

## Healthcare Spending: Blessing or Curse

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### Can't Make Head or Tail of it

Readers of the *Journal of Developing Drugs* are well schooled in natural sciences. But few are likely to have time or inclination to dwell in the world of economic affairs even though the course of scientific discovery is as much influenced by economic events as it shapes the unfolding world of future technology. Technology is an endogenous variable in neoclassical economics. Its interaction with the economy is not fully understood but is known to be the one of the most, if not the most, important factor driving long term economic development, jobs and prosperity. New technology can quickly reshape the economy. Take for example the automobile industry. It grew from virtually nothing to a substantial proportion of the economy by mid-century if one includes related industries such as tyres, petroleum and repair. Or consider development of internet, which accounted for 21 percent of GDP growth over the past five years [1]. National health expenditures (NHE) are currently 18 percent of the economy but are expected to reach 25 percent by 2037 [2]. Is this growth in the health sector a blessing or a curse?

In the United States retail pharmacy expenditures increased from 4.7 to 9.8 percent of NHE from 1980 to 2010. Much of this growth is associated with the spread of health insurance for pharmaceuticals. The development of health insurance in the United States was originally focused on hospital and physician services. Insurance coverage for drugs evolved later, first in the private sector and then in the public sector. Coverage for retail prescription drugs for Medicare, primarily for those over 65, was implemented as recently as 2006. In addition, generous tax provisions exist in the United States shielding compensation in the form of health insurance from taxation. This further encourages health insurance coverage and medical expenditures including for prescription drugs.

There can be little doubt about the importance of new drugs in recent decades especially in the academic community. The 5 year averages of U.S. academic patents by technology area are shown below, illustrating large increases in biotechnology and pharmaceutical patents in the latter part of the 1990's that has been largely sustained, at least through the first decade of the 21<sup>st</sup> century. The increased availability of new pharmaceuticals and treatment options, particularly biologics, will hopefully lead to improved patient care and prolonged life (Figure 1).

There is a concurrent, less auspicious perspective focused on how beneficial these developments have been for the pharmaceutical and pharmacy sectors. Health in the United States, as measured by life expectancy and infant mortality, is weak in comparison to other developed countries. Health spending should lead to better health and one would expect an advanced economy such as the US to excel. Yet the World Health Organization (WHO) found that the United States fared poorly compared to other countries in the efficiency of its health spending [3]. Figure 1 illustrates relatively high US spending with a trend line plotting the relationship between per capita income and the share of GDP allocated to healthcare using primarily OECD data. The United States clearly stands out.

The US health sector is fragmented and uncoordinated. A key

source of inefficiency is the wedge between the price consumers pay and the cost of production. Economists refer to the moral hazard of overconsumption when someone else bears the costs. In the longer run moral hazard leads to incentives for new technologies that drive up costs, rather than reduce them (Figure 2).

How can these two different narratives be reconciled? The two perspectives are not mutually exclusive. Both have veracity. An inefficient healthcare sector can generate many jobs and profound benefits. But inefficiency initially slows growth, eventually reaching a tradeoff: reduce spending or reduce our standard of living in non-healthcare sectors. Higher health benefit costs are already an important variable in the stagnation of median wages and slowdowns in growth in the United States.

### What is to be Done?

In 1902 Vladimir Lenin published "What is to be done?" The ambitious revolutionary called for an end to the vacillation of the progressive movement and demanded decisive action about unacceptable social conditions of his day. Although the Bolsheviks certainly provided the Russian public decisive action, many decisions were wrong. Health care in some respects faces analogous circumstances. Important decisions must be made about what is affordable, and more importantly what is beyond affordability. In cases where the public is over-insured, markets can be used to address these decisions; consumers will vote with their pocket books. For more expensive care, decisions will be determined by insurers. But these are essentially social decisions and the public sector will need to show real leadership. A great risk is that we throw the baby out with the bathwater. New technology generating large social benefits well in excess of cost should not be stifled, as long as decisions are aided with sound cost-effectiveness analyses. Such analyses are found in many countries, the most well-known being the United Kingdom with its National Institute for Care and Health Excellence (NICE). Industry interests in the United States have fiercely resisted reliance on cost effectiveness analyses for insurance coverage decisions but as a compromise, the US has supported comparative effectiveness analyses with emphasis on outcomes rather than costs [4]. The same spirit of improving allocative efficiency, that is allocating resources across the economy to where they generate the greatest benefit, is finding its way to decisions about research funding. Research should be directed to topics that hold the greatest promise for the greatest good. Of course, research funding has been scarce for a long time and subject to scrutiny. But this scrutiny has historically been left to

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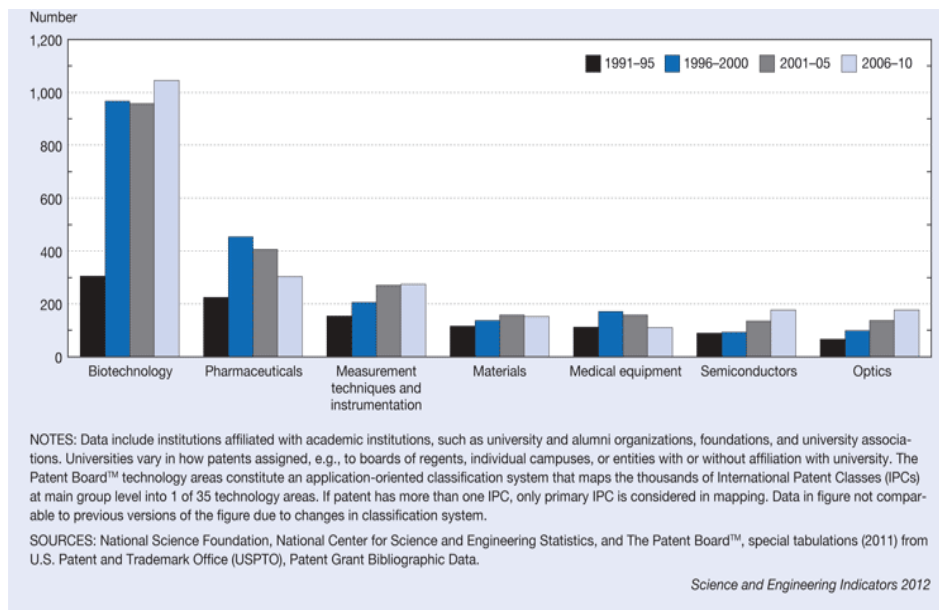
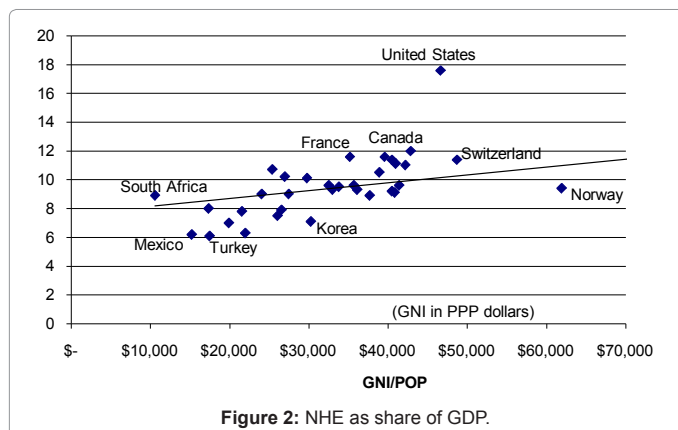


Figure 1: US academic patents, by technology area: Selected 5 year averages, 1991-2010.



the scientific community. In some European countries, this process is becoming more pluralistic with input from outside the scientific community. The United States can be expected to follow suit.

Another important element to reforming R&D funding is a new focus on productive efficiency. Productive efficiency describes producing a product for a given quantity and quality at the lowest cost possible. This kind of efficiency is well understood by managers throughout the American economy, except in the health sector (with some incipient signs of change notwithstanding). Industrial research commonly seeks lower cost and higher quality products, yet this culture is alien to most academic health science centers in the United States. How many academic health researchers look for new ways to provide less costly care and products? Game changing innovation more commonly comes from the private sector with little, if any support from established players in health. This state of affairs is not

likely to persist indefinitely and research funding can be expected to lend greater support to gains in productive efficiency.

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