# Fiscal Implications of Chronic Diseases

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# Defining Chronic Diseases of Concern

- Cancers
- Diabetes
- Cardiovascular diseases
- Mental Dementia (Alzheimers et al)

- Recognized as reflecting obesity (poor diet), smoking, lack of diet, alcoholism

# Challenges

- Lancet 2008: “New research published in The Lancet finds that India will bear 60% of the world's heart disease burden in the next two years. In addition, researchers have determined that compared to people in other developed countries, the average age of patients with heart disease is lower among Indian people and Indians are more likely to have types of heart disease that lead to worse outcomes.”
- HUDSON Institute survey: over next 20 years, tripling of ischemic heart disease an stroke mortality in the Asian Pacific Region--with population that is NOT growing very much

# Distinguishing fiscal from macroeconomic consequences

- Macroeconomic consequences--principally derive from morbidity associated with chronic illness among the working age population
  - Loss of productivity and foregone output
  - Potential loss of competitiveness
  - Loss of working time, both of patient and potentially of families
  - Premature mortality
  - Extended periods of disability: particularly from diabetes and heart disease
  - Total cost of medical care (both private and publicly borne)--inpatient and outpatient costs; rehabilitation costs; community health services
  - Loss of savings--wealth depletion and potential for being thrown into poverty--this can also relate to consequences associated with tending for very elderly with dementia

# Some sense of macroeconomic costs

- Cardiovascular diseases: 1-3 % of GDP
- Obesity: in US: average increase in per person annual medical spending associated with obesity is $732

| | Total | Share Indirect |
|---|---|---|
| • Cardiovascular disease | | |
| France | 1.6 | 35% |
| Germany | 3.3 | 35% |
| Canada | 2.6 | 63% |
| UK | 2.9 | 42% |
| US | 3.8 | 39% |

# *Fiscal Consequences: Impact on government outlays-1*

- For medical care outlays *by Government (Federal, state or local)*
  - *For treatment--can be both immediate and expensive: also often subject to readmissions*
  - *Life savings measures often occur for chronic illnesses in 60's rather than later in life*
  - *For drugs--prolonged period*
  - ***CONTINGENT** ON GOVERNMENT'S OBLIGATIONS WITH REGARD TO MEDICAL CARE OUTLAYS--DISTINGUISH BETWEEN COUNTRIES WITH AND WITHOUT SOCIAL HEALTH INSURANCE*
- For long term care outlays by Government
- For promotion of prevention activities--tobacco control; nutrition interventions; promotion of exerisie; screening activities for cancers

# *Fiscal Consequences: Impact on government outlays-2*

- For social insurance outlays--on pensions
  - In part a *negative effect!!-does premature mortality cut govt outlays on pensions as well as subsequent costs associated with medical care?*
  - *In part, a positive impact on expenditures--where pension outlays arise earlier for long period of disability*
- For welfare outlays (relating to those who become poor as a consequence of chronic diseases

- **KEY POINT: FOR MANY MIDDLE INCOME COUNTRIES, A *LACK*** *OF SOCIAL HEALTH INSURANCE REDUCES THE GOVERNMENT EXPENDITURE IMPLICATIONS OF CHRONIC DISEASES;* ***THE MACRO COSTS ARE STILL THERE BUT FISCAL OUTLAYS ARE MINIMIZED.***

# *Fiscal Consequences: Impact on government outlays-3*

- BUT GOVERNMENT LOSES REVENUE; AND MORE IMPORTANT, ECONOMY IS LESS DYNAMIC AS A CONSEQUENCE
- FACT OF LOWER DYNAMISM HAS ITS OWN PERVERSE FISCAL EFFECTS; LOWER GROWTH RATE IMPLIES LOWER POTENTIAL POSSIBILITY FOR GOVT BORROWING CONSISTENT WITH FISCAL SUSTAINABILITY

# Fiscal consequences: Impact on government revenues?

- Loss in output may imply loss in tax revenue as well as contributions to social pension schemes
- Do you use tobacco taxation as mechanism to limit tobacco consumption: may generate revenues--do you use as source of general government financing or is it “earmarked” towards tobacco control?

# The distinction is important!

- MAY SUFFER MACROECONOMIC CONSEQUENCES WITH *FAR LOWER IMPACT ON GOVERNMENT OUTLAYS*, PARTICULARLY FOR COUNTRIES WITH LIMITED SOCIAL INSURANCE OUTLAYS
- So fiscal consequences more limited on expenditure side; certainly borne in terms of loss of revenue
- But an issue to be aware of for emerging market countries considering the expansion of social health insurance schemes.
- Key issue: who bears the cost of chronic diseases? Household or family? Or, shifted to larger group--taxpayers or contributors to social health insurance scheme? Do you couple any extension with any effort at promotion of heatlh activities that limit potential for chronic diseases to become more important?

# Illustrating the difference

- Brazil (2007): study on cardiovascular illnesses
  - Annual cost: health 36.4%
  - social security 8.4%
  - Loss in productivity 55.2%
- Korea" cancer: total economic costs
  - medical care 13.7%
  - morbidity costs 14.5%
  - coss due to premature morbidity 65.3%

# Recognize nature of dynamics

- Countries may seek to introduce social health insurance schemes as they move into middle income range
- But, recognize that during years of low income per capita, strong likelihood of health behavior (tobacco notably) conducive to later incidence of chronic diseases. Such diseases appear to arise *earlier* in emerging market countries
- So may be buying in to a legacy of nascent chronic diseases that may be costly for treatment; who bears the burden of financing?
- Equally, looking ahead, likelihood of mental dementia as population ages into very elderly groups

# Note the obvious interaction with demographics

- With demographic transition, reduced fertility and increased life expectancy, results in a
  - Period of reduced dependency rates (particularly youth dependency) and high share of the population in the working age groups
  - BUT, two important phenomena:
    - Much of the period in working life may be associated with low per capita incomes, poor diet, smoking, and possibly lack of exercise
    - Subsequent period when bulge in labor force followed by bulge in population in their 50s and then 60s
    - Combination of increased number of the population susceptible to chronic diseases and the associated costs;
    - Equally, reduced share of the population in the working age group that ultimately would be the financing source for treatment and care!

# Implications for social health insurance policy framework--1

- The costs associated with these chronic diseases are more of a catastrophic nature--less routine
- In designing a social health insurance, one tends to want to cover significant share of catastrophic disease costs
- May imply that one wants high copay and high deductible associated with routine care, allowing higher share of insurance outlays to deal with catastrophic costs

# Implications for social health insurance policy framework--2

- Given the potential cost implications, important to ensure that physicians and hospitals use evidence-based approaches with regard to treatment and pharmaceutical options
- Cost-effectiveness analyses
- Much experience now in many industrial countries--Europe, Australia, Canada--with approaches to use
- Opportunities for innovation--Indian physician using low cost surgical technique to treat heart disease

# Implications for health policy framework

- Existing health regimes should be doing more to promote preventive actions to reduce the potential scale of the chronic disease epidemic as the populations of middle income countries move into the elderly brackets\
  - CVD: scale up multi-drug prevention, using generic statins, aspiring, blood pressure lowering medicines; promote exercise
  - Cancer: increase tobacco tax; ban smoking in public places; curb tobacco advertising; address smuggling that exists among some S. American countries
  - Diabetes: promote better diets

# Priorities for analytic work in thinking about the fiscal consequences of chronic diseases

- Assess current age patterns of chronic disease prevalence and incidence
- Assess current levels of spending on chronic diseases, *public and private; magnitudes as well as share of total spending in each category, distinguishing between public hospitals, private hospitals, and private practitioners (direct data plus survey)*
  - Inpatient
  - Outpatient
  - Pharmaceutical outlays

# Projection Analysis

- Make an assessment of likely incidence of different chronic diseases looking forward, as share of population in different age groups changes in the future
- Make an assessment of the costs of treatment--inpatient, outpatient, pharmaceutical under different scenarios
  - Current financing systems--public and private
  - Were the country to introduce a national health insurance scheme
  - Under different assumptions on the level of diagnostic and treatment technologies available

# Fiscal Constraints

- Explore potential for increased revenue
  - Tobacco taxation: what elasticity of tobacco consumption to prices? Alternative configuration of specific and ad valorem excises
  - Contributory payments from wages under an expanded social insurance scheme
  - Sales tax possibilities
  - Seek IMF technical assistance to explore such potentialities in revenue collections
- Assess present levels of spending on prevention activities with regard to chronic diseases