We Can Afford to Innovate:
The Role of Big Data

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NASI Conference "*Medicare and Medicaid: The Next 50 Years*"

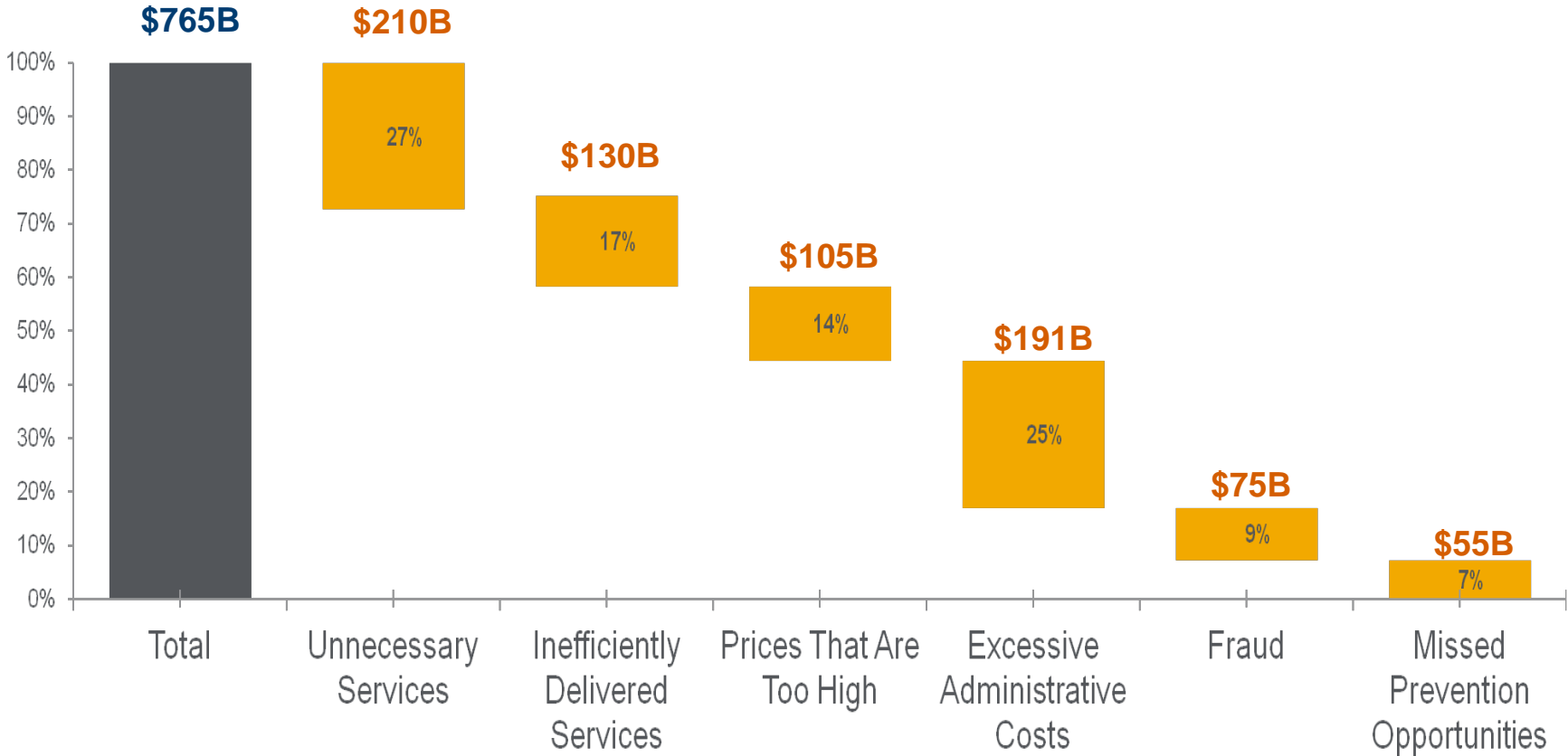**January 29, 2015**

Overview:

- The need for multiple, multi-level strategies to promote affordability

- We CAN afford to innovate…(but..and..)

- Big Data can help with the imperatives: Increase the value of care delivered; reduce waste; promote high value innovation; empower the consumer; make the system easier for everyone

- The knowledge gap: Relevant, timely, reliable information to inform care choices

- Innovation in: Knowledge generation, "speed to answer", "speed to use"

- Opportunities for collaboration

Let's Level Set:
About 30% of All Current Spending is Waste

Waterfall chart showing waste categories as a percentage of total:

- **Total**: $765B — 100%
- **Unnecessary Services**: $210B — 27%
- **Inefficiently Delivered Services**: $130B — 17%
- **Prices That Are Too High**: $105B — 14%
- **Excessive Administrative Costs**: $191B — 25%
- **Fraud**: $75B — 9%
- **Missed Prevention Opportunities**: $55B — 7%

Source: Institute of Medicine: "The health care Imperative: Lowering Costs and Improving Outcomes - Workshop Series Summary"
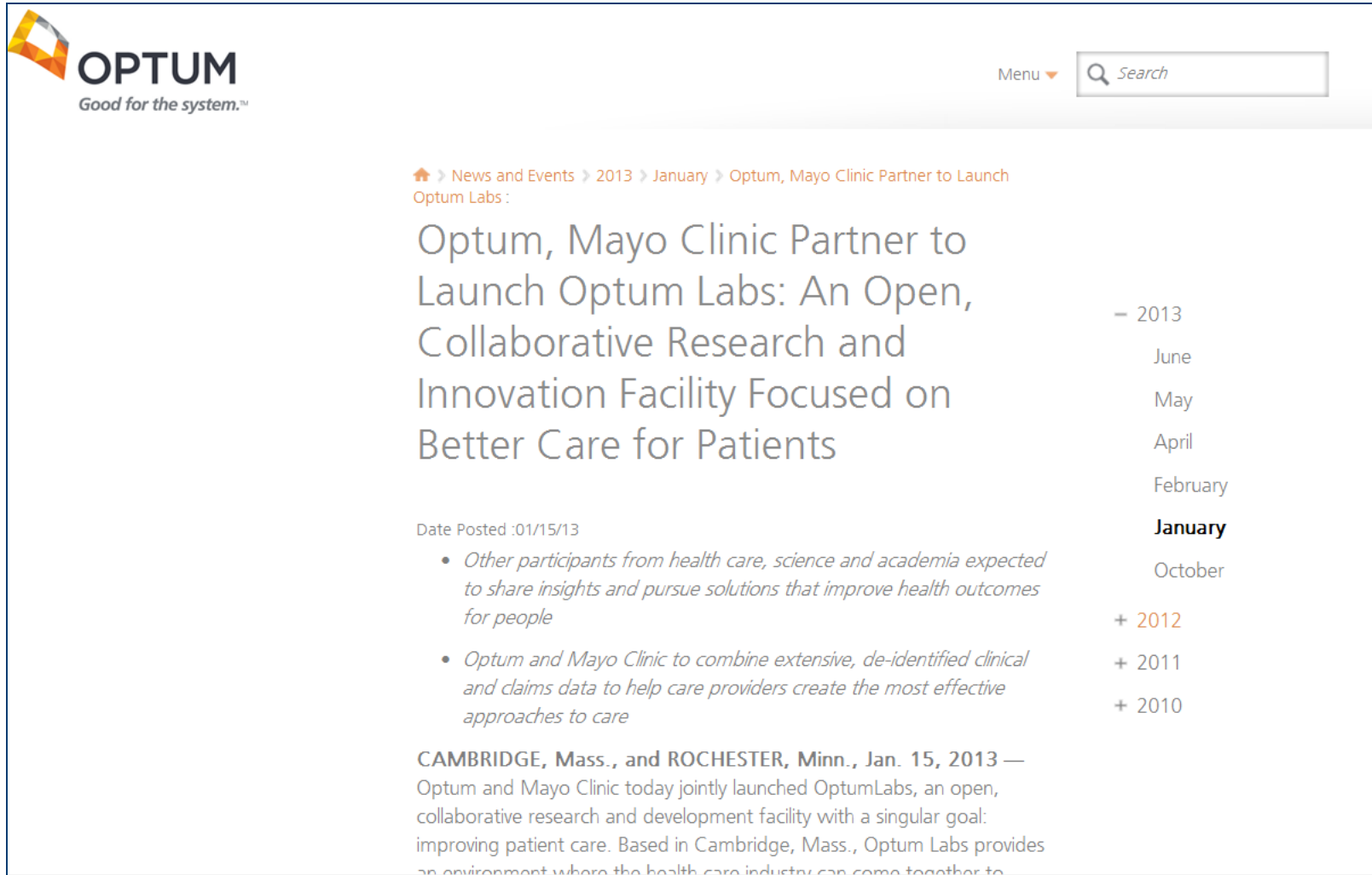
How we can afford innovation:

- Start by attacking the 30% waste to free up resources

- Support payment/delivery reforms that align incentives for high value care

- Use Big Data to:

  - Better understand variation and what is high- and low-value care

  - Inform policy and practice around pricing

  - Identify gaps that innovation can close

  - Inform modeling to help optimize how innovations can spread

- Promote Learning Health Systems

- Engage the Patient!

Big Data Can Help Answer Important Questions

- Does it work? How strong is the evidence?

- Is a proposed new treatment safe (relative to other available treatments and the natural history of the disease)?

- What specific populations would benefit ? What specific populations would not?

- How does the procedure, service, drug or device improve health outcomes?

- What are the advantages, harms and alternatives to the proposed treatment?

- What is the clinical evidence of effectiveness and safety of the proposed treatment?

- How does it work in the "real world"?

Multi-Stakeholder Innovation and Collaboration:

Optum Labs:
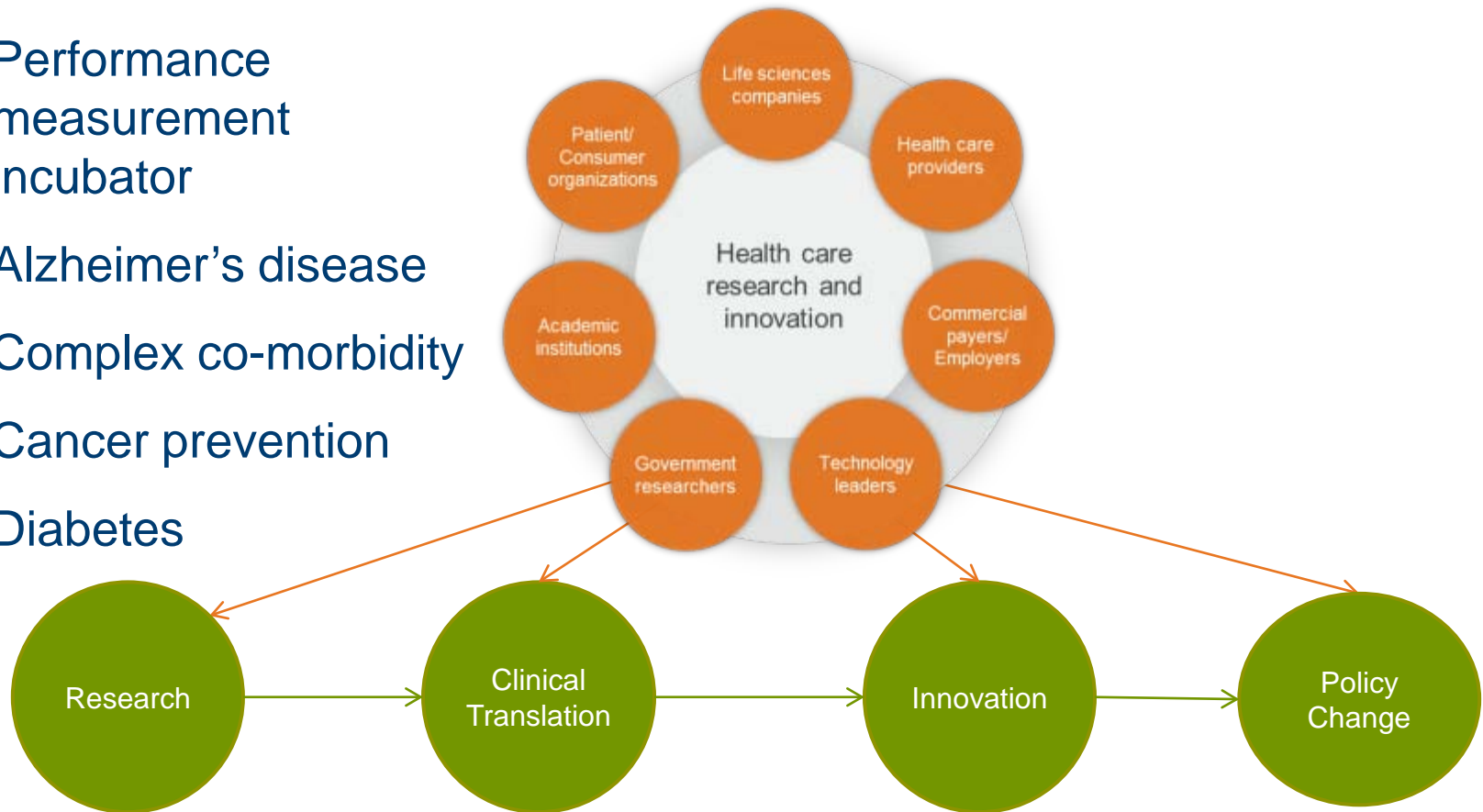## Five key assets to help solve many problems

1 Linked medical claims/EHR data

2 Forums to convene collaboration

3 Translation partners

4 Experts on staff, within partners and alongside Optum

5 Data visualization "power tools"

38M Consumer Behaviors

149M Claims

37M Clinical

Mayo

AMGA

MAYO CLINIC
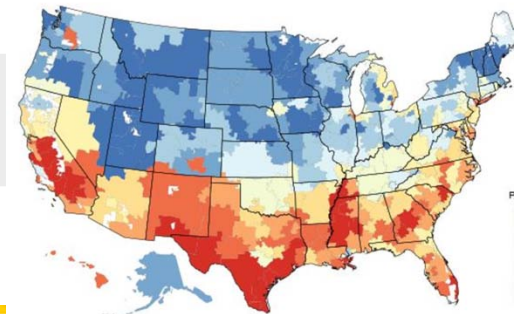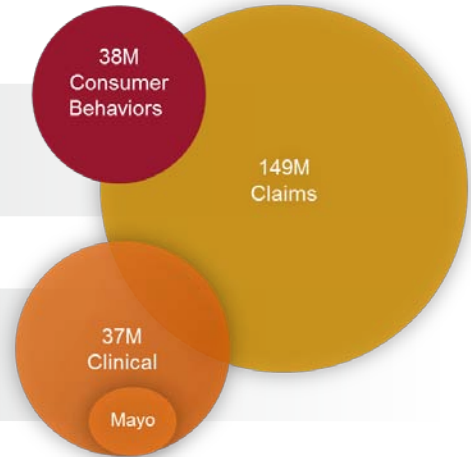
"Constellations":
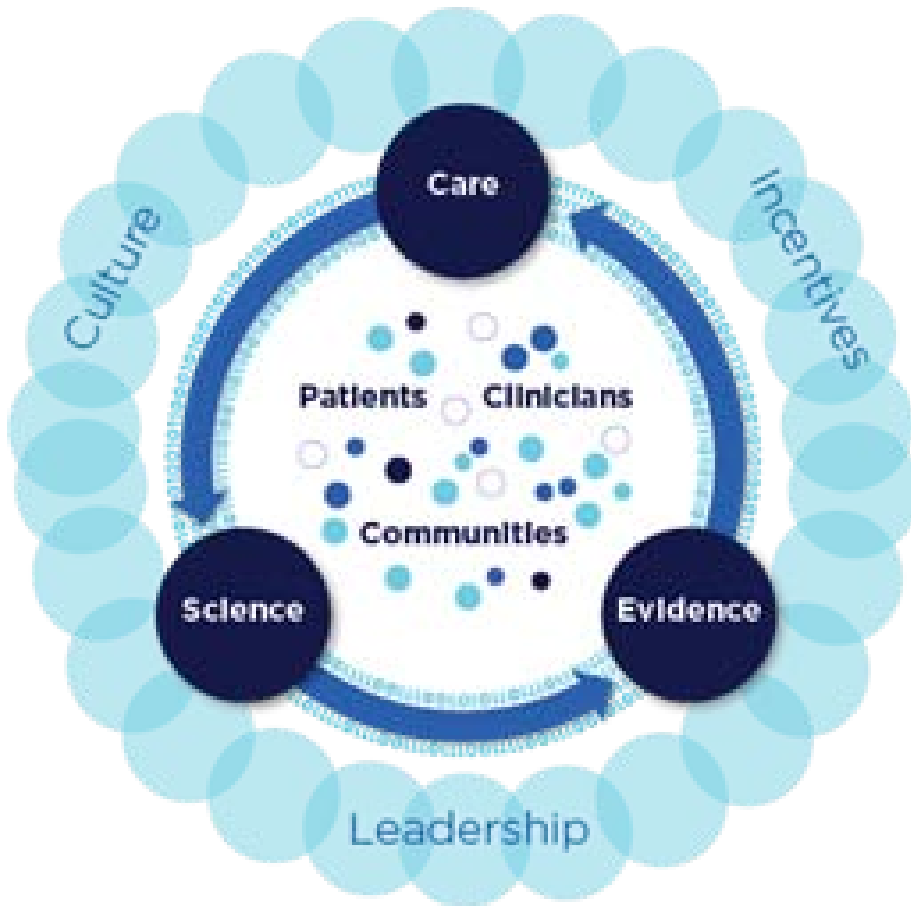# National initiatives addressing big problems

In development:

- Heart failure

- Performance measurement incubator

- Alzheimer's disease

- Complex co-morbidity

- Cancer prevention

- Diabetes

Promoting "Learning Health Systems"

BEST CARE AT LOWER COST

The Path to Continuously Learning Health Care in America

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

http://www.iom.edu/Reports/2012/Best-Care-at-Lower-Cost-The-Path-to-Continuously-Learning-Health-Care-in-America.aspx

UNITEDHEALTH GROUP
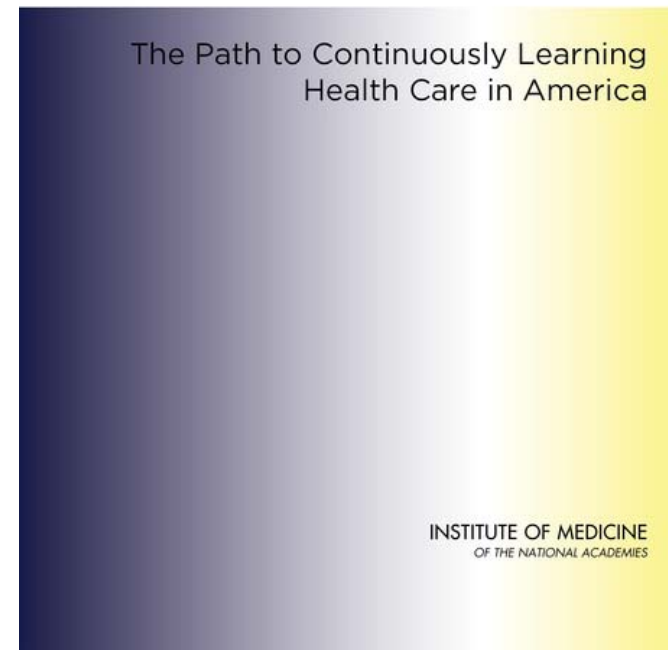
Creating the Future by Inventing It:

Need greater "speed to answer" and "speed to use"

Speed to answer:

- Understand the right questions earlier

- Create a "learning health system" where information is gathered, analyzed, disseminated as care is being delivered

- Capitalize on the opportunities created by "Big Data" – sophisticated analysis of observational data

- Increase use of modeling/simulation approaches

We need to work together to promote high-value innovation!

Creating the Future by Inventing It: (continued)

Speed to use:

- Better dissemination; clinical decision support

- Specialty society guidance, performance assessment and feedback

- Benefit design and incentives e.g. Value-Based Benefits

- Need for new (and large) data sets: phenotypes, functional status, patient-reported outcomes

- Continue to need prospective trials that are "faster, better, cheaper"

We need to work together to promote high-value innovation!