



SCHOOL OF PUBLIC HEALTH

CENTER FOR VALUE-BASED INSURANCE DESIGN

UNIVERSITY OF MICHIGAN

# **Embracing ‘Precision’ Medicine: How to Improve Health and Be Able to Afford It**

**创新的医保支付手段也 不可忽视**

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**[www.vbidcenter.org](http://www.vbidcenter.org)**



# China embraces precision therapy

*Strong genomics record bodes well for health-care revolution.*

**中国拥抱精准治疗**

强大的基因组学研究记录预示医疗保健革命大好前景

# China embraces precision therapy

## Does Genomics Bode Well for a Health Care Revolution? Some Key Questions

- **Which genetic services should be developed/delivered in China?** 中国需要什么样的基因服务？
- **To whom should they be offered?** 哪些群体应该享受这些服务？
- **Who should provide them?** 谁来提供这些服务？
- **At what price?** 如何定价？
- **Who should pay?** 谁来买单？
- **Should patients contribute?** 病人是否应该承担一部分账单？

# China embraces precision therapy

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It depends..... 视情况而认定 

# Overview 演讲大纲 - Embracing 'Precision' Medicine: How to Improve Health and Be Able to Afford It

- **Change Spending Focus from 'How Much' to 'How Well'** 将费用焦点由“多少”转变为“多好”
- **Important Role of Supply and Demand Factors** 供求因素的重要角色
- **New Approach: "Clinical Nuance"** 新方法：“临床的细微差别”
  - **Alternative Payment Models** 付费模型的其他选择
  - **Patient-Centeredness** 以病人为中心
- **Economic Considerations** 经济考虑
- **Alignment of Provider and Consumer Incentives** 将提供者与消费者的动机紧密相连

# Embracing 'Precision' Medicine: How to Improve Health and Be Able to Afford It

- **Innovations to prevent and treat disease have led to impressive reductions in morbidity and mortality** 预防与治疗疾病的不断革新已经大大降低了发病率与死亡率
- **Despite evidence of clinical benefit, high-value services are underused across the spectrum of care** 尽管有很大的临床益处，高价值服务在医疗保健范围内并没有被充分利用
  - **Screening Tests** 检查测试
  - **Clinician Visits** 就诊
  - **Prescription Drugs** 处方药
  - **Surgical Treatments** 手术治疗
- **“Precision medicine” has created a rapid movement to targeted screenings, diagnostics, and therapies** “精准医疗”大大促进了定向测试、诊断和治疗。



# Embracing 'Precision' Medicine: How to Improve Health and Be Able to Afford It

- **Increases in medical expenditures are the principle health policy focus in US and abroad:** 医疗费用的增长是美国和其他国家健康政策的主要焦点
  - **Government** 政府
  - **Private Industry** 私人企业
  - **Individual Consumers** 个体消费者
- **Little attention is spent on the amount of health we receive for the money spent (value)** 很少有人关注我们从所花的钱上究竟收获了多少健康
- **“Precision medicine” is a main contributor to medical cost growth** “精准医疗”是医疗费增长的重要部分
- **We must turn our attention from *how much* we spend to *how well* we spend on health care**
- 在医疗保健上，我们必须从关注花了多少钱转为关注钱是否花得有效

# Embracing Precision Medicine

## Important Role of Supply and Demand Factors

**Fee for Service (FFS) is the dominant US payment method** 服务费（FFS）是主流的美国付费方法

- **Each service paid separately** 每次服务单独付费
- **Payment depends provider type** 付款取决于提供方的类型
- **Payment not usually based on clinical outcome** 付款通常不是建立在治疗效果上
- **Encourages quantity not quality of care** 鼓励数量而非质量

**FFS payment is not aligned with the goals of precision medicine**

FFS付费方式与精准医疗的目标并不一致





# Embracing Precision Medicine

## Important Role of Supply and Demand Factors

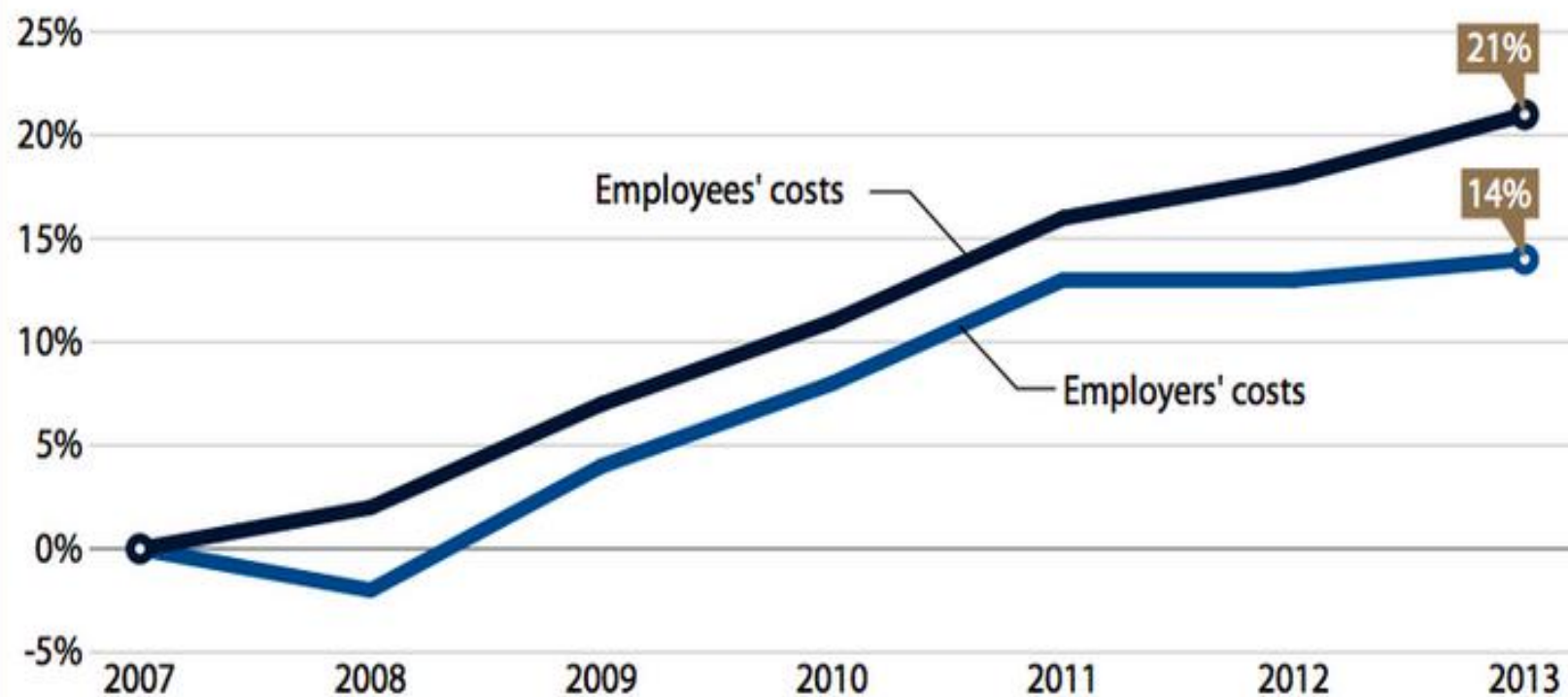
**“Demand side” initiatives aimed to change patient behavior also play an important role in US health policy strategies** 旨在改变病人行为的“需求方”的主动行为也对美国健康政策战略具有重要影响

- **“Patient-Centeredness” - the consideration of personal preferences in treatment decisions** “以病人为中心”—在治疗中考虑个人偏好
- **Patients are being asked to pay a greater percentage of their health care costs** 病人被要求在治疗过程中承担更高比例的费用

# In Setting of “Patient- Centeredness”, US Consumers are Paying a Greater Percentage of their Health Care

在建立以病人为中心的医疗过程中，美国的消费者正在承担比过去 更高比例的费用

## Change since 2007 in employees' and employers' health care costs per enrolled employee, in 2013 dollars



Source: Authors' calculations based on Health Care Cost Institute, "Out-of-Pocket Spending Trends (2013)" (2014), available at <http://www.healthcostinstitute.org/files/IB%209%2010-28-14.pdf>; personal communication from Amanda Frost, senior researcher, Health Care Cost Institute, Washington, D.C., October 28, 2014; Agency for Healthcare Research and Quality, "Medical Expenditures Panel Survey: Insurance Component," available at [http://meps.ahrq.gov/mepsweb/survey\\_comp/Insurance.jsp](http://meps.ahrq.gov/mepsweb/survey_comp/Insurance.jsp) (last accessed January 2015). See Appendix A for details.

# Pathway to Better Health and Lower Costs Inspiration 达到更好的医疗更少的花费的途径

**“I can’t believe you had to spend a million dollars to show that if you make people pay more for something, they will buy less of it.”**

**Barbara Fendrick (my mother)**

**“我简直不敢相信你需要花费一百万美金去证明当人们需要为某样东西花的钱越多，他们就会买的越少。**

**Barara Fendrick (我的母亲)”**

# Impact of Increases in Consumer Costs on Health Care Utilization

**A growing body of evidence concludes that increases in consumer costs leads to a reduction in the use of essential services, worsens health disparities, and in some cases leads to greater overall costs. 越来越多的证据显示病人花费的增加会减少一些必要的医疗服务的使用，扩大了健康悬殊并且在某些情况下导致整体费用更高。**

Goldman D. *JAMA*. 2007;298(1):61–9. Trivedi A. *NEJM*. 2008;358:375-383. Trivedi A. *NEJM*. 2010;362(4):320-8.. Chernerw M. *J Gen Intern Med* 23(8):1131–6.

The New York Times

Business Day

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ECONOMIC VIEW

## When a Co-Pay Gets in the Way of Health

By SENDHIL MULLAINATHAN  
Published: August 10, 2013

ECONOMISTS specialize in pointing out unpleasant trade-offs — a skill that is on full display in the health care debate.

[Enlarge This Image](#)



We want patients to receive the best care available. We also want consumers to pay less. And we don't want to bankrupt the government or private insurers. Something must give.

The debate centers on how to make these trade-offs, and who gets to make them. The stakes are high, and the choices are at times unseemly. No matter how necessary, putting human suffering into dollars and cents is not attractive work. It's no surprise, then, that the conversation is so heated.

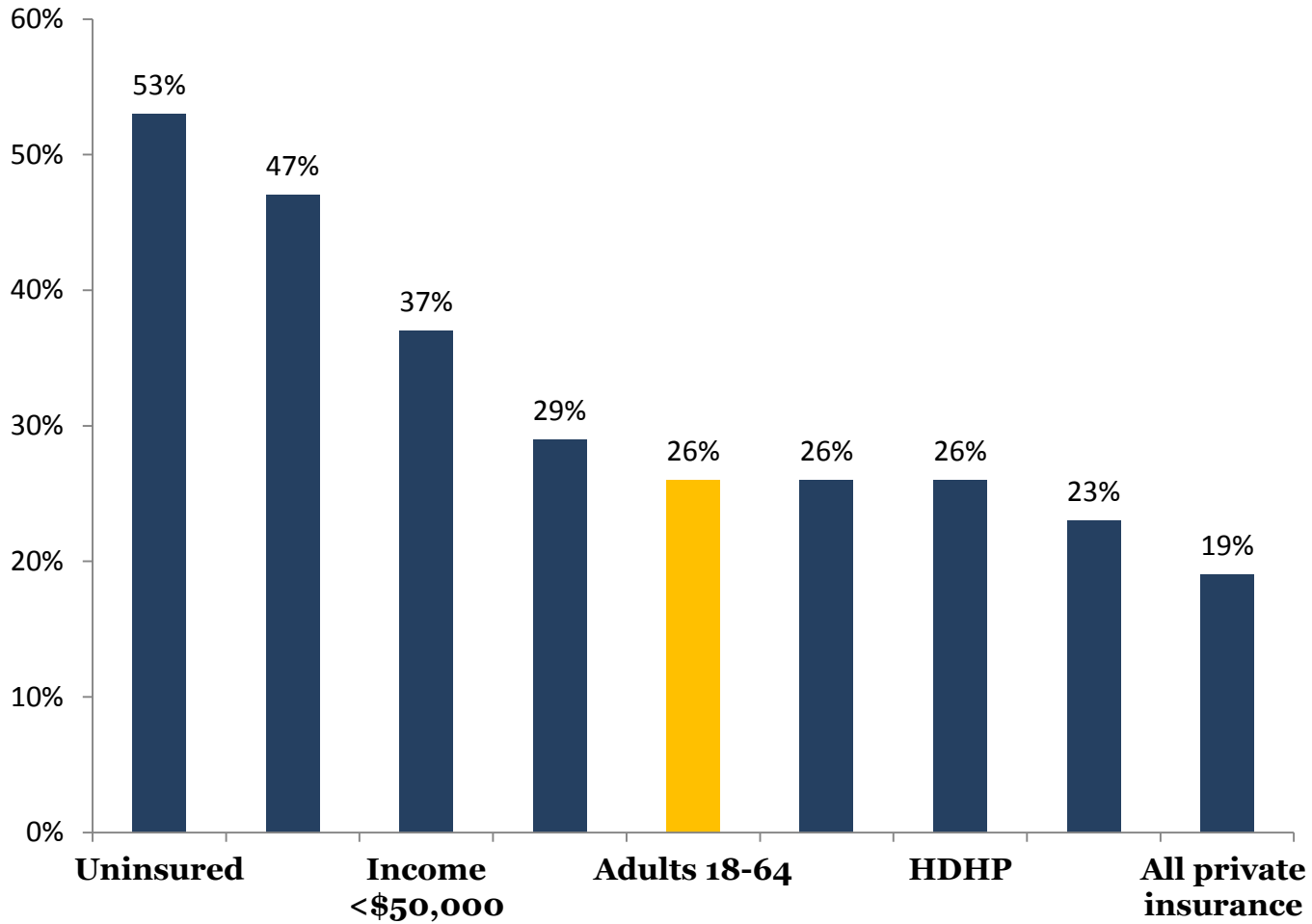
What is a surprise is that amid these complex issues, one policy sidesteps these trade-offs.

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THE GRAND BUDAPEST HOTEL

# 1 in 4 Americans Report Problems Paying Medical Bills

## 1/4的美国人表示很难负担医疗费用



Source: Kaiser Family Foundation/New York Times Medical Bills Survey



# Genomic Medicine Requires 'Precise' Delivery and Payment Strategies 最重要的是，基因治疗需要“精准”提供

- **For the tremendous promise of genomics to be achieved, the delivery of precision medicine should be as targeted as the science that created it** 鉴于基因组学的广阔前景，由它所创造的精准医疗也应该作为一个重要目标



# Understanding CLINICAL NUANCE

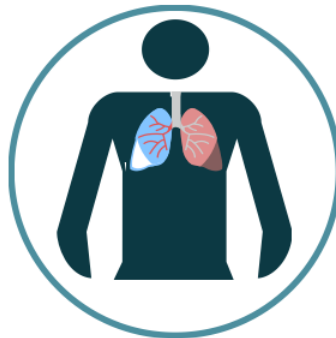
#1

Clinical Services Differ  
in the Benefit Produced

不同的医疗服务各有价值



Office  
Visits



Diagnostic  
Tests



Prescription  
Drugs

#2

## The Clinical Benefit Derived From a Service Depends On...

某项服务的临床受益取决于



**Who**  
receives it



**Who**  
provides it



**Where**  
it's provided



# Clinical benefit depends on **who** receives it

临床受益取决于医疗服务的接收方

## Example: Screening for Colorectal Cancer



Screening  
Recipients

First-degree  
relative of colon  
cancer sufferer



Exceptional  
Value

Average risk  
50 year old



High  
Value

30 year old with  
no family history  
of colon cancer



Low  
Value

# Clinical benefit depends on **where** it is provided

临床受益取决于医疗服务的提供地点



**Ambulatory  
Care Center**



\$

**Hospital**



\$\$\$

# Implementing Clinical Nuance

## *Value-Based Insurance Design*

Sets cost-sharing to encourage greater utilization of high-value services and providers and discourage use of low-value care

- **Successfully implemented by hundreds of public and private payers**
- 价值保险已经被几百家公共、私人购买者成功实施



**THE WALL STREET JOURNAL**  
ONLINE

June 16, 2004

**FOLLOW THE MONEY**

**From 'One Size Fits All'  
To Tailored Co-Payments**

June 16, 2004

University of Michigan researchers say a patient drug should depend on how much he or she will pay. The researchers say a move that would likely lower co-

# Embracing Precision Medicine

## How to Improve Health and Be Able to Afford It

- **The transformation to precision medicine has important implications for how clinical services will be delivered and paid for** 转型精准医疗将会对如何提供、支付医疗服务产生重大影响
- **An increasing number of evidence-based protocols recommend genetic markers, companion diagnostics, and/or patient-specific factors** 越来越多基于证据的实验报告推荐遗传标记、伴随式诊断和/或具体到病人的因素

[← Back to Latest Articles](#)**ON THE HORIZON**

# Scientists report the first genetic cause of MS--and a potential way to treat it

John Murphy, MDLinx, 06/07/2016

**I**nvestigators have reported the first single genetic mutation to cause multiple sclerosis (MS), according to a study published June 1, 2016 in the journal *Neuron*.



# Patient Protection and Affordable Care Act: Selected Preventive Services Provided at NO Consumer Cost

**Over 137 million Americans** have received expanded coverage of preventive services 超过一亿三千七百万美国人接受了超范围的预防服务

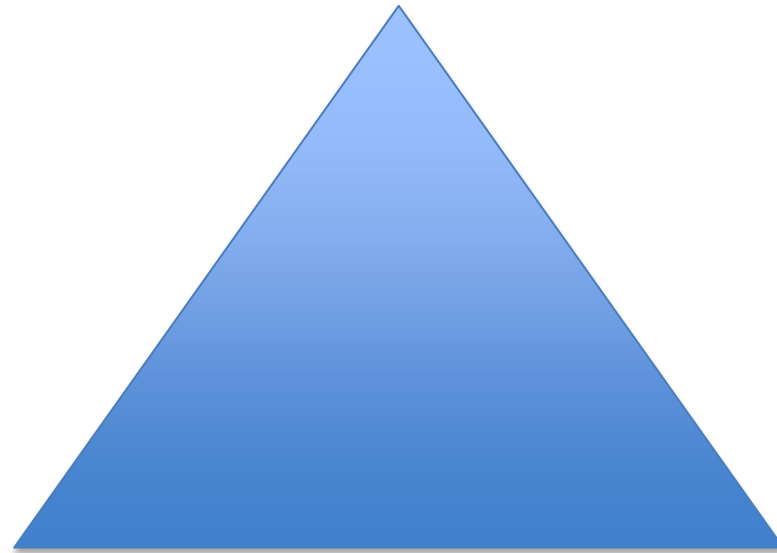
- **Screenings and counseling receiving an A or B rating from the United States Preventive Services Taskforce (USPSTF)** 接受检查、咨询服务，从美国预防服务工作组得到A或B的评级
- **Immunizations recommended by the Advisory Committee on Immunization Practices (ACIP)** 由免疫工作咨询委员会推荐的疫苗接种

# Paying for 'Precision' Medicine: Economics Considerations

**Clinician and patient incentives for precision medicine should aim to get the right service, to the right patient, at the right time, by the right clinician, at the right price** 鼓励医生与病人采用精准医疗应该致力于将正确的医疗服务在正确的时间由正确的医生以正确的价格提供给正确的病人

# Collaborations Key Predictor of Success 合作至关重要

**Government 政府**



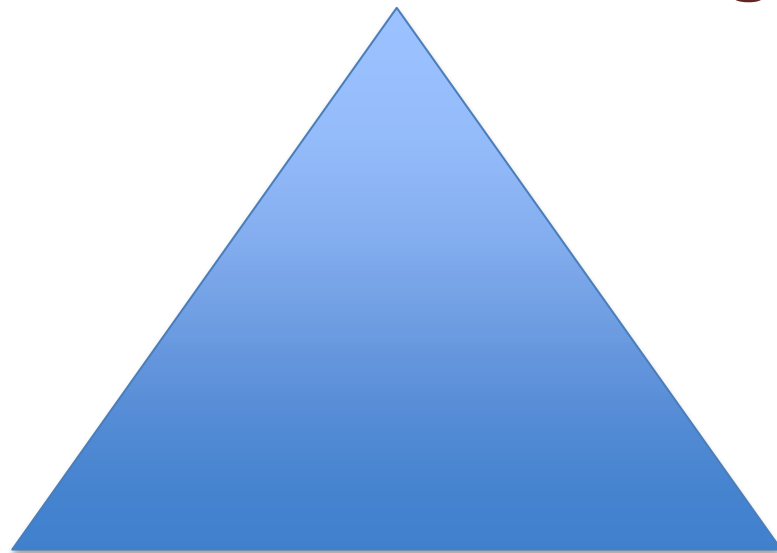
**Industry 产业界**

**Academia 学术界**



# Collaborations Key Predictor of Success Precision Medicine in Shenzhen 合作至关重要

**Government 政府**  
**Shenzhen Health and Planning Commission**



**Industry 产业界**  
**BGI, Beike, etc.**

**Academia 学术界**  
**HIT**

# The Delivery of Precision Medicine Should be as Targeted as the Revolutionary Science that Developed It

**The alignment of clinically nuanced, provider-facing and consumer engagement initiatives is a necessary step for precision medicine to meet the “Triple Aim” of improving quality of care, enhancing the patient experience, and containing cost growth**

为了实现提升医疗保健服务、改善患者体验和保持医疗费用增长“三重目标”，精准医疗必须要把医疗细微差别、提供方和消费方的动机统一一线。

# Genomic Medicine Requires 'Precise' Delivery and Payment Strategies 最重要的是，基因治疗需要“精准”提供

- **For the tremendous promise of genomics to be achieved, the delivery of precision medicine should be as targeted as the science that created it** 鉴于基因组学的广阔前景，由它所创造的精准医疗也应该作为一个重要目标

# Thank you!

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[www.vbidcenter.org](http://www.vbidcenter.org)

