NDHI

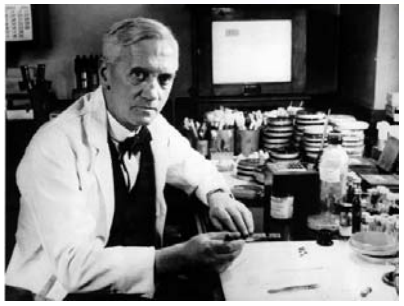
NATIONAL DIALOGUE FOR Healthcare Innovation

The State and Future of Physician-Industry Collaborations: Spreading Some Sunshine on the Outlook for Innovative Patient Care

June 13, 2012
Noon – 1:00 p.m. ET
Cannon Caucus Room
Washington, DC

An Initiative of the HEALTHCARE LEADERSHIP COUNCIL

How Physician-Industry Collaboration Transformed Our World



Implantable Cardioverter-Defibrillators (1985)

Pacemaker (1963)

Benzodiazepines (1960)

Coronary stent (1987)

Penicillin (1939)

Cervical disc (2007)

Heart and lung bypass machine (1953)

Neupogen (1991)

Statins (1971)

Fluorouracil (1962)

Deep brain stimulation (1987)

Why Collaboration is Important

Patient Benefits: Reduction in deaths & disease

- 40% decline in mortality resulting from coronary heart disease (1980 and 2000)
- 30% decline in the overall hospitalization rate for heart failure (1998-2008)
- 50% reduction in U.S. AIDS deaths (1995-1996)
- 55% reduction in hospital mortality from acute myocardial infarction (1975-1995)
- 90% reduction in Hib-related meningitis and other diseases in the U.S. (1975-1995)

Economic Benefits

- 30-year gain in life expectancy (age 46 versus age 76) over the 20th century is worth more than $1.2 million per person in the current population.
- From 1970-2000, gains in life expectancy added $3.2 trillion per year to national wealth
- A 10% reduction in all cause mortality over 30 years has a value of over $18.5 trillion

Under Critical Review & Scrutiny

The New York Times

Payments to Doctors by Pharmaceutical Companies Raise Issues of Conflicts

Published: November 24, 2011

American Medical News

Critics rap delay in doctor-payment reporting rules

Nov. 14, 2011.

The New York Times

Health Guideline Panels Struggle with Conflicts of Interest

Published: November 2, 2011

REUTERS

Million-dollar payments to surgeons raise questions

Oct 24, 2011 5:20pm EDT

Billings Gazette

Payment debate: Health care workers defend their payments from drug companies

November 20, 2011 12:00 am

HARVARD LAW SCHOOL

At HLS, former investigator questions the relationship between physicians and pharmaceutical industry

October 04, 2011

PRO PUBLICA journalism in the public interest

Piercing the Veil, More Drug Companies Reveal Payments to Doctors

Sept. 7, 2011, 4:31 p.m.

PRO PUBLICA journalism in the public interest

Financial Ties Bind Medical Societies to Drug and Device Makers

May 5, 2011, 8:48 p.m.

National Dialogue for Healthcare Innovation's Progress

- Convened Summit on Physician-Industry Collaboration
  - More than 100 high-level representatives from across healthcare sector
- Achieved consensus on the following:
  - **Innovation is critical**, and collaboration is necessary for innovation to continue
  - Substantial **work needed to enhance trust** in the collaboration model
  - Continuing to collaborate and innovate, while maintaining public trust and **becoming more transparent is important**
  - Solving collaboration challenges is an **economic imperative** for the U.S.
- Formed two cross-sector working groups to:
  - Draft consensus statement on Principles
  - Develop outreach & education plan to educate key stakeholders

Panelists

- **Richard K. Murray, MD**, Vice President and Head, Global Center for Scientific Affairs, Office of the Chief Medical Officer, Merck & Co., Inc.
- **William Silverman, DO**, Family Practice Physician & former Trustee, American Osteopathic Association (AOA)
- **Phyllis E. Greenberger, MSW**, President & CEO, Society for Women's Health Research
- **David Charles, MD**, Chief Medical Officer, Vanderbilt University Clinical Neurosciences Institute
- **William Schmalfeldt**, Clinical Trial Patient

MERCK

AOA | AMERICAN OSTEOPATHIC ASSOCIATION

Vanderbilt Clinical Neurosciences

In Closing

Principled Physician-Industry collaboration is important to medical innovation

Patients and the economy benefit from this collaboration

We are building consensus around preserving principled collaboration

Help raise awareness of the importance of principled collaboration

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The Mevacor Story: Industry -Academic Collaboration Resulting in Landmark Therapy

The Unmet Medical Need (1970s)

- CHD leading cause of Morbidity/Mortality in U.S.
- Role of hypercholesterolemia as contributor to increased CHD risk
  - Framingham
  - MR-FIT
  - Cholesterol Controversy
- Limitations of existing therapies
- Need for new therapies that are
  - Effective
  - Tolerable to patients

Early Research on Statins

- Discovery of First Statin
  - 1976: Inhibitor of HMG-CoA reductase (ML236B; Compactin) discovered by the Japanese microbiologist Akira Endo in a fermentation broth of *Penicillium citrinum* during search for antimicrobial agents
  - Prototype compound (Compactin) developed by Sankyo; shown to be highly effective in reducing total and LDL concentrations in patients with heterozygous FH

- 1978: Mevinolin (later named lovastatin) found by Alberts, Chen and others at MRL in a fermentation broth of *Aspergillus terreus*

Lovastatin: Difficult Beginning

- April 1980: Merck began clinical trials of lovastatin in healthy volunteers
  - Lovastatin dramatically effective for lowering LDL cholesterol with no obvious adverse effects
  - Clinical trials of compactin stopped by Sankyo in September 1980 (believed due to serious animal toxicity)
  - Because of close structural similarity between compactin and lovastatin, Merck discontinued clinical trials of lovastatin
  - Merck very Cautious
- Climate for Lipid-altering drug development difficult in early 1980s
  - Many believed treatment for elevated LDL based on “a conjecture known as the lipid hypothesis”

Cholesterol Study Changes Thinking

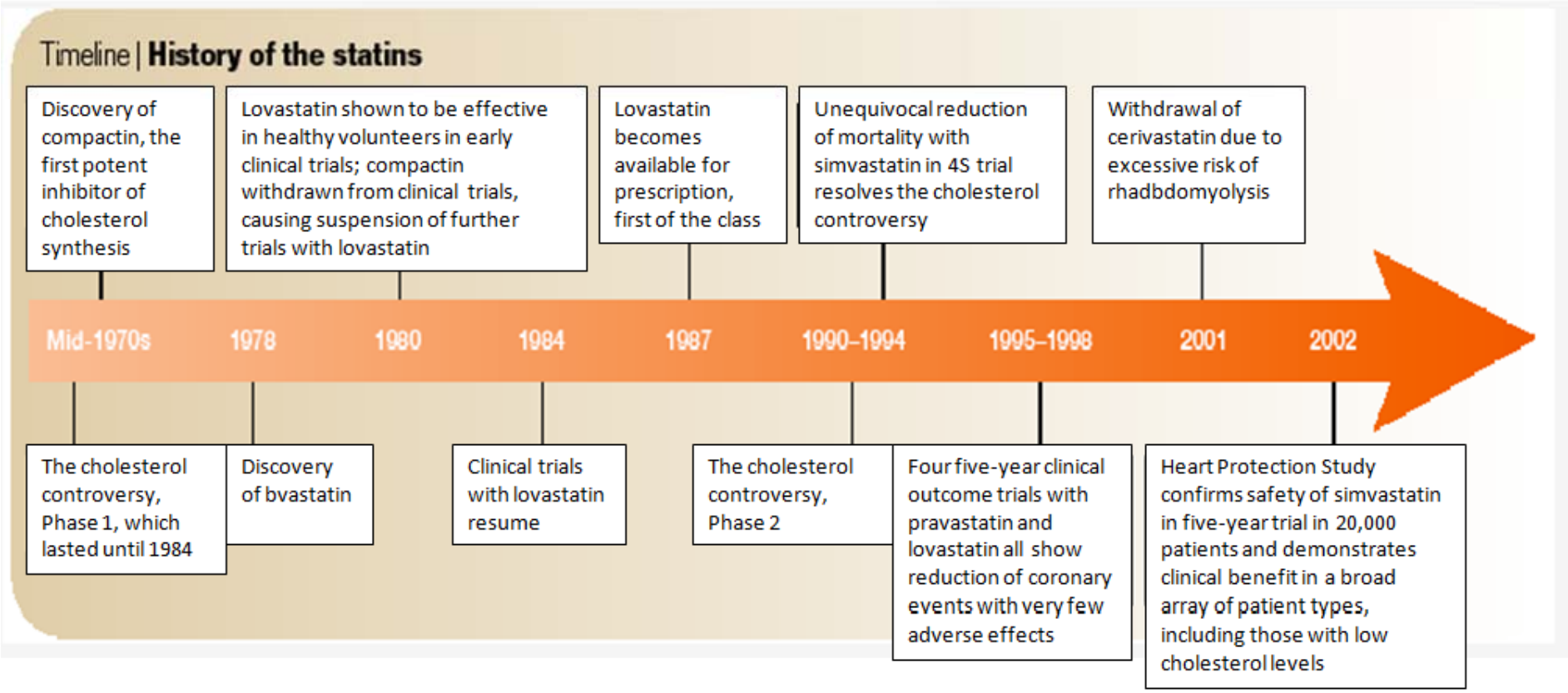
- 1984: LRC-CPPT published in JAMA (Jan 20)
  - Demonstrated lowering of cholesterol for 7.4 years on average supported a 19% reduction in endpoints of heart disease, death or MI
  - Although quite modest results by today's standards it effected attitude change towards pharmacologic means of lowering LDLC
- 1985: Michael Brown and Joseph Goldstein received Nobel prize for their discoveries concerning the regulation of cholesterol metabolism
- LRC-CPPT and Brown/Goldstein work spurred new interest in lipid-altering drugs

Collaboration: Academia, Industry and FDA

- September 1980: Sankyo stops clinical trials of compactin. Merck then suspends clinical studies of lovastatin.
- July 1982: At urging of several leading scientists, Merck (Roy Vagelos) made lovastatin available, under an arrangement approved by the FDA to Roger Illingsworth (Oregon Health Sciences University) and Scott Grundy and David Bilheimer (UT Southwestern). IDAs granted to Illingworth and Grundy. Merck did not have an IND at the time.
  - Grundy/Illingworth obtain IND for lovastatin to do small clinical trials
  - Grundy, Brown/Goldstein do metabolic studies to further clarify understanding and underlying mechanisms
  - Sol Sobel at FDA supportive
- March 1984: Merck submitted company sponsored IND for lovastatin
- 1987: Lovastatin approved for marketing
- Approval of lovastatin, the first statin, illustrates how FDA, academia and industry were able to work together to nurture the full potential of a drug that might otherwise have not been developed

Revolutionary Nature of Statins as a Class

- 50-75% of Americans now know their cholesterol numbers
- Availability of lovastatin meant physicians were able, for the first time, to easily obtain large reductions in plasma cholesterol
- Lovastatin, once a potential orphan drug, went on to revolutionize the treatment of hypercholesterolemia
- In no other drug class has the importance of large long-term, placebo-controlled, clinical-outcome trials to properly evaluate benefit and risk been more clearly and abundantly demonstrated than with statins



Tolbert , J. A. (2003). Lovastatin and beyond: The history of the HMG - CoA reductase inhibitors . *Nature Reviews, Drug Discovery* **2** , 517 – 526 .

U.S. Cardiovascular Death Rate

Roger, V. L. et al. Circulation 2011;123:e18-e209

Circulation


MERCK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Global Center for Scientific Affairs


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Confidential
limited access

National Dialogue for Healthcare Innovation

DAVID CHARLES, M.D.

CHAIRMAN

ALLIANCE FOR PATIENT ACCESS

David Charles, M.D.

Disclosure of Interests

Research Support	Compensation

• Allergan
• Elan
• Ipsen
• Merz
• Medtronic
	• Consultant
	  ○ Allergan, Ipsen, Merz, Medtronic, AfPA
	• Speaker
	  ○ None
	• Stocks or Equity
	  ○ None

David Charles, M.D.

- CMO, Vanderbilt Neuroscience Institute
- Research: Parkinson's disease and Spasticity
- Health Care Policy Fellow, U.S. Senate
- Chairman, Alliance for Patient Access

AfPA Mission

The Alliance for Patient Access (AfPA) is a national network of physicians whose mission is to gain and protect patient access to approved medical treatments, including prescription pharmaceuticals, biologics, and medical devices.

AfPA accomplishes its mission through educating members on policy priorities and training them to be effective advocates for their patients.

AfPA focuses on global health policy issues

- Therapeutic Substitution / Prescriptive Authority/Continuity of Care
- Coverage and Payment
- Evidence Based Medicine/Comparative Effectiveness
- Physician-Industry Interaction/Support for Research and Education

Physician / Industry Interaction

- Essential for the development of the next generation of healthcare innovation
  - Pharmaceuticals
  - Biologics
  - Medical devices
  - Diagnostic tests
- Essential investment in educational programs
  - How to implant the device
  - How to program the device
  - Patient selection

Deep Brain Stimulation for Parkinson's Disease

- Pioneered in France
- The idea of replacing brain lesion with stimulation
- Physicians turned to industry
- Engineering a new device
- Millions invested in clinical trials
- Now FDA approved for Advanced PD

- New study ongoing testing the device in very early Parkinson's disease

NDHI Principles

- Benefits to our patients
- Autonomy of healthcare professionals
- Transparency
- Accountability