

## **OHE Lunchtime Seminar**

**Professor Frank Lichtenberg  
Columbia University**

### **How cost-effective are new cancer drugs in the U.S.?**

**Tuesday 19 September 2017 between 12:00-2:00pm**

**Marlborough Room, St Ermin's Hotel, 2 Caxton Street, London SW1H 0QW**

A buffet lunch will be available from 12:00 noon. The seminar will start promptly at 12.30 pm and finish promptly at 2.00 pm.

The number of drugs approved by the FDA for treating cancer has increased substantially during the last 40 years. Moreover, cancer drug innovation has been accelerating: more than 8 times as many new cancer drugs were approved during 2005-2015 as were approved during 1975-1985 (66 vs. 8). During the period 2010-2014, the average annual growth rate of cancer drug expenditure was 7.6% – more than 3.6 times the average annual growth rate of nominal U.S. GDP. This has contributed to a lively debate about the value and cost-effectiveness of new cancer drugs.

This lecture will offer an assessment of the average cost-effectiveness in the U.S. in 2014 of new cancer drugs approved by the FDA during 2000-2014. Cost-effectiveness is measured as the ratio of the impact of new cancer drugs on medical expenditure to their impact on the number of years of potential life lost due to cancer. The latter is estimated using a difference-in-difference research design, to determine whether cancers that had larger increases in the number of drugs approved had larger declines in premature mortality, controlling for the change in cancer incidence and mean age at time of diagnosis.

The estimates indicate that cancer drugs approved during 2000-2014 reduced the number of years of potential life lost before age 75 in 2014 by 719,133, and that cancer drugs approved between 1989 and 2005 reduced the number of hospital days in 2013 by 1.55 million, and hospital cost in 2013 by \$4.8 billion. The baseline estimate of the cost per life-year gained in 2014 from cancer drugs approved during 2000-2014 is \$7853.

Frank R. Lichtenberg is Courtney C. Brown Professor of Business at the Columbia University Graduate School of Business; a Research Associate of the National Bureau

of Economic Research; and a member of the CESifo Research Network. He received a BA with Honours in History from the University of Chicago and an MA and PhD in Economics from the University of Pennsylvania.

Prof. Lichtenberg previously taught at Harvard University, the University of Pennsylvania, and Ecole Polytechnique. He has served as an expert for the Federal Trade Commission, the U.S. Dept. of Justice, and state Attorneys General, and has testified before Congress. He was awarded the 1998 Schumpeter Prize, the 2003 Milken Institute Award for Distinguished Economic Research, and Research! America's 2010 Garfield Economic Impact Award for *Study on Impact of New Cancer Drugs on Life Expectancy*. He is ranked in the top 10 (out of over 1900) of health economists by IDEAS, a RePec service hosted by the Research Division of the Federal Reserve Bank of St. Louis.

If you are unable to attend but think that a colleague might like to, please pass on this letter to them.

Yours faithfully

A handwritten signature in black ink, appearing to be 'A. Towse', with a long horizontal flourish extending to the right.

Adrian Towse

Director