



**SOME CHALLENGES OF THE PHARMACEUTICAL  
INDUSTRY FOR IMPROVING GLOBAL HEALTH.  
Health Care Finance, Health and Economic Growth**

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# MOTIVATION

- THE ROLE OF PHARMA STRATEGIES IN DEVELOPED AND LESS DEVELOPED COUNTRIES FOR THE EQUITY AND EFFICIENCY OF THE HEALTH CARE SYSTEMS.
- CAN THESE STRATEGIES MAY PURSUE A COMMON GOAL?
- A PESIMISTIC VIEW: NEED TO TARGET CHILDREN IN LDCs / FOCUS ON ELDERLY CARE IN DCs AND PLENTY OF DISEASE MONGERIN AROUND
- CONTRIBUTION: IN DCs, TO CLARIFY THE ROLE OF THE PUBLIC SECTOR IN HEALTH CARE FINANCE (IN PRIVATE SYSTEMS TOO) MAY HELP TO ELIMINATE NEGATIVE EXTERNALITIES IN LDCs

## **GENERAL SETTING:**

### **a- IN DEVELOPED COUNTRIES:**

*THE TREND TOWARDS REGRESSIVITY IN FINANCING PUBLIC SPENDING THROUGH DUAL FISCAL SYSTEMS (MORE INDIRECT TAXES, LOWER FISCAL BURDEN FOR CAPITAL THAN FOR LABOUR) FORCES TO BE MORE SELECTIVE (LESS UNIVERSAL, MORE TARGET ORIENTED) PUBLIC POLICIES IN ORDER TO INCREASE PROGRESSIVITY ON THE EXPENDITURE SIDE*

THE ROLE OF PHARMA FOR THE EQUITY  
AND EFFICIENCY OF HEALTH CARE  
FINANCE

**b- IN LESS DEVELOPED COUNTRIES:  
general setting**

*TO FIGHT POVERTY, TO INCREASE EDUCATION, TO IMPROVE  
NUTRITION, TO LOWER FERTILITY  
ARE K-ISSUES.*

*IN THE HEALTH CARE RESOURCES FRONT, TO MOVE OUT OF  
DIRECT OUT-OF-POCKET AND SIDE PAYMENTS TO  
PROVIDERS TOWARDS SELECTIVE PUBLICLY FINANCED  
HEALTH PROGRAMS 'CHILDREN BASED' AND TO ORGANISE  
PRIVATE HEALTH CARE INSURANCE IS THE WAY FORWARD*

# IDEAS FOR A NEW COMMON RATIONALE

## *THE WAGNER-ENGEL-PRESTON HYPOTHESIS*

FOR THE RIGHT COMBINATION BETWEEN PUBLIC EXPENDITURE (SELECTIVE, TARGET ORIENTED, PUBLIC HEALTH), SOCIAL SPENDING (REGULATED, OUT OF POCKET COMPLEMENTING BUDGETARY TAX REVENUES) AND PRIVATE FINANCING (ON A VOLUNTARY WILLINGNESS TO PAY BASIS)

*WAGNER*: INCOME ELASTICITY GREATER THAN ONE FOR THE DEMAND OF PUBLIC SERVICES. COLLECTIVE TAXES FOR COST EFFECTIVE INTERVENTIONS

*ENGEL*: CHANGING PATTERNS IN THE MIX OF SOCIAL AND INDIVIDUAL SPENDING ACCORDING TO THE ECONOMIC DEVELOPMENT STAGE (REGULATED CONTRIBUTIONS FOR COMPLEMENTARY SERVICES)

*PRESTON*: FOR THE 'FLAT PART OF THE CURVE', PRICES AND WILLINGNESS TO PAY (RATHER THAN TAXES) TO FINANCE SERVICES (FOR UTILITARIAN WELFARE)

# LDCs: OVERVIEW

- Health and Economic Growth as key determinants of human welfare.
- extremely interrelated. It is impossible to generate economic growth in the developing world without solving these developing countries their health problems *and* we will not be able to improve health without generating economic growth.

Relevance of the effects of the sickness on Poverty; and of Poverty on Health: several channels

"This book is a comprehensive discussion of current knowledge on the interrelationships among nutrition, health, and economic growth by leading investigators of the subject. It is essential reading for those interested in both the theory and the empirics of the synergisms that govern these relationships."

—Robert W. Fogel, Center for Population Economics, Graduate School of Business,  
The University of Chicago; 1993 Nobel Laureate in Economic Sciences

"This fascinating book explores relationships among health, other forms of human capital (primarily schooling), and economic growth. Its rich essays explore theoretical and empirical aspects of these relationships in a comprehensive fashion. *Health and Economic Growth* should be required reading for all serious students of economic development and health economics."

—Michael Grossman, Distinguished Professor of Economics, City University of New York  
Graduate Center and National Bureau of Economic Research

"A stellar collection of theoretical and empirical papers examining the interactions of health and economic growth, with contributions by many of the field's leaders. If you are a researcher in this area, this volume does not belong on your bookshelf. It belongs on your desk, prepared open, bookmarked, with copious scribbles in the margins."

—David Weil, Professor of Economics, Brown University

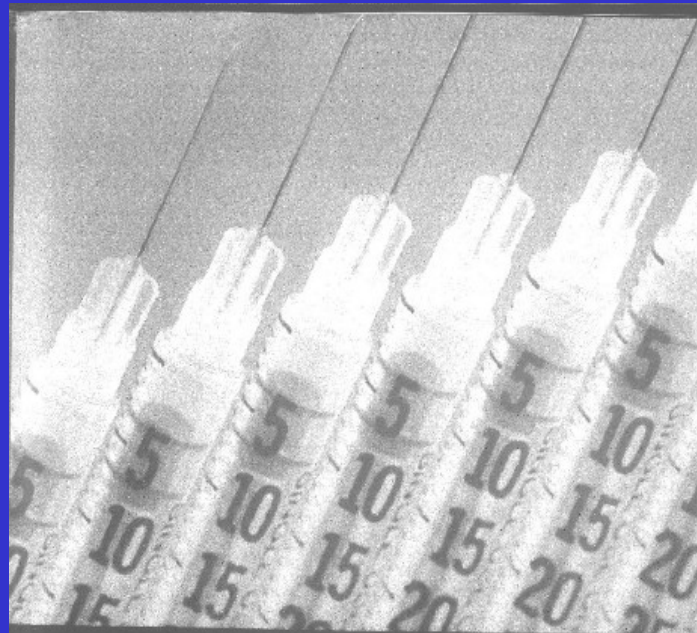
"This book puts aside any remaining doubts that health is essential to explaining prosperity. It challenges researchers to recognize health's role in economic growth and it challenges policymakers to recognize that investing in health is an important component of macroeconomic policy."

—William D. Savedoff, Senior Partner, Social Insight

#### CONTRIBUTORS

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## Health and Economic Growth

FINDINGS AND  
POLICY IMPLICATIONS

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# Health Effects on Human Capital

## ➤ Unhealthy people...

- Direct Mechanism: Are less productive “bodies” → same amount of hours of work deliver less product.
- Significant Indirect Mechanism: through **education**:
  - Sick kids tend to miss school more often → get less **education** (Miguel and Kremer’s studies of schools in Kenya).
  - Quality/quantity trade-off of children → bias for quantity in countries where children not expected to live long.
  - Unhealthy parents die early → lack of guidance in the process of education.

# Health Effects on Physical Capital

- The second set of channels through which health  $h$  affects output, income, productivity and, ultimately, growth operates through the accumulation of physical capital,  $K$ . Hence, unhealthy people...
  - To have a lower life expectancy tend to reduce national savings and investment.
  - Complementarities: if  $h$  is complementary to  $K$ , then there is little incentive to invest in  $K$  when  $h$  is low due to bad health! (e.g. Multinationals Vs Botswana AIDS spread).
  - This burden on Government budgets decreases public investment on  $K$ .
  - Burden of some initial illness in developing world can lead to a “*poverty trap*” via large curing costs (e.g. Bolivian family case).

# Health Effects on Human Capital

- *Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention*

Shonkoff, Boyce & McEwen (*JAMA*, June 3, 2009)

Advances in developmental biology are building a persuasive case for a new way of thinking about health promotion and disease prevention based on increasing evidence that the origins of many adult diseases can be found among adversities in the early years of life. These adversities establish biological “memories” that weaken physiological systems and produce latent vulnerabilities to problems that emerge well into the later adult years.

## THE HEALTH TARGET. Doing Better for Children

*A Science-Based Framework for Early Childhood Policy. Using Evidence to Improve Outcomes in Learning, Behavior and Health for Vulnerable Children: “effectiveness factors” that can enhance development in the first five years of life:*

Access to basic medical care for pregnant women and children can help prevent threats to healthy development as well as provide early diagnosis and appropriate management when problems emerge.

Environmental policies that reduce the level of known neurotoxins in the environment will protect embryos, fetuses, and young children from exposure to substances that damage their developing brains.

Not all services are effective. Center-based programs that have positive impacts on young children’s development

**THE HEALTH TARGET. Doing Better for Children:**  
*OECD (2009), Doing Better for Children August*  
*[www.oecd.org/els/social/childwellbeing](http://www.oecd.org/els/social/childwellbeing)*

Cost-benefit analyses of the evaluated programmes provide further information to select the best programmes (see addenda).

Cost-benefit analyses should monetise, as far as possible, costs and benefits, determine their time pattern, and apply an appropriate discount rate to allow overall costs and benefits to be compared.

Cost-benefit analysis is thus a tool for helping to select desirable child investments. In addition, investments that do not yield positive benefits may still be desirable if they change the trajectories of children whose poor outcomes are considered inequitable.

# Actions to Promote Health & Growth

- Early childhood development has been found to be an important channel through which nutrition and health affect economic growth through declination of infant and child mortality, education, reduction of school absenteeism, the proportion of working age adult and productivity (see for Mexico D Mayer-Foulkes: Human Development Traps, in Health and Economic Growth G Lopez-Casasnovas et al.)
- Already existing programmes to deliver the six vaccinations (for polio, measles, tuberculosis, diphtheria, pertussis and tetanus) have been the most successful and cost effective interventions in public health. In the population studied, programmes to distribute these vaccines had cost-effectiveness ratios below 100\$ per DALY (disability adjusted life year) Vaccines effectiveness is highest when population coverage is lowest and disease incidence is highest.

# Actions to Promote Health

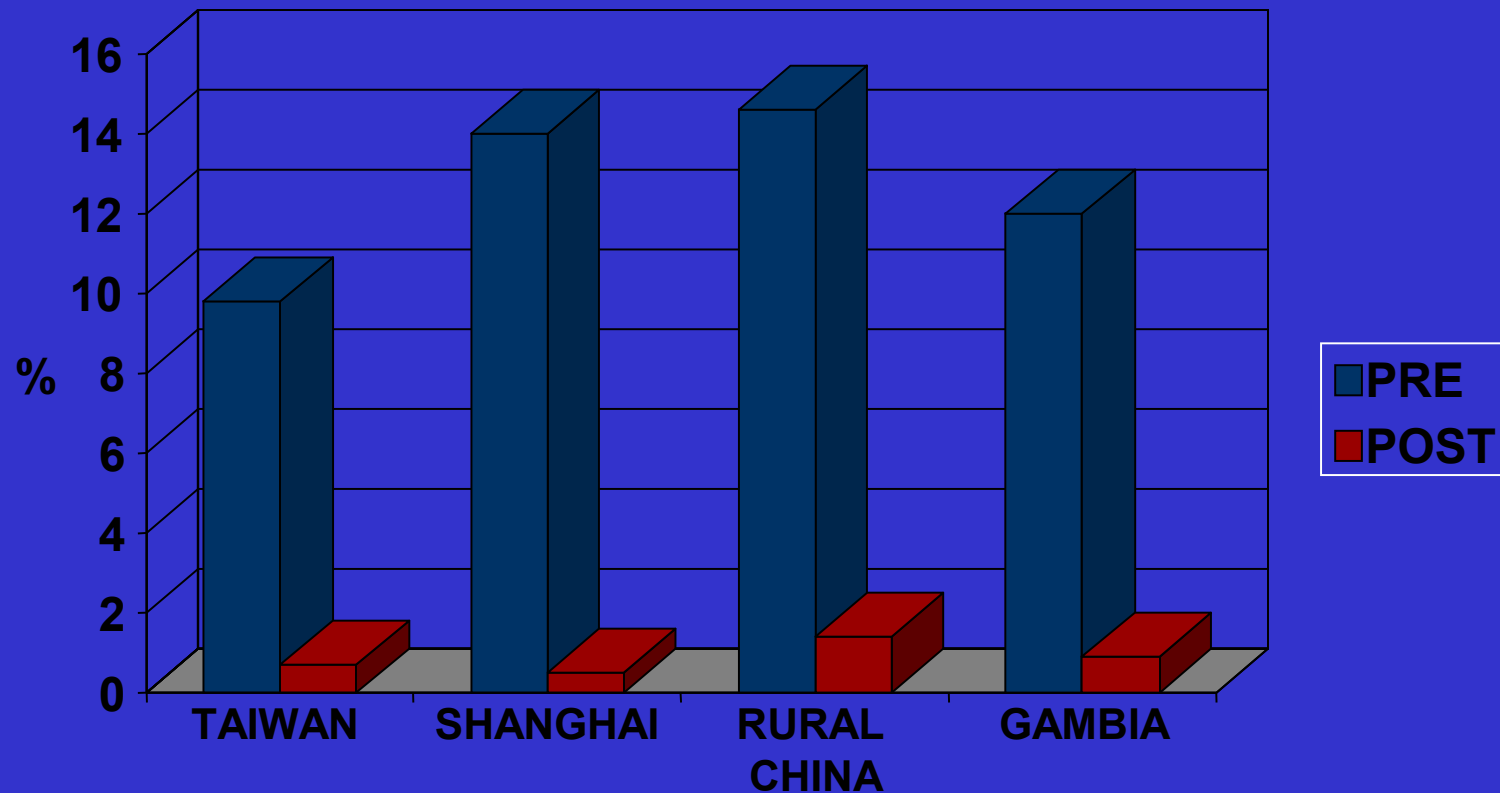
- The frontier in vaccination includes not only the extension of the former traditional six vaccines to cover large population, but also the introduction of more recent developed vaccines for haemophilus influenza B, pneumococcal conjugate, rotavirus and now HPV.
  - New and as yet underutilized vaccines against strep pneumoniae and haemophilus influenza B will offer similarly opportunities. Recent data from the Gambia suggest child mortality reductions of 16% from a pneumococcal conjugate vaccine trial

(see Economics of public health interventions for children in developing countries D. Bishai & T. Adam The *Elgar Companion to Health Economics*, A. Jones , ed, EE. 2006)

# Actions to Promote Health & Growth

- At the microeconomic level: widespread vaccination programs, invest on hospitals, doctors and general care. Make progress also on access to clean water and sanitation.
- At the macroeconomic front: provide incentives for pharmaceuticals to invest in R&D (solving the time-inconsistency problem through *dual pricing* or R&D *fund financed by rich countries*).
- To improve the knowledge of the links between health and productivity: *The Brazil example (1989 evaluation on the evaluation of Health and wages See T.P Schultz, in Health and Economic Growth G Lopez-Casasnovas et al.)* In similar terms given the experience on improving health and increasing household investments.

# HEPATITIS B CARRIER PREVALENCE IN COHORTS OF CHILDREN BEFORE AND AFTER IMMUNIZATION



# INFECCIONES, CANCER & VACUNAS

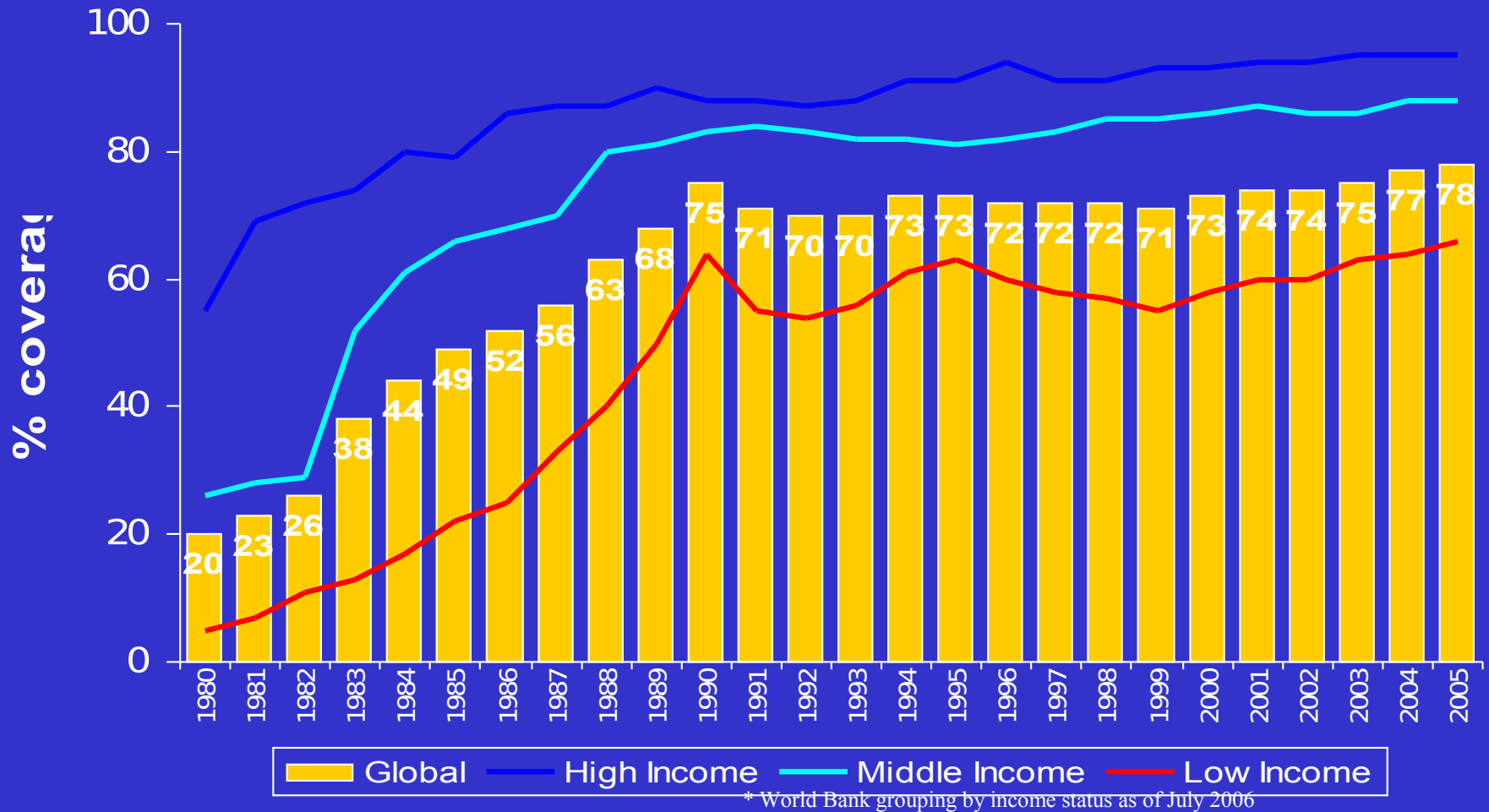
7,7% en países desarrollados - 26,3% en países sub desarrollados

| Cancer               | Nº de Casos       | Agente causal | Nº de casos atribuibles | %            | Vacuna |
|----------------------|-------------------|---------------|-------------------------|--------------|--------|
| Higado               | 623.500           | VHB, VHC      | 523.000                 | 83,88        | VHB    |
| Cervix               | 492.800           | VPH           | 492.800                 | 100,00       | VPH    |
| Estómago             | 930.400           | H. Pylori     | 592.000                 | 63,63        | -      |
| Sarcoma de Kaposi    |                   | VIH / VHH8    | 66.200                  |              | -      |
| Limfoma no-Hodgkin   | 300.300           | H. Pylori     | 11.500                  | 3,83         | -      |
|                      |                   | VEB (BL)      | 6.700                   |              | -      |
|                      |                   | VIH           | 36.100                  |              | -      |
|                      |                   | VLH-I         | 3.340                   |              | -      |
| Ano-genital          | 96.700            | VPH           | 53.880                  | 55,72        | VPH    |
| Nasofaringe          | 79.800            | VEB           | 78.100                  | 97,87        | -      |
| Boca i orofaringe    | 326.200           | VPH           | 14.400                  | 4,41         | VPH    |
| Limfoma Hodgkin      | 62.300            | VEB           | 28.600                  | 45,91        | -      |
| Vesícula biliar      | 356.200           | Esquistosoma  | 10.600                  | 2,98         | -      |
| <b>Càncer global</b> | <b>10.844.000</b> |               | <b>1.916.000</b>        | <b>17,67</b> |        |

# MORBILIDAD ASOCIADA A PATOLOGIAS PREVENIBLES MEDIANTE VACUNACION EN ESTADOS UNIDOS

| PATOLOGÍA                     | PRE-VACUNA       | AÑO       | 1999**       | CAMBIO (%)     |
|-------------------------------|------------------|-----------|--------------|----------------|
| Difteria                      | 206.939          | 1921      | 1            | -99,99         |
| Sarampión                     | 894.134          | 1941      | 86           | 99,99          |
| Paperas                       | 152.209          | 1968      | 352          | -99,76         |
| Pertussis                     | 265.269          | 1934      | 6.031        | -97,63         |
| Polio (wild)                  | 21.269           | 1952      | 0            | -100,00        |
| Rubella                       | 57.686           | 1969      | 238          | -99,58         |
| Rubeola Cong                  | 20.000+          | (1964-65) | 3            | -99,58         |
| Tetanus+                      | 1.560            | 1923      | 33           | -97,88         |
| Invasive Hib<br>Disease (>5y) | 20.000+          | 1984      | 33           | -99,83         |
| <b>TOTAL</b>                  | <b>1.639.066</b> |           | <b>6.777</b> | <b>- 99,58</b> |

# Global Immunization 1980-2005, DTP3 coverage by income status\* in 2005



\* World Bank grouping by income status as of July 2006

Source: WHO/UNICEF coverage estimates 1980-2005, August 2006

192 WHO Member States. Date of slide: 4 February 2007

# Studies on cost effectiveness of vaccination programs

| Category        | Description of Intervention              | Area studied                    | Cost Effectiveness  | Citation   | Quality of Studies as % (100% = best) |
|-----------------|--|---------------------------------|---|--|---------------------------------------|
| Antimalarials   | Mass chemoprophylaxis (with Maloprim)    | The Gambia                      | The cost per child protected per season was US\$2.84; the cost per childhood death averted was \$143.   | (Picard et al., 1992)  | 43%                                   |
| Antiretrovirals | PMTCT followed by infant formula feeding | South Africa                    | Cost per life year gained: \$88 to \$331. With productivity losses due to HIV infection included, the programme would realize a cost savings to society of \$1582 per infant HIV infection prevented. | (Soderlund et al., 1999, Wilkinson et al., 1998, Wilkinson et al., 2000) | 87% 78% 84%                           |
| Immunization    | Dengue vaccine                           | Southeast Asia                  | Cost per DALY: \$50   | (Shepard et al., 2004)   | 87%                                   |
| Immunization    | Cholera vaccine                          | Hypothetical refugee population | Cost per DALY: \$2973   | (Murray et al., 1998)  | 78%                                   |
| Immunization    | Rotavirus vaccine                        | Multiple                        | Cost per Death Averted: \$69–\$179  | (Creese, 1986)   | 79%                                   |
| Immunization    | Hepatitis B vaccine                      | Mozambique                      | Cost per Death Averted: \$1556–\$3096   | (Griffiths et al., 2005)   | 79%                                   |
| Immunization    | Measles vaccine                          | Multiple                        | Cost per Death Averted: \$600 (Peru) \$41 (Gambia); Cost per DALY: \$5–\$13 (Multiple)  | (Sniadack et al., 1999) (Robertson et al., 1985) (Shepard et al., 1995)  | 43% 66% 75%                           |
| Immunization    | Typhoid vaccine                          | Multiple                        | Cost per DALY: \$20   | (Shepard et al., 1995)   | 75%                                   |
| Immunization    | Pneumococcal vaccine                     | Multiple                        | Cost per DALY: \$57   | (Shepard et al., 1995)   | 75%                                   |
| Immunization    | DPT combination                          | Multiple                        | Cost per DALY: \$78   | (Shepard et al., 1995)   | 75%                                   |
| Immunization    | Meningococcal conjugate                  | Multiple                        | Cost per DALY: \$1355   | (Shepard et al., 1995)   | 75%                                   |

# Studies on cost effectiveness of vaccination programs

|                 |   |                                     |   |  |         |
|-----------------|---|-------------------------------------|---|--|---------|
| Immunization    | Yellow Fever  | Nigeria                             | Cost per Death Averted: \$1904                    | (Monath and Nasidi, 1993)                    | 90%     |
| Nutrition       | Universal vitamin A supplementation                   | Philippines                         | Cost per Death Averted: \$67                      | (Loevinsohn et al., 1997)                    | 81%     |
| Sanitation      | Promoting handwashing with soap                       | Burkina Faso                        | Cost per Death Averted: \$2792                    | (Borghi et al., 2002)                        | 87%     |
| Sanitation      | Improving water quality                               | Hypothetical peri-urban (slum) area | Cost per DALY: \$2-\$1152                         | (Varley et al., 1998)                        | 81%     |
| Sanitation      | Household latrine revision                            | Afghanistan                         | Cost per Death Averted: \$2145                    | (Meddings et al., 2004)                      | 71%     |
| Vector Control  | Insecticide treated nets                              | Africa                              | Cost per Death Averted: \$2003-\$2672             | (Binka et al., 1997, Evans et al., 1997)     | 82% 76% |
| Vector Control  | Insecticide treated nets                              | Africa                              | Cost per DALY: \$4-10, \$44, depending on methods | (Coleman et al., 1999, Goodman et al., 1999) | 85% 91% |
| Vector Control  | Residual spraying and case detection and treatment    | Nepal                               | Cost per Death Averted: \$1281-\$33,181           | (Mills, 1993)                                | 94%     |
| Vector Control  | Social marketing of treated nets                      | Tanzania                            | Cost per Death Averted: \$1560                    | (Hanson et al., 2003)                        | 88%     |
| Vector Control  | Draining swamps, clearing vegetation, oil application | Zambia                              | Cost per Death Averted: \$858                     | (Utzinger et al., 2001)                      | 63%     |
| AIDS prevention | Multiple  | Low \$ Middle Income                | Cost per DALY: \$5-\$285                          | (Walker, 2003)                               | 38%     |

# Interventions to achieve health millennium development goals (Afr-SubSahar.) by order of cost effectiveness (D.B. Evans et al BMJ nov.2005)

**Table 1** Interventions to achieve health millennium development goals in region Afr-E by order of cost effectiveness

| Goal   | Intervention (coverage)   |
|--|---|
| <b>Goal 1</b><br><b>Reduce child mortality</b> |   |
| <b>Malaria and neonatal health</b>             | Community based case management for neonatal pneumonia (HFC)  |
| Aff and HSD                                    | Mass media campaign to promote safer sex (HSD)  |
| Aff and HSD                                    | Sex education and treatment of sexually transmitted infections for sex workers (HFC)  |
| Aff and HSD                                    | Sex education and treatment of sexually transmitted infections for sex workers (expanded to HFC)  |
| Aff and HSD                                    | Sex education and treatment of sexually transmitted infections for sex workers (expanded to HFC)  |
| Tuberculosis                                   | Treatment of new smear-positive tuberculosis cases only under DOTS (HFC)  |
| <b>Malaria and neonatal health</b>             | Community based package (HFC)<br>support for breastfeeding mothers and low birthweight babies   |
| Tuberculosis                                   | Treatment of new cases of smear positive tuberculosis only under DOTS (expanded to HFC)   |
| Malaria  | Case management of malaria with artemisinin based combination treatment (HFC)   |
| Tuberculosis                                   | Treatment of new cases of smear positive tuberculosis only under DOTS (expanded to HFC)   |
| Water se                                       | Water A purification of feed staple (SeFC)<br>Zinc fortification of feed staple (SeFC)  |
| <b>Malaria and neonatal health</b>             | Water hand (HFC)  |
| Aff and HSD                                    | Prevention of mother to child transmission (antiretroviral case coverage)   |
| <b>Malaria and neonatal health</b>             | Screening for anaemia (SeFC)<br>Screening and treatment of asymptomatic bacteriuria (HFC)<br>Screening and treatment of syphilis (HFC)  |
| Water se                                       | Measles vaccination (HFC)   |
| <b>Malaria and neonatal health</b>             | Maternal delivery by skilled personnel (HFC)<br>Active management of the third stage of labour (HFC)<br>Initial management of postpartum haemorrhage (HFC)<br>Neonatal resuscitation (HFC)                    |
| <b>Malaria and neonatal health</b>             | Treatment of severe anaemia and adenoma (HFC)   |
| Malaria  | Immediate breast feeding (SeFC)   |
| Water se                                       | Measles vaccination expanded to SeFC  |
| <b>Malaria and neonatal health</b>             | Facility based care of very low birthweight babies, severe neonatal infections, severe neonatal sepsis, and neonatal jaundice   |
| Aff and HSD                                    | Treatment of sexually transmitted infections (antiretroviral coverage)  |
| Water se                                       | Case management for childhood pneumonia (HFC)   |
| <b>Malaria and neonatal health</b>             | Management of HIV/AIDS, breast presentation, and fetal distress (SeFC)  |
| Aff and HSD                                    | Treatment of sexually transmitted infections (expanded to universal case coverage)  |
| Water se                                       | Water A supplementation (HFC), measles fortification<br>Zinc supplementation (HFC), vitamin fortification   |
| Tuberculosis                                   | Treatment of smear negative tuberculosis under DOTS (SeFC)  |
| Water se                                       | Oral rehydration therapy for diarrhoea (HFC)  |
| <b>Malaria and neonatal health</b>             | Antenatal steroids for preterm babies (HFC)   |
| Malaria  | Infant formula feeding (HFC)  |
| Tuberculosis                                   | Treatment of multi drug resistant tuberculosis under DOTS Plus (SeFC)   |
| <b>Malaria and neonatal health</b>             | Management of maternal sepsis (HFC)   |
| Malaria  | Infant formula supplementation with rifampicin-pyrimethamine during pregnancy (SeFC)  |
| <b>Malaria and neonatal health</b>             | Activities for ant-flea preventive control of mosquitoes (SeFC)   |
| Aff and HSD                                    | Maternity counselling and feeding (SeFC)  |
| <b>Malaria and neonatal health</b>             | Referral care for severe postpartum haemorrhage   |
| Water se                                       | Water A supplementation (expanded to HFC)<br>Case management for childhood pneumonia (expanded to HFC)<br>Zinc supplementation (expanded to HFC)<br>Oral rehydration therapy for diarrhoea (expanded to SeFC) |
| Aff and HSD                                    | Treatment of sexually transmitted infections (expanded to HFC)  |
| Aff and HSD                                    | Antenatal steroids: no intensive monitoring, first-line drugs only (HFC)  |
| Aff and HSD                                    | School based education on safer sex (SeFC)  |
| Aff and HSD                                    | Antenatal steroids: intensive monitoring, first-line drugs only (HFC)   |
| <b>Net zero malaria (-)</b>                    |   |
| Aff and HSD                                    | Antenatal steroids: intensive monitoring, first-line second line drugs (HFC)  |
| Water se                                       | Improved complementary feeding, growth monitoring and anaemia (HFC)   |

\* Incremental cost effectiveness ratio v Health-9 case table A as baseline for comparison index.

† Incremental cost effectiveness ratio-Health 20.

Note: No interventions fall into the cost-effective but incremental cost effectiveness ratio <Health-9 and <Health-20 for Afr-E

# Interventions to achieve health milenium development goals (S E Asian) by order of cost effectiveness (D.B. Evans et al BMJ nov.2005)

**Table 2** Interventions to achieve health millennium development goals in region Southeast by order of cost effectiveness

| Goal                             | Intervention (coverage)   |
|----------------------------------|---|
| <b>Goal 1: poverty reduction</b> |   |
| MDG goal #1B5                    | Four education and treatment of sexually transmitted infections for sex workers (20%)   |
| MDG goal #1B5                    | Four education and treatment of sexually transmitted infections for sex workers (expanded to 100%)                                  |
| MDG goal #1B5                    | Four education and treatment of sexually transmitted infections for sex workers (expanded to 100%)                                  |
| Maternal and neonatal health     | Community based support for breastfeeding mothers (20%)   |
| Maternal and neonatal health     | Community based support for breastfeeding mothers (expanded to 100%)  |
| Tuberculosis                     | Treatment of new smear positive tuberculosis only under DOTS (20%)  |
| Maternal and neonatal health     | Community based support for breastfeeding mothers (expanded to 100%)  |
| Maternal and neonatal health     | Infants (local DOTS)  |
| Tuberculosis                     | Treatment of new smear positive tuberculosis only under DOTS (expanded to 100%)   |
| Maternal and neonatal health     | Infants (local DOTS)  |
| MDG goal 1B                      | Zinc fortification of food (local DOTS)   |
| Maternal and neonatal health     | Community based support for low birthweight babies (100%)   |
| MDG goal #1B5                    | Mass media campaign to promote zinc use (20%)   |
| Tuberculosis                     | Treatment of smear negative tuberculosis under DOTS (local)   |
| MDG goal 1B                      | Infants A (local DOTS of food (local DOTS))   |
| MDG goal 1B                      | Case management for childhood pneumonia (20%)   |
| Maternal and neonatal health     | Neonatal screening by skilled attendants (100%)   |
| MDG goal 1B                      | Case management for childhood pneumonia (expanded to 100%)  |
| MDG goal 1B                      | Infants (local DOTS)  |
| Maternal and neonatal health     | Screening for anaemia (20%)   |
| MDG goal #1B5                    | Screening and treatment of asymptomatic tuberculosis (20%)  |
| MDG goal #1B5                    | Treatment of sexually transmitted infections (20%)  |
| Maternal and neonatal health     | Community based case management for neonatal pneumonia (100%)   |
| MDG goal 1B                      | Zinc supplementation (100%), vitamin fortification (20%)  |
| Maternal and neonatal health     | Neonatal pneumonia (20%)  |
| Tuberculosis                     | Treatment of smear positive tuberculosis and tuberculosis (local)   |
| Maternal and neonatal health     | Treatment of multi-drug resistant tuberculosis under DOTS-Plus (20%)  |
| Maternal and neonatal health     | Referral care for severe post-natal haemorrhage (100%)  |
| Maternal and neonatal health     | Management of neonatal sepsis (20%)   |
| MDG goal #1B5                    | Voluntary counselling and testing (100%)  |
| MDG goal 1B                      | Infants A (supplementation (20%), vitamin fortification)  |
| MDG goal #1B5                    | Prevention of mother to child transmission (limited case coverage)  |
| Maternal and neonatal health     | Policy based care of very low birthweight babies, severe neonatal infections, severe neonatal jaundice, and neonatal jaundice (20%) |
| MDG goal #1B5                    | Screening and treatment of children (20%)   |
| Maternal and neonatal health     | Antenatal therapy: no intensive monitoring, limited drug use (20%)  |
| MDG goal #1B5                    | Antenatal therapy: intensive monitoring, first line drugs only (100%)   |
| <b>Goal 2: hunger reduction</b>  |   |
| MDG goal #1B5                    | Child based education (20%)   |
| Maternal and neonatal health     | Management of neonatal sepsis, breast preservation, and oral disease (20%)  |
| Maternal and neonatal health     | Referral for severe pneumonia victims of malnutrition (20%)   |
| <b>Goal 3: poverty reduction</b> |   |
| MDG goal #1B5                    | Antenatal therapy: intensive monitoring, first and second line drugs (20%)  |
| Maternal and neonatal health     | Antenatal therapy for severe malaria (20%)  |
| MDG goal 1B                      | Improved complementary feeding, monitoring, and protection of growth (20%)  |

The neonatal cost effectiveness ratio is \$100000 (see table 4 in text) and for children is \$100000.  
 The neonatal cost effectiveness ratio is \$100000 and \$100000.  
 The neonatal cost effectiveness ratio is \$100000.

# LDCs.- TENTATIVE CONCLUSION: K FACTORS FOR ASSESSING THE VALUE OF HEALTH AS AN INVESTMENT BY FOCUSING CHILDREN HEALTH

- We need to increase the effort to catch up all the existing benefits (direct/ indirect; external/ internal...) of this type of health intervention
- Where the difference between the (real) effectiveness of the (theoretical) postulated efficacy may be less
- Where more relevant may be the actual and future incidence of the illness in each country
- Where the value of the universal access is higher

**PART II.- PHARMA STRATEGIES IN  
DEVELOPED COUNTRIES**

**DCs: THE ROLE OF THE PHARMACEUTICAL  
SECTOR IN IMPROVING HEALTH**

**FACING PRICING AND COST CONTROL  
POLICIES IN BOTH SIDES OF THE  
ATLANTIC: THEIR EFFECTS DEPEND ON  
HOW THE SYSTEM PLACES THE DRUG IN  
THE ADDED VALUE CHAIN FOR HEALTH,  
AND GIVEN THE WAY HEALTH CARE  
DELIVERY IS ORGANIZED AND  
FINANCED IN PRACTICE**

# SOME PERTURBING AND CONTROVERSIAL PHARMA ANSWERS TO PRICE CONTROLS:

CONTINUOUS TREND TOWARDS *DISEASE  
MONGERING*: Expanding the boundaries of  
treatable illness to develop markets for new  
products

- Turning ordinary ailments into medical problems
- Seeing mild symptoms as serious
- Treating personal problems as medical
- Portraying risk as diseases
- Framing prevalence estimates to maximize potential markets...

# SOME CONTROVERSIAL AND PERTURBING PUBLIC REGULATOR ANSWERS

- **COST CONTAINMENT POLICIES:** *see the Spanish case (details in the Appendix)*
  - STRONG PREFERENCE FOR PRICE REGULATION: *MISTAKE:* VOLUMES USE TO BE THE RISING VECTOR
  - LICENSE, IDENTIFIED WITH REIMBURSEMENT (LIKELY A MISTAKE AT PRESENT), IN AN *ALL OR NOTHING* TYPE OF GAME (LOTS OF PRESSURES TO BE IN): 15.000 PRODUCTS IN SPAIN (A CLEVER PRICE REGULATOR TO DEAL WITH ALL THIS??), ALMOST ALL PRODUCTS END BEING REIMBURSED (POLITICAL FAILURES TO DELIST), REIMBURSED AT THE SAME RATE (NOT GRADIENT ACCORDING COST EFFECTIVENESS AND EVEN EFFECTIVENESS!!)

(...) ONE SINGLE PRICE *FOREVER*: MISTAKE

**PLUS: ONCE YOU ARE INVOLVED IN PRICE REGULATION, WHERE ARE THE LIMITS?:**

usually, economists do not like price regulation given the observed mistakes: inefficient rate setting that does not foster competition (RP and market for generics), how far prices should move away from marginal costs, ways to follow the inverse elasticity of demand rule, how to deal with important sunk costs, lack of an stable framework for big pharma investments...

**PLUS, COMMONLY:**

LACK OF TRANSPARENCY (INTERNAL COMMITTEE UNDER NATIONAL AND MULTINATIONAL LOBBYING), PRICES ERODED AT REAL TERMS OVER TIME (INCENTIVES TO MINOR INNOVATIONS FOR NEW HIGHER PRICES, NEED OF RE-MARKETING AND NEW INEFFICIENT COSTS)

# General setting in DCs: THE FINANCIAL CRISIS AND THE WRONG FOCUS FOR SOCIAL POLICY

- UNSELECTIVE PUBLIC EXPENSES IN A WORLD OF PUBLIC REVENUE SHORTAGES
- PUBLIC EXPENSES FOR SEVERAL OTHER PRIORITIES: INTERGENERATIONAL, MORE POLITICALLY NEUTRAL RULES AND MORE CONNECTED TO THE LABOUR MARKET (occupation changes explain half of the income distribution –Growing Unequal, January 2009, OECD Report)
- WELFARE vs WORKFARE STRATEGIES.
- THE LINKAGE EFFECTS OF HEALTH CARE EXPENDITURE ARE WEAK IN TERMS OF SOCIAL WELFARE IN ABSENCE OF WILLINGNESS TO PAY (ON AN INDIVIDUAL OR COLECTIVE BASIS)

# THE PUBLIC SECTOR FINANCIAL CRISIS

*DUAL FISCAL SYSTEMS* MAKE FOR THE NEED OF MORE REDISTRIBUTIVE SOCIAL EXPENDITURE (not easy on political prioritisation and on public services management)

*WAGNER ENGEL PRESTON* OR THE RIGHT COMBINATION BETWEEN PUBLIC EXPENDITURE (SELECTIVE TARGET ORIENTED), SOCIAL SPENDING (REGULATED, OUT OF POCKET PLUS PUBLIC BUDGETS) AND PRIVATE FINANCED

# THE ROLE OF SOCIAL REVENUES OTHER THAN TAXES

- Not always unequitable if they are avoidable. It depends for which service and on which alternative finance they are compared

...some strategies:

- Regulated (community) vs. free pricing (and subsidies)
- With insurance, solidarity more easily to be there.
- To pool risk: large, but without monopoly.
- To raise revenues (other than taxes) vs. moderate consumption (reduce expenses)
- Not, in universal entitlements, to be applied to uniform services, but to diversified scope (above basics) and services with different intensiveness (free choice)

- THE DEVOLUTION NAD THE DECENTRALISATION PROCESS; THE RISK TRANSFER OF RISK TO PROVIDERS, AND A GREATER CITIZEN'S EMPOWERMENT: *A CHALLENGE FOR INERTIA AND PLENTY OF OPPORTUNTIES FOR THE INNOVATORS.*
- THE FOUR HURDLE (INCREMENTAL COST-EFFECTIVENESS) IS UNAVOIDABLE AND GOOD FOR THE *HEALTH* OF THE HEALTH SYSTEM. THE ASSESSMENT AND THE APPRAISAL OPENS A NEW FIELD FOR RISK-SHARING.

## *Trends at present...*

**RISK TRANSFER** from insurers to providers  
(risk-rating, prospective case-mix payments,  
global budgeting...)

**INCENTIVES FOR COORDINATION** by  
inserting into the system new ‘brokers’ of the  
individuals’ care

**NEW STRATEGIES IN MANAGING  
ILLNESS EPISODES:** the importance of  
being part of the chain rather than the last  
resort input purchased-out in times of budget  
constraints.

ALL THIS MAKES LIFE MORE DIFFICULT...BUT  
*VIEW CHALLENGES AS OPPORTUNITIES*

- NEED TO REINFORCE THE IDEA OF GREATER VALUE OF HEALTH FROM THE REGIONAL OBSERVED DIVERSITY AND SHOW THE EMULATION POTENTIAL
- MOVE THE COST CONTROL ARGUMENT (FOR WHICH REGIONS ADD-UP ALL RESTRAINTS AND REBATES AVAILABLE) TOWARDS THE ONE THAT MAKES MORE POLITICALLY EXPLICIT THE VALUE OF HEALTH BENEFITS

# *CHALLENGES AS OPPORTUNITIES*

- EXPERIMENT NEW PARTNERSHIPS ON A LOCAL AREA BASIS: BY EXPLORING DIFFERENCES BETWEEN OBJECTIVE ASSESSMENT OF CE AND SUBJECTIVE POLITICAL APPRAISAL.
  - WELFARISME, QUALITY ASSESSMENT FOR HEALTH CARE SHOULD GIVE CONTENT TO THE MESSAGE, ADDING TO THE FACT THAT THE SUSTAINABILITY OF THE HEALTH SYSTEM REQUIRES MORE (REGULATED) PRIVATE (LOCALLY BASED) FINANCE.

THANKS FOR YOUR  
ATTENTION!!

# The Pharma sector in Spain as a CASE STUDY

## OECD, 2009 (2005 data)

- After USA and Canada, Spain has the highest pc (ppp) expenditure: 575 \$ (average OECD, 404)

- (20% above the expected regression line GDP pc adjusted)

Share on total HCE: 23% (aver:15 USA, 13%, France, 15)

Average rate of increase 97/05: total HCE: 4.9%; Ph E.: 6.6%

Relative retail prices: 77% below average: Spain, USA and France, the highest pc drug consumers. In real terms: 824 \$ the second after France (UK 582; Average OECD: 532)

**REAL CONSUMPTION PER CAPITA IS THE VECTOR PUSHING SPENDING UP...**

## *A note on prices, to keep in mind (OECD 2009)*

- Switzerland's pharma prices are even higher than its higher prices overall
- Denmark's pharma price level is relatively high but not as high as general prices in its economy
- Canada and USA have average economy wide prices and high pharma prices
- Australia and Spain have average economy wide prices and relatively low pharma prices
- Sweden, UK and France have high economy wide prices and low pharma prices.

...The trend is for a higher convergence in pharma (regulated) prices than for the remaining market products under competition, believe or not!!

## BACK TO Spain: 2.6% of global sales: 16 B \$. *FEATURES*

- Quite open list; New products better priced than old ones (frozen subsequent prices); strong influence on physicians prescriptions (visitors); low generics market (5% sales; 9% volume); increasing delay in launching new products (around 9 months, not bad so far; 15 months between first world application for marketing authorization and launch in the country); public share of finance for Ph Exp. below average; negative industrial trade balance. The drug-offset effect rather virtual, given public fixed and sunk costs. Not fourth hurdle so far... but in the Law since 2004
- Pharma policy: Authorization and Pricing, central; Reimbursement not clear (if we consider rebates...) and Prescription and Dispensation, regional.