



International Actuarial Association Health Section
2007 Colloquium

13th - 16th May 2007 Cape Town, South Africa

The case for consumer engagement in the funding of healthcare

Adrian Gore, CEO Discovery

IAAHS 2007

IAA Health Section Colloquium

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CTICC

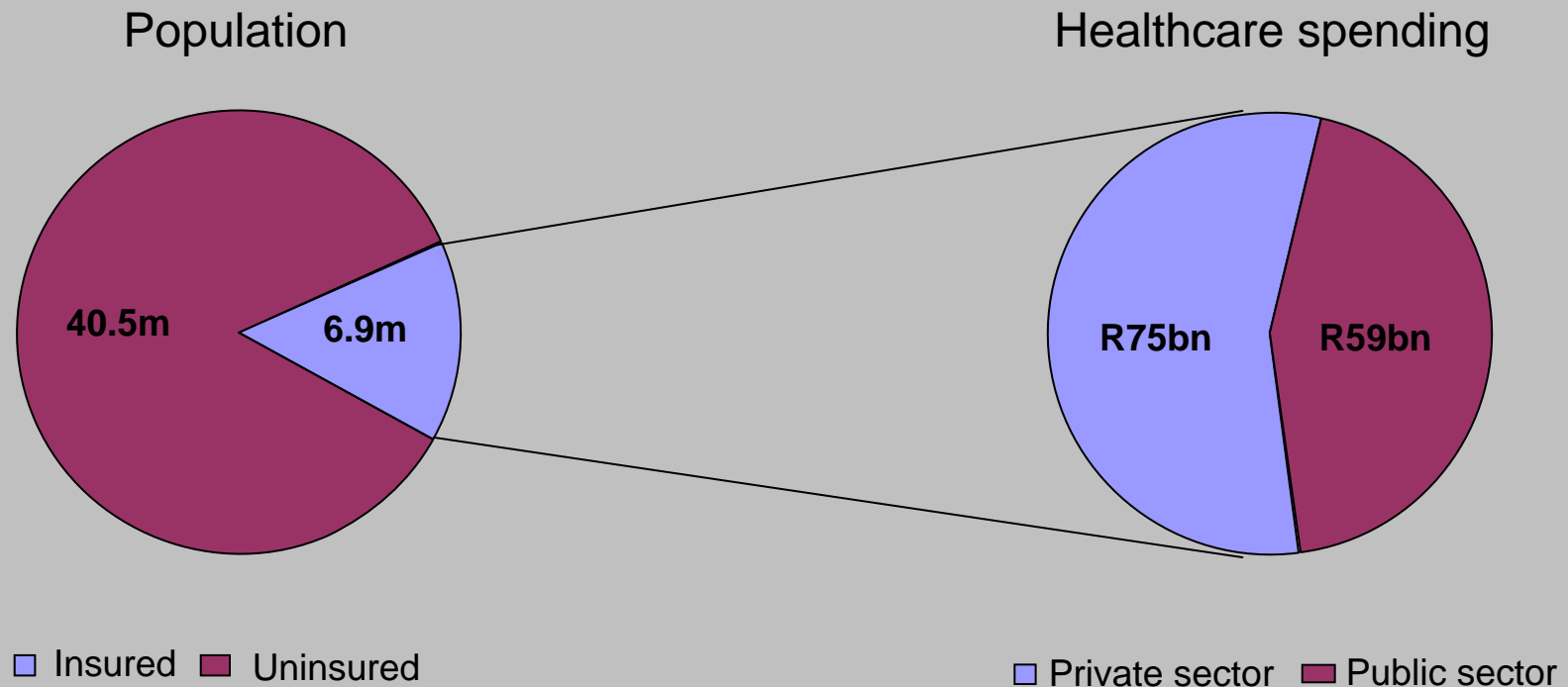
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Agenda

1. Context
2. Discovery's approach to healthcare funding
3. Does consumer engagement work? A data analysis

1. Context

South Africa has a large population, with disparate access to healthcare resources



South Africa's high-income population displays similar tendencies to US population

Variable	South Africa High Income Population*	United States
<i>Household Income (USD at PPP)</i>	\$44,977	\$41,994
<i>Possession of college / university degree</i>	66.7%	32.7%
<i>Access to the internet</i>	39.5%	59.6%
<i>Own / rent a cellular telephone</i>	94.6%	42.5%
<i>Households with two or more motor vehicles</i>	60.2%	55.5%
<i>Access to digital satellite / digital cable TV at home</i>	23.1%	33.7%

Note: *High income population refers to the top 20% of earners; Most data points are estimates based on the most recently available information
Source: AMPS 2000; U.S. Census Bureau; Statistics SA

Healthcare funding models – who makes the choices?

Supply-side control



Hospitals
Physicians
Medical services



Contracts
Managed care
Protocols
Networks
Disease management

Demand-side control



Patients



Information
Empowering choices &
doctor-patient
relationships

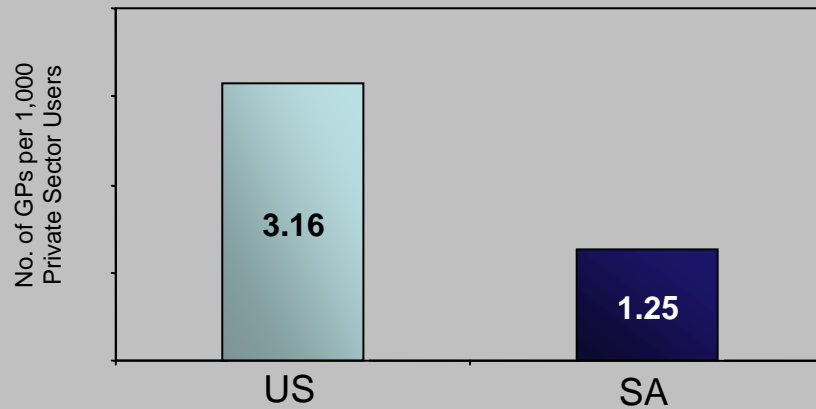
The Medical Schemes Act legislates community-rating for premium determination

CHAPTER 5: RULES OF MEDICAL SCHEME

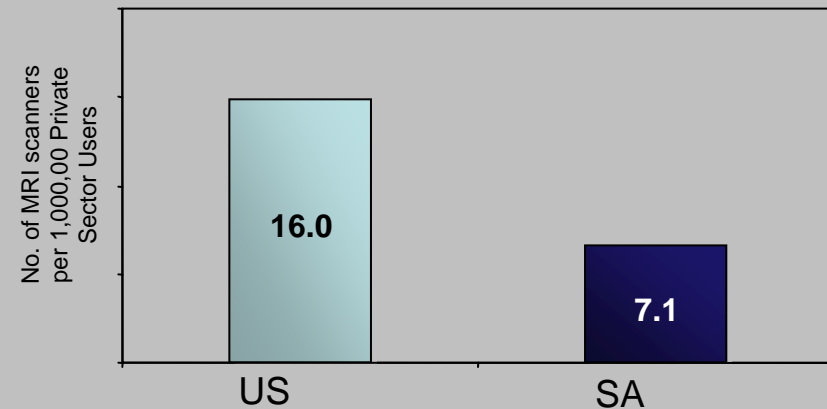
*29(n) The terms and conditions applicable to the admission of a person as a member and his or her dependants, which terms and conditions shall provide for the determination of contributions on the basis of income or the number of dependants or both the income and the number of dependants, and **shall not provide for any other grounds, including age, sex, past or present state of health**, of the applicant or one or more of the applicant's dependants, the frequency of rendering of relevant health services to an applicant or one or more of the applicant's dependants other than for the provisions as prescribed.*

Private sector density compared to the US highlights the difficulty of network creation

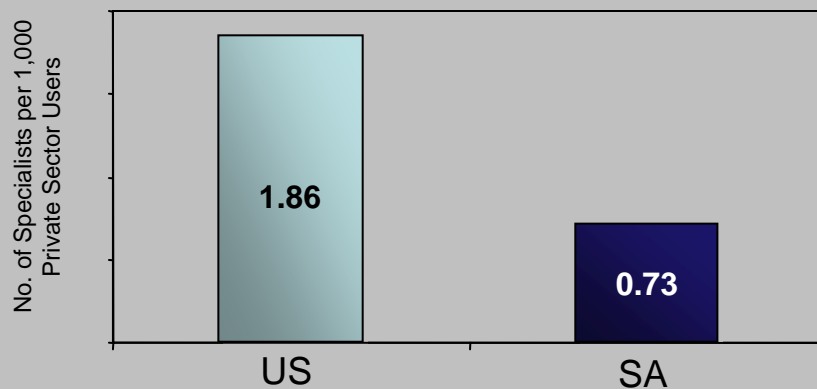
Density of Private Sector PCPs



Density of MRI Scanners



Density of Private Sector Specialists

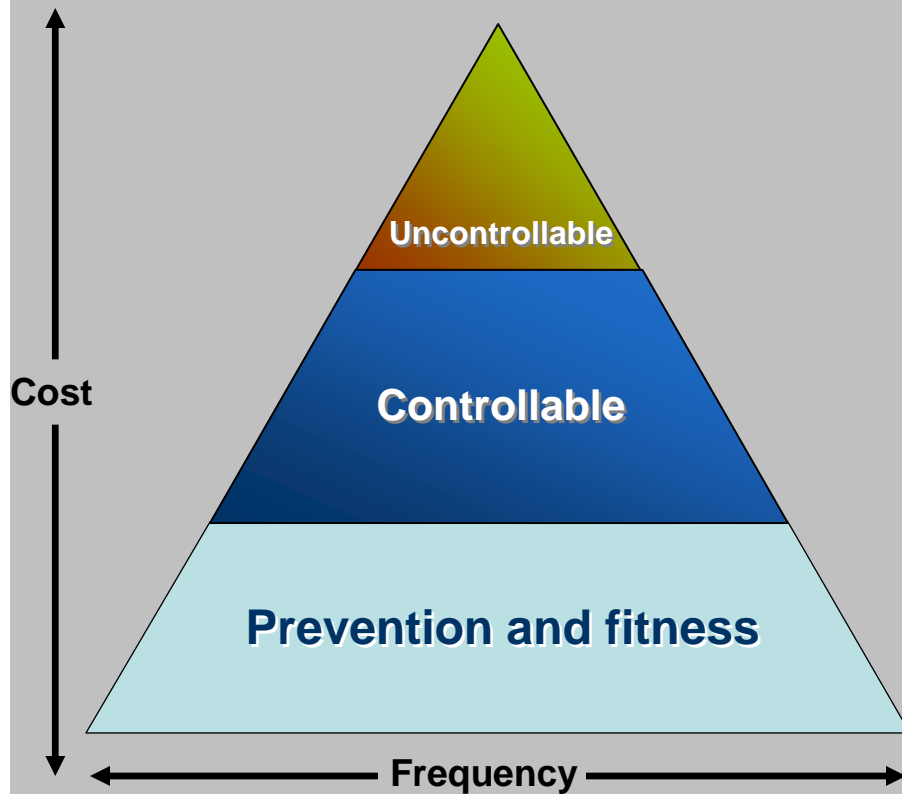


Partly driven by a lower density of Health Care Supply, South African insurers have given great importance to developing expertise in the design and management of consumer-driven health plans.

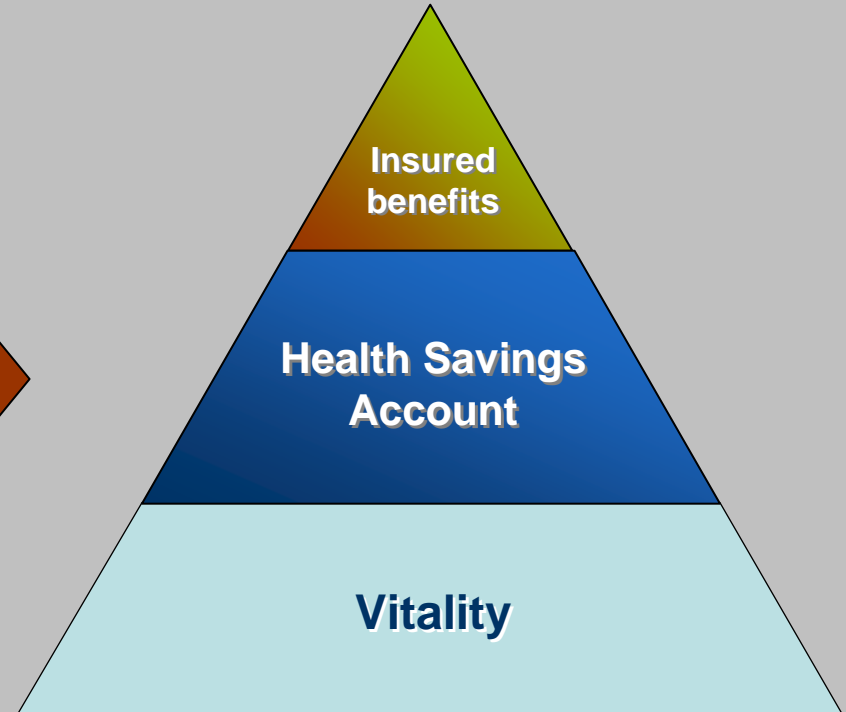
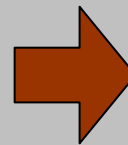
2. Discovery's approach to healthcare funding – engaging the consumer in health and wellness

CDH as a model solution

Triangle of healthcare utilization

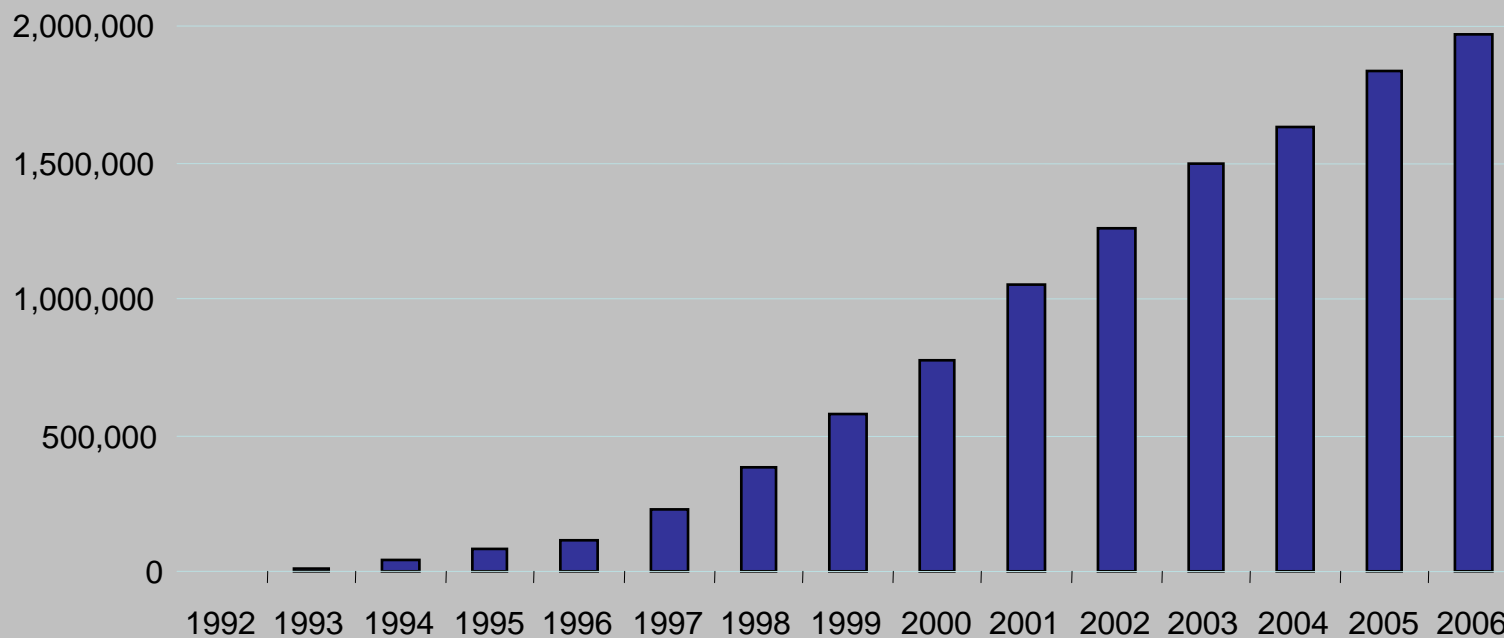


Discovery's consumer-engaged model



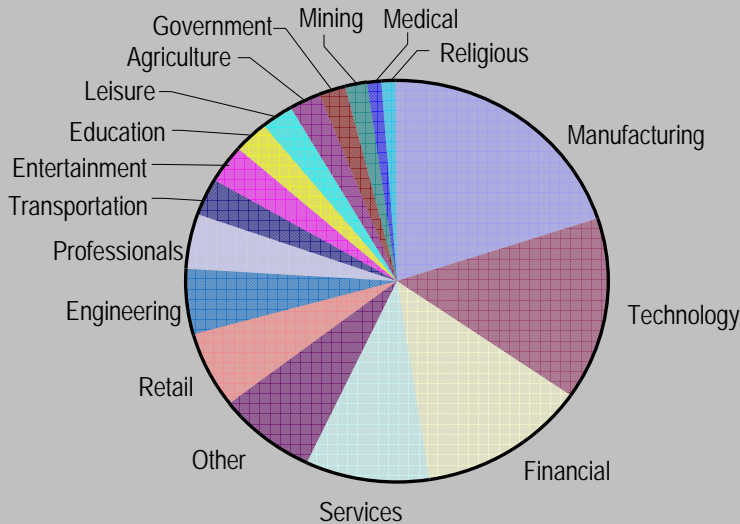
Discovery currently covers over 2m lives on consumer-directed plans

Covered lives as at 31 December

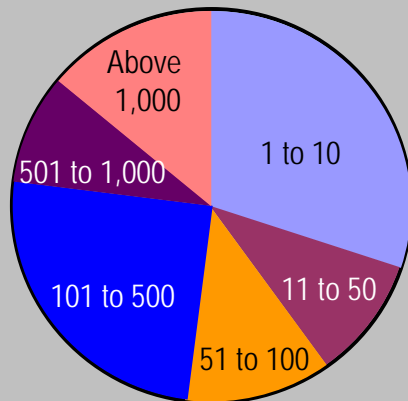


Diversity of Discovery's membership

Member distribution by Industry



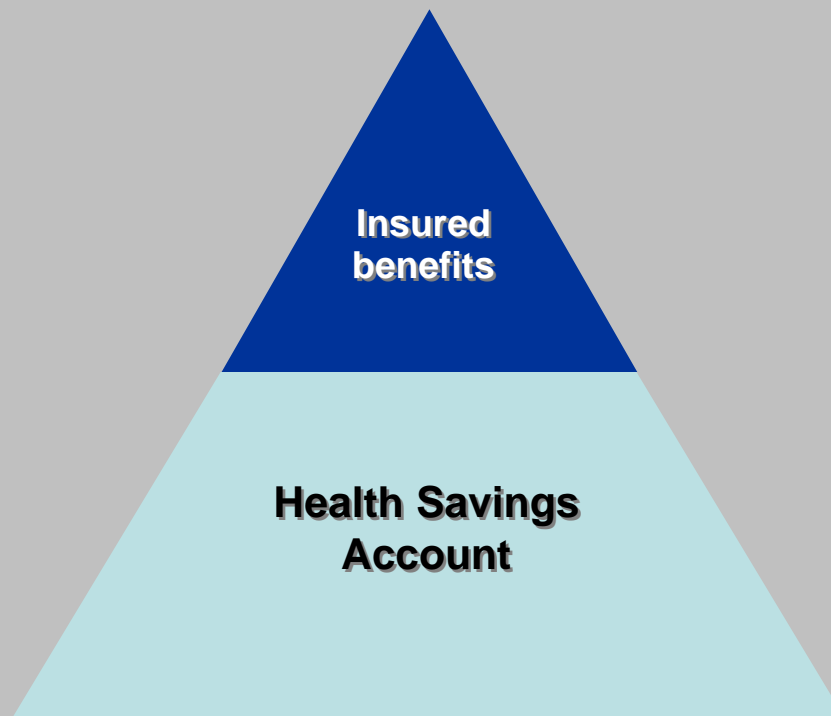
Member distribution by Group Size



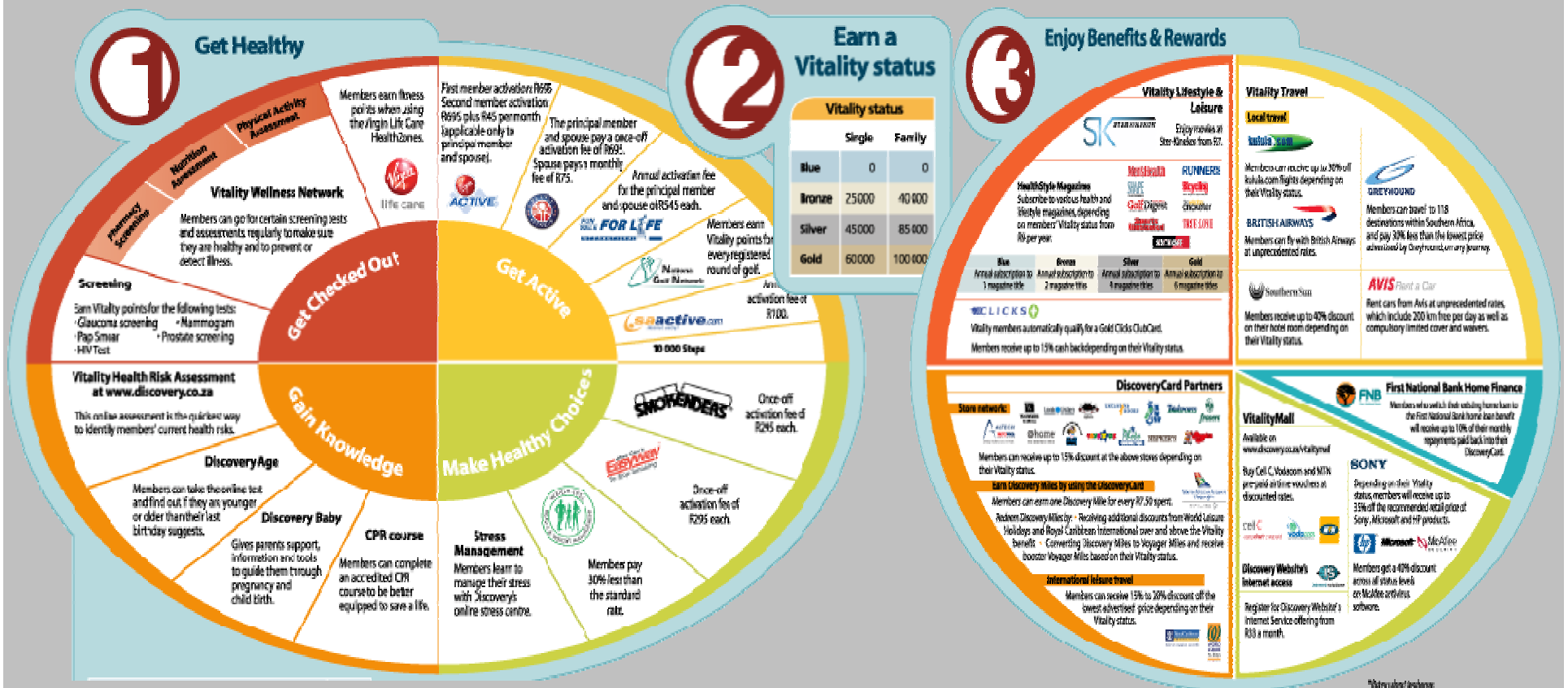
Sample List of Discovery Clients



HSA limits consumer choice to areas where
rational decisions can be made



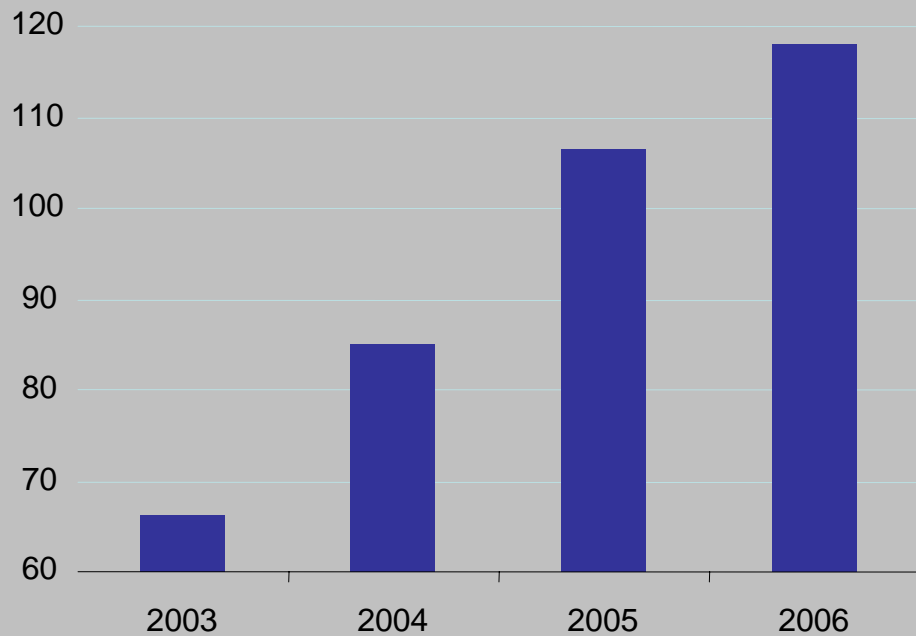
Structure of the Vitality Wellness program



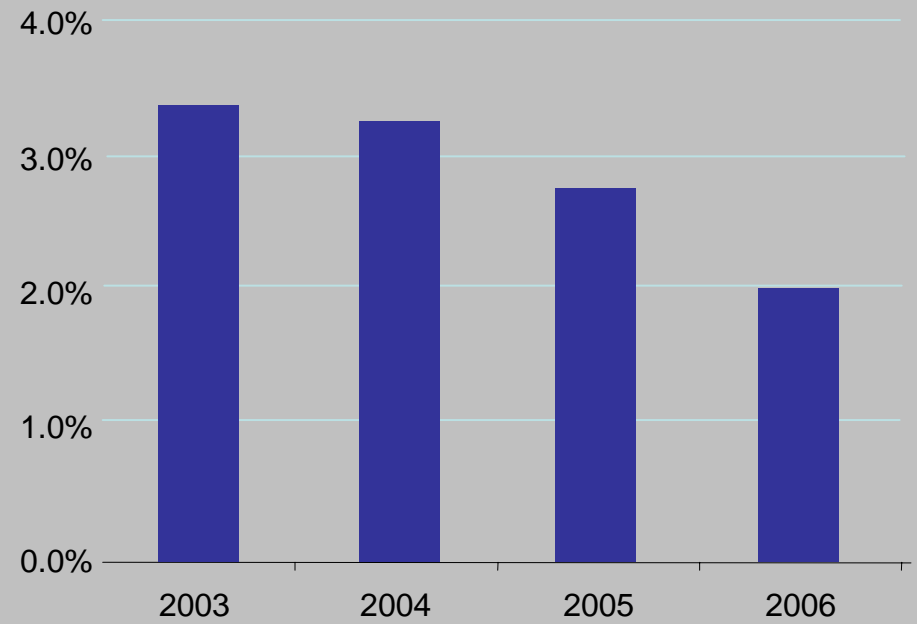
3. Does consumer engagement work?
 - A data analysis

Robust actuarial data set on which to conduct the analysis

Life months (millions)

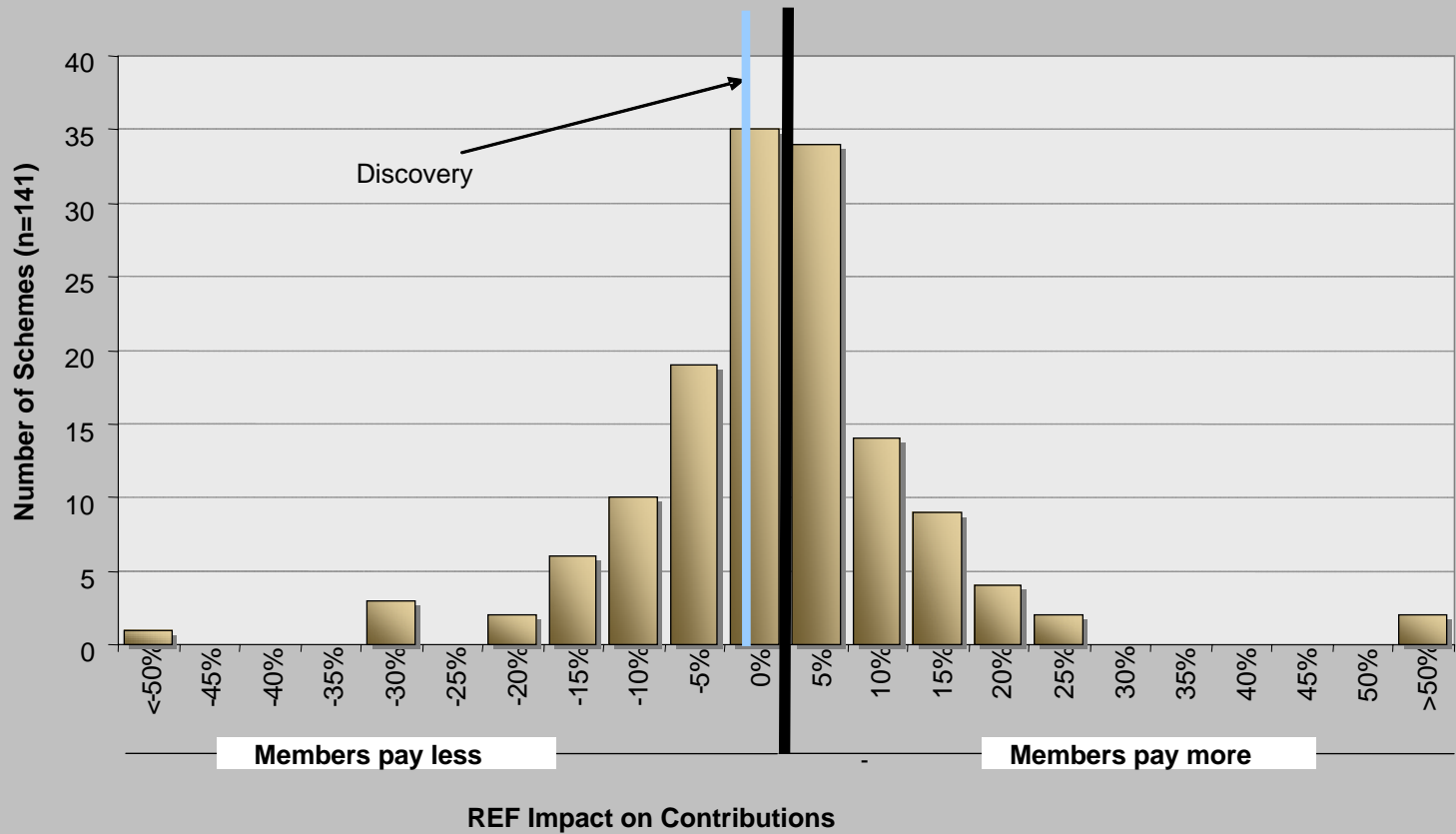


Annual lapse rate



Discovery's membership base is typical of the overall insured population

Risk Equalisation Fund Impact



Source: Centre for Actuarial Research

Key questions

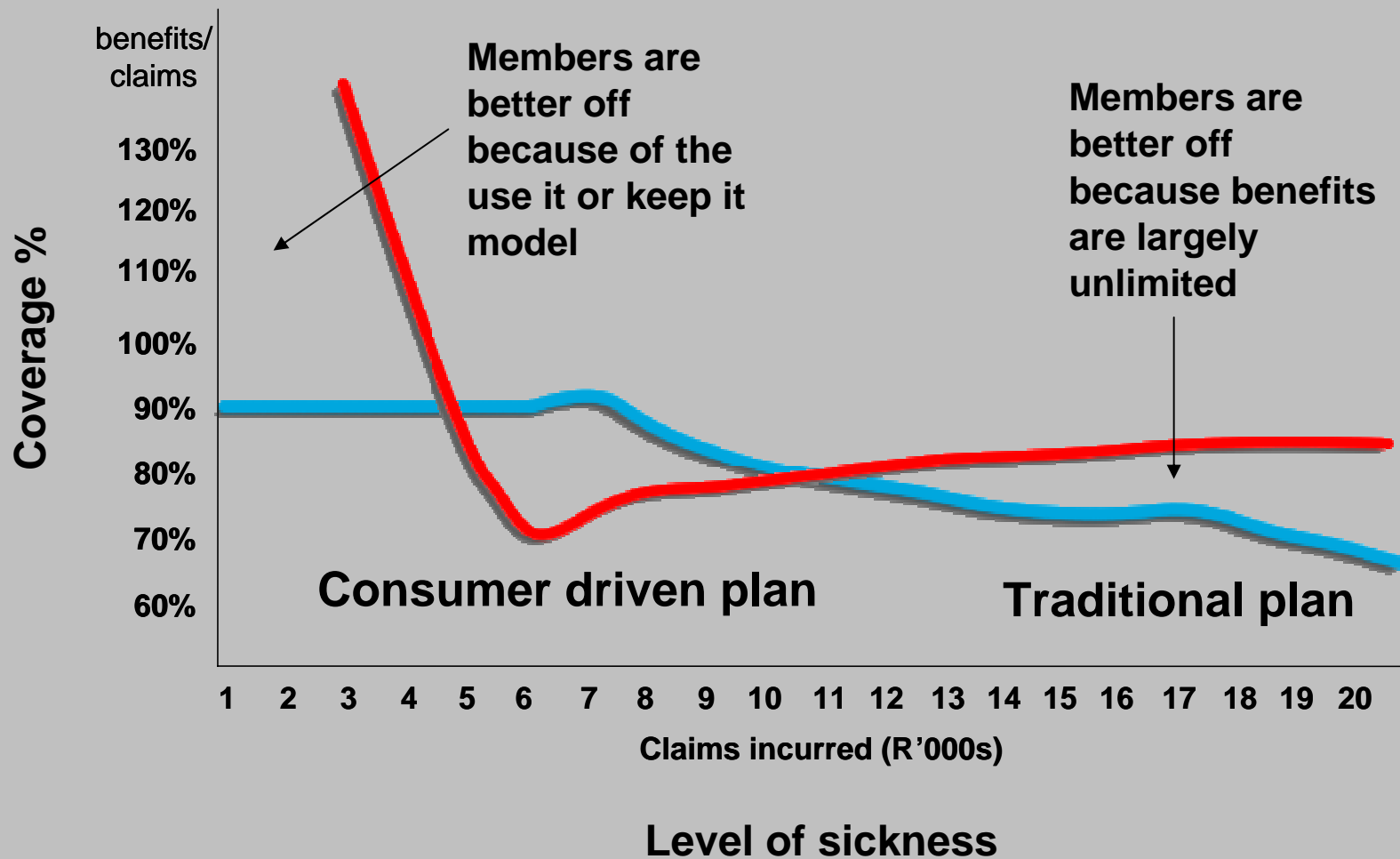
1. The effect of Health Savings Accounts
2. The effect of consumer-induced preventative care

The effect of Health Savings Accounts

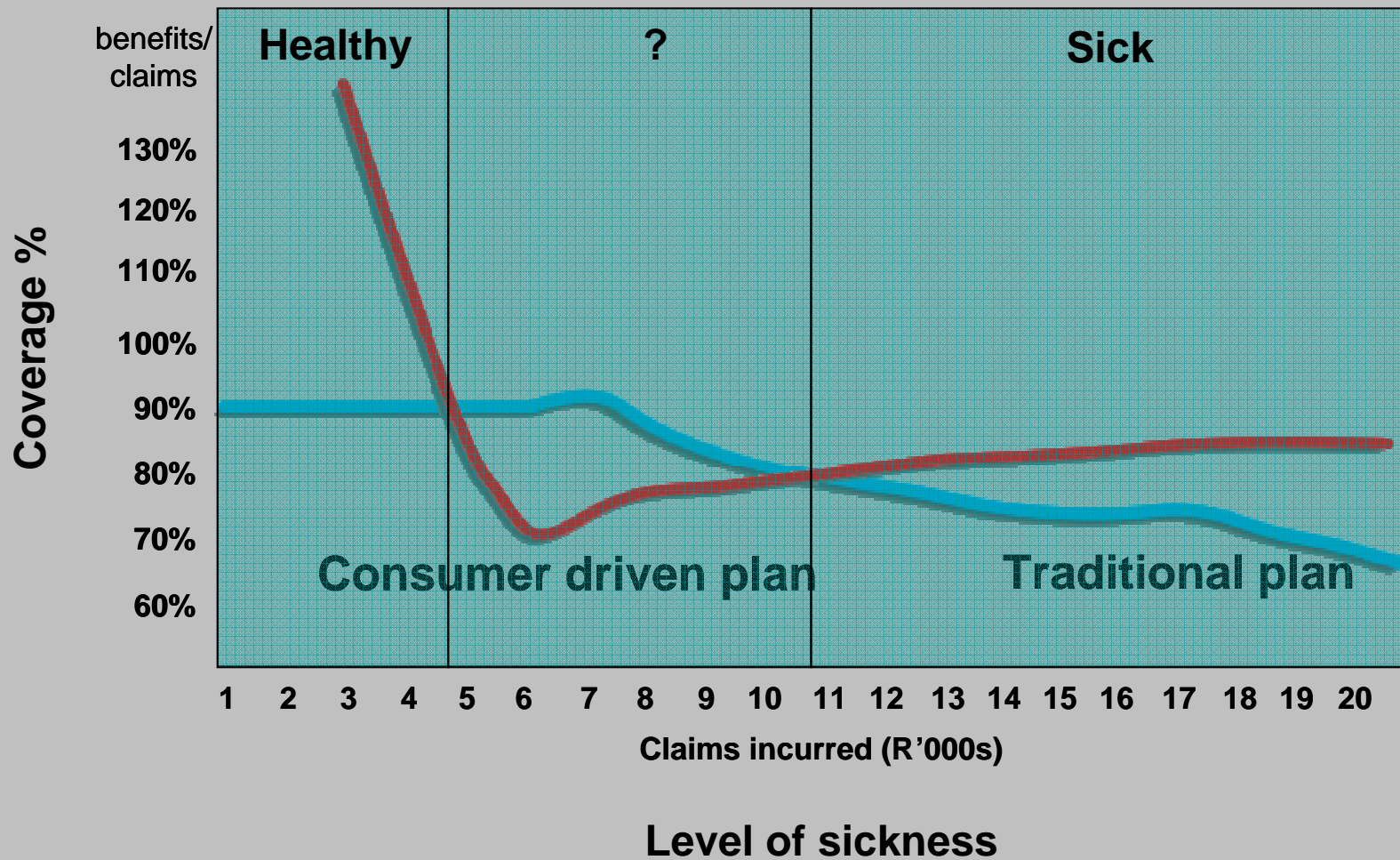
1. Are HSA's good for the healthy and sick?
2. Do people change their behaviour?
3. Is there an adverse effect on health?
4. Is there a point where HSA's result in systemic changes to the health system?

Are HSA's good for the healthy and sick?

Day-to-day expenditure analysis

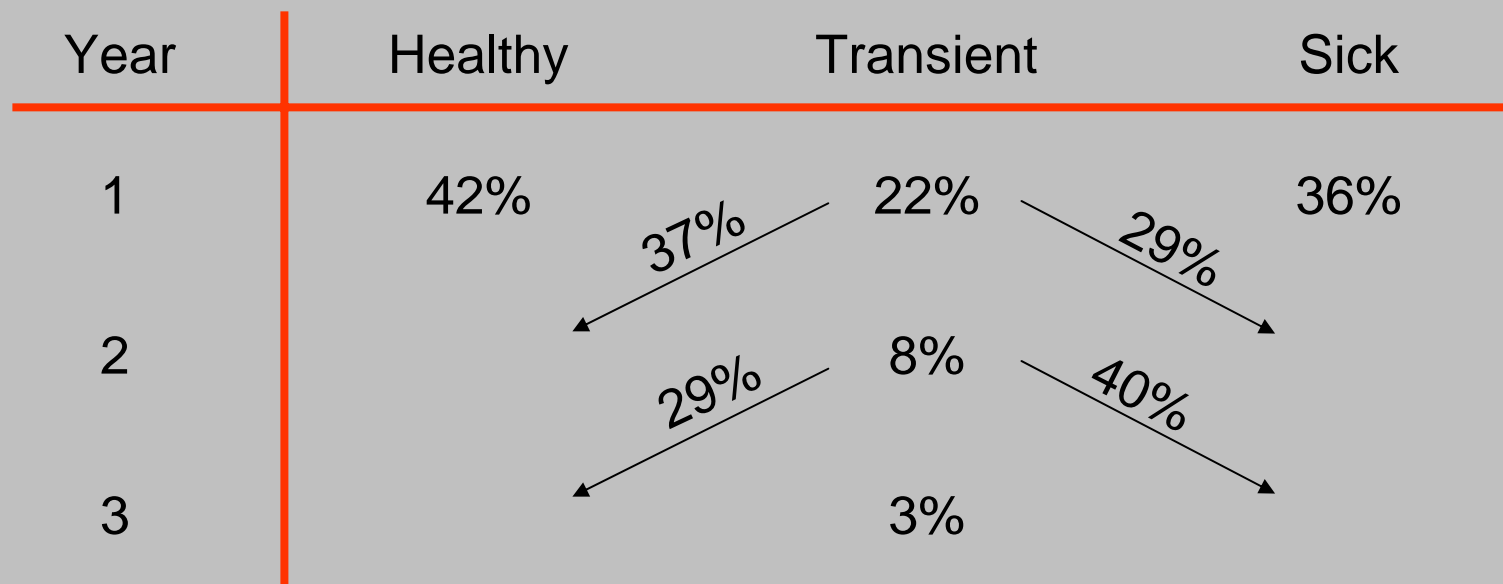


Day-to-day expenditure analysis



Impact on transient group

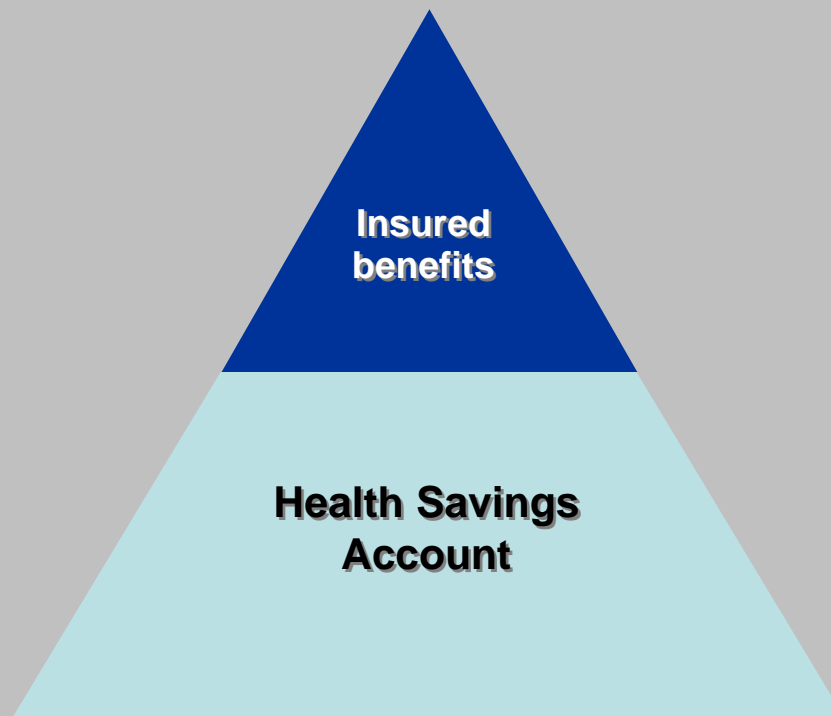
Longitudinal study of transient behaviour



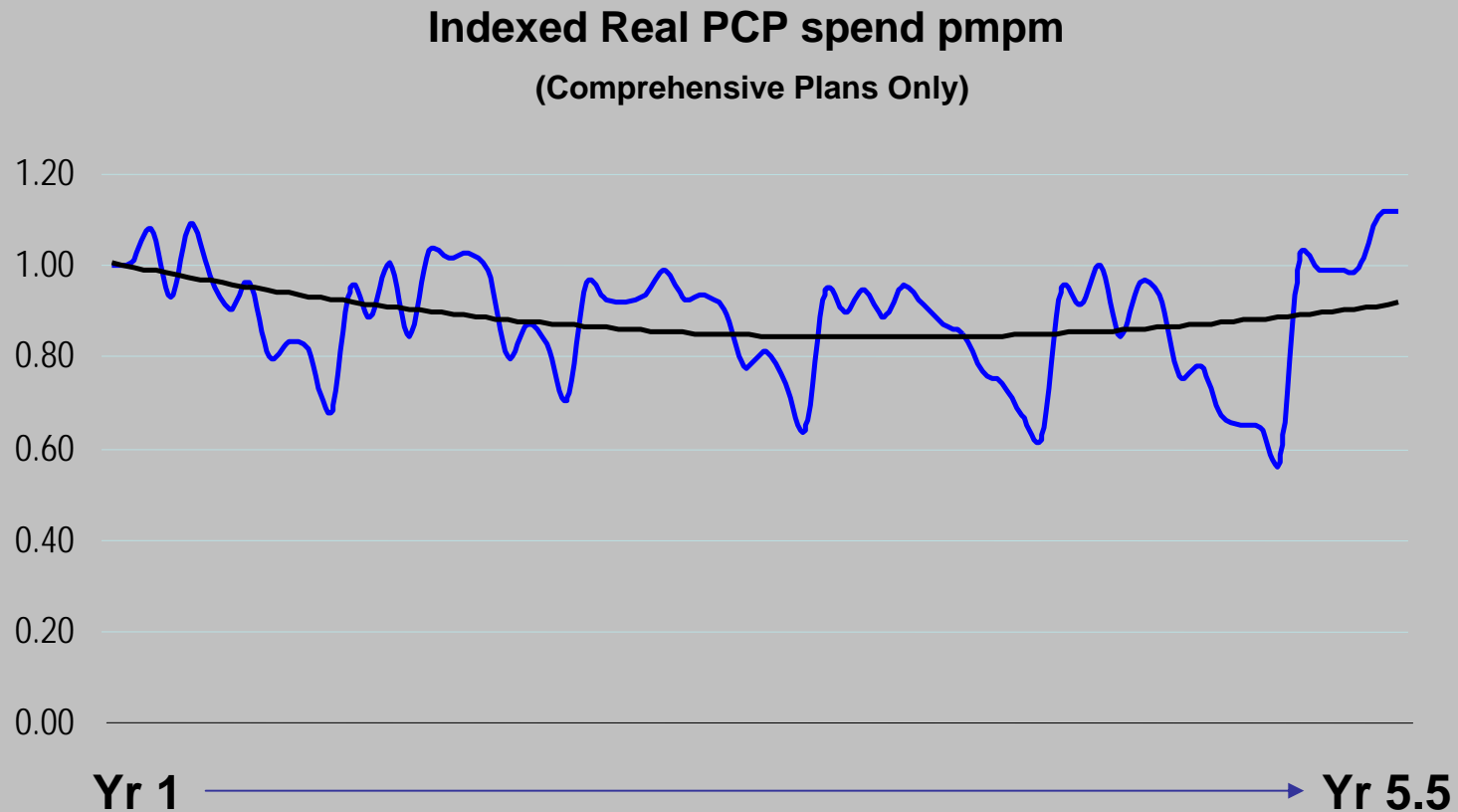
87% of initial transient group shift, meaning that the transient members are ultimately better off

Do people change their behaviour?

HSA limits consumer choice to areas where rational decisions can be made



Longitudinal study – Is the medical trend of services covered mainly by MSA's under control?



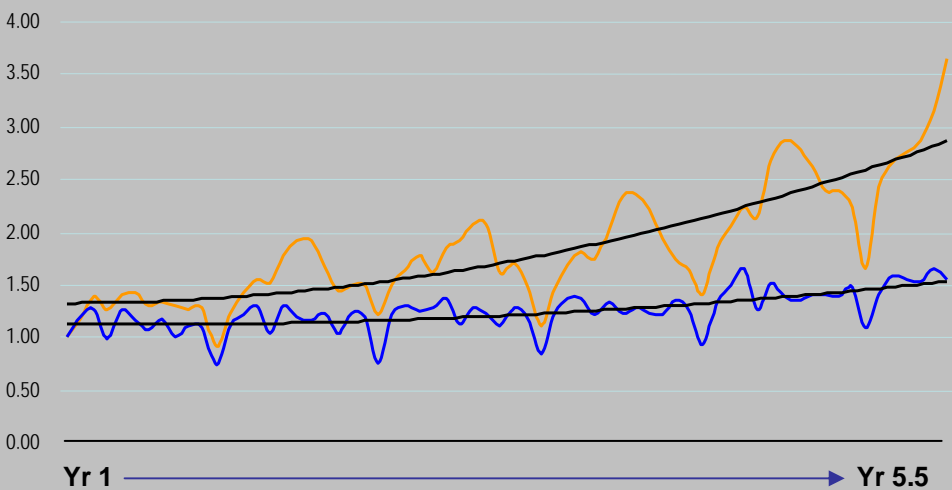
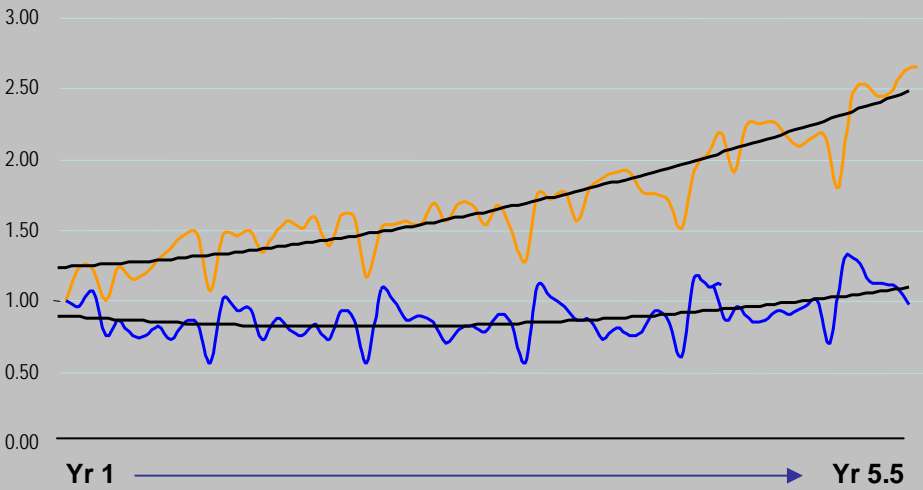
Total Exposure Considered: ±38.5m member months over 5.5 years

* Real rate calculated by adjusting for CPI inflation as per Statistics SA

Longitudinal study – Long-term medical trend of pathology and physical therapy services

Indexed Real Pathology spend pmpm (Comprehensive Plans Only)

Indexed Real Physical Therapy spend pmpm (Comprehensive Plans Only)

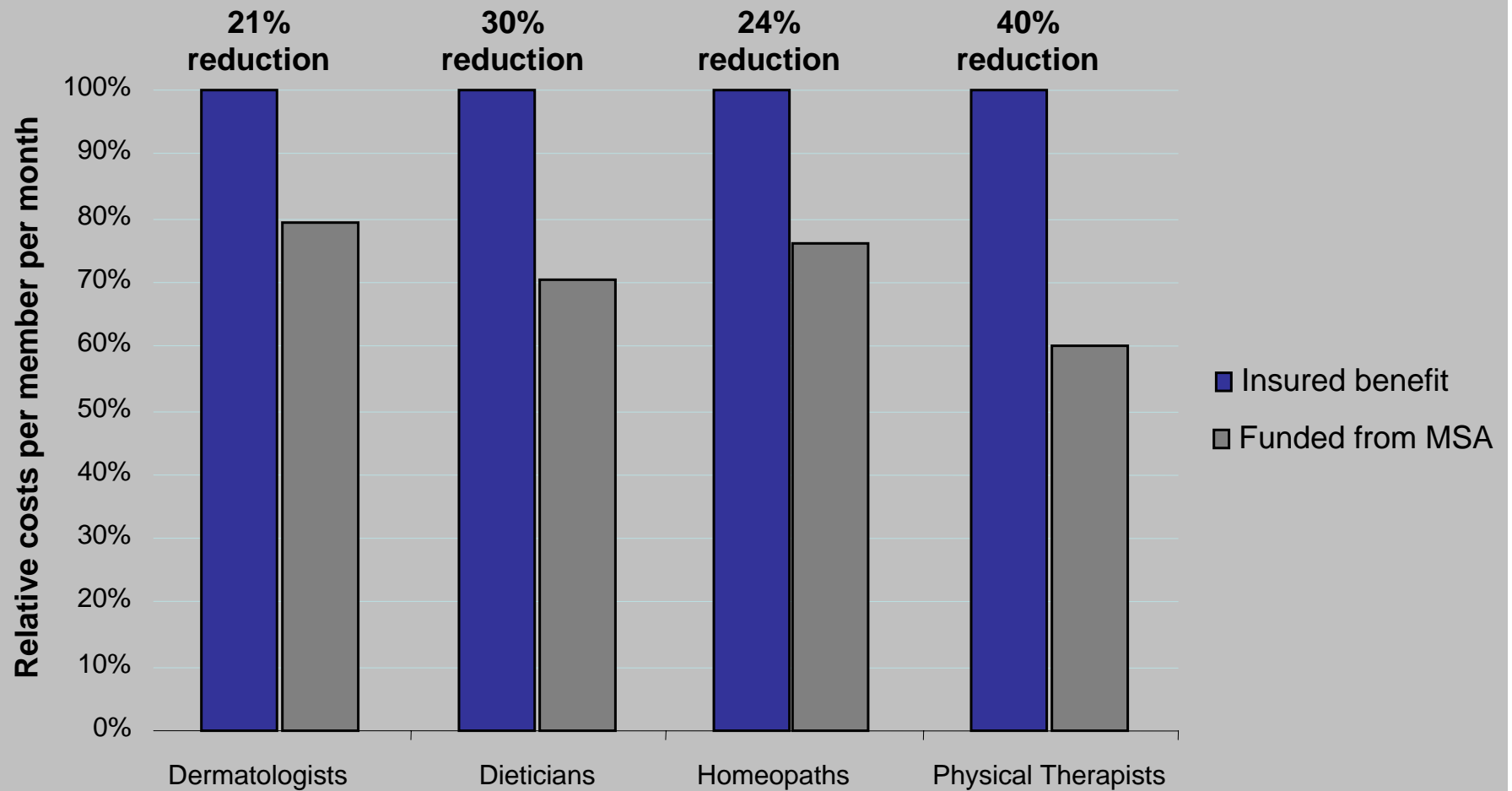


— In-Hospital — Out-of-Hospital

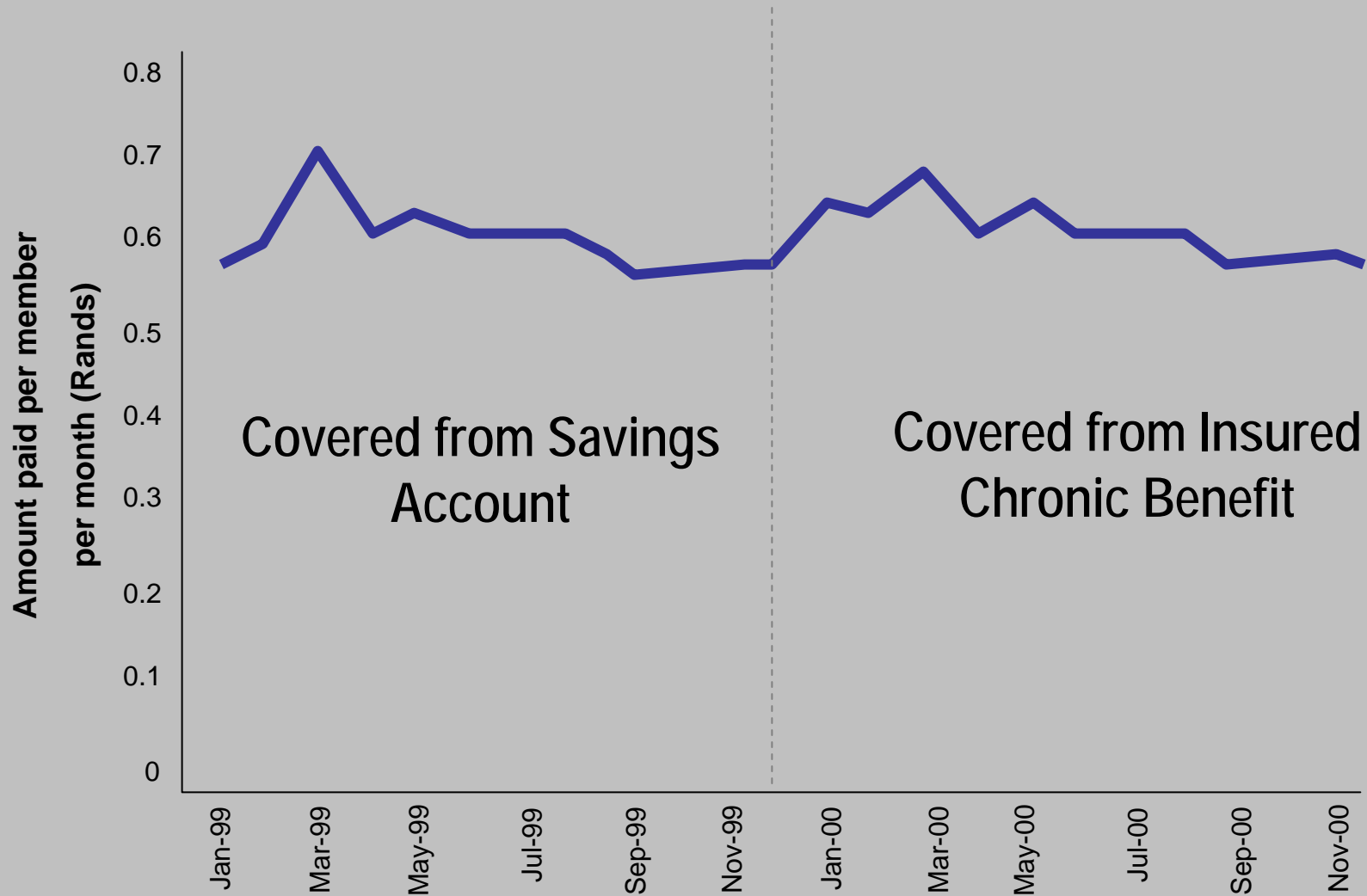
— In-Hospital — Out-of-Hospital

Total Exposure Considered: ±38.5m member months over 5.5 years
* Real rate calculated by adjusting for CPI inflation as per Statistics SA

21% to 40% increase in medical practitioner spend when funded from the insured benefit

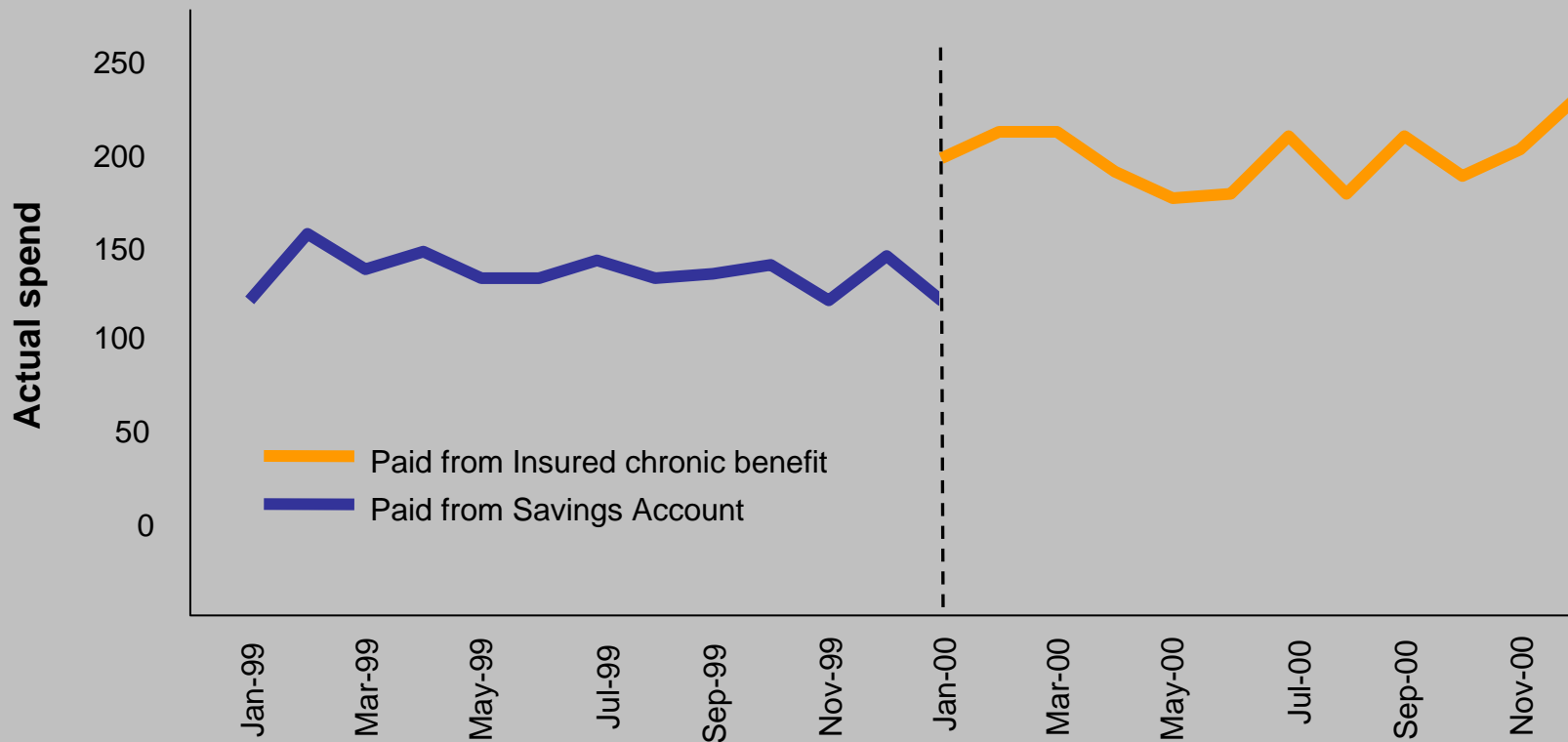


Case study 1: Impact on Hormone Replacement Therapy Spend



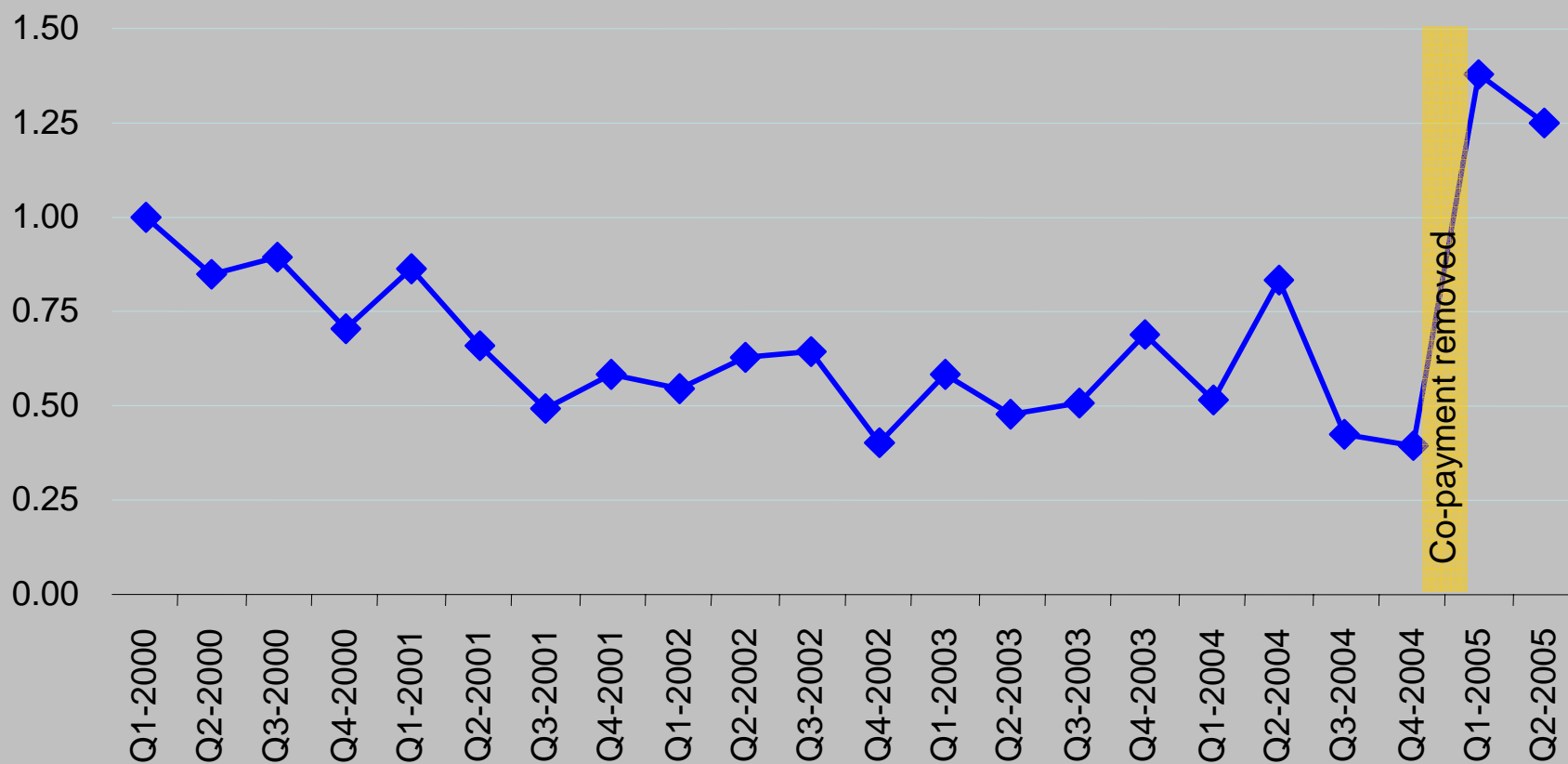
Case study 2: Impact on Attention Deficit Disorder Spend

Ritalin - average claims



Case study: Impact of consumer-driven healthcare in curbing in-hospital MRI utilisation

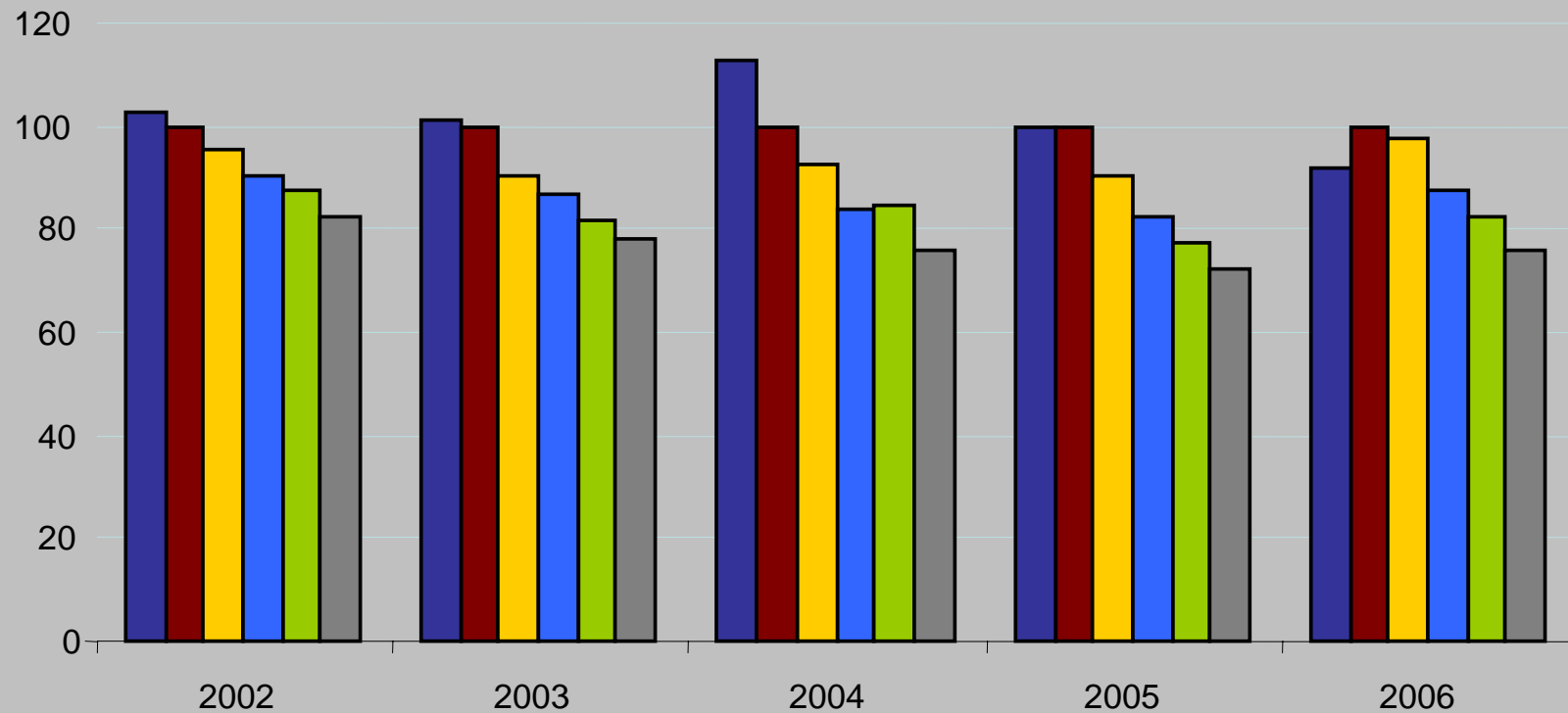
MRI - In Hospital Relative Utilisations



Is there an adverse effect on health?

Longitudinal study – Does the hospital admit rate increase with duration on the CDHC Plan?

Relative Hospital Events per 1000 members per month
(Comprehensive Plans, 2nd Year Claims = 100)



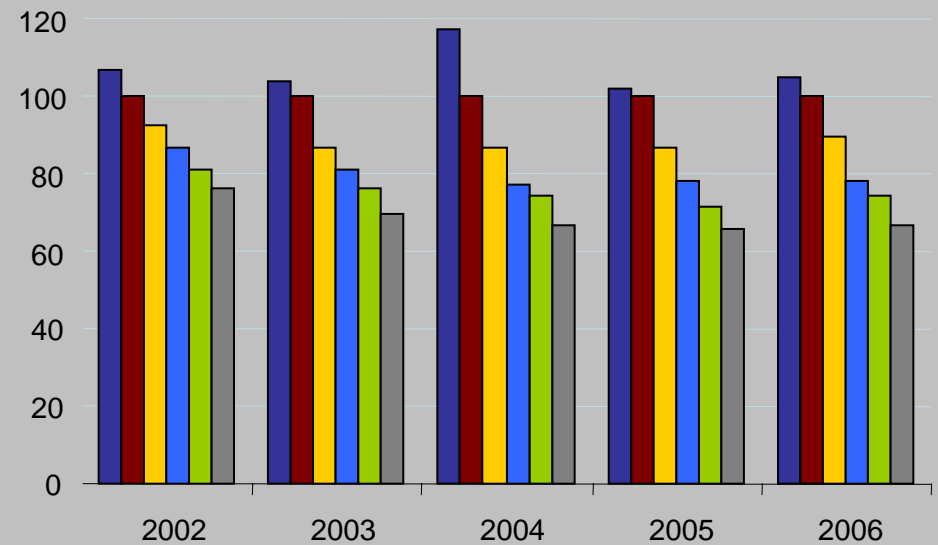
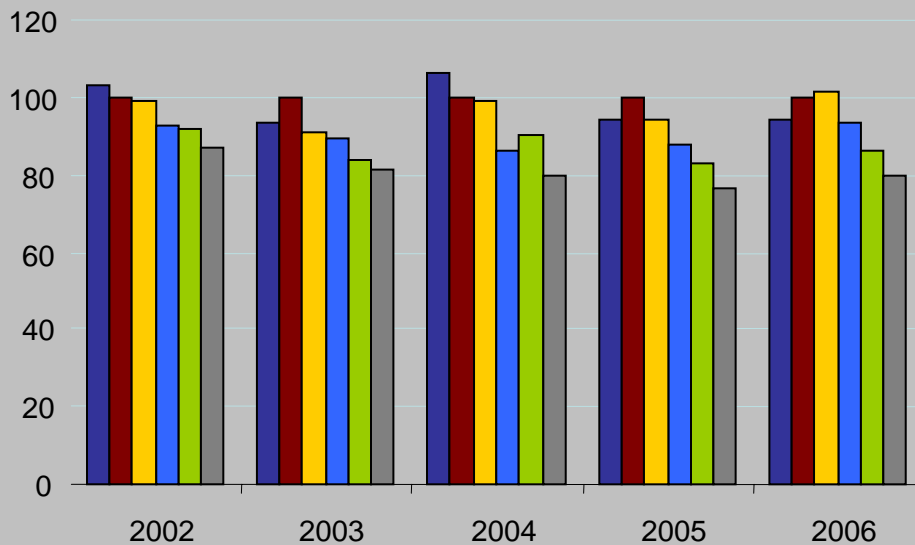
■ Yr of joining ■ 2nd calendar year ■ 3rd calendar year ■ 4th calendar year ■ 5th calendar year ■ > 5 calendar years

No evidence of negative longer-term health implications

Longitudinal study – Hospital admit rates for chronic and non-chronic members

Admit Rate for Comprehensive plans by Duration - Chronic

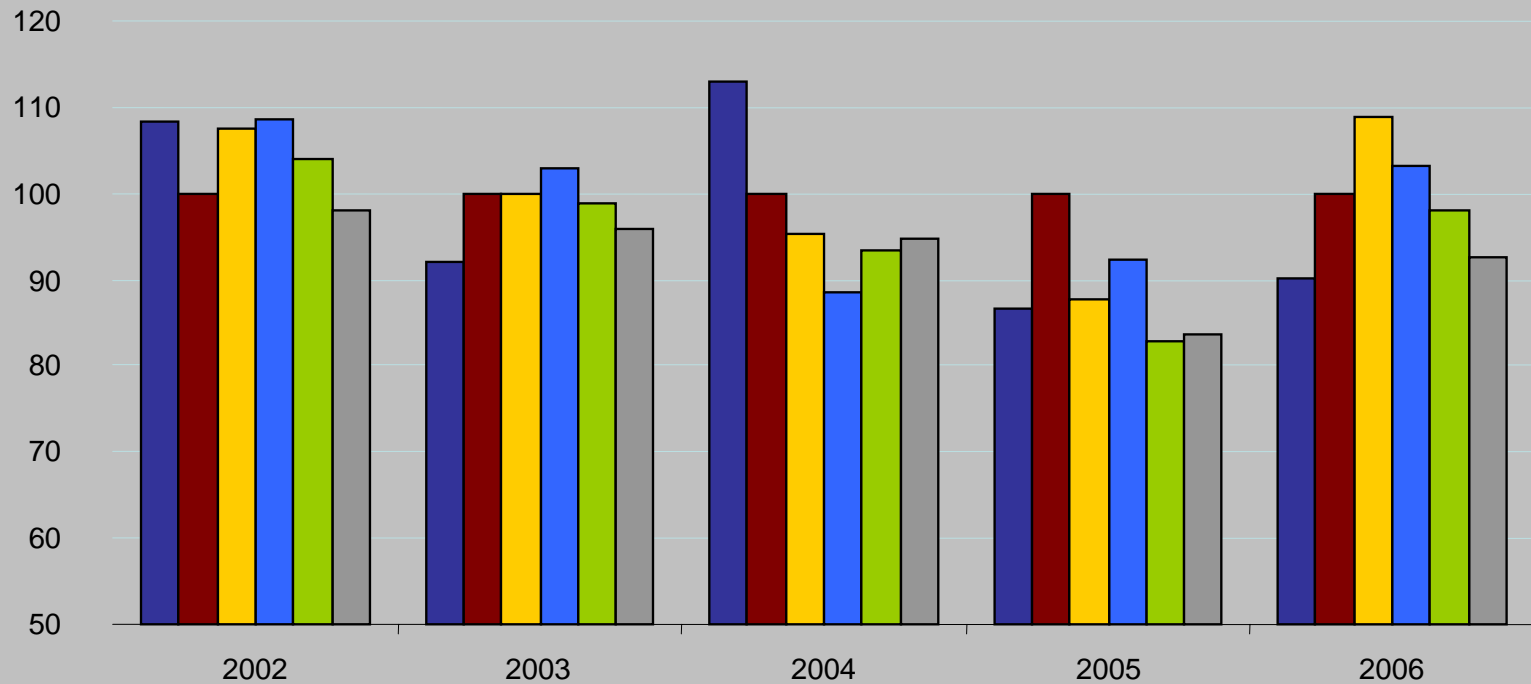
Admit Rate for Comprehensive plans by Duration – Non-chronic



■ Yr of joining
 ■ 2nd calendar year
 ■ 3rd calendar year
 ■ 4th calendar year
 ■ 5th calendar year
 ■ > 5 calendar years

Longitudinal study – Hospital admit rates for diabetic members

Admit Rate For Diabetic Members

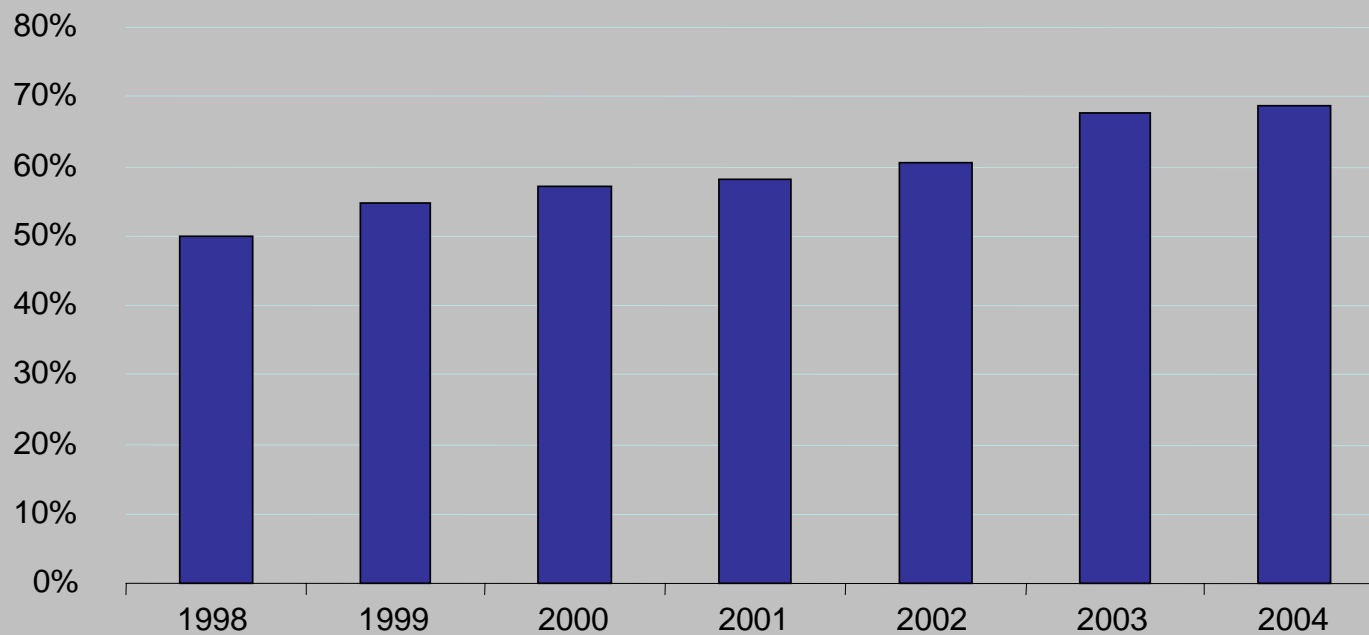


■ Yr of joining ■ 2nd calendar year ■ 3rd calendar year ■ 4th calendar year ■ 5th calendar year ■ > 5 calendar years

Is there a point where HSA's result in systemic changes to the health system?

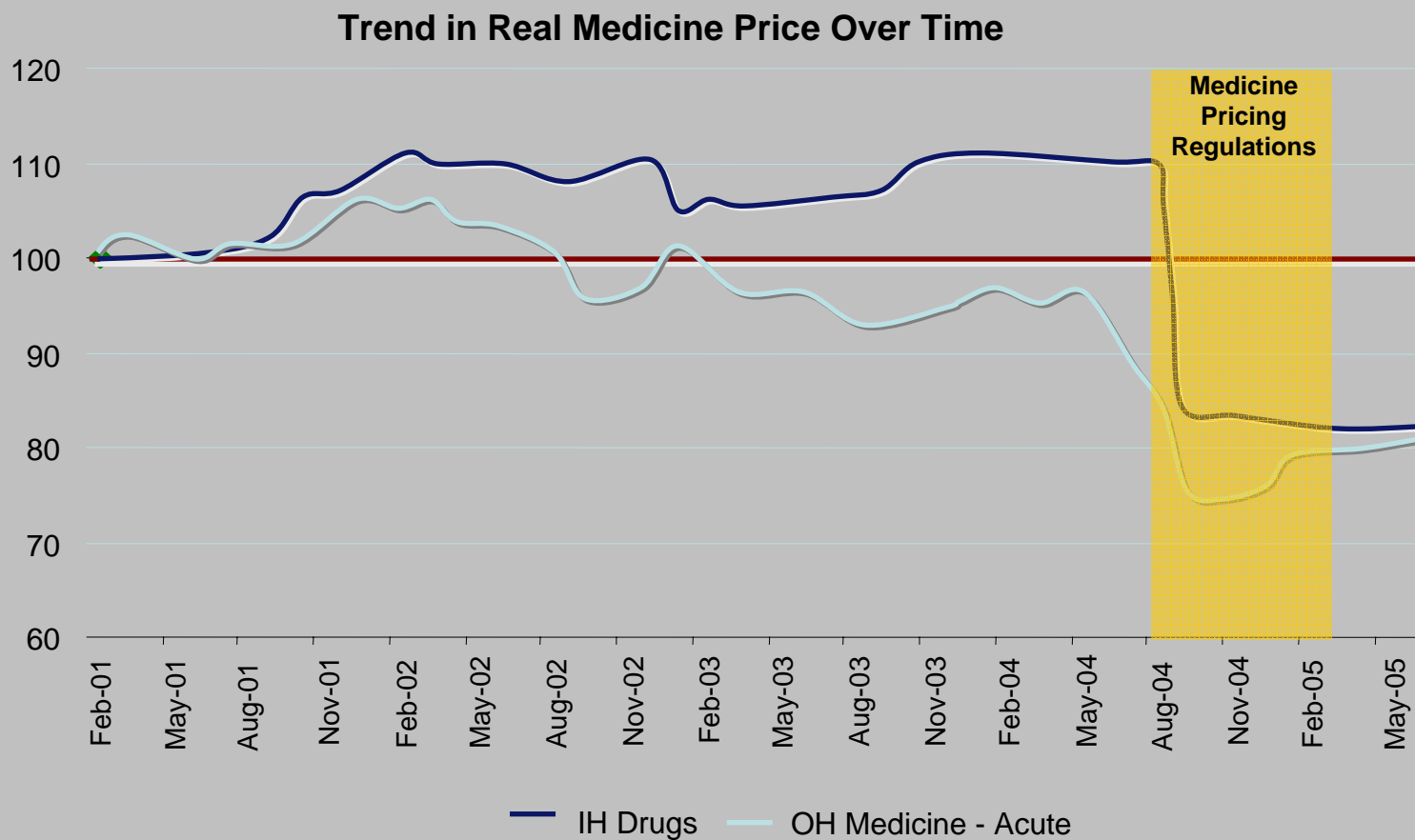
Penetration of plans with HSA's

Estimated market share of plans with HSAs *



*Estimated using HSA premiums as % of Total as per the Council of Medical Schemes Reports

Growth in medicine prices – consumers are able to influence price



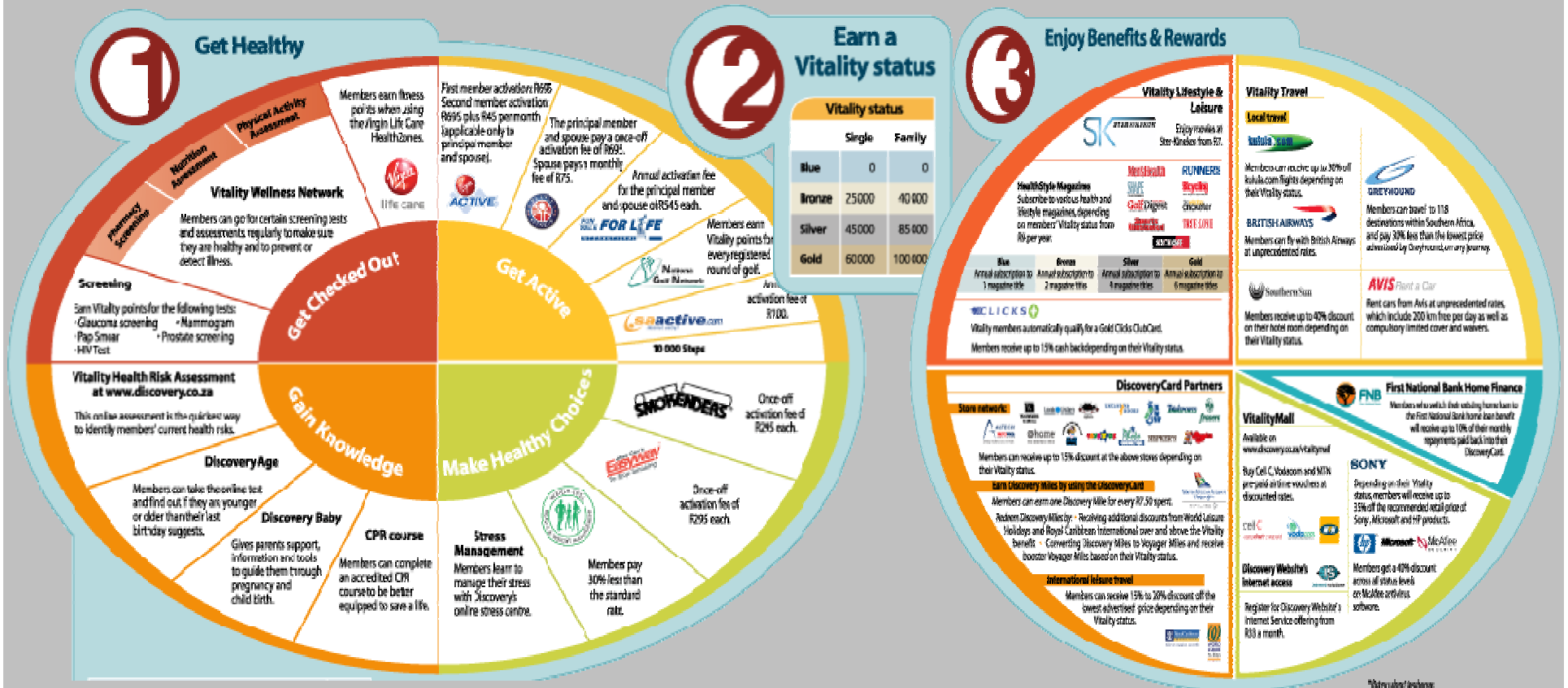
The effect of Health Savings Accounts

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The effect of consumer-induced preventative care

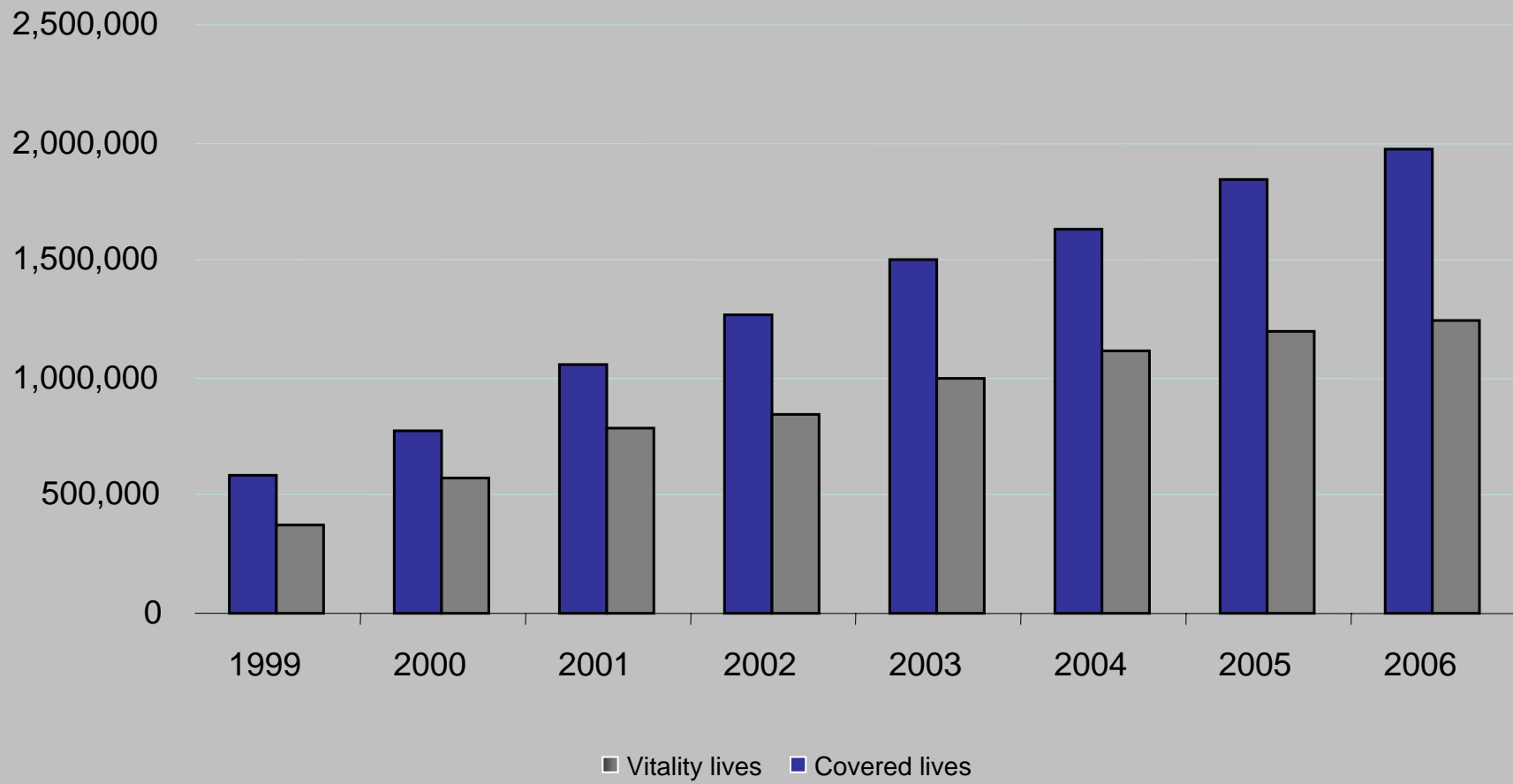
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2. Does a properly structured preventative care program impact on healthcare costs?
3. Is selection more important than behaviour?

Structure of the Vitality Wellness program

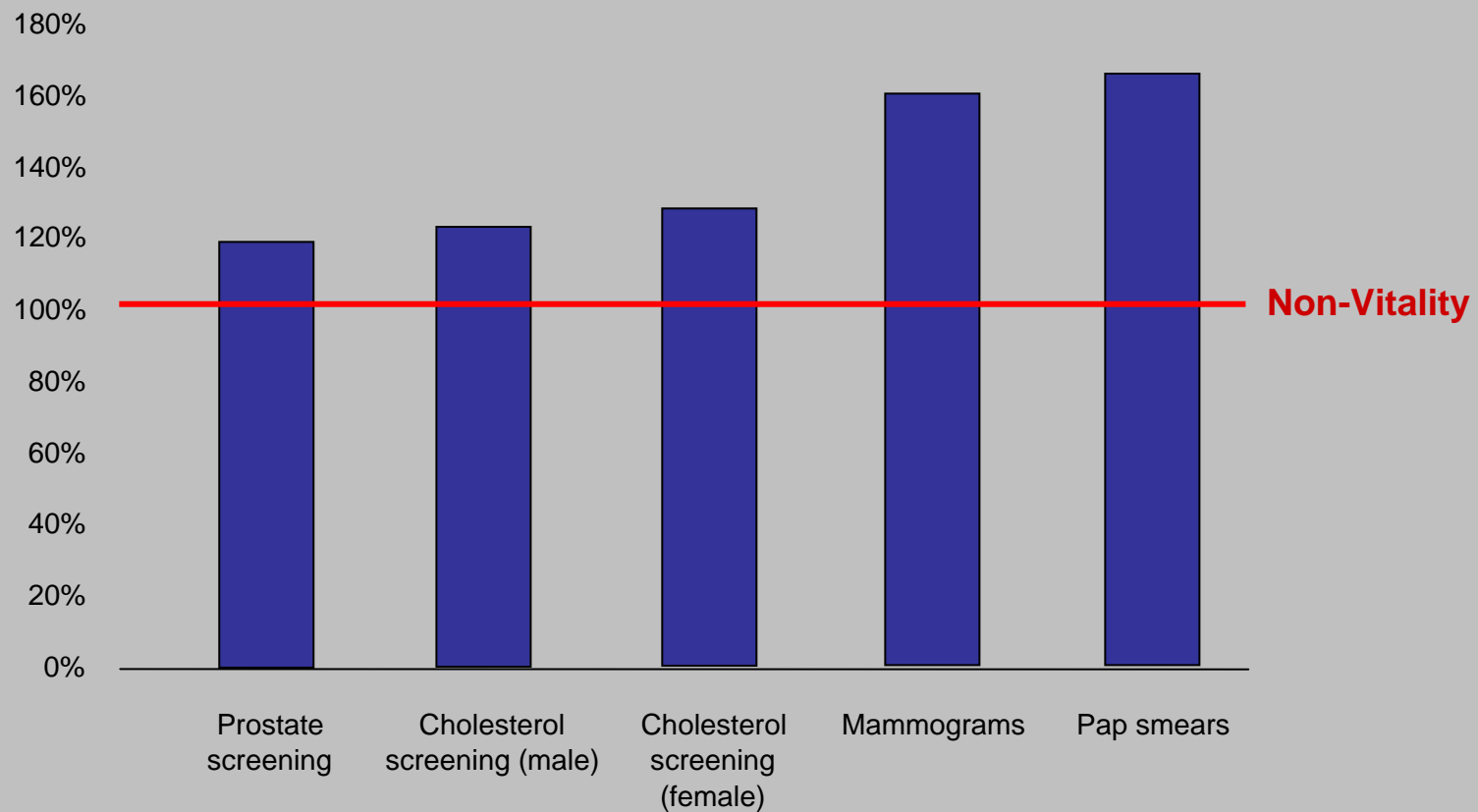


Do people respond to incentives in
preventative care?

Vitality membership exceeds 1.2m members

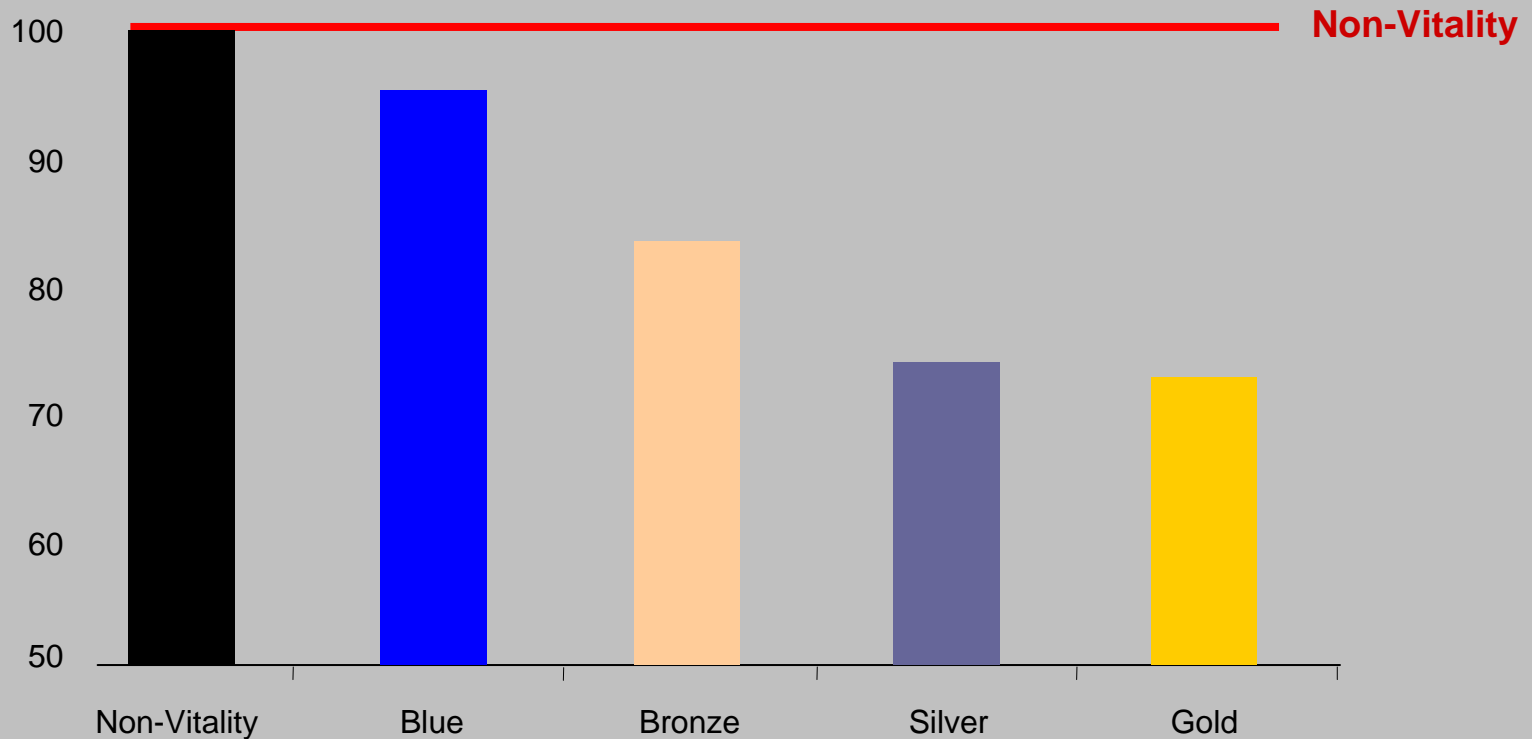


Vitality has materially impacted the quantum of preventative care sought

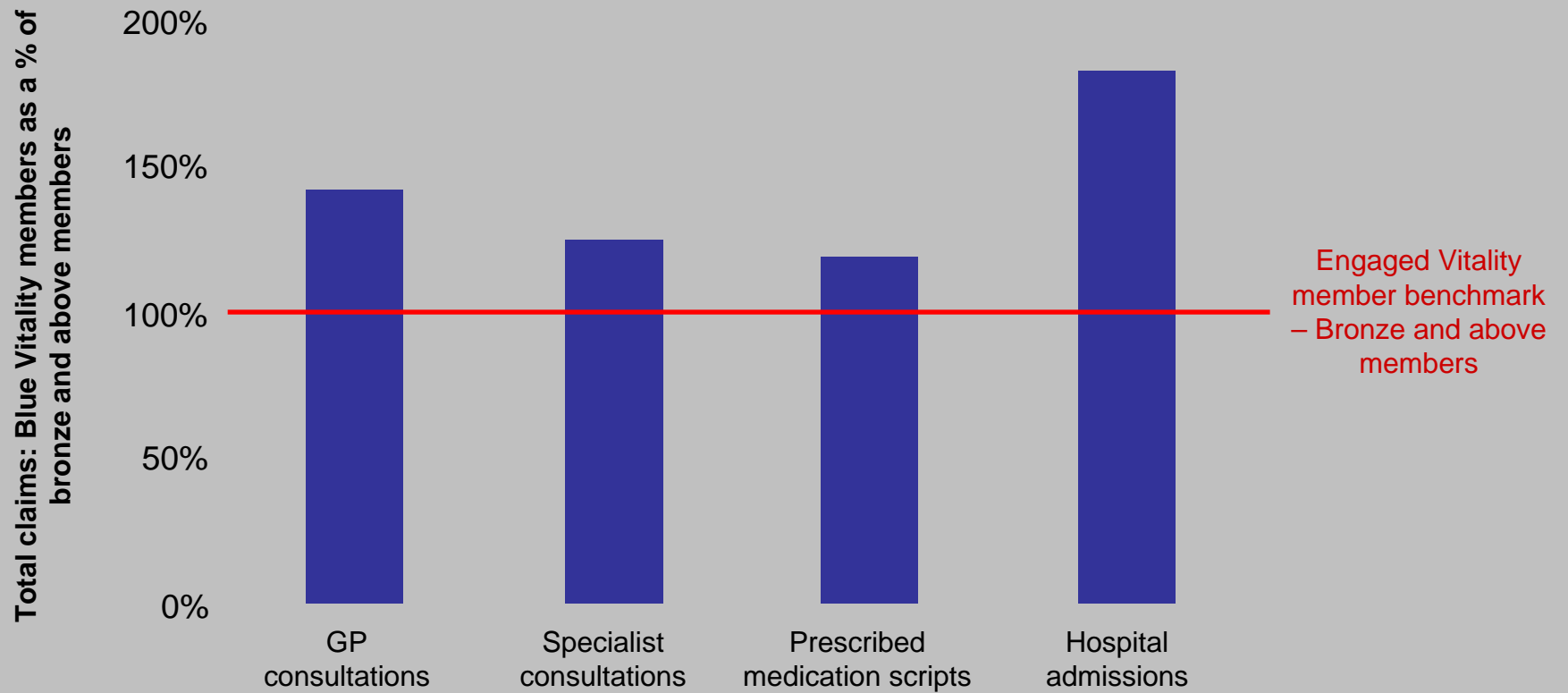


Does a properly structured preventative care program impact on healthcare costs?

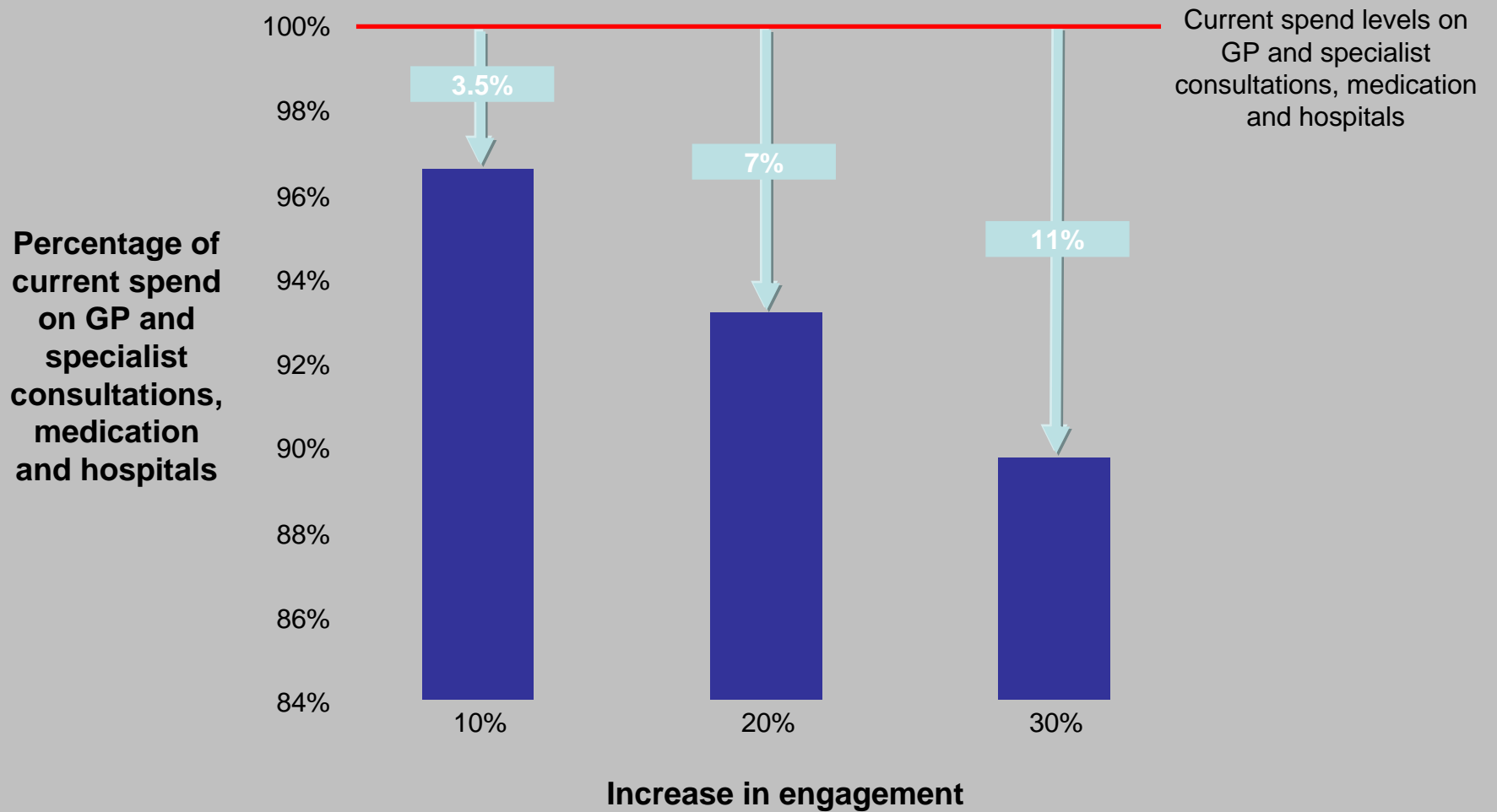
Do members at higher statuses have lower claims? *Correlation between Vitality Status and hospital admissions*



How Big are the Savings?



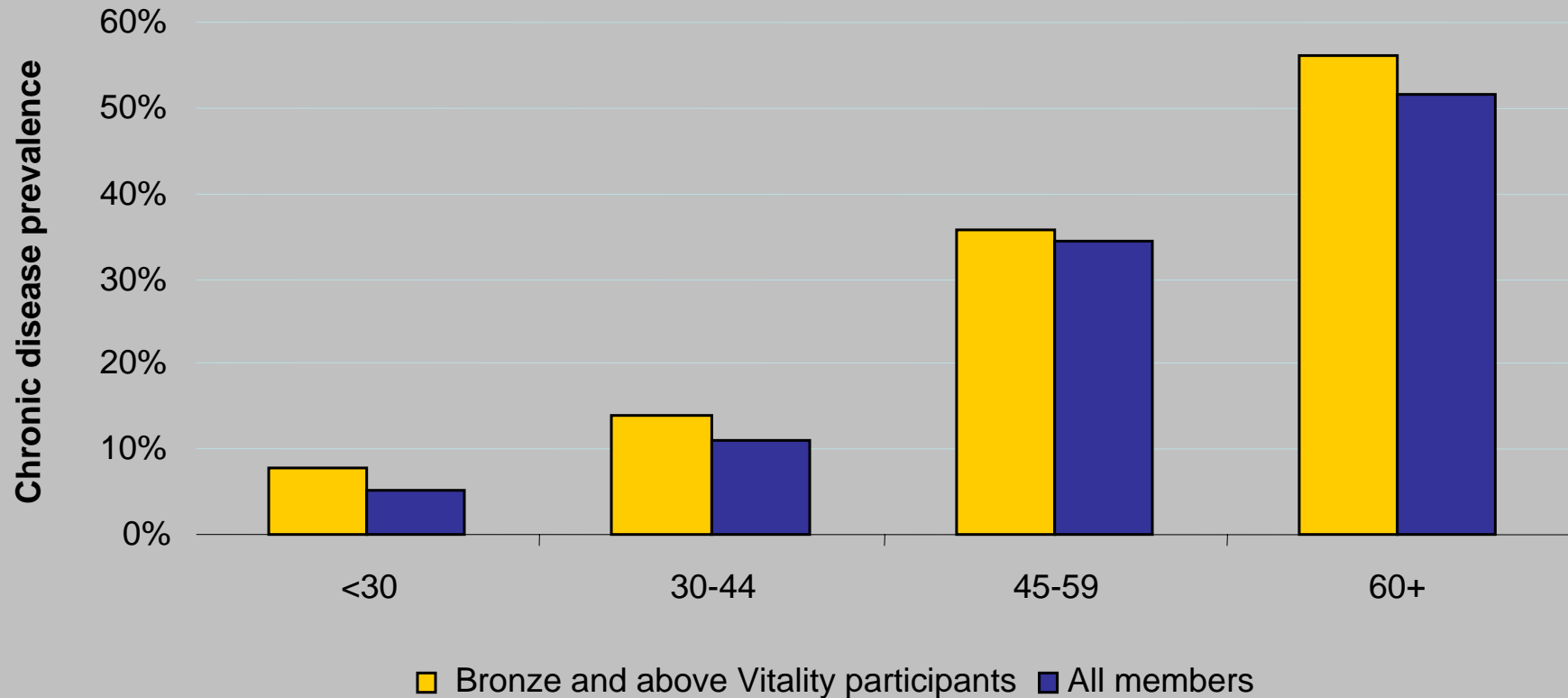
How Big are the Savings?



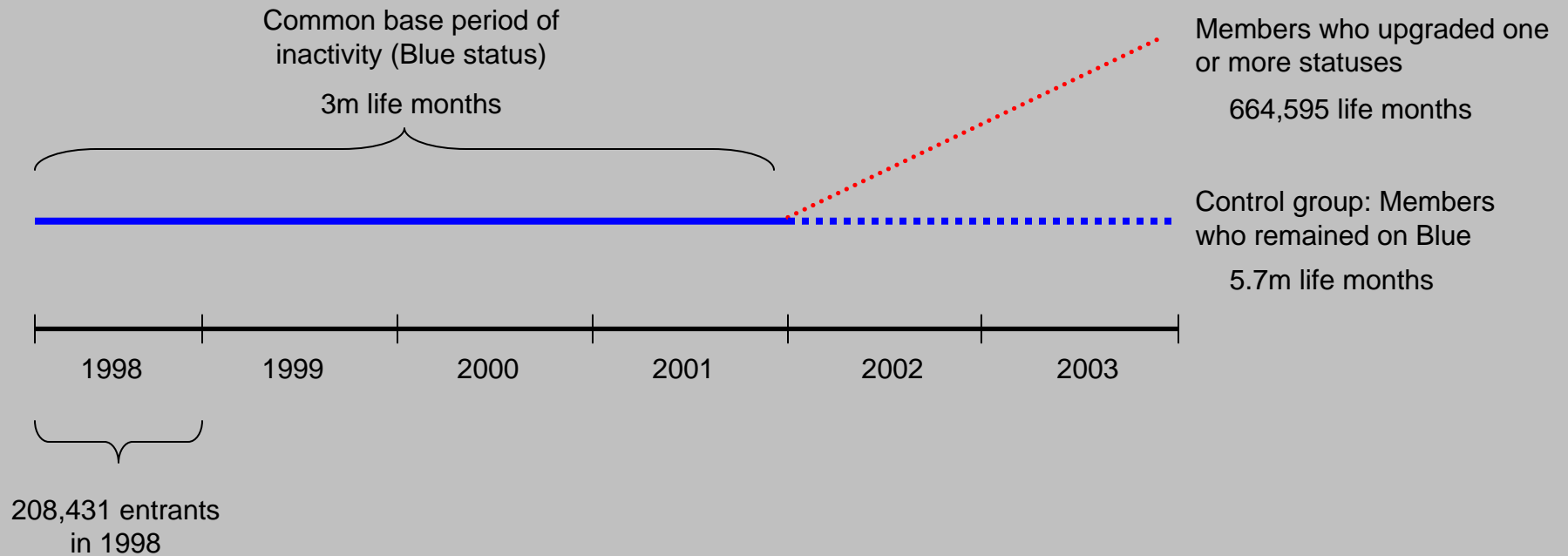
Is selection more important than behaviour?

Higher Vitality engagement amongst members with chronic illness

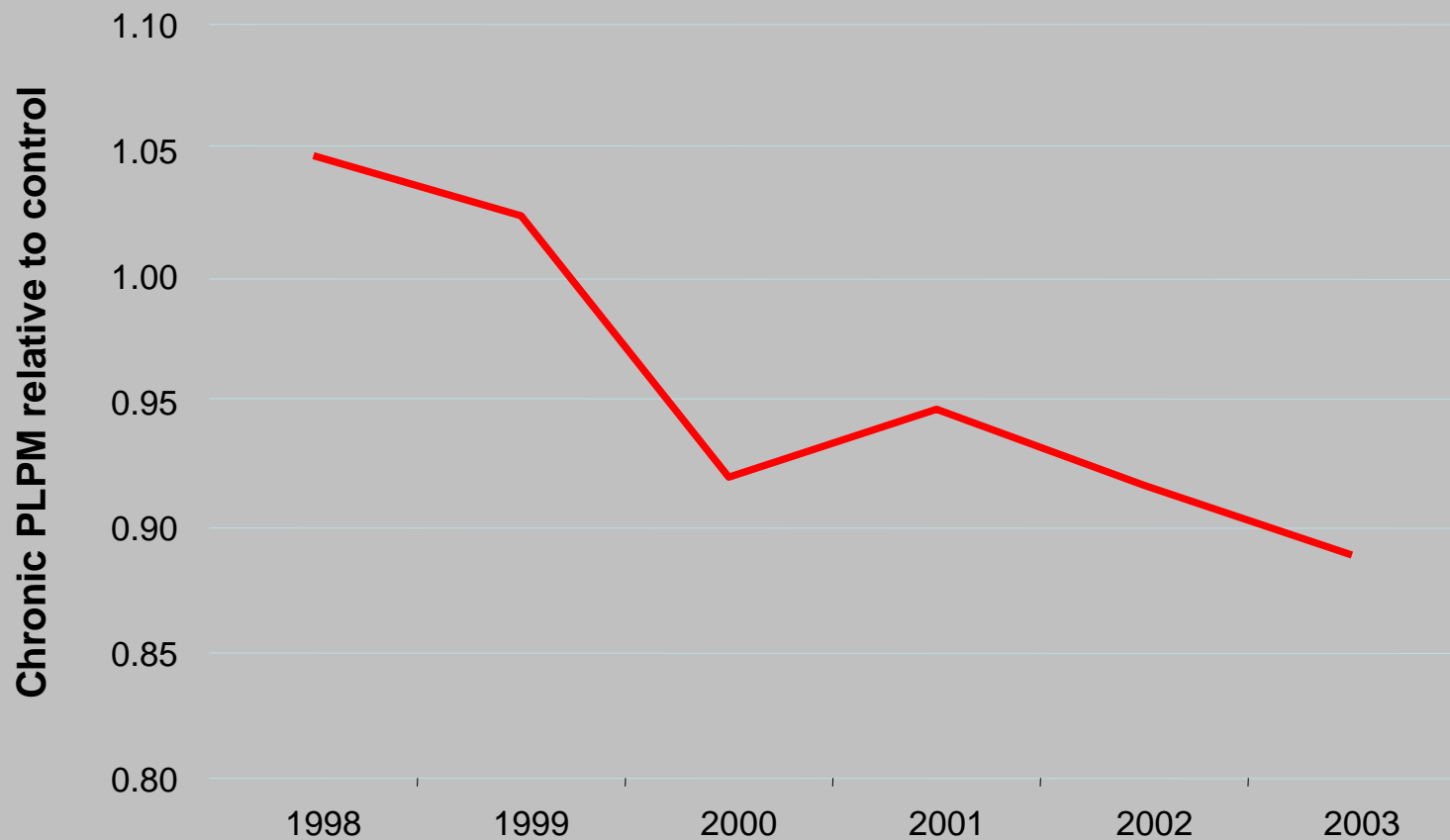
Chronic condition rate – family size of 3



Is the effect of moving through the statuses that results in lower claims? *Longitudinal comparison of common group who subsequently diverged*

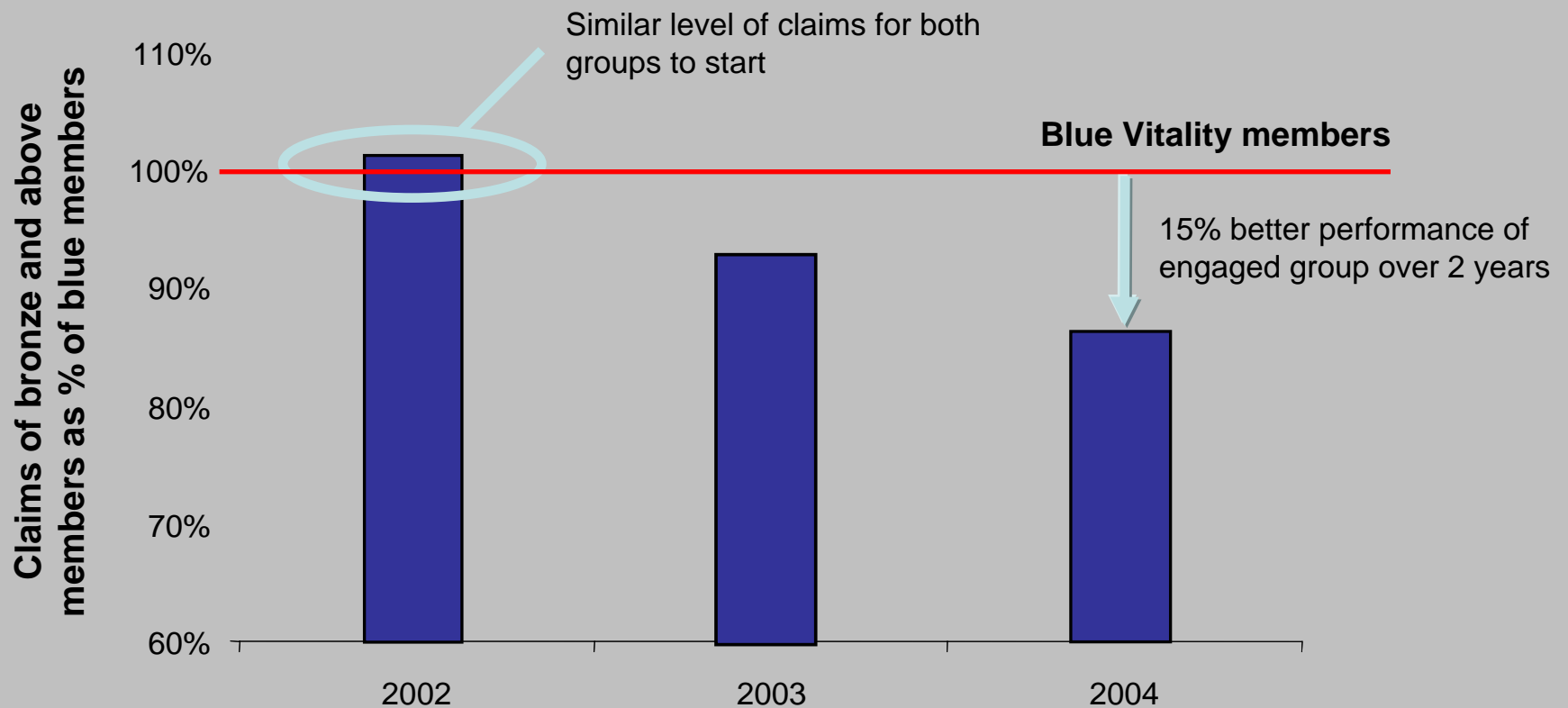


Is the effect of moving through the statuses that results in lower claims? *Longitudinal comparison of common group who subsequently diverged*



* Those on Blue 1998-2001 who subsequently changed status relative to those who remained on Blue

Is it the effect of moving through the statuses that results in lower claims? *Milliman study confirms the benefits after allowing for selection*



423,610 members tracked over 3 years from 2002 to 2004; 330,000 Vitality members considered

The effect of consumer-induced preventative care

1. Do people respond to incentives in preventative care?
2. Does a properly structured preventative care program impact on healthcare costs?
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Key questions

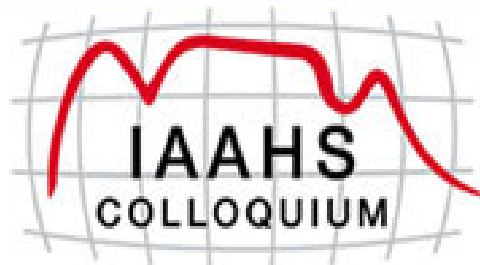
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Questions?



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