



Measuring health care spending and changes in health care spending

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Draw from two already published pieces of research

JAMA | **Original Investigation**

US Spending on Personal Health Care and Public Health, 1996-2013

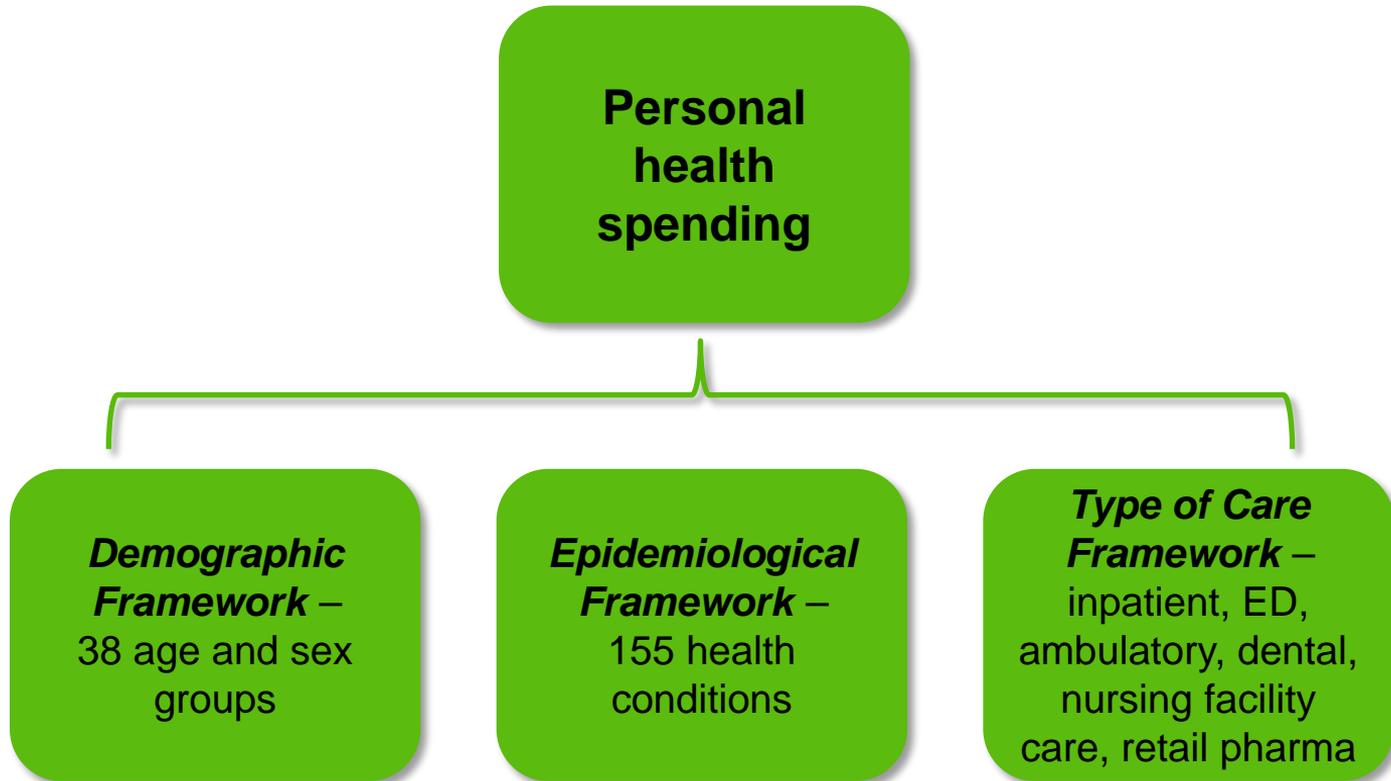
Joseph L. Dieleman, PhD; Ranju Baral, PhD; Maxwell Birger, BS; Anthony L. Bui, MPH; Anne Bulchis, MPH; Abigail Chapin, BA; Hannah Hamavid, BA; Cody Horst, BS; Elizabeth K. Johnson, BA; Jonathan Joseph, BS; Rouselle Lavado, PhD; Liya Lomsadze, BS; Alex Reynolds, BA; Ellen Squires, BA; Madeline Campbell, BS; Brendan DeCenso, MPH; Daniel Dicker, BS; Abraham D. Flaxman, PhD; Rose Gabert, MPH; Tina Highfill, MA; Mohsen Naghavi, MD, MPH, PhD; Noelle Nightingale, MLIS; Tara Templin, BA; Martin I. Tobias, MBBCh; Theo Vos, MD; Christopher J. L. Murray, MD, DPhil

JAMA | **Original Investigation**

Factors Associated With Increases in US Health Care Spending, 1996-2013

Joseph L. Dieleman, PhD; Ellen Squires, MPH; Anthony L. Bui, MPH; Madeline Campbell, BS; Abigail Chapin, BA; Hannah Hamavid, BA; Cody Horst, MPH; Zhiyin Li, MPS; Taylor Matyas, MS; Alex Reynolds, BA; Nafis Sadat, MA; Matthew T. Schneider, MPH; Christopher J. L. Murray, PhD, DPhil

1. Descriptive financial accounting



2. Measuring drivers of changes in spending

Measure effect of 5 drivers: (i) *population size*, (ii) *population age structure*, (iii) *disease prevalence*, (iv) *service utilization*, and (v) *service price and intensity*.

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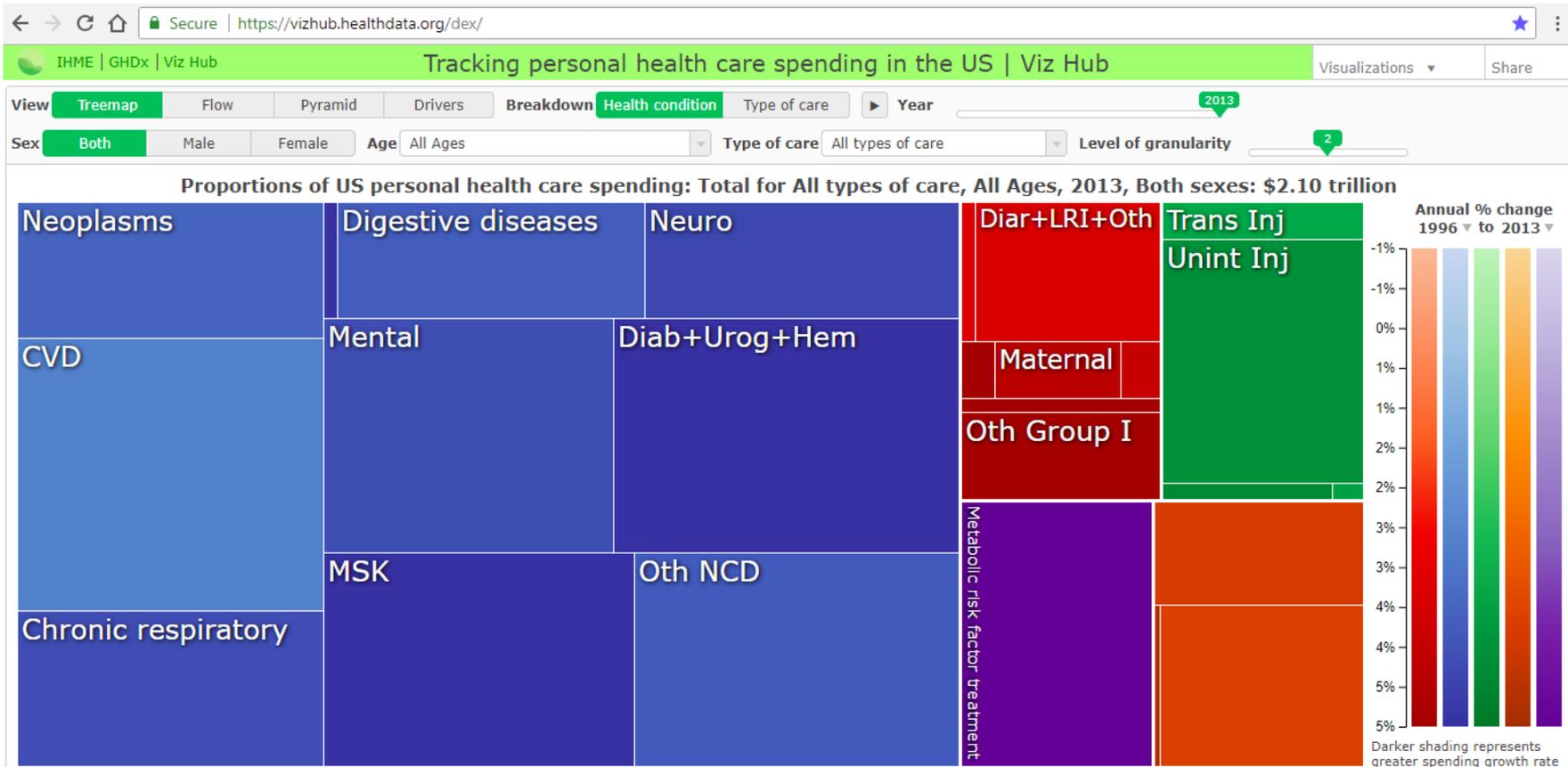
Spending \equiv *Population* * *Pop Age Fractions* * *Prevalence Rate* * *Util Rate* * *Price Rate*

$$Spending_{a,s,c,t,y} \equiv Pop_y * \frac{Pop_{a,s,y}}{Pop_y} * \frac{PrevCases_{a,s,c,y}}{Pop_{a,s,y}} * \frac{Encounters_{a,s,c,t,y}}{PrevCases_{a,s,c,y}} * \frac{Spending_{a,s,c,t,y}}{Encounters_{a,s,c,t,y}}$$

a = age
s = sex
c = condition
t = type of care
y = year



Results: <https://vizhub.healthdata.org/dex/>





Thank you.

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