

Pharmacoeconomics and Management in Pharmacy IX

[John Vella B.Pharm.(Hons.) M.Sc.(Pharmacoeconomics)]

Pharmacoeconomics: a round-up of the basic principles

[John Vella B.Pharm.(Hons.) M.Sc.(Pharmacoeconomics)]

Pharmacoeconomics

- The combination of healthcare and economics is never an easy marriage
- Medical care and cold, hard figures do not mix easily
- Healthcare issues are necessarily based on emotional grounds, whereas the distributive functions of expenditure evaluations are not

Basic PE Definitions

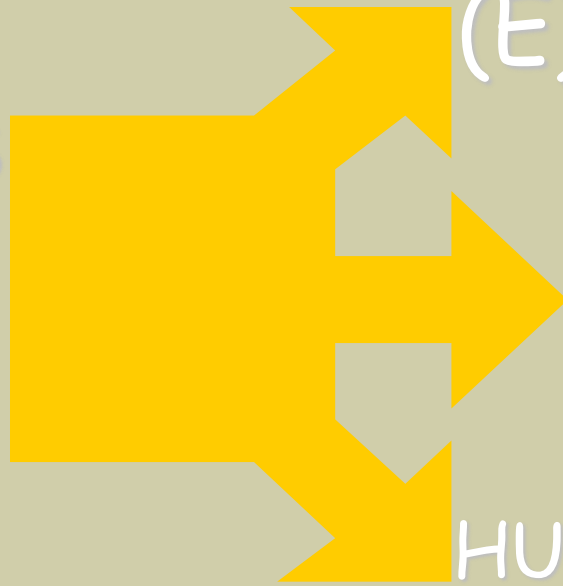
- Pharmacoeconomics:
 - The description and analysis of the costs and consequences of pharmaceutical products and services and their impact on individuals, health care systems and society. (Bootman JL, 1995)
- Pharmaceutical care:
 - The responsible provision of drug therapy for the purposes of achieving definite outcomes. (Hepler and Strand, 1990)
- Outcomes research:
 - Broadly defined as studies that attempt to identify, measure and evaluate the end result of health care services in general. (Bootman JL, 1995)

The ECHO model

- This was defined by Kozma in 1995 as a refinement of the Hepler and Strand definition of pharmaceutical care, with respect to the field of PE evaluations
- It states that outcomes research (PE studies) consist of the amalgamation of the clinical, humanistic and economic facets of the issue

The ECHO Model

OUTCOMES
RESEARCH
(O)



ECONOMIC
(E)

CLINICAL
(C)

HUMANISTIC
(H)



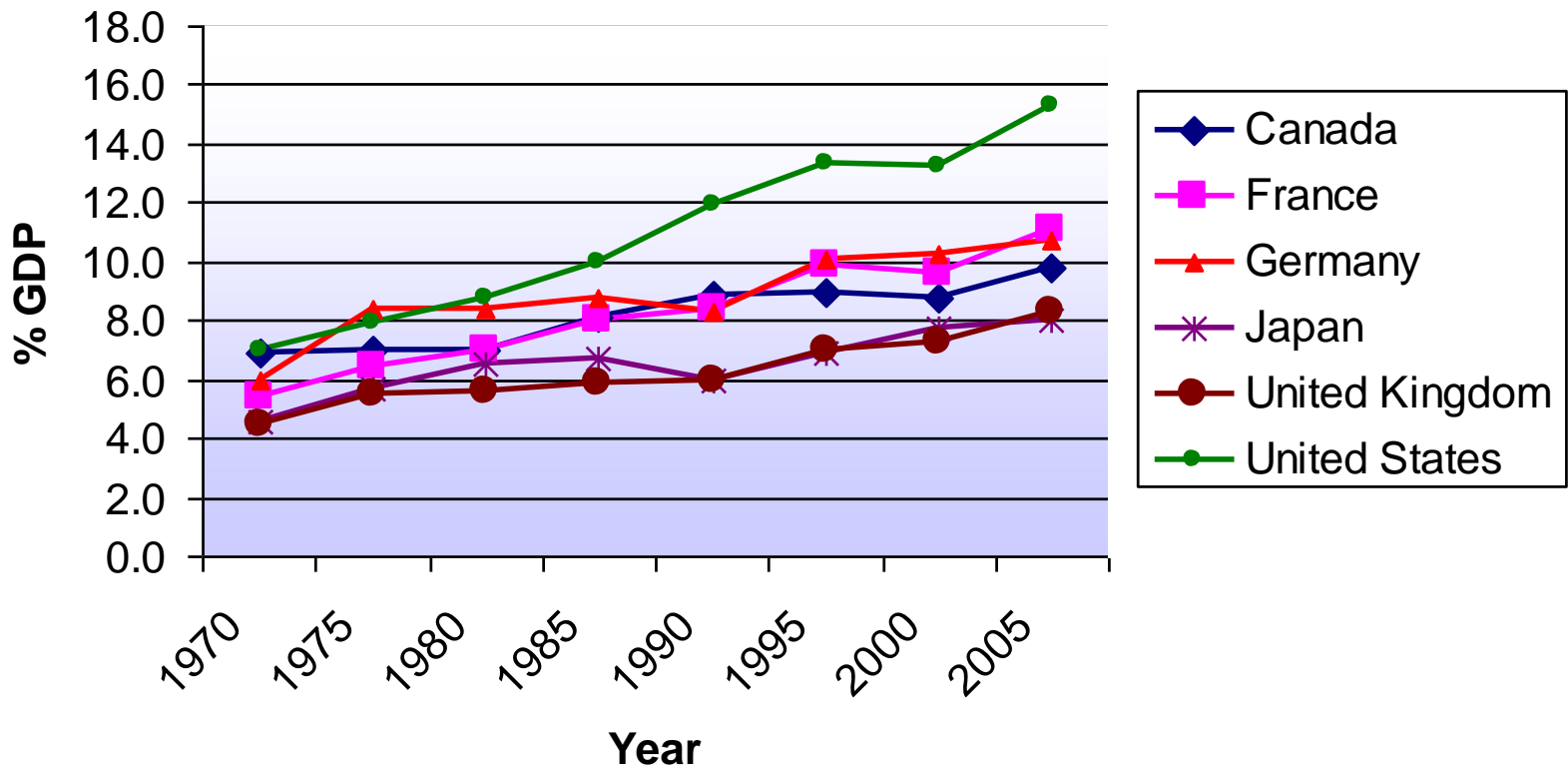
The role of PE



[John Vella B.Pharm.(Hons.) M.Sc.(Pharmacoeconomics)]

Why study Pharmacoeconomics?

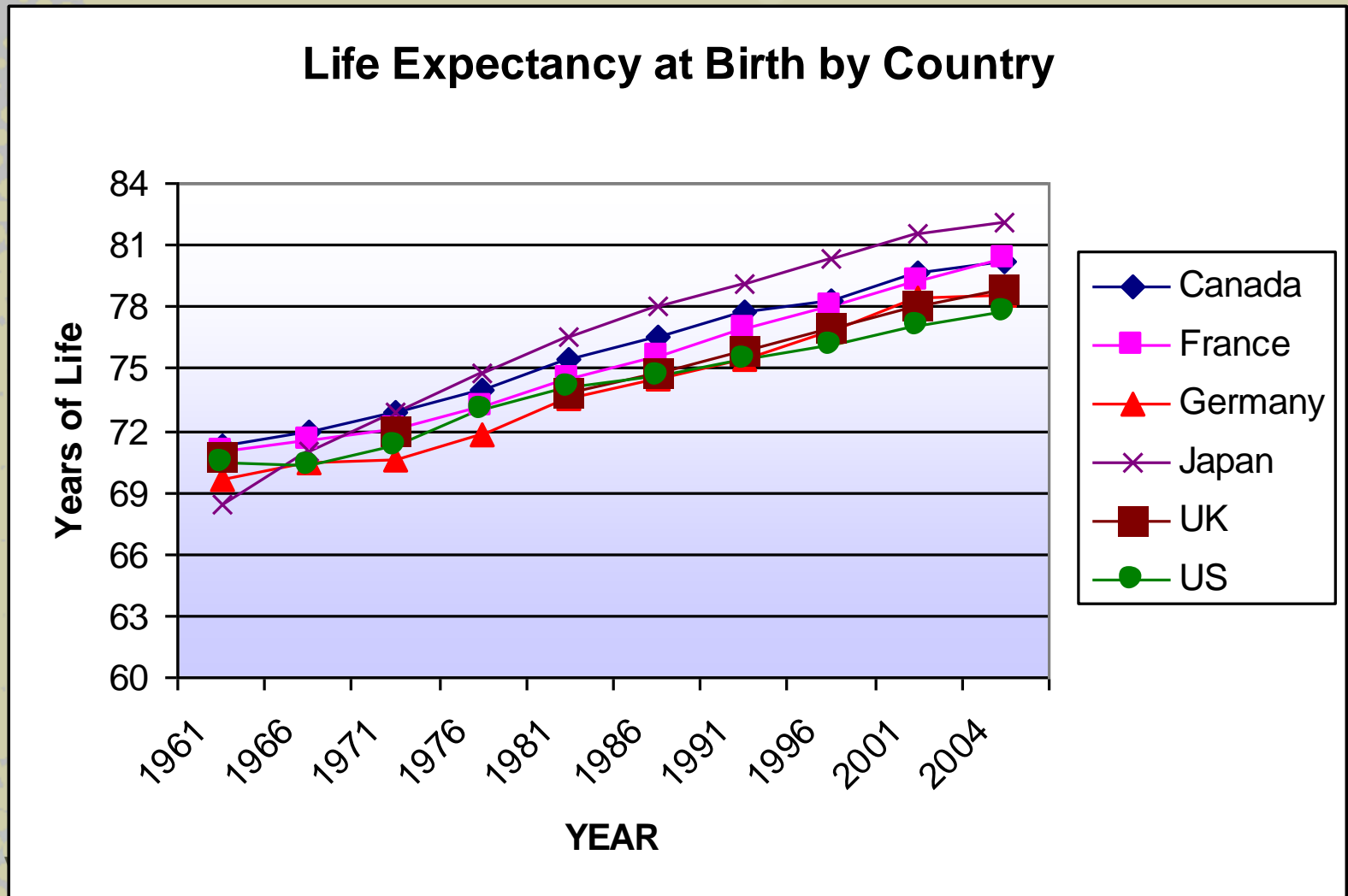
Health Expenditures as a % of GDP by Country



Why indeed?

- Healthcare costs are rising all around
- Focus is on spending less and getting more
- This has led to a rise in the importance of PE in the field of pharmaceutical healthcare
- The financial crisis in the last years has accentuated the need for proper budgeting and data analysis

But when it comes to outcomes...



PE in society

- Can have macro- or micro-economic uses
- Macro-economic factors refer to decisions that effect a country or region as a whole, such as total healthcare expenditures and employment figures
- Micro-economic factors refer to individual decisions with respect to specific issues, such as the introduction of a particular medicine

Specific Decisions for PE Applications



Local examples

- An example of a macro-economic factor to study are local healthcare expenditures over the last decade.
- These have doubled from 34 Million Euro to 76 Million Euro
- A micro-economic discussion involved the controversy regarding Herceptin and the local public healthcare system

The development of PE

- In the last 20 years PE has gone from being a new discipline to one that is at the forefront of most medical and healthcare issues
- The cost of healthcare has come to the fore, especially in recent years as the financial crisis has impacted all areas
- PE has become the Solomonic distributor of healthcare justice

Types of PE evaluations

[John Vella B.Pharm.(Hons.) M.Sc.(Pharmacoeconomics)]

Stages in economic evaluation

Deciding upon study question

- Viewpoint taken.
- Alternatives appraised.

Assessment of costs and benefits

- Identification of relevant C&B.
- Measurement of C&B.
- Valuation of C (&B).

Adjustment for timing.

Adjustment for uncertainty.

Making a decision.

Types of PE studies

Type of Study	Description
Cost Minimisation Analysis – CMA	Compares costs in monetary terms of treatments with identical outcomes
Cost Effectiveness Analysis – CEA	Compares costs in monetary terms with outcomes in natural units
Cost Utility Analysis – CUA	Compares costs in monetary terms & outcomes in terms of years of life
Cost Benefit Analysis - CBA	Compares costs and outcomes in monetary terms

Benchmarking PE studies

[John Vella B.Pharm.(Hons.) M.Sc.(Pharmacoeconomics)]

What must we believe?

- All studies must be scrutinised carefully

Aim	Clear and direct
Methodology	Logical and repeatable
Type of PE study	Applicable to the situation
Perspective	Personal, societal, prescriber
Results	Statistics should significant
Conflicts	Grants or employment
Publishing authority	Credible and reknown

“Applied Pharmacoeconomics”

- Defined as :
 - “Putting pharmacoeconomic principles, methods and theories into practice, to quantify the “value” of pharmacy products and pharmaceutical care services utilized in “real-world” environments”

Sanchez LA, 1997

Applied PE

- Is the sum of all the examples we discussed in the previous lectures
- The practical use of the knowledge and skills accumulated by the study of pharmaceutical and economic data
- As a discipline in its infancy, it is not well understood, both internally and externally

Bibliography and Acknowledgements

- Deshpande PR, PharmD, Dept. of Pharmacy Practice, Manipal University, Manipal, India. *Pharmacoeconomics*, Microsoft Powerpoint Presentation
- Drummond M, Sculpher M, Torrance G, O'Brien B, Stoddart G. *Methods for the Economic Evaluation of Health Care Programmes. 3rd ed Oxford: Oxford University Press; 2007*
- Heaton A BS (Pharm), Pharm. D., RPh. Director of Pharmacy BlueCrossBlueShield of Minnesota, *Performance Enhancing Pharmaceuticals*, Microsoft Powerpoint Presentation
- International Society for Pharmacoeconomics and Outcomes Research (ISPOR), *Introduction to Pharmacoeconomics*, ISPOR Distance Learning Program
- Rascati, K. *Essentials of Pharmacoeconomics; Philadelphia:LippincottWilliams & Wilkins; 2008*
- Ridker et al, *Rosuvastatin to prevent vascular events in men and women with elevated C-reactive protein. NEJM*, 359 (21), 2008
- Sale, L. *Critical Appraisal of Research Reports*, Department of Reproductive Health and Research, WHO, Geneva, 2006
- Satyanarayana K, St.Peter's Institute of Pharmaceutical Sciences, *Pharmacoeconomics*, Microsoft Powerpoint Presentation
- Shull S PharmD, MBA. Basics of Pharmacoeconomics and Outcomes Research:Application to Patient Care, Microsoft Powerpoint Presentation
- Quick J, Director, Essential Drugs and Medicines Policy – EDM, Health Technology and Pharmaceuticals Cluster – HTP, World Health Organization, June, 2002Presentation

Bibliography and Acknowledgements

- Smith R, Wright D. *Health Economics for Prescribers*, Microsoft Powerpoint Presentation
- Vella J. *Medicine prices in Malta and their relation to economic indicators*. Dissertation, University of Malta 2010
- Vella J. *Essays in Pharmacoeconomics: The QALY as a tool in evaluating treatment outcomes*. Unpublished work, 2010
- www.nso.gov.mt, National Statistics Office website