Technology Acquisition Planning
(What does it really cost?)

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Agenda

- Capital Planning Process
- A Model for Capital Replacement
- Total Cost of Ownership
- Scenario of a Ubiquitous Technology Replacement
Brigham and Women’s Hospital

- 777 Licensed beds
- 146 ICU beds
- ~46,000 Inpatient admissions
- 43 Operating rooms
Capital Planning Process

- Clinical needs
- Safety concerns
- Age (obsolescence)
- Assessment of failure rates (lemons)
- Technology capability to achieve hospital-wide initiatives
- Clinical practice change
- Incorporate in multi-year technology replacement plan
Model for Capital Replacement

- Establish the patient care technology replacement value based on the inventory
- Establish the timeline to replace the technology
  - Originally 8 years
  - Ideally closer to 7 years due to the rapid rate of technology changes
- Derive the capital funds needed per year
- Benefits
  - Surprises in capital expense (financial aspect)
  - Structured approach for technology replacement
Spending Projections & Trends

- Budgetary pressures
- Other strategic goals
  - ACOs
  - Center of Excellence
  - Renovations
- Reimbursement
- EHR**

Why Capital $$ are even more precious!
Technology Purchasing Process

- Previously
  - Cost driven (Materials Management)
  - Coolness factor

- Now
  - Collaborative Process
    - Clinician (Outcome driven, Quality of patient care)
    - Biomedical Engineering (TCO, technology use models and safety)
    - IT (Data security)
    - Materials Management (Contract)
Total Cost of Ownership

The iceberg syndrome in life-cycle costs of health care equipment

p.g. 172, Clinical Engineering Handbook, Joseph F. Dyro
Total Cost of Ownership - Today

- Technology Integration - Ramp up Cost
- Technology utilization
- Software maintenance cost
- Technology acceptance
- Free for product (devices are free but accessories ↑↑↑)
Replacement of a ubiquitous technology

- **Vendor A**
  - Collaborative negotiation process
    - Significant savings in capital purchases & operational budget
    - Device connectivity goals achieved
    - S/W upgrades included
    - Total Cost:
      - $4.7M Capital (includes connectivity)
      - Estimated $413K in operational expenses over 6 years

- **Vendor B**
  - Product offered as “Free” with a buy out option after 5 years
  - After analysis:
    - Cost of “free”: ~$3.3M due to related replacement of other technologies
    - Estimated $434K in **yearly** operational expenses
    - Time to achieve use comfort could be long
Summary

- Technology acquisition is a collaborative process to increase value for the institution.
- Technology may have initial increased upfront costs but TCO still makes it more cost effective over time.
- There are many more criteria today to consider in making cost conscious decisions in a market with increasing budgetary pressures and/or precious capital funds.
Questions