



# Making Modeling Useful

Making conceptual models useful for  
constructing an EPHTN

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# Note



- This needs to be a dialogue rather than a presentation.
- Also, the discussion here gets rather speculative given the architectural unknowns for the network.



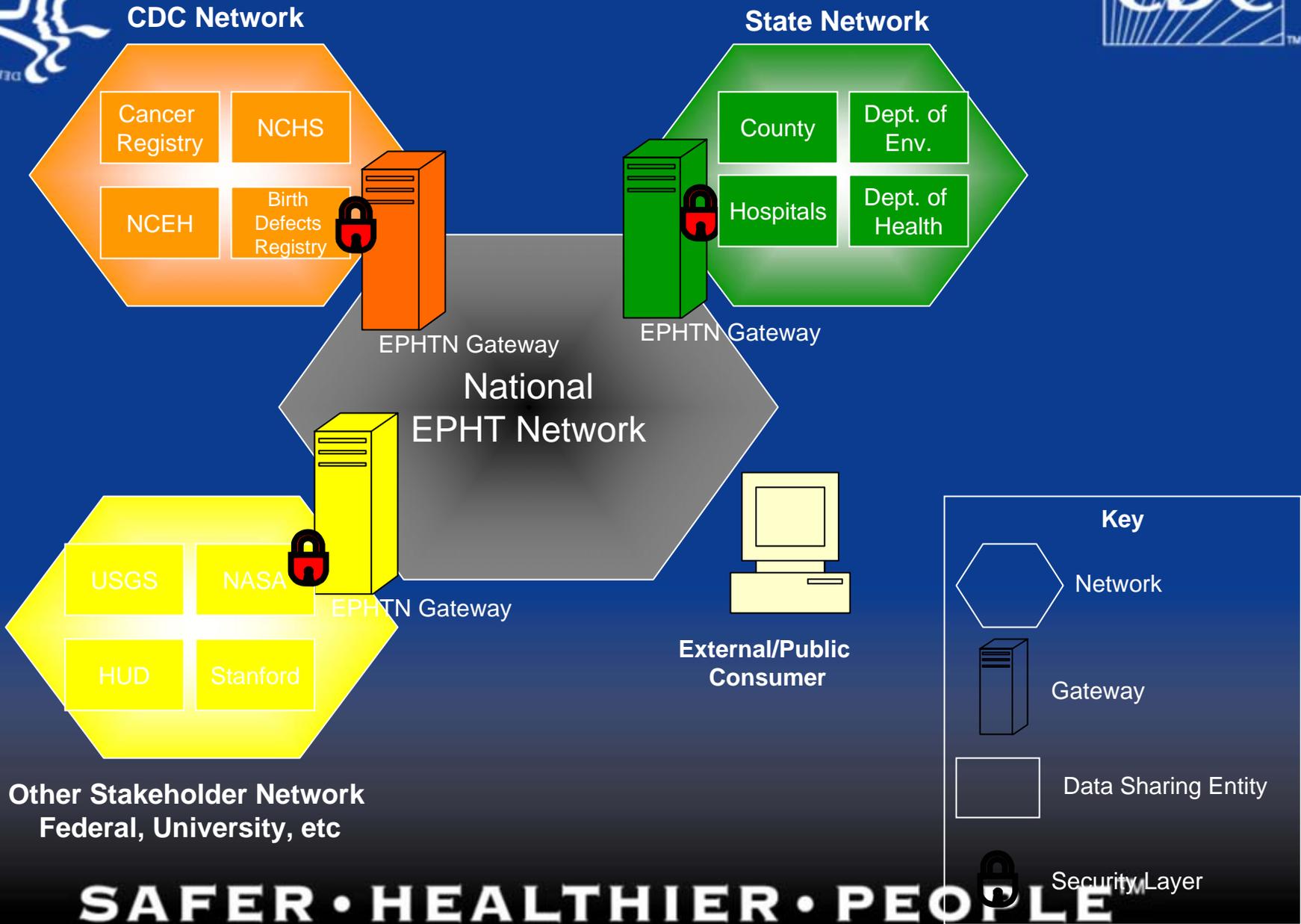
# Issues



- What kind of data movement will the network support?
- What level of integration is desired?
- What are the requirements for vocabulary?
- What kind of EPHTN model(s) would be useful?
- How can we build it/them?
- Are there Alternate ways to make progress?



# EPHT Overview





# Data Flows

- So far, it seems likely that:
  - ◆ Users will submit queries, and that data will be provided in response.
    - ★ How will the requests be structured?
    - ★ How will the data be structured?
    - ★ What is the proper level to expect (impose?) consistency?
- Going beyond what has been directly discussed:
  - ◆ Will “states” provide data to support unified views?
    - ★ Across which dimensions? Administrative? Temporal? Environmental/public health?
    - ★ Will consistent transaction definitions be created for such data flows?



# Integration



- What sort of model do we aim at?
  - ◆ Common conceptual model?
  - ◆ Common framework for interoperability
  - ◆ Common logical design (and a common process for going from logical to physical)
  - ◆ Common database design
- One model or many models?
  - ◆ Are there independent models for hazard type? Exposure type? Health effect type?
  - ◆ Is there a single model across these “functional dimensions?”
  - ◆ A hybrid approach?



# Vocabulary Issues



- How shall we organize the vocabularies needed for hazards, exposures, and health effects?
- Which external terminologies are important?
- What is the best way to manage and distribute codes and values sets?
- What is the role of PHIN's VADS? (Vocabulary Authoring and Distribution System) (nee PHIN VS)



# Model Characteristics



- HL7 methodology suggests constructing a “domain model” to capture business requirement.
- Later, this can be converted into a RIM based model for creating message specifications.
- Model Scope:
  - ◆ A particular emission/exposure type?
  - ◆ Generalized across the range of exposures?
  - ◆ Other approach?



# Focus on Vocabulary



- Common vocabularies are required for data aggregation and correlation.
  - ◆ Need for common types, e.g., substances, diseases, anatomic sites, places
  - ◆ Need for common representation: .e.g, flu or influenza
- The common model provides a necessary anchor for identifying concepts requiring vocabulary agreement.
- However, work in the two areas can proceed independently.



# Strategic Options



- Register “state” and other datasets that seem relevant.
- Create model representations for identified emission/exposure/hazard patterns.
- Create a model that generalizes across the emission/exposure/hazard spectrum.
- Note: the case for more elaborate modeling is strengthened if we need to accumulate data into national datasets.



# One Person's Opinion



- Our thinking these questions has not gelled enough to really decide. Building a prototype information model is a way to accelerate this process.
- We most have a common conceptual model to underlie any efforts to support data merging/integration and common tool support.
- Once we look at the kinds of data collected for different conditions and hazards, it will be clear that a unified model is appropriate.



# Questions ?



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