Chronic Infectious Disease and the Future of Health Care Delivery

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THE SHATTUCK LECTURE.

THE PAST, PRESENT AND FUTURE OF TUBERCULOSIS.

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OF BOSTON.
Global Life Expectancy

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**Global Life Expectancy**

-10,000 BCE - 2003

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**Life Expectancy, 1820-2003**

- Global
- Developed Nations
- Developing Nations

Source: Indur M. Goklany. "The Improving State of Our World." Washington, DC: Cato Institute, 2007. 36. Life expectancy is believed to have been 20-30 years prior to 1820. Age 25 is selected as an average.
Translating scientific advances into better health outcomes

Discovery > Development > Delivery

Improved Health Outcomes
Fatalism is leaving health care delivery

In 1960, myocardial infarction was considered “bolt from blue” for which little could be done other than putting the patient to bed and hoping for the best.

Until recently, our attitude was that bloodstream infections, readmissions, falls, and many other undesirable outcomes were “inevitable” and “part of life.”

Source: Tom Lee. “Care Redesign,” Lecture for Introduction to Social Medicine, Harvard Medical School (28 Oct, 2010); graph data from HPM Close quarterly reports.
Tuberculosis cases and rates: New York City, 1978-2009*
760 cases in 2009

* Rates based on official Census data and intercensal estimates prior to 2000. Rates for 2000 to 2008 are based on intercensal estimates.

Five Lessons from Chronic Infectious Disease Management in Resource-Poor Settings

• Drug resistance is here to stay, but its rate of emergence and spread can be slowed.

• Even the tardy introduction of robust delivery platforms leads, in settings of poverty, to improved outcomes as long as what is delivered is clinically effective.

• A shift from hospital- and clinic-based to community-based care should occur for tuberculosis patients who do not need inpatient or laboratory services.

• Therapeutic innovations need to be linked more rapidly to equitable delivery mechanisms (the “equity plan”).

• It’s not clear that any disease is helpfully termed “untreatable.”
Diagnoses of 200 patients presenting with HIV to Clinique Bon Sauveur between 1993 and 1995

Farmer, PE. *AIDS Clin Care* 1997
1041 Patients - 2yr Follow-Up

- Retained in care (92.3%)
- Died (5.0%)
- Lost to follow-up/defaulted (2.7%)

Resources for AIDS

NINETY-SIX-POINT-THREE is the frequency of Justus Upton's favorite radio station in Jackson, Miss. It's also, by macabre coincidence, exactly how low his body temperature fell in 1995 until he took a drug called Zovirax. Upton, 29 and HIV-positive, switched to 14 medications a day in January to beat back his dread disease. The good news: that so-called "cocktail" took the viral levels in his blood down to almost undetectable lows - like tens of thousands of other infected people who have suddenly dared to hope again...
Figure 2. Child mortality in Rwanda, 1990 – 2011

Probability of child dying by age 5 per 1,000 live births

Farmer, et. al. BMJ 2013;346:f65
Thank You