Who We Are

• 2000 department members
  – 115 MD clinical faculty
  – 95 clinical fellows and residents
  – 155 non clinical MD/PhD faculty
  – 100+ research fellows and post docs
  – ~ 1550 clinical and research support staff
MGH Imaging Milestones

- One of the first x-rays performed in the US
- Invention of Positron Coincidence Scanning (PET) 1953
- First hospital based CT in US
- First hospital based MRI in the US
- First report of fMRI 1991
- First dedicated “Molecular Imaging” program 1994
- DSI Tractography invented
- First patient in the world imaged with combined PET/MRI device
- 15 of the 50 most cited articles in the journal Radiology are from MGH
First in history positron images (1953)
Recurrent brain tumor
Brownell and Sweet-- MGH
Integrated MR-PET Scanner: MGH Installation 2008
First in history simultaneous MR-PET scan in a patient-2008
54 year old with malignant glioma and cutaneous extension

PET
• 5.45 mCi FDG injected approx. 2.5 hours prior to data acquisition
• OSEM 3D reconstruction
• Attenuation correction performed based on the MR data

MR
• T1 MP-RAGE, T2 SPACE (shown), FLAIR, DTI, CSI, SVS sequences run simultaneously
• CP coil

NCRR/Catana/Benner/van der Kouwe/Andronesi/Jennings/Gerstner/Plotkin/Rosen/Sorensen (MGH)
### NIH Research Funding

#### US Radiology Departments, 2001-07*

<table>
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<tr>
<th>2007</th>
<th>2001</th>
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<tr>
<td>Massachusetts General Hospital</td>
<td>$21,608,695 (1)</td>
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<td>University of Pennsylvania</td>
<td>$13,659,689 (2)</td>
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<td>$13,511,509 (3)</td>
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<td>Johns Hopkins University</td>
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<td>University of California, San Francisco</td>
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<tr>
<td>University of Washington</td>
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Radiology and Health Reform

James H Thrall MD
Radiologist-in-Chief
Massachusetts General Hospital
Juan M Taveras Professor of radiology
Harvard Medical School
US Healthcare System

- US health system is expensive—Growing percentage of GDP
- 50 million uninsured prior to Patient Protection and Affordable Care Act of 2010 (PPACA or ACA)
- Major concerns about quality and safety
- Fee-for-service (FFS) reimbursement fingered as a major driver of costs
  - Incentive to do procedures
  - Not linked to health outcomes
  - Has promoted self-referral
- Combination of unsustainable and undesirable characteristics has lead to a series of legislative and regulatory initiatives that will profoundly affect the practice of radiology
Health Reform Legislation 2010

- *Patient Protection and Affordable Care Act of 2010 (PPACA)*
- $940 Billion over 10 years
- 32 million more covered—95% of legal US residents
- Individual mandate—up to $695 penalty
- Employer mandate—up to $2000 per employee penalty
- Medicaid expansion—up to 133% of Federal Poverty Level
- Private insurance reforms
Imaging Provisions: Contiguous Body Part Reduction and Change in Utilization Assumption

- TC contiguous body part reduction increased to 50% from 25%
- Utilization:
  - Obama Administration legislative proposal—95%
  - CMS 2010 MPFS Final Rule—4 year phase in to 90%
  - Initial reconciliation proposal—90%
- Final legislative provision—75%—effective in 2011 for higher cost imaging devices—CT&MRI

Joint lobbying effort between ACR and other AMIC members
Other PPACA Imaging Provisions

- **Center for Medicare and Medicaid Innovation**: Appropriateness Criteria Study—Linkage of reimbursement for higher cost imaging to use of appropriateness criteria
- USTSPF report cannot be used as basis of denying insurance coverage for screening mammography
Health Reform and Self-Referral

- No definitive legislative resolution
- Self-referral disclosure in health reform legislation—additional requirement for informing patients in writing
  - Applies to MRI, CT, PET
- Representatives Henry Waxman (D-CA), Ways and Means Committee Chair, Sandy Levin (D-MI) and Pete Stark (D-CA) have asked the GAO to perform a study of physician self-referral on Medicare spending
MEDPAC June Report to Congress

• Major breakthrough in thinking about IOASE
• Exclude therapeutic services
• Exclude services typically not administered as part of a routine office visit—read CT, MRI, PET
• Limit to integrated physician practices
• Reduce payment when test performed under the exception
• Adopt prior authorization procedures

Maybe a touch of green here!
Health Reform and Sustainable Growth Rate (SGR)

• Neither short nor long term fixes included in the Health Reform Bill
• Temporary fixes, most recently until November 30, 2010
• 2.2% increase
• Permanent fix estimated to now cost $300 billion
Health Reform and Tort Reform

• $50 Million for demonstration projects
• No limits on awards
• Option to opt out of arbitration
CMS is proposing to extend contiguous body part concept
Officially called the “Multiple Procedure Reduction Rule” (MPRR)
Applies to CT, MRI and Ultrasound
CMS is proposing to apply the rule whenever more than one test is done in a day
MPRR would then apply across modalities and for non contiguous body parts
CMS believes this action is in the “spirit” of Congressional intent to decrease reimbursement for overvalued services
Alternatives to FFS System

- PPACA has provisions to explore alternative systems through the *Medicare and Medicaid Innovation Center*
- Health Maintenance Organizations (HMOs)
- Bundled Payment systems
- Medical Home
- Accountable Care Organizations
Accountable Care Organizations

- Term attributed to Elliot Fisher of Dartmouth Medical School
- ACOs have become the darlings of the health policy community
- Likely to be given substantial testing by Medicare and other payers
Accountable Care Organization Characteristics

- The ability to provide, and manage with patients, the continuum of care across different institutional settings, including at least ambulatory and inpatient hospital care and possibly post acute care;
- The capability of prospectively planning budgets and resource needs;
- Sufficient size to support comprehensive, valid, and reliable performance measurement.

Dever and Berenson, Urban Institute
ACOs

- Shared savings concept against a “benchmark” projected cost for a population of patients
- Removal of perverse volume incentives of FFS system
- Will require integration of activities between physicians and between physicians and hospitals
- ACOs do not have to be controlled by hospitals
- Could be an Independent Practice Association or PHO
  - Must have access to required services
  - 5000 Medicare patients to qualify for Medicare demonstration projects
ACO Pros

- Promotes accountability of providers for costs of care
  - Financial incentives for savings
- Strengthens primary care focus on management of chronic diseases
- Emphasizes need to redesign the care process and the health care infrastructure to make care more efficient
- Fosters coordination between providers—shared incentives
- Incentives built on value, not volume
ACO Cons

- Not clear how much choice patients will have after initial selection of providers
- Few organizations have IT systems or financial reserves to either manage care or take on risk
- Economic interdependence of doctors and hospitals has not worked well in the past—HMO era, MDs too independent
- ACOs look a lot like HMOs
  - Cost targets just another kind of capitated payment
  - Failed before and will fail again
  - Patients like choice
  - Doctors do not like to have economic conflicts with their patients
- No established methodology for distributing income to providers—who will decide?
ACOs and Radiologists

- FFS has worked well for radiologists
  - Favorable treatment in RBRVS
  - Work harder– make more
- Salaried academic and clinic radiologists largely compensated based on surrogate FFS systems and market forces
- HMOs accepted capitation risk but still dominantly used FFS at provider level versus sub capitation
Bundled Payments

- Akin to capitation for an episode of care
- Examples—total knee replacement, post operative care, pneumonia
- Establishes accountability and promotes coordination for “in episode” care but not overall costs
- No limits to patient choice outside of each episode
- Weaknesses include
  - Incentive to increase number of “bundles”
  - Lack of oversight methods to determine when an episode should begin
  - Still basically piece work and does not provide continuity of care
- Potential threat to radiology if sub capitation is used within the bundle payment—similar to ACO or HMO
Medical Home

- Emphasizes role of primary care physicians as coordinators of care
- Does not address total costs
- No incentives for specialists to take part
- No disincentives for volume of services
- No risk apart from PCP
- Locks in patients since Primary care physicians receive PMPM payments to coordinate care
- Not a threat to radiology unless substantially modified
- Akin to Boutique medical practice without the amenities
Observations

• Radiology has been and remains the legislative and regulatory “piñata” in Washington
  – Rapid growth
  – Big dollars
  – DRA and PPACA both negative financially for radiology

• Alternative payment systems will take years to implement—thank goodness

• Alternative payment systems have the potential to hurt radiologists if current attitudes toward the specialty are maintained