Medical Technology: Cost Impact

Employee Benefit Planning Association
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Healthcare Costs continue to rise

- Current medical costs are increasing faster than GDP
- Age of accountability
  - Prevention
  - Quality vs. Quantity
  - Evidence based medicine
Medical Technology

Working Definition: Procedures, equipment, and processes by which medical care is delivered.

- **Examples**
  - Procedures – angioplasty, robotic surgery
  - Biologic agents – treating previously untreated conditions like RA, MS and Pompe disease
  - Devices – scanners, implantable defibrillators
  - Electronic support systems – electronic medical records
Specific Examples

Procedures

- Robotic surgery
- Bispectral index (BIS) monitor
- Radioactive “seeds”
- Capsule endoscopy
Specific Examples

Biologics

• Mostly enzymes and proteins produced from living organisms
• RA, MS and Pompe disease
  – Enbrel & Humira
  – Avonex & Rebif
  – Myozyme
• 150 drugs in pipeline for cancer
Specific Examples

Devices

• artificial vertebral discs
• computerized prosthetic
An ICD is a pacemaker-like device implanted under the skin. Wires called "leads" are placed in the heart to monitor the heart rate. When the device detects a potentially deadly heart rhythm disorder (arrhythmia), the ICD delivers a controlled, electric shock to restore the heart's normal rhythm.
Three ways that medical technology increases healthcare costs

• New developments for previously untreatable conditions
  – Terminal kidney disease
  – Coronary artery bypass

• Advancements in treatment or diagnostics
  – Addition of EPO for kidney disease
  – Advanced Imaging

• Incremental improvements
  – Better mouse trap
  – Computerized prosthetics
We need a clear definition of value

“Simply stated, *value in health care* relates to whether a medical intervention (drug, device, program, surgery), when used to prevent or treat a condition, improves health outcomes *enough* to justify the additional dollars spent compared to another intervention.”

- AMCP Format Committee, 2004
How can we manage costs and ensure quality care?

Advanced Imaging

- Use American College of Radiology guidelines
- Ask for supporting information for CAT, MRI and Nuclear Cardiology Imaging
- Partner with American Imaging Management (AIM)
- Raise awareness to prevent
  - Needless exposure
  - Duplications
  - Incorrect imaging
How can medical technology be evaluated to ensure cost effectiveness?

Example – New Medical Technology Process

- Take advantage of P&T process
  - Panel of physician
  - Use evidence of outcomes
  - Place responsibility on manufacturers to prove effectiveness
We follow market pipeline for emerging health technologies.

Horizon Scanning and Data Collection:
- BCBSA TEC
- PBC Staff
- Pipeline Summary Report

Preliminary Assessment & Queuing:
- Obtain Product Information from Manufacturer
- Pipeline Review Committee:
  1. Safety & Efficacy
  2. Potential Value:
     a. Target population
     b. Cost-effectiveness in that population
     c. Likelihood of appropriate use
     d. Practicality of managing
     e. Prevalence and budget impact

Review Options:
- Do not review
- Monitor Utilization
- Full Review
NMT Assessment Process: Full Review
Medical technology review follows P and T process

Formulate Policy Issues
(What must be Decided?)

Develop Research Questions
(What do we need to know to make this decision?)

Literature Search (HTA Staff)

Primary Literature:
- Clinical trials, systematic reviews
- Economic evaluations

Secondary Sources:
- Manufacturer product info
- Practice guidelines, statements
- Observational studies
- Cochrane, TEC, FDA reviews, etc

Opinion Leaders

Ethicists

“Standard of Care”

Evidence Synthesis
1. Efficacy/effectiveness
2. Safety & experience
3. Incremental value
4. Ethical/legal issues

Draft Monograph
1. Details and summary
2. Recommendations:
   - Appropriate population
   - Medical necessity criteria

Internal Review

External Technology Committee

1. Reviews and vets monographs
2. Approves rationale/science
3. Decision basis:
   - Efficacy
   - Safety
   - Value

PREMERA
We Have Reviewed a Variety of NMT’s

- Diagnostic Imaging
  - Computer assisted breast MRI
  - Upright (weight bearing) MRI

- Genetic Diagnostics
  - Oncotype DX
  - Trofile

- Robotic Surgeries
  - Robot-assisted laparoscopic prostatectomy

- Image-guided radiotherapy
  - Calypso 4D system
  - Cyberknife

- Other Diagnostics
  - Long-term continuous glucose monitoring
Results: Diagnostic Imaging

• Breast MRI/Computer Assisted Evaluation for screening:
  – Issues for reviewer
    • ICER vs. mammography in low-risk patients
    • Medical necessity/cost-effective target population
    • Consulted local breast MRI expert, Bruce Porter, MD
    • No comparative outcomes in this population
    • Breast MRI more sensitive, less specific in low-risk patients
  – Committee decision
    • Continue existing medical policy limiting coverage to high-risk patients, imaging of contralateral breast in cancer patients and when mammography is not sufficiently sensitive
Results: Genetic Diagnostics

- Genetic panel for recurrence risk stratification in breast cancer patients (Oncotype Dx)*
  - Issues for reviewer
    - Additional value versus previous risk stratification algorithm
    - What target population will get the most benefit?
  - Reviewer’s findings
    - Analytic/clinical validity demonstrated
    - Clinical utility uncertain
    - Published cost-benefit analysis: small net savings
  - Committee decision
    - Cover in subpopulation in which test is most likely to impact treatment decisions

Results: Robotic Surgical Procedures

- Robot-assisted laparoscopic prostatectomy
  - Issues for reviewer
    - ICER vs. current standard prostatectomy procedures
    - Should payer allow extra charges for robotic procedure?
  - Reviewer’s findings
    - Many studies, none well-controlled, differing results
    - Incremental improvement outcomes uncertain
    - Attempts to demonstrate savings inconclusive
  - Committee decision/implementation
    - Recommended coverage of robot-assisted procedures at same rate as standard prostatectomy
There are options for ensuring that medical technology is used cost effectively:

- Insist that it is being used appropriately.
- Use guidelines to raise awareness.
- Establish a process to evaluate new technology similar to the way health plans review new drugs.
- Reward innovation.
Easy Questions