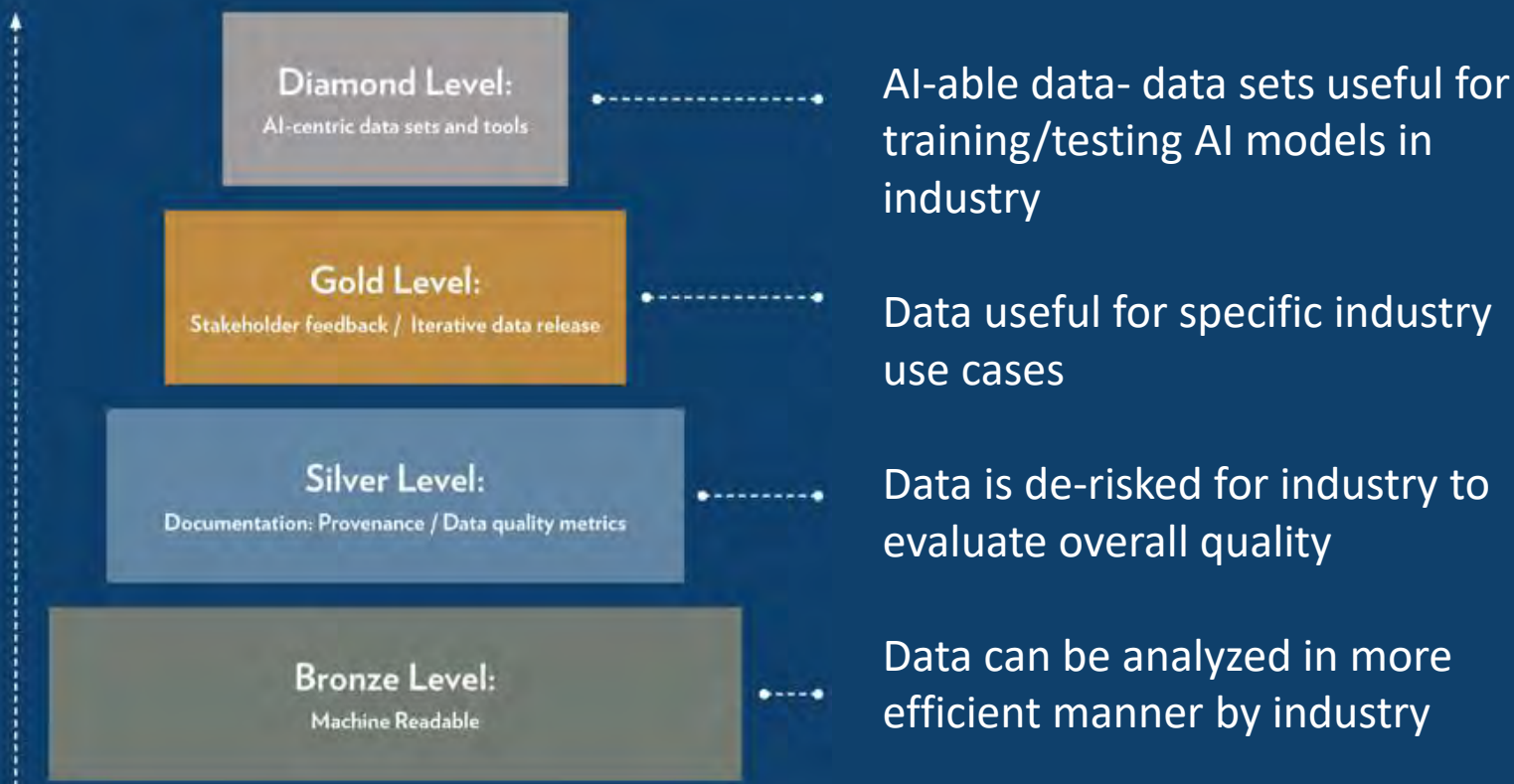
- The Opportunity Project (TOP)
 - (1) Use existing federal open data to make new digital tools
- AI-Able Data Ecosystem Framework
 - Data needed for AI is often new, voluminous, and "messy."
 - *(2) New approach: Create novel datasets/data policies specifically for the tech sprint and iterate on data/tools to make it usable for AI.*
 - An AI ecosystem enables a bidirectional data and results sharing between government and industry
 - *(3) New approach: Create voluntary framework for incentivizing federal agencies to release data that is useful and usable by other sectors, like industry*
 - *(4) New approach: Create voluntary framework for incentivizing industry to make AI/data results usable by others, including federal agencies, so that they leverage industry tools.*



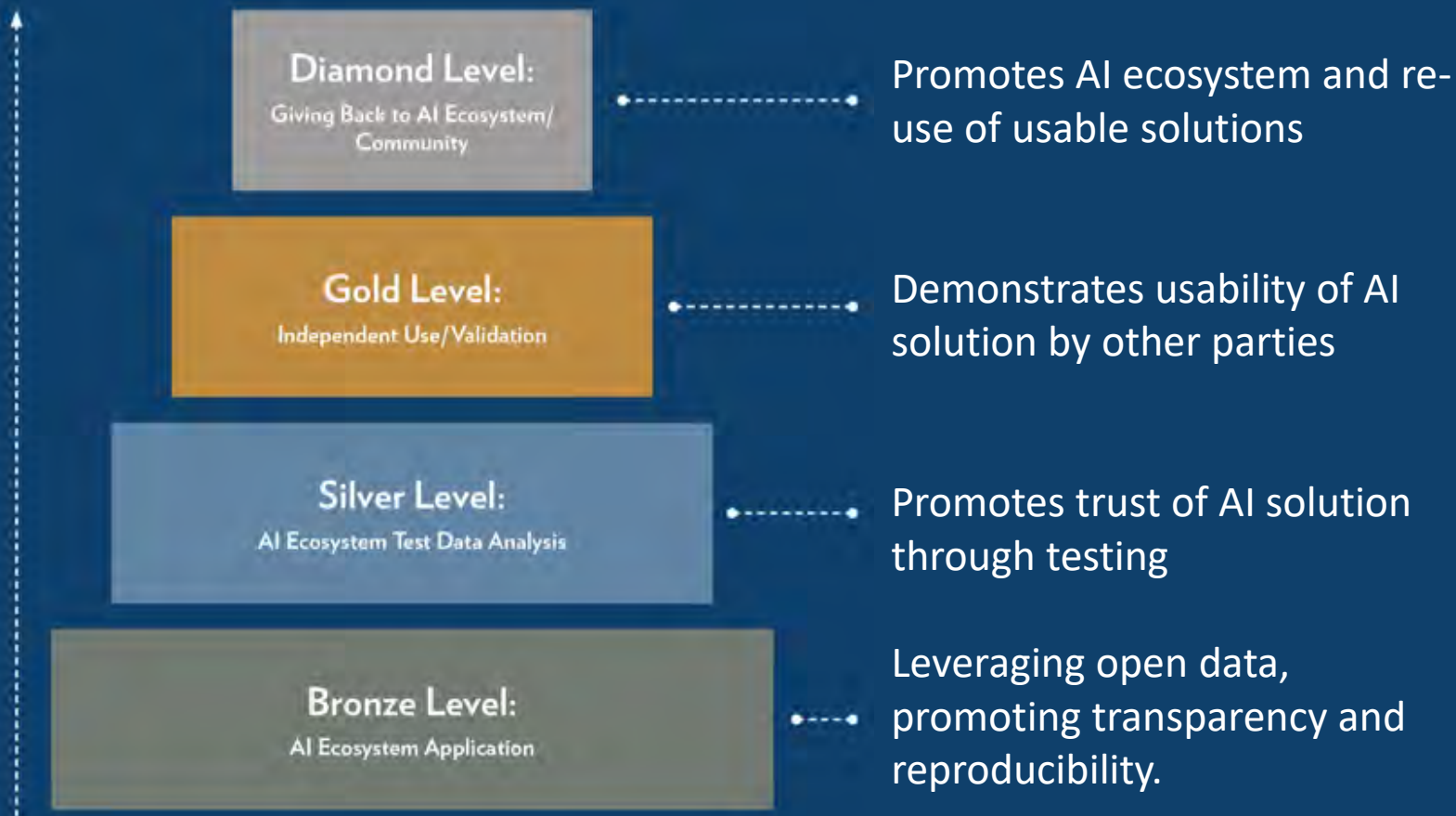
Data's Choice and AI's Choice as a Catalyst for Incentivizing a Bidirectional Data Link



Data's Choice



AI's Choice



Partnerships: Blind Date and Marriage?



No prior knowledge

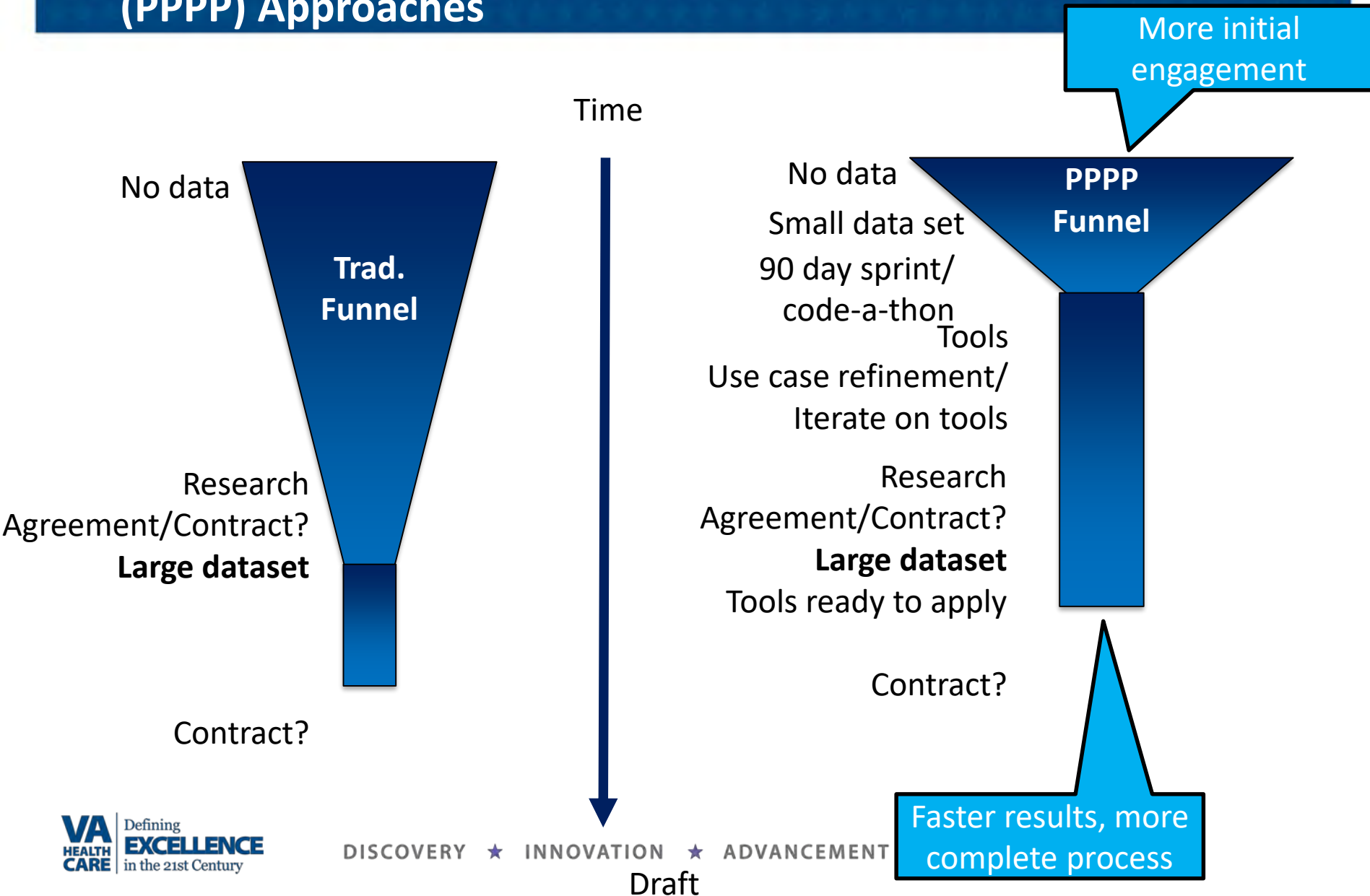


High expectations

Parallel Pathways for Potential Partnerships (PPPP)

- **Parallel**
 - Enables AI/ML collaborations faster, and parallel to any work on establishing full partnerships regarding larger datasets.
- **Pathways**
 - Fast-track pathways to data by *leveraging sprints* with small **data sets in format of actual data** so that AI/ML tools can be built which are reusable when potential agreement on larger/full dataset is made.
- **Potential**
 - Collaboration around datasets- without any expectations on federal/non-federal sides on outcome or future partnership
- **Partnerships**
 - Signed research agreements around a particular AI/ML problem/task with potentially mutual expectations

Traditional vs Parallel Pathways for Potential Partnerships (PPPP) Approaches



Questions?

- **Contact:** gil.alterovitz@va.gov