The Future of Health Care
*In a Galaxy Far, Far Away…*

Jesse Berg, Gray Plant Mooty
Julia Marotte, Gray Plant Mooty

Agenda

- Background: how do we compare?
- Quality and delivery
- Payment and coverage
- Fraud & abuse
- Providers
Healthcare Expenditure

- The U.S. spends more per-capita on health care than any other nation:
  - 17%, no other nation spends more than 12%
- U.S. health care spending accounts for almost 45% of all global health expenditure.
- By 2020, the U.S. will spend $4.6 trillion annually on health care or 20% of GDP.
What do we get for the money?

- Expenditure does not correlate to outcomes:
  - the U.S. ranks below peer nations in many population-health indicators:
    - 26th for life expectancy
      - U.S. ranks behind Lebanon in life expectancy for and for “years of good health” for males
    - 29th for infant mortality (6.5) (behind Hungary), with rates twice as high as Sweden (2.5) and Japan (2.6)
    - 1st for obesity prevalence

Demographics

- The characteristics of the U.S. population puts significant pressure on the health care system.
  - poverty, age, declining birthrates, nutrition, physical activity
  - historical trends in acute versus chronic disease prevalence

Global Health Care Systems

Ranking (expenditures)

- 1. France (4)
- 2. Italy (11)
- 3. Singapore (38)
- 4. Oman (62)
- 5. Japan (13)
- 6. Norway (16)
- 7. Portugal (27)
- 8. Greece (30)
- 9. Netherlands (9)
- 10. United Kingdom (26)
- 11. Ireland (25)
- 12. Switzerland (2)
- 13. Columbia (49)
- 14. Sweden (7)
- 15. Germany (3)
- 16. Saudi Arabia (63)
- 17. Israel (19)
- 18. Morocco (99)
- 19. Canada (10)
- 20. Finland (18)
- 21. Australia (17)
- 22. Chile (44)
- 23. Denmark (8)
- 24. USA (1)
- 25. Cuba (118)
- 26. Bahrain (48)
- 27. Thailand (84)

What Does the Future Hold?

HEALTH CARE QUALITY/DELIVERY

Quality/Delivery

• The future of health care quality and delivery will be a transition from the “treatment of averages” to personalized, technology driven, health solutions.
Quality/Delivery

- Health care quality and delivery will be enhanced by technological advances in three areas:
  - The Quantified Self
  - Big Data
  - Personal Genomics

The Quantified Self

- Wearables, ingestibles and implantables will change the way we record, measure, store and apply personal biostatistics to medical care.

The Quantified Self

- Wearable accessories already track heart rate, physical activity, calorie expenditure and record nutritional data.
The Quantified Self

- Adhesive patches will measure respiration, sleep duration and quality, skin temperature, and activity levels.

The Quantified Self

- Contact lenses will monitor blood glucose levels.

The Quantified Self

- Smart-pills will track adherence to treatment protocols, the time since last dosage, and inform providers as to when and what type of medication was ingested.
The Quantified Self
Privacy Concerns

- Is the data protected?
- Who can access it?
- Third party sales?
- HIPAA concerns?

Big Data

- The aggregation of the “quantified self(s)” will allow providers to study, diagnose and track disease/treatment on a population level.
Wearable Tech Owners (US)

According to the research institute IDC, by the end of 2014, more than 59 million wearable devices will have been shipped to consumers, and are expected to reach 1.17 billion by the end of 2018. According to a study by Nielson, 11% of US consumers already currently own and use some form of wearable technology. Among wearable tech owners, fitness bands were the most popular devices (61%), followed by smart watches (47%) and mobile health devices (17%).
Personal Genomics

- Personal genomics will allow providers to predict, target and, one day, alter an individual’s predisposition to health risks.

![DNA molecule and map of San Francisco]
HEALTH CARE PAYMENT AND COVERAGE

Status of U.S. Health Care System

- Current payment models
- Approaches to providing insurance coverage
Current Payment Structures

- Cost (yes, it still exists)
- Fee-for-service
- Pay-for-performance
- Bundled/episode-based
- 2013 Medicare Bundled Payment Project
- ACOs
- Capitation
- Numerous ways of addressing, and providing information about, quality
- CMMI Initiatives
- Others

Current Insurance Structure

- Medicare (traditional, A, B + D)
- Medicare managed care (C)
- Medicaid/Medicaid managed care
- CHIP and sCHIP
- Discrete: Tricare, VA, RRB, FEHBP
- Employer-based
- Private

- All affected by ACA...
Elephant in the Room: Socialized Medicine

• U.K. system (National Health Service), closest thing to “socialized medicine” in the world
  – Govt. covers everyone, owns most hospitals and pays most physicians
  – Govt. does not cover everything
  – NICE decides what will and won’t be paid
  – Transparent process, using evidence-based information
  – Opportunity for public comment

• Outcomes:
  – 2014 Commonwealth Fund report ranks U.K. first among 14 countries surveyed, with better outcomes and lower per capita spending than U.S. ($3,405 v. $8,508)
  – Administrative costs of 5% (U.K.) v. 12-17% (U.S., commercial)

• How does it work?
  – Funded with sales tax (20%) and income tax rates as high as 50%
  – PCHs long rewarded with bonuses for addressing chronic conditions (bonuses for getting patients to quit and stay off of cigarettes)

• Problems?
  – Early 1990s could wait more than 1 year for hospital admission (non-emergent)
  – Still have 18 week wait times for same care

Elephant in the Room: Socialized Medicine

• U.K. has adopted innovations to try and reduce cost, improve quality and address delays
• Integrated practice units (e.g., spine team, stroke team):
  – Initially tried to use care coordinators to help patients move through the system, understand options, reduce duplication of tests, etc.
  – City of London replaced with dedicated phone number for patients with back pain; same day appointments available:
  – PA with PM & R certified physician
  – Patients are seen on first visit
  – Patients could see doctors for days of work ($4 v. $9 per episode) and need fewer PT visits ($4 v. $8)
  – Ctr sends 2,300 new patients per year (1.4 per pt under old system), no increase in space or staff members

• Time-driven, activity based counting
  – Prior methods of figuring out the true cost associated with care
  – Goal is to determine how much it costs for providers of different levels of skill, expertise, and experience to deliver care and then use that information to better match personnel skills to tasks
  – Determined that it cost $4 per minute for orthopedic surgeon to deliver care; $2 for general internist and $1 for nurse practitioner
  – Leveraged information to improve capacity utilization

EXHIBIT ES-1. OVERALL RANKING

<table>
<thead>
<tr>
<th>Country</th>
<th>18</th>
<th>17</th>
<th>16</th>
<th>15</th>
<th>14</th>
<th>13</th>
<th>12</th>
<th>11</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>U.K.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>U.S.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: 1. Total rank “1” indicates country within top 10 positions. 2. Total rank “10” indicates country within bottom 10 positions.

Socialized Medicine Unlikely in U.S.A.

Innovations

- Access and cost:
  - Avoid "death spiral", cherrypicking, other market distortions
  - How?
    - Universal coverage
    - Individual mandate
    - Employer-driven initiatives
- What should insurance cover?
  - Decisions about costly care, things insurance should cover:
    - Are these "Death Panels" or
    - Conversations about the care that insurance can afford?
  - July 8, 2015 CMS issued regulations proposing to pay physicians for end of life counseling (2016 NPPES proposed rule); comment period closes 9/8/15
- Role of insurance:
  - Single payer
  - Combination of govt. and private plans
  - Purely private plans
  - Requiring individuals to fund own health care

Innovations

- Technology:
  - Wearables and other means of tracking data
  - Electronic health records
    - For providers
    - For community generally
  - Individual health records on eCards, carried by patient at all times
  - Data as means of targeting access points of care
  - Transparency—and practical things people can do with the information
- Care coordination:
  - Integrated practice units
  - Role of national govt. in incentivizing providers to work together
  - Penalizing providers for not coordinating
  - Incentives for patients to participate
  - Bringing providers to high risk, expensive patients
Innovations

- The importance of paying attention to federal “demonstrations”

Taiwan (6.63% GDP)

- 1995: 41% of Taiwan’s population lacked insurance
- 1996 law created single payer system with private providers
- Govt. sets fees and imposes global budget that caps NHI expenditures
- NHI Administration evaluates specific services to be covered based on cost, effectiveness and other factors.
- All Taiwanese have smart card with medical history, records stored:
  - Information related to quality and usage reported to govt. every 24 hours
  - Used to monitor activities of both patients and providers
  - Also used to facilitate reimbursement
  - Govt. knows how much has been spent at any given time
- Combination of pay-for-performance, capitation and bundling depending on care:
  - Bundling for certain inpatient surgeries (hospital, physician, ancillary, follow-up) with providers at risk for all costs associated with rehospitalization
- PCPs incentivized by govt. (financially) to work long hours (clinics open avg. 11 hours/day, 6 days/week)

Switzerland (11.4% GDP)

- Swiss economy is not “socialized”
  - Ranks higher than USA on Heritage Foundation Index of Economic Freedom
- Completely private system:
  - Individuals required to buy insurance from private insurers
  - Providers are all private
- National risk equalization scheme in which insurance premiums are redistributed among private payors
- Dept. of Home Affairs defines statutory benefit package by evaluating whether services are appropriate and cost effective
- Insurers required to offer minimum deductible plan, Swiss can opt-in to higher deductible plans
- Personalized insurance cards that store key information
- Cost remains a problem; still largely based on FFS (DRGs for hospitals only introduced in 2012)
Singapore (4.7% GDP)

- Should insurance pay for health care?
  - Mandatory health savings account (Medisave) for most things
    - Funded by individuals with employer matching contributions
    - Subsidized for low-income individuals
  - Low cost catastrophic coverage (Medishield)
    - Citizens automatically enrolled
    - Low income program (Medifund)
      - Case-by-case review; assets/income reviewed; govt. decides how much help to give
  - Singaporeans can buy private insurance, but cannot use HSA to pay
  - Private spending is 69% of total, of which 88% is out-of-pocket
  - 98% EHR penetration:
    - Master index that matches records from disparate sources; summary record that goes to providers/patients in advance of treatment; and automatic alerts to providers based on immunization, allergies, and medical alerts
  - Agency for Integrated Care steers patients through system
  - Focus on ensuring after-hours/follow up care:
    - Numerous 24-hour care centers; mobile 24-hour care delivery vehicles that make house calls; and clinics "in the building"
    - Information from EDs flows to mobile care teams that can make follow-up visits to ensure treatment is being followed

Denmark (10.6% GDP)

- Mandates coordinated care agreements among municipalities and regions to address:
  - Admission/discharge from hospitals, rehabilitation, prevention, psychiatric care and IT support
  - Specific health care homes targeting chronic conditions, with expertise in mental age, geriatric care and other expensive areas
  - Requires commitment among all participants to shared standards for patient journey through health system along with specific commitments based on provider’s role
  - Using patient health and cost data to map “health care hot spots”, with financial incentives to providers to operate clinics in those locations
- Fed. govt. funds provinces through block grants, with increases/decreases tied to performance
- Danes have e-based “medical card”
- National IT portal with differentiated access for providers and patients

New Zealand (10% GDP)

- Decentralized approach with minimum standards (quality/cost) to be met by “states”. 20 District Health Boards (DHBs) across country.
- DHBs receive bonuses for:
  - Meeting health targets in areas of shorter ED stays, improved access to elective surgery, shorter waits for cancer treatment, better help for smokers to quit, more diabetes and heart checks
- DHBs penalized for not hitting targets
- General practitioners/nurses receive bonuses from DHBs for hitting quality/performance targets (on top of anything employer pays)
  - Secondary preventive activities/targtes
  - Incentives for patients to self-manage
- DHBs and PHOs required to enter into “alliances”:
  - Broad discretion to allocate payments among providers; for following care pathway targets and demonstrating integration in care delivery
- Integrated Family Health Centers:
  - Financial incentives for providers to create comprehensive primary care/care coordination centers
- Significant presence of IT in health:
  - +/- 100% EHR penetration for physicians
  - Atlas of Healthcare Variation (compare/contrast performance across variety of health measures), Quality Accounts and Open for Better Care tools (patients required to use)
Employers Adopting Bundled Payments

- Walmart uses optional bundling for high cost-care (cardiac, spine, other select surgeries)
- Patients select from 1 of 6 national providers
  - High quality (Cleveland Clinic, Mayo, etc.)
- Plan pays facility one fixed fee for all hospital, physician, ancillary, pre- and post-op costs
- Employees have no out-of-pocket expenses (travel, lodging, meals covered)

Commercial Payer Bundling Programs

Optum Health “Centers of Excellence” Program

- Bundled payment structure for patients who need a solid organ transplant, stem cell transplant or have congenital heart disease.

Results

- Reduced mortality rates
- 25% reduction in average length of hospital stay
- 16% reduction in transplant need
- 49% reduction in average cost when compared to individually billed charges

FRAUD & ABUSE
Fraud & Abuse

• Fraud & abuse contribute significantly to excess health care expenditure:
  – RAND corporation: fraud & abuse adds between $82 billion to $272 billion annually (2011)

• A problem elsewhere as well:
  – European Healthcare Fraud & Corruption Network says fraud costs E.U. countries €132 billion annually

• Traditional fraud and abuse tools ill equipped to talk new models of health care
• Shift in U.S. to ensure “program integrity”

Fraud & Abuse

• U.S. Fraud Prevention System
  – Computer program that applies advanced analytics to all Medicare FFS claims
  – Analyzes information on a streaming and national basis
  – Identifies aberrant and suspicious billing
  – Directs fraud/abuse investigation teams to suspicious providers

• Results:
  – $210 million recovered in 2014
  – $1/$7.70 ROI on health care fraud and abuse investigations since rollout.
  – Future application to abuse recovery and potential for Medicaid adoption

Fraud & Abuse

• USA has been ahead of curve in tackling fraud and abuse:
  – U.K. did not have any anti-fraud law until 1998
  – Much of the fraud that has occurred in other countries involves substandard products or patient efforts to defraud

• Canadian experience:
  – Little federal oversight of health care fraud; most authority rests with provinces
  – CHCAA reports similar types of fraud as in U.S.
  – Total recoveries in Canada $1.61 million (2013)

• European countries contracting out to private organizations to monitor patterns among providers and report back suspicious findings
Fraud & Abuse

• New Models:
  – Predictive modeling:
    • Compares claims to baselines or thresholds to create fraud-propensity scores
    • Based on information collected and cross-referenced from multiple sources (e.g., incomes, any previous investigations, allegations)
  – Social network analysis:
    • Shows links between entities to uncover abnormal claims patterns
    • Extent of connections between certain types of entities may be found to be much greater than normally expected, based on statistical analysis of other networks of entities
    • Systems continuously update interrelated networks with new claims and rescore for fraud
    • E.g., Multiple DME providers owned by several individuals with similar names that share large percentage of similar patients.

• New Models (con’t)
  – Integrated case management
    • Goal is to streamline leads from disparate sources into usable window
    • Pools all findings relevant to investigation (e.g., claims data, relationship diagrams, case notes and other data)
    • Metrics known to be key indicators automatically tabulated for comparison at individual entity or network level
  – Individualized health ID cards assists fraud reduction
    • Permits quicker tracking of utilization, assists regulators in detecting aberrant patterns
    • Used by regulators in Belgium to tackle kickback scheme because patients receiving excessive treatments easily identified.

• Other strategies for addressing fraud and abuse

PROVIDERS
New Care Delivery Models

- Retail Clinics
  - Response to consumer demands for easy access to low cost health care services
  - Example: MinuteClinic and Target Clinics
- E-Health
  - Increase in virtual clinics
- Other technology-enabled care models
  - HealthSpot Station

Practitioner Licensure

- Changes in the scope of practice
  - As of January 1, 2015, Minnesota permits licensed APRNs to practice independently, without physician supervision
  - There will be a growth in the types, programs, and use of provider “assistants”
    - i.e., physician assistants, physical therapist assistants, and medical assistants
- Benefits
  - Will help reduce the shortage of care
  - Quality of care will still be protected
    - Study in the British Medical Journal (BMJ)
  - Physicians can shift focus to more complex services
Increased Fragmentation

• More independent clinics staffed exclusively with non-physician professionals
  – Example: APRNs in Minnesota

• Hospitals will downsize

• Outpatient clinics and home health services will expand

Conclusion

• The next 15 years will be marked by radical changes in the U.S. health care system.
  – Care will become:
    • Quality based
    • Technology driven
    • Tailored to the individual
    • Administered by a variety of individuals in a variety of settings and by a variety of providers
  – Reimbursement will shift more completely towards rewarding outcomes

Contact Information

Jesse Berg
Gray Plant Mooty
612.632.3374
Jesse.Berg@gpmlaw.com

Julia Marotte
Gray Plant Mooty
612.632.3280
Julia.Marotte@gpmlaw.com