The Database

Development, Current State, and Future Directions

Database Team

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Data Are Meaningless Without a Base

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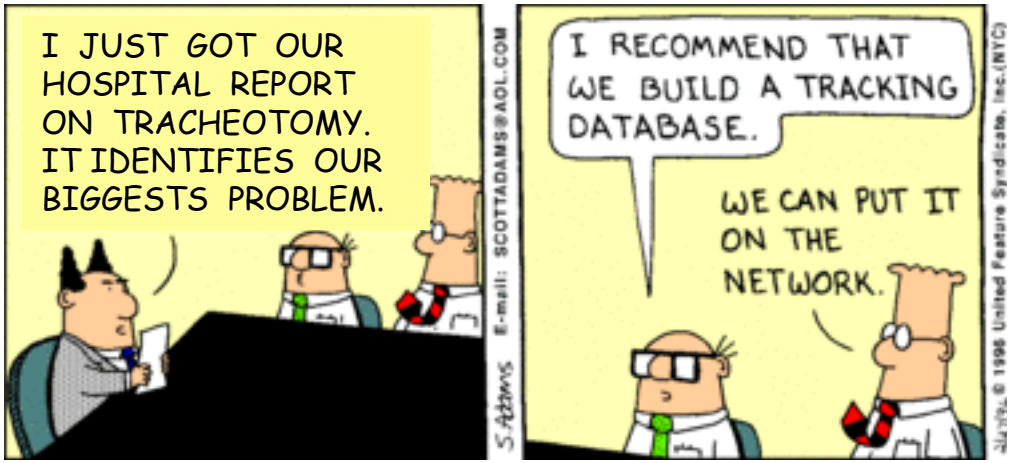

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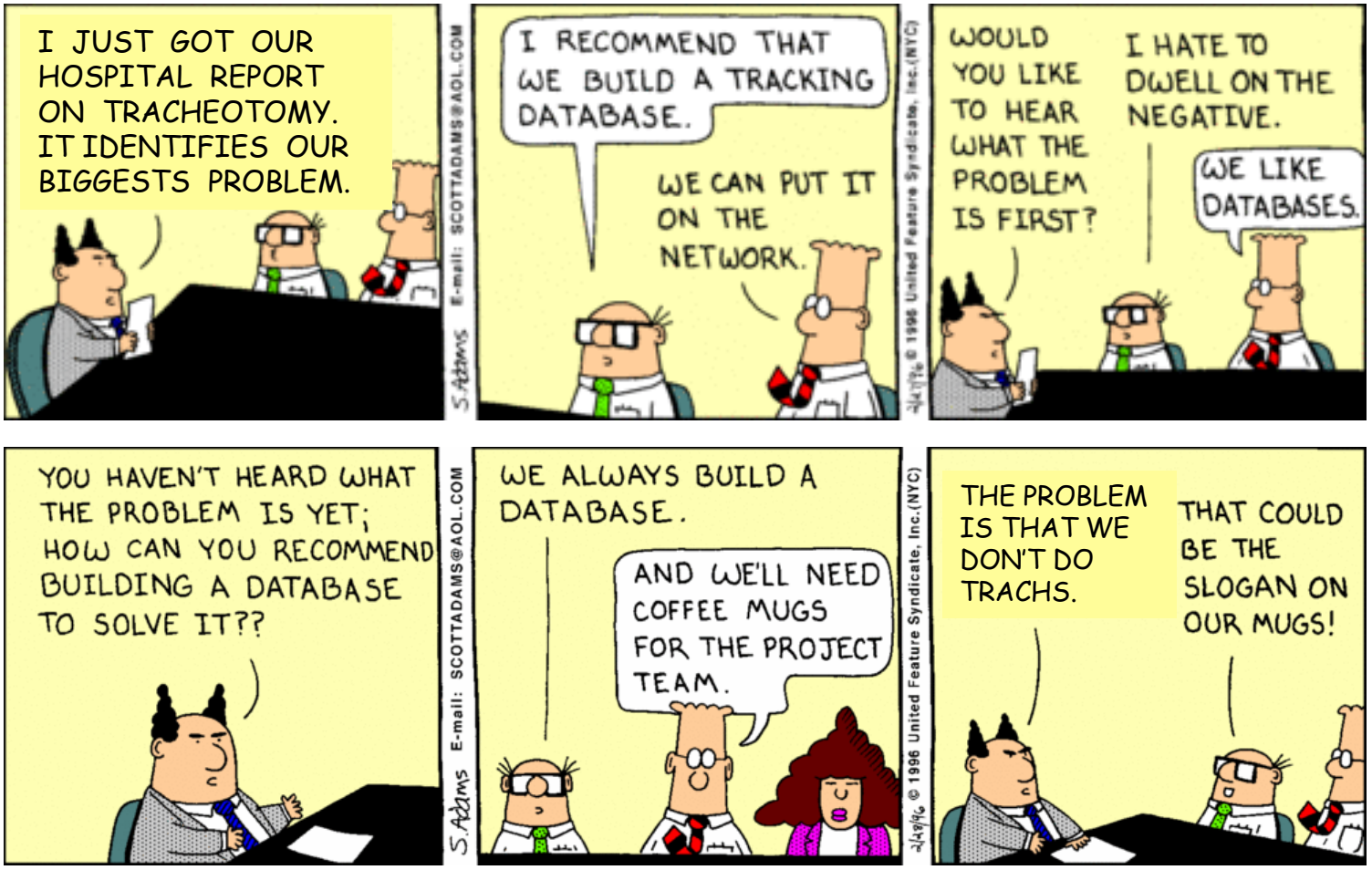


Mindset for GTC Database 1.0 Development

- Prioritize feasibility of data entry
- Confine data to index hospitalization
- Emphasize crucial, core data elements
  - Patient demographic and clinical characteristics
  - Hospital utilization
  - Major health outcomes

Design and Features

- Data entry attributes
  - Web-based
  - Recurrent
- Data privacy and security
  - Password-protected and encrypted
  - Meets international standards for PHI
  - Sites' data are blocked from access to each other
  - Sites can choose level of protected health information to enter in the dataset

Health Outcomes

- In-hospital mortality
- Decannulation
- Tracheostomy Complications
  - Accidental decannulation
  - Bleeding
  - Obstruction
  - One-way valve placed with cuff inflated
  - Tracheocutaneous fistula

Utilization

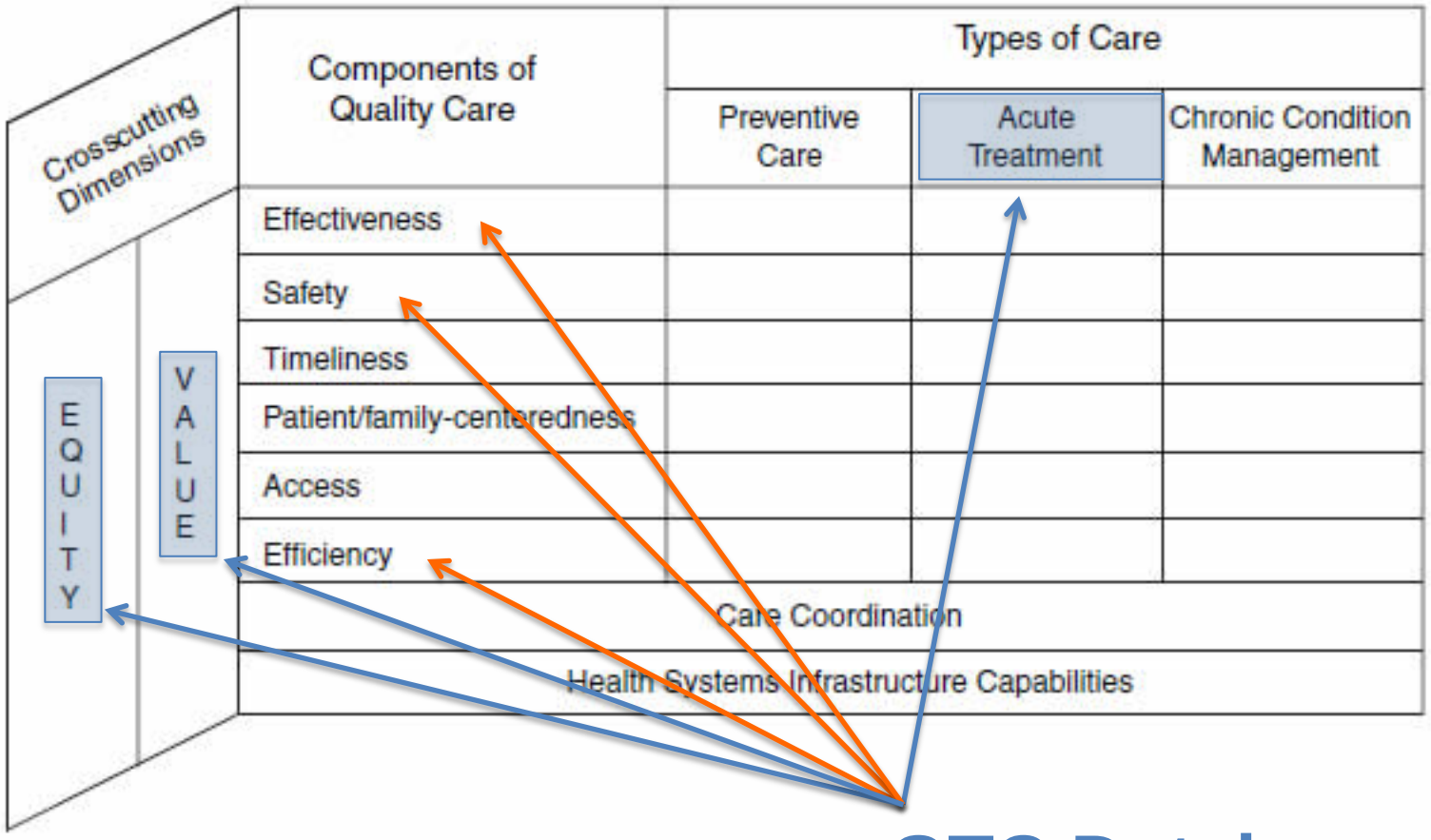
- Hospital days
  - Total days
  - Intensive care unit days
- Timing of tracheotomy
  - Days from admission
  - Days to discharge
- Discharge disposition
  - Home, post-acute care facility, etc.

Patient Attributes

- Demographic
  - Pediatrics vs. adult patient
  - Age
  - Race/ethnicity
- Clinical
  - Reason for admission
  - Comorbid conditions
  - Tracheotomy indication

Conceptual Framework

Quality Measurement



GTC Database 1.0

Test Run!

Future Directions

- Reporting
  - Casemix of patients across sites
  - Health outcomes and utilization across sites
  - Targets and (later on!) benchmarks
  - Hierarchical generalized linear models that assess variation in outcomes across hospitals adjusted by patients' demographic attributes and comorbid conditions (oh mama!)

Future Directions

- Integrate additional databases
  - Expanded inpatient tracheotomy data
  - Readmission data
  - Follow-up care data
    - Catastrophic outcomes, bacterial colonization, quality of life, utilization, etc.
- Integrate quality improvement data
  - Track content, timing, setting, etc. of GTC quality improvement initiatives