

# Getting Bang for the Buck in Health: The best buys in changing health status in South Africa

Karen Hofman

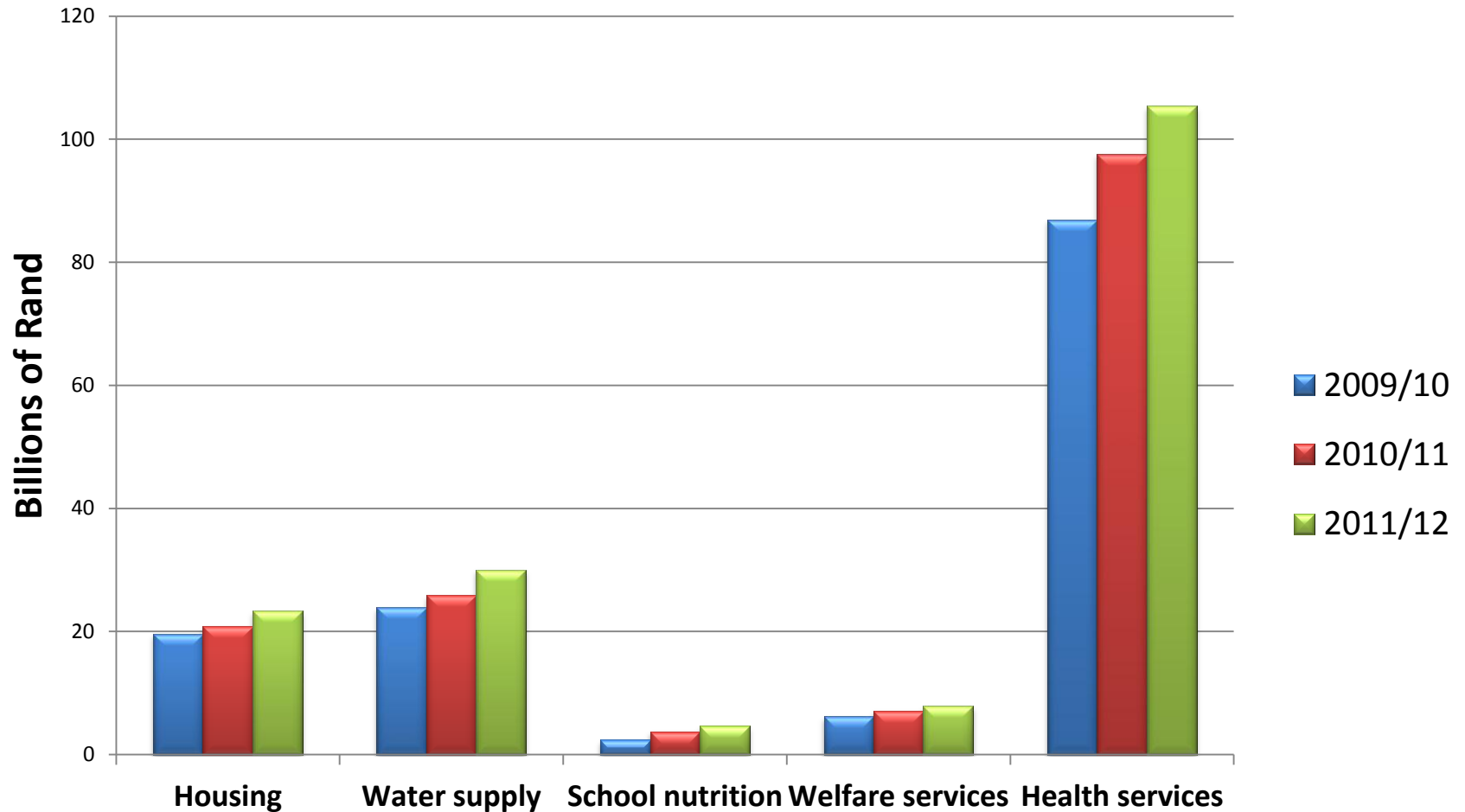
University of Witwatersrand School of Public Health  
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Research Unit

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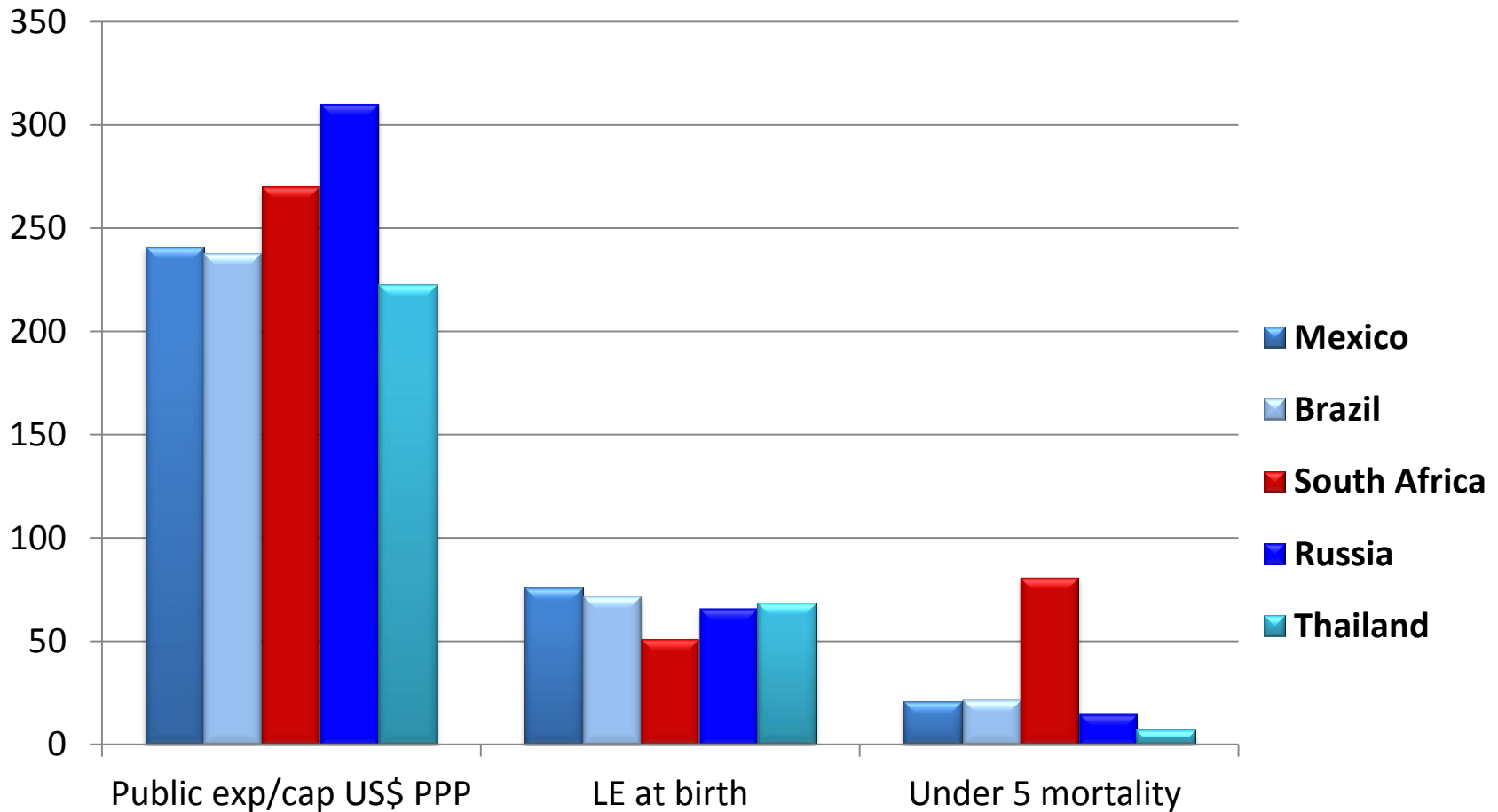
# Summary

- SA is not getting a good bang for its buck
- Best buys are one factor BUT critical for setting priorities
- The burden of NCDs is rising
- Prevention of NCDs makes cents
- Devote more resources to get SA specific data to motivate decision makers to act

# South African govt is spending a lot of money on health...



# ... but it is not getting good value for money



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A best buy is an intervention with compelling evidence for C/E that is feasible, low cost and appropriate to implement within local constraints

## **Measuring Cost Effectiveness**

Life years gained / magnitude of disease prevented per \$ spent --- lower is better

## **Magnitude of disease**

Disability adjusted life year - DALY

Death and disability expressed in a single measure

# DALYs more accurately measure the burden of disease

## MORTALITY

Rank		%
1	HIV/AIDS	25.5
2	Ischaemic Heart Disease	6.6
3	Stroke	6.5
4	Tuberculosis	5.5
<b>5</b>	<b>Violence/ injury</b>	<b>5.3</b>
6	Lower respiratory tract infections	4.4
7	Hypertensive disease	3.2
8	Diarrheal Diseases	3.1
9	Road Traffic Injury	3.1
10	Diabetes Mellitus	2.6

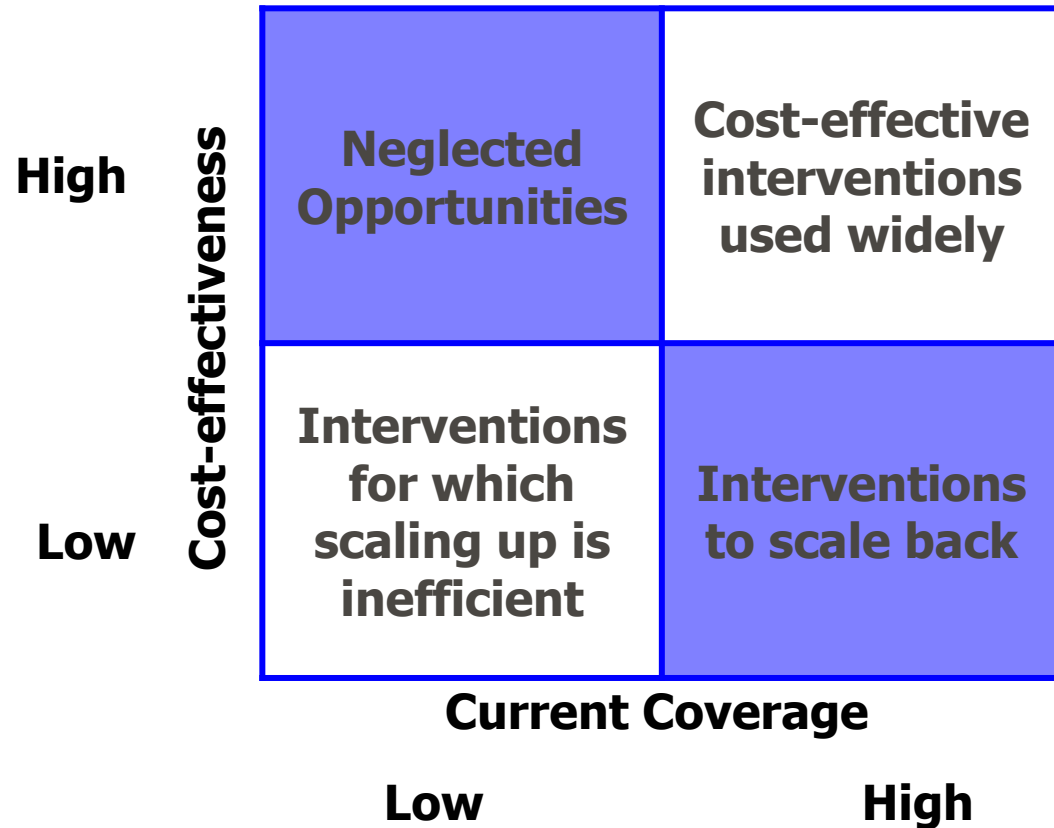
## DALYs

Rank		%
1	HIV/AIDS	30.9
<b>2</b>	<b>Violence/injury</b>	<b>6.5</b>
3	Tuberculosis	3.7
4	Road Traffic Injury	3
5	Diarrheal Diseases	2.9
6	Lower respiratory infections	2.8
7	Low birth weight	2.6
8	Asthma	2.2
9	Stroke	2.2
<b>10</b>	<b>Depression</b>	<b>2</b>

# Best buys are one factor BUT critical for setting priorities

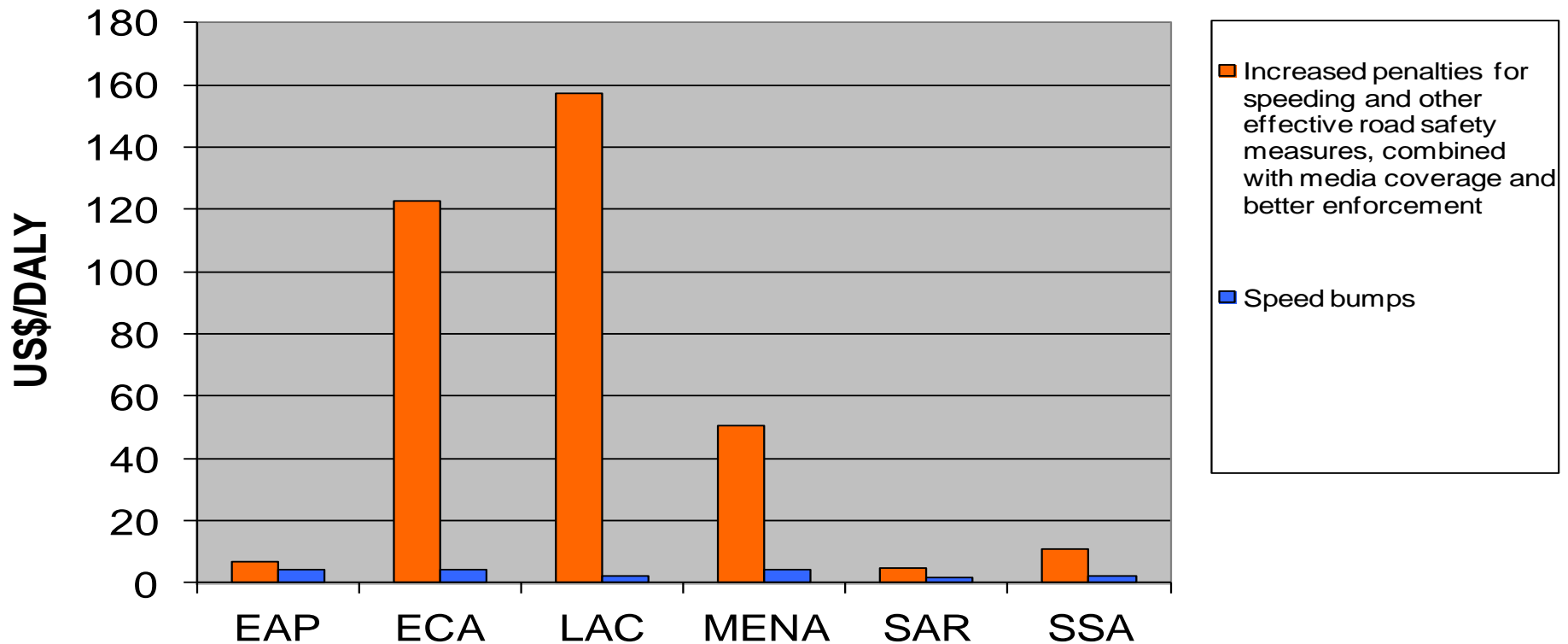
## Policy Considerations

- Biomedical need/burden of disease
- Health equity and social justice
- Political, ethical, cultural factors
- Health system capacity
- Financial risk protection
- Cost-effectiveness



# Best buys vary by region...

## Interventions to reduce traffic injuries



Source: *Disease Control Priorities in Developing Countries, second edition*

# We know some SS Africa best buys, but have limited SA-specific evidence

Health Intervention	Cost (in US\$) Per DALY Averted*	Burden of targeted disease (millions of DALYS)
Childhood Immunization	\$1-5	14-31
Prevention of traffic crashes	\$2-12	6
Malaria prevention	\$2-24	35
Surgical services and emergency care	\$7-215	25-134
Management of childhood illness	\$9-218	10-45
Cardiovascular diseases	\$9-273	5
HIV/AIDS prevention	\$6-377	57
Maternal and neonatal care	\$82-409	30-38

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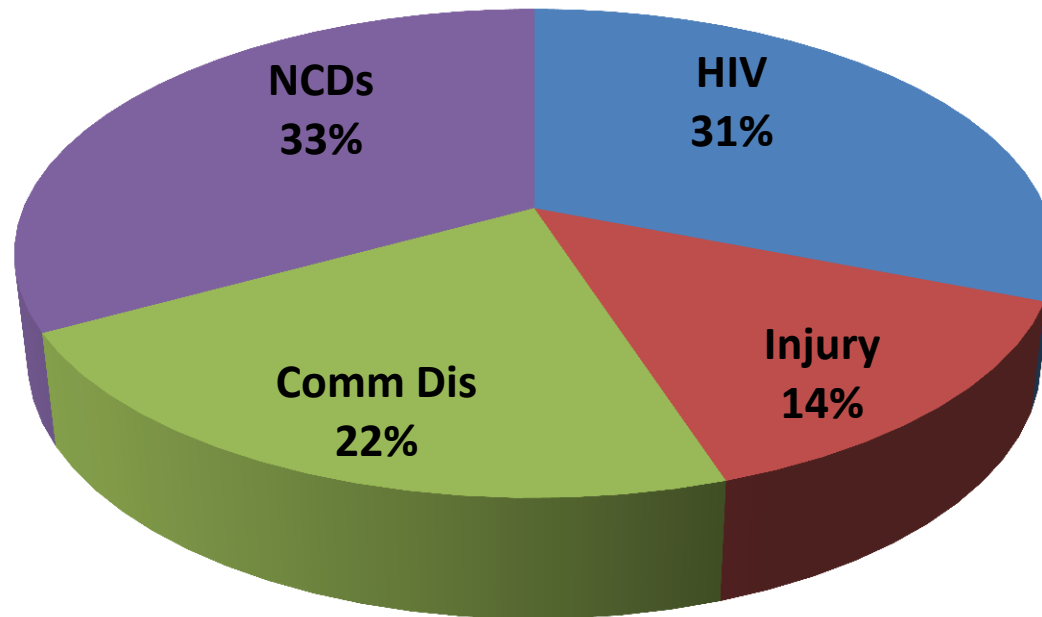
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# An epidemiological transition is underway

- Burden of NCDs is growing AND the population of HIV positive survivors is expanding
- 25% of female school children and 70% adult women are overweight/ obese many of them poor
- 35% of NCD deaths occur before age of 60 many without prior diagnosis or treatment

# NCDs cause a larger loss of DALYs than HIV in South Africa

Contributions to burden of disease in DALYs in South Africa ,  
2000



**Total 16 Million**

**33 % NCD/ 31 % HIV**

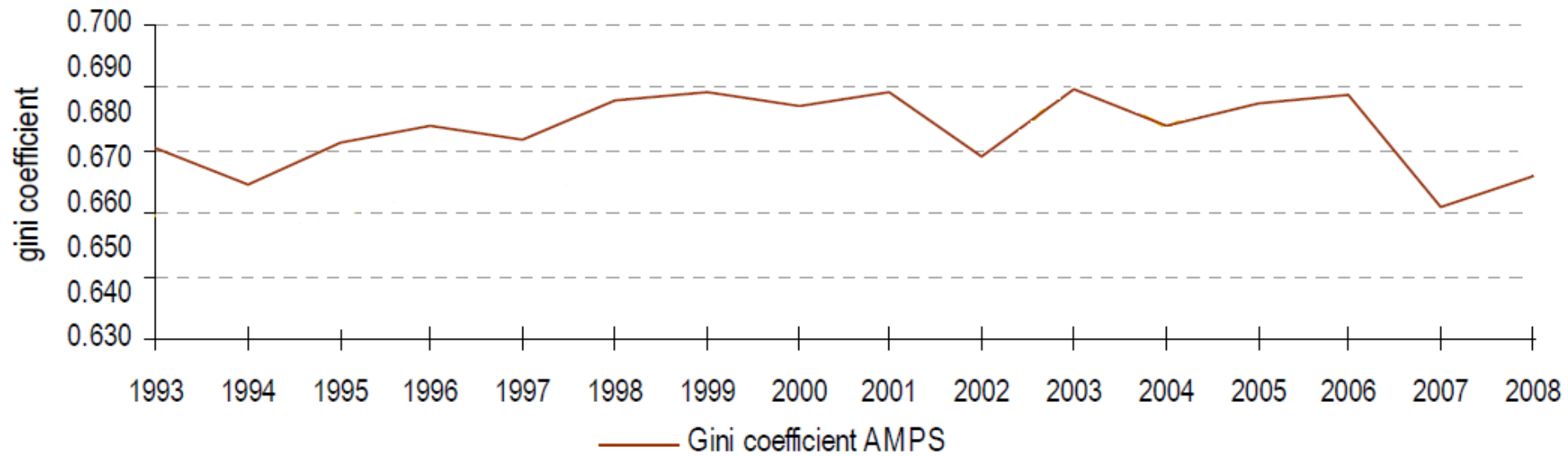
# NCDs are four common diseases with common risk factors

## Conditions

- Heart Disease
- Cancer
- Diabetes
- Chronic respiratory diseases

## Origins

- Tobacco use
- Unhealthy diet
- Physical inactivity
- Excessive alcohol use
- POVERTY

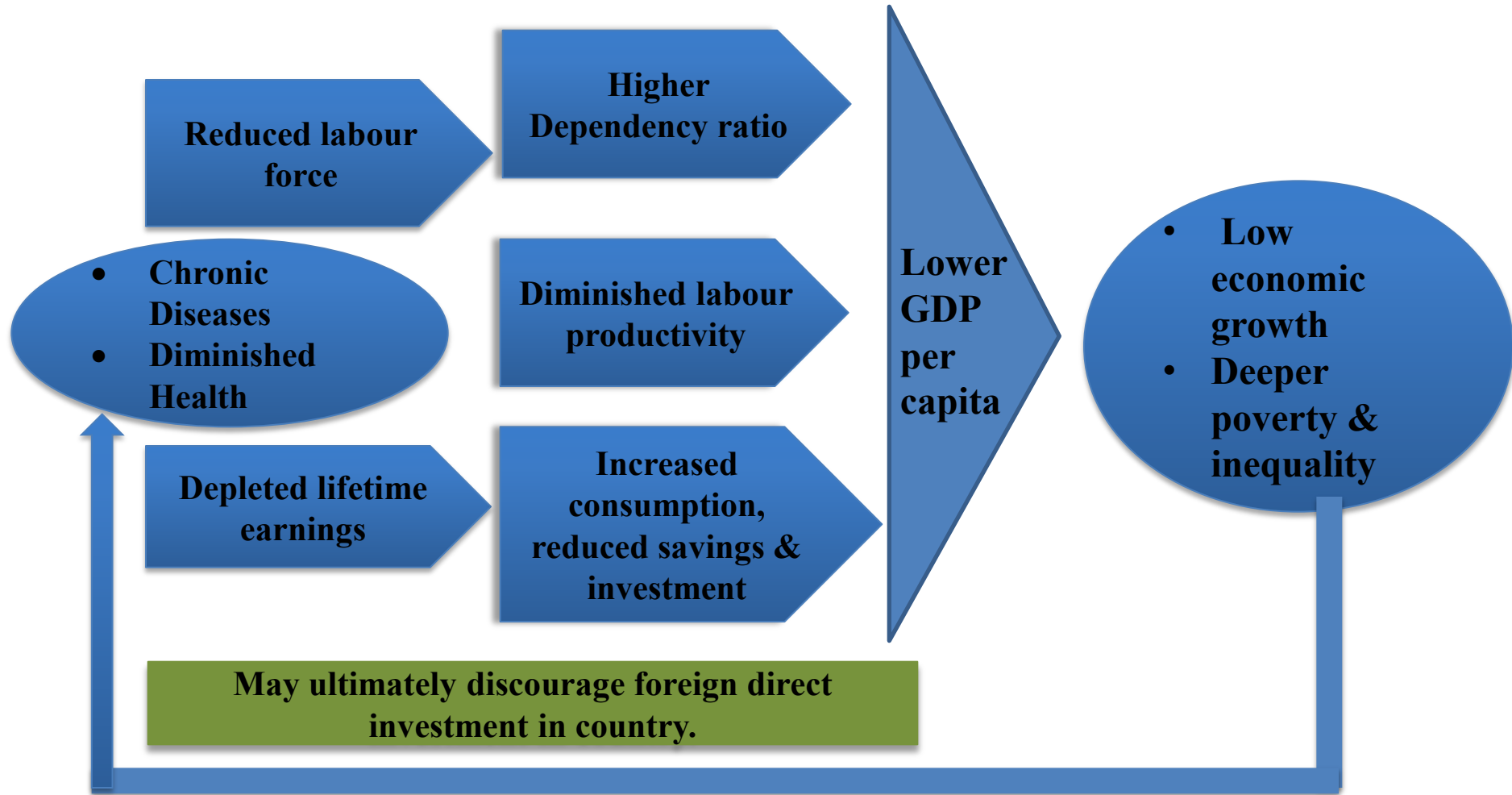


		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Gini coefficient</b>	AMPS	0.672	0.665	0.674	0.678	0.674	0.683	0.685	0.682	0.685	0.670	0.686	0.678	0.683	0.685	0.660	0.666
	IES			0.640					0.680					0.690			0.679

# The cost of NCDs in SA is set to escalate

- Estimated loss 2006 from CVD, Stroke and Diabetes combined estimated to cost  
USD \$ 0.16 billion ( ZAR 1.28 billion)
- This cost will rise to 1.8 billion by 2015 if no preventive action is taken – equivalent to new health infrastructure grant

# South Africa is particularly susceptible to the poverty spiral caused by the chronic diseases



Adapted from WHO- 2006

# Focusing on health systems is necessary but not sufficient for combating NCDs

## Challenges of working within the healthcare system

1. HIV/AIDS and maternal and child health are priorities within SA
2. Strengthening health system will continue to take time and resources (human resources 70% cost)

## Benefits of working outside the healthcare system

1. Interventions outside of the health care infrastructure produce the largest health gains in the shortest timeframe
2. Combining multiple interventions across sectors would generate even larger health gains

# Summary

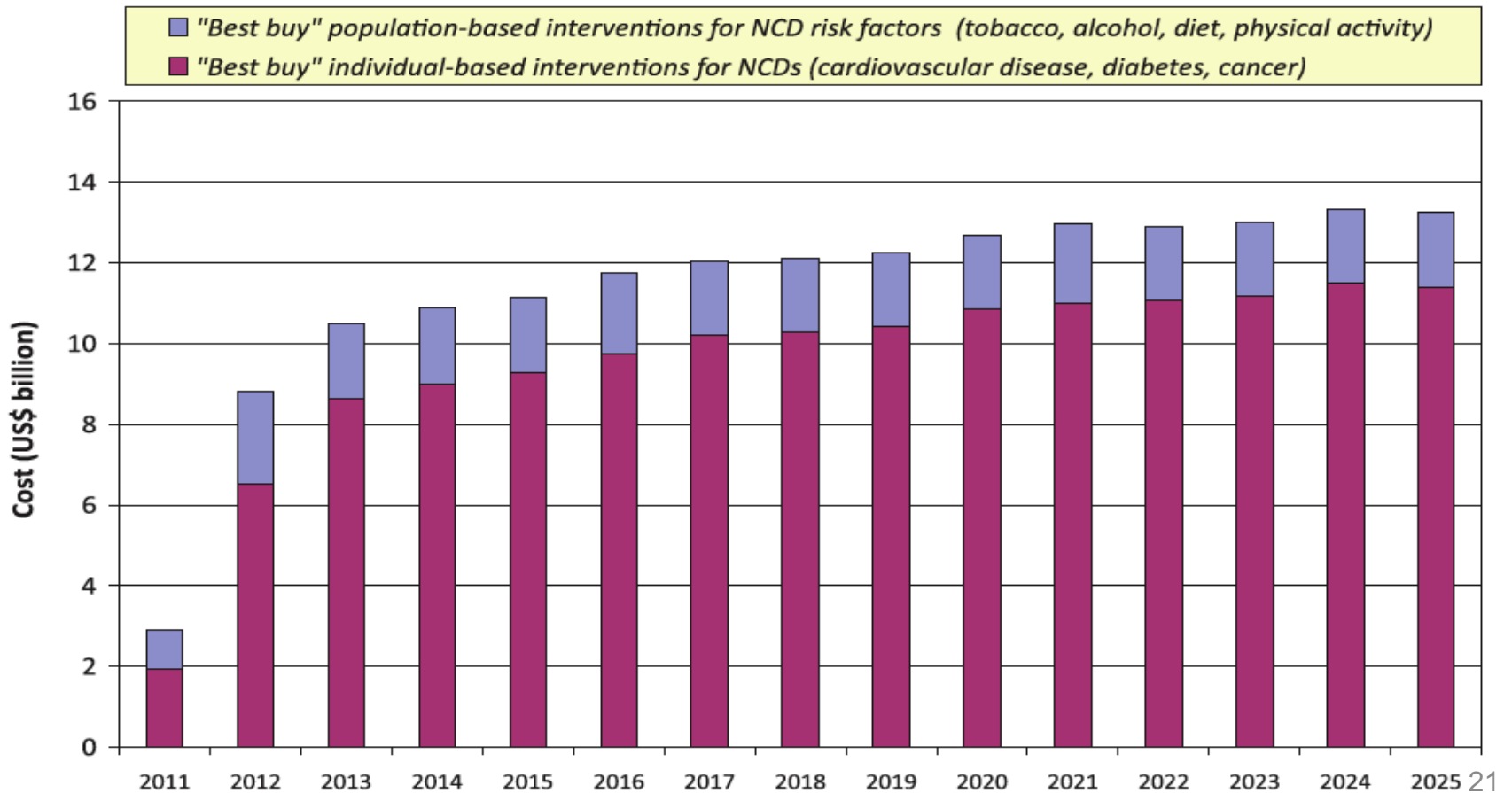
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# Prevention-focused best buys are highly cost effective for LMICs

	Cost per head (2010 ZAR)
Fiscal measures ( e.g. taxes)	R 0.20
Food advertising regulation	R 0.90
Food labeling	R 2.50
Worksite interventions	R 4.50
Mass-media campaigns	R 7.50
School-based interventions	R 11.10
Physician counseling	R 11.80

Source: Cecchini et al 2010 - Lancet

# Scaling up core population-based interventions in LMICS costs 80% less than individual interventions



# Scaling up preventive interventions will cost R24 per person /year in LMICs (WHO 2011)

## Population based best buys = R4.00


### Tobacco

Tax increases; smoke-free indoor workplaces / public places; tobacco warnings ; ad bans

### Alcohol:

Tax increases on alcohol; restrictions & bans on alcohol marketing; restrictions on avail retail alcohol

### Diet and physical inactivity

- Salt  thru mass media campaigns and decrease in processed food
- Replace trans-fats with polyunsaturated fats
- Public awareness programs- diet & physical activity

## Core set of individual based best buys in primary care = R20.00

### Cancer

- Hepatitis B immunization
- Screening for cervical cancer - (visual inspection with acetic acid) and treatment of pre-ca lesions

### CVD and diabetes

Multi-drug therapy to people with

- Heart attack or stroke
- At high risk (> 30%) of a CVD event in the next 10 years
- Aspirin to people with acute MI

# A core prevention package for unhealthy diet and physical activity is least expensive

Intervention	% share of cost
Promote public awareness	49%
Reduce salt intake	39%
Replace trans fats	12%

Resource category	
Human resources	18%
Training	3%
Mass Media	77%

Even though prevention will help, there are challenges implementing these solutions

- Morbidity data on NCDs not easily available
- Multi-sectoral work difficult
- Tailor interventions to local context and address cultural beliefs
- Community led and owned solutions more likely to work

Therefore, we need SA-specific data

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# SA specific data has already helped us formulate better health policy on strokes -- PRICELESS SA

1

## Known

- Salt consumption in SA and sources of dietary intake
- 1994 cost data on stroke hospitalization
- Population BP levels

2

## Innovation

- Validated WHO regional data for deaths
- Estimated DALYS
- Performed econ eval
- Partnered with Govt and Bakers Union
- Synthesized the info

3

## Result

- 7000 new strokes avoided as a result of decr NA<sup>+</sup> consumption
- Costs saved by ↓ hospitalizations and ↓ in population BP

# We could follow the same model to fight other NCDs

- Best buys in SA for prevention in rural and informal urban settings
- Role of incentives in influencing demand or supply behaviors
- Financial implications of guidelines that target high risk individuals vs. population based screening

# **SA Health Promotion Foundation could develop and house the requisite economic data**

1. Fund prevention research to
  - Develop local, innovative cost effective solutions
  - Understand neglected C/E opportunities for scaling up
2. Develop scenarios and implications for prevention health policy and resource allocation across sectors
3. Share data with DOH, industry, sectors outside health -- e.g. human settlements, transport, trade and industry

**Economic data could motivate policy makers and industry leaders to act**

# Thank you--Siyabonga--Dankie

[www.pricelessa.ac.za](http://www.pricelessa.ac.za)

Mandy Maredza, Mel Bertram, Steve Tollman,  
Karen Hofman



School of Public Health - University of the Witwatersrand  
Medical Research Council/Wits Rural Public Health  
and Health Transitions Research Unit