NAMAF Workshop

Risk Pooling Principles

Jac Schreuder – 3ONE Consulting Actuaries

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Risk pooling in the medical scheme environment

"…accumulation and management of revenues in such a way as to ensure that the risk of having to pay for healthcare is borne by all members within the pool, not by each contributor individually…" – The World Health Organisation (WHO)

Adequate risk pooling should lead to:

- Adequate cross-subsidisation from low-risk to high-risk
- Financial protection in adverse events
- Lowered administration costs
- Protected reserves
- Financial stability
- Increased benefits
- Low contribution increases

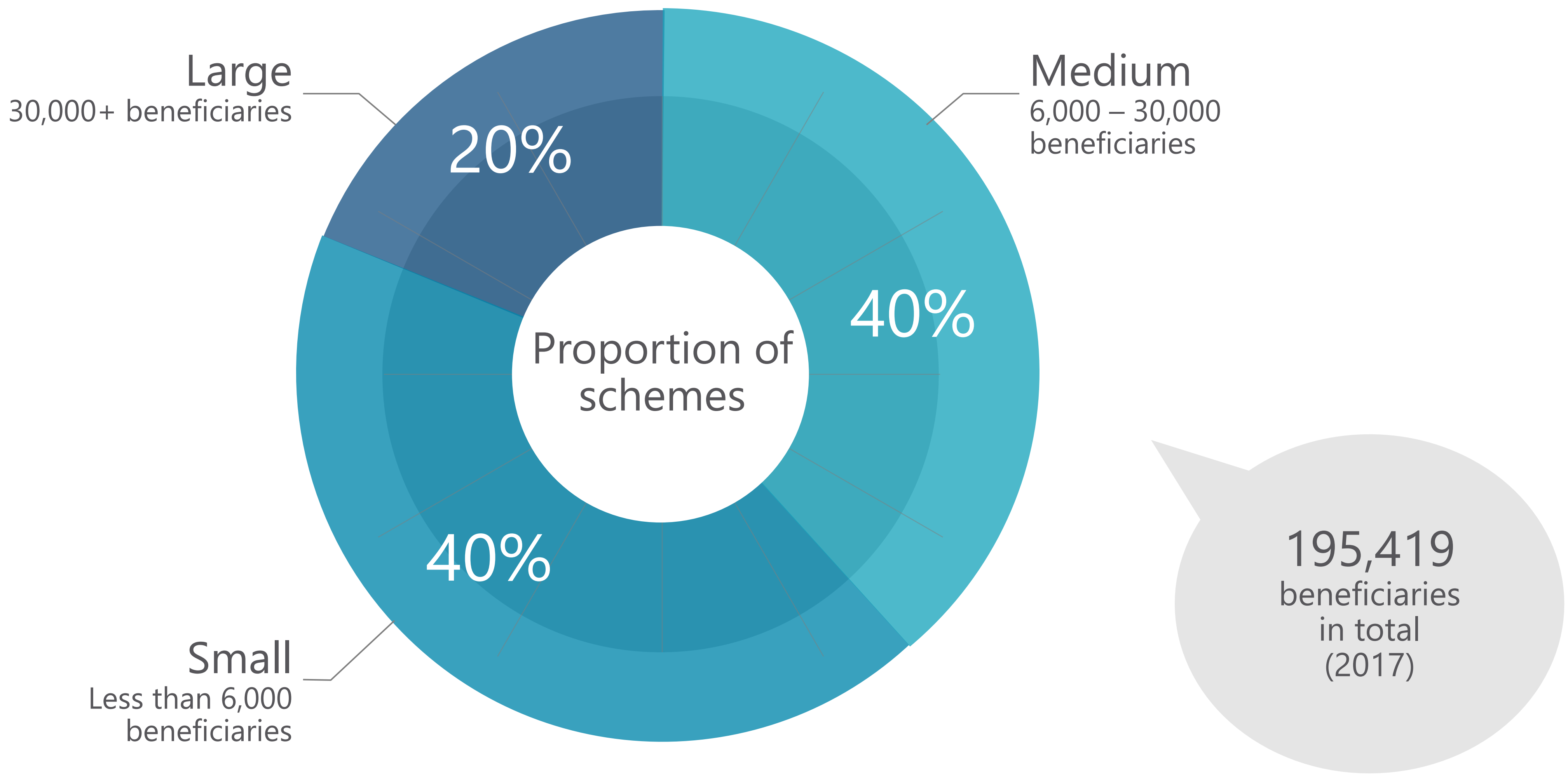
Ideal pool size for claim stability

Type of risk	Minimum number of lives
Primary Care Physician	500 – 1,000
All Physician Services	20,000 – 30,000
Hospital Services	60,000 – 100,000
All risk	20,000+

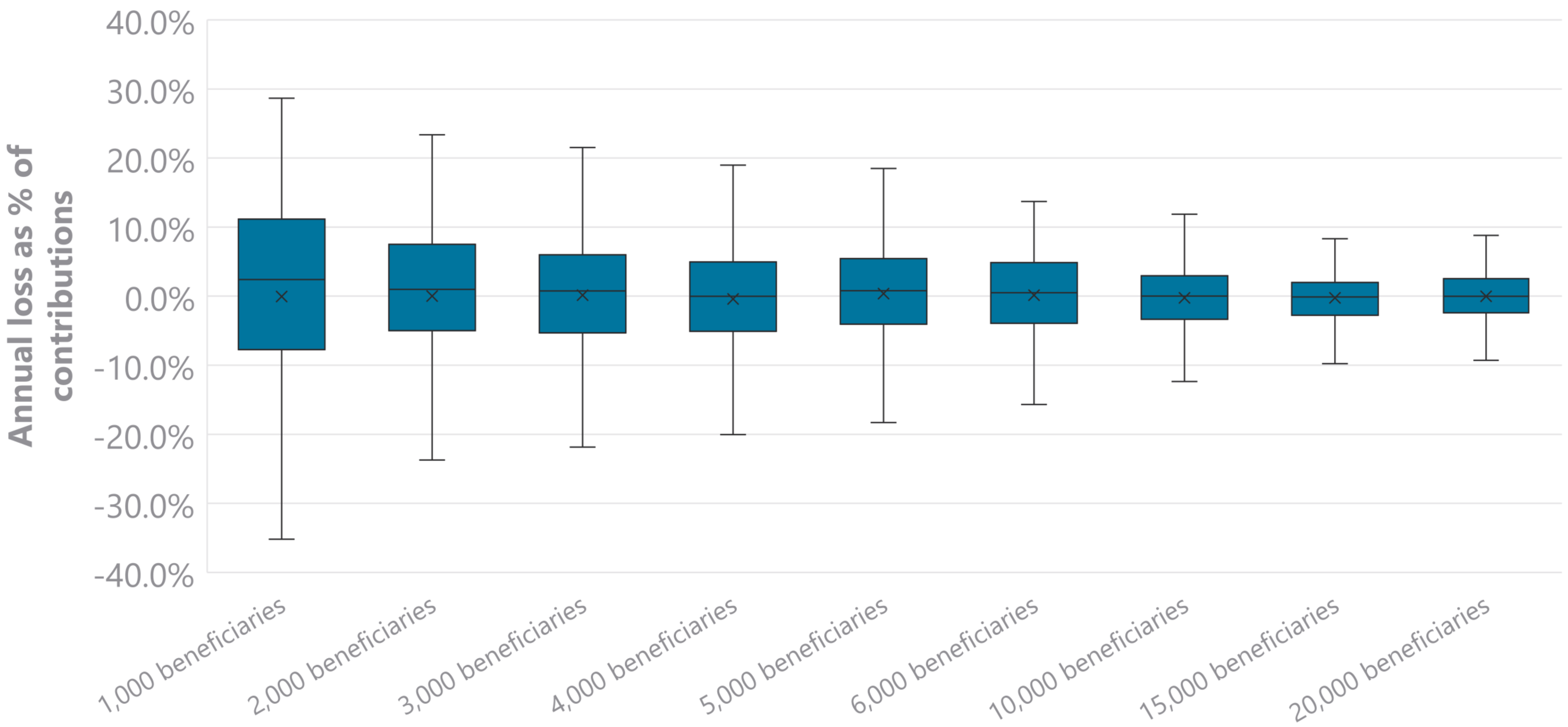
Source: Milliman Study

Risk pools **fragmented** across schemes and options within schemes

Scheme size distribution across Namibian industry



Loss likelihood based on Scheme size



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Solvency

Scenario	1 in 100 protection	1 in 200 protection	Number of Namibian schemes
1,000 beneficiaries	62.0%	69.3%	4
2,000 beneficiaries	41.1%	44.3%	
3,000 beneficiaries	33.7%	34.0%	
4,000 beneficiaries	31.3%	32.3%	
5,000 beneficiaries	26.5%	28.3%	
6,000 beneficiaries	25.1%	29.4%	4
10,000 beneficiaries	21.6%	22.1%	
15,000 beneficiaries	19.3%	19.8%	
>30,000 beneficiaries	17.9%	18.4%	2

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Components of medical inflation

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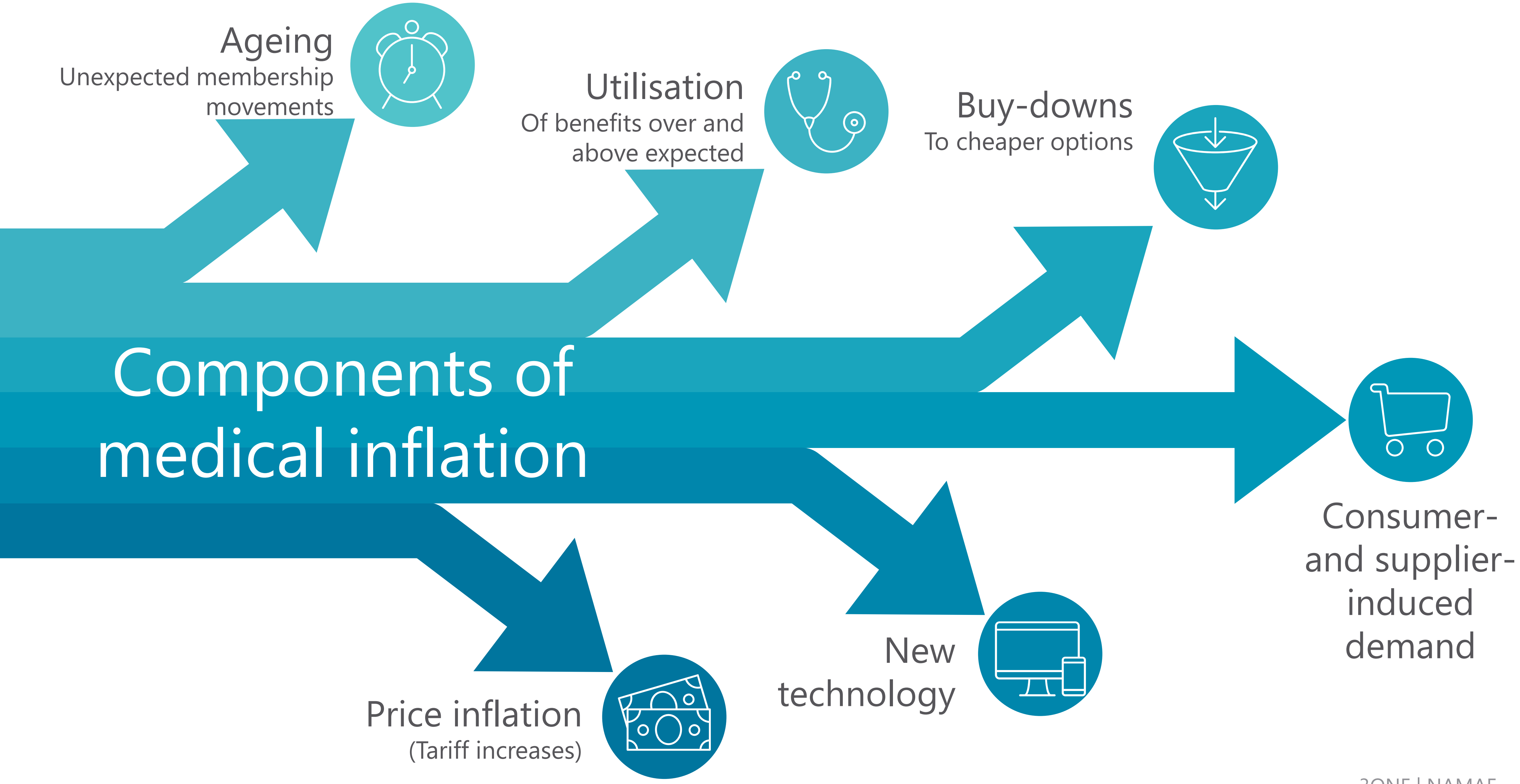
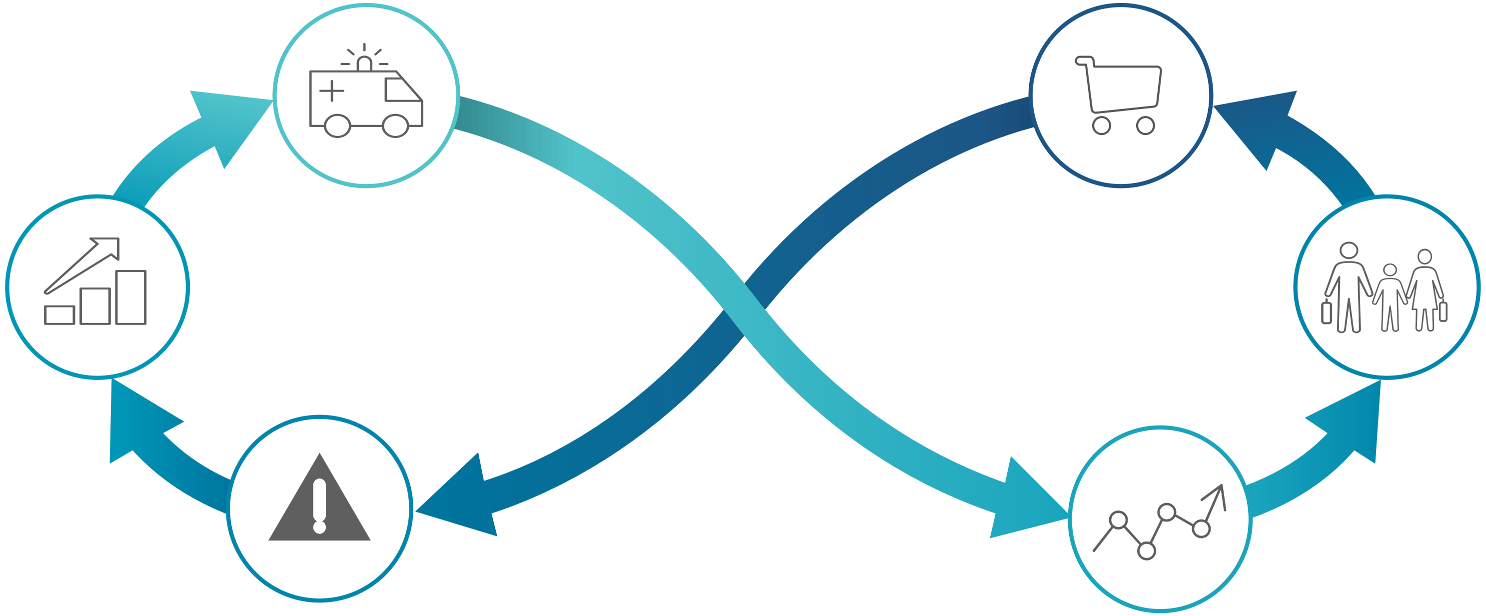

Components of medical inflation
Ageing
Unexpected membership movements
Utilisation
Of benefits over and above expected
Buy-downs
To cheaper options
Consumer- and supplier-induced demand
New technology
Price inflation
(Tariff increases)

Why is it important to control inflation?

Actuarial death spiral



Claims increase
Due to uncontrollable inflation – from older and sicker members + external factors

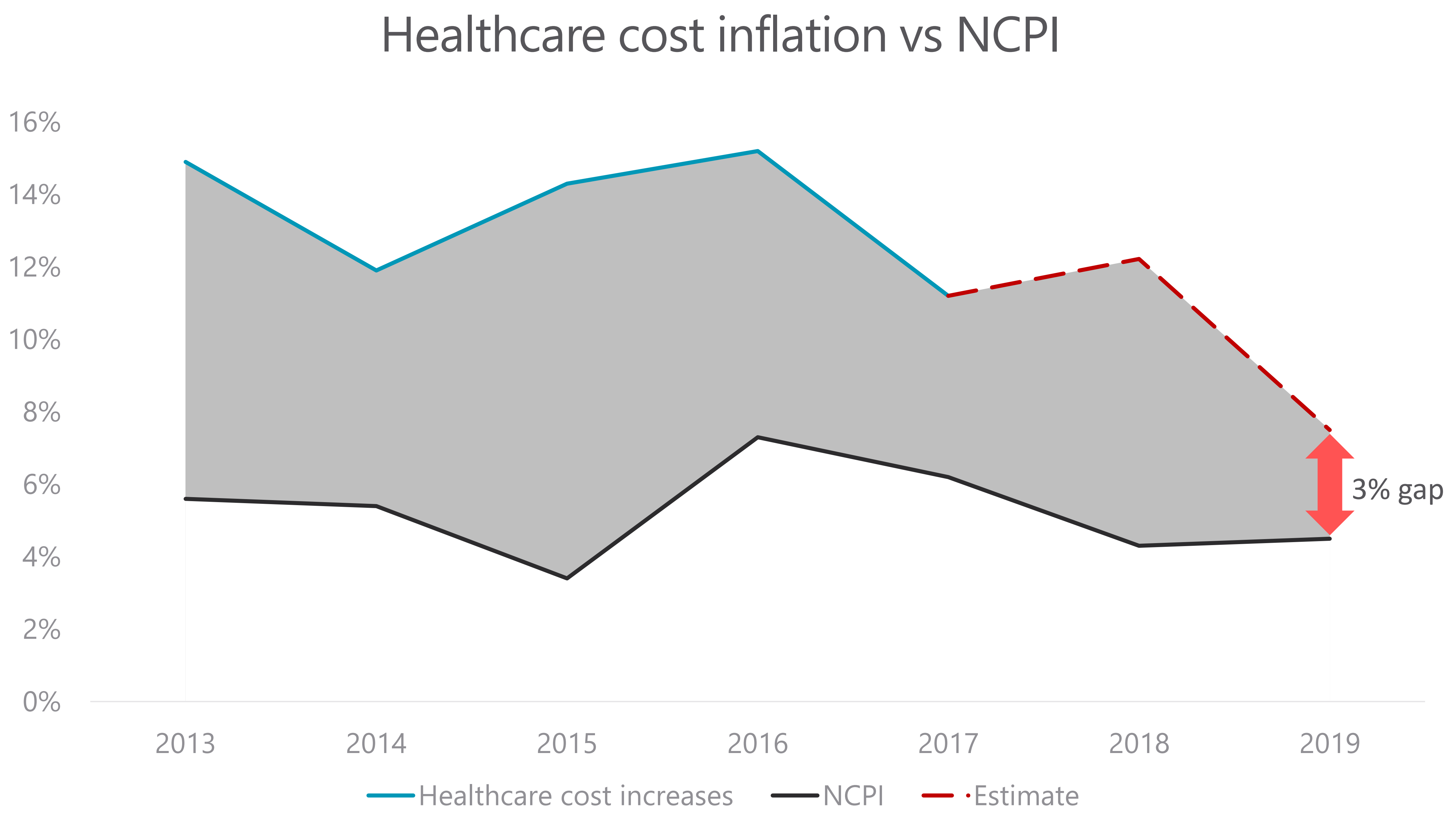
Higher contribution increases
Aimed at combating the higher claims, protecting the position of the Scheme

Younger families leave
Cannot afford the higher increases and leave the Scheme

Difficult to sell
Brokers and Marketing hindered by high contribution increases

No new members
Reduction in young and healthy new entrants

Membership ages
Old and sick cannot leave, so we age faster than expected



Namfisa Annual Report 2018

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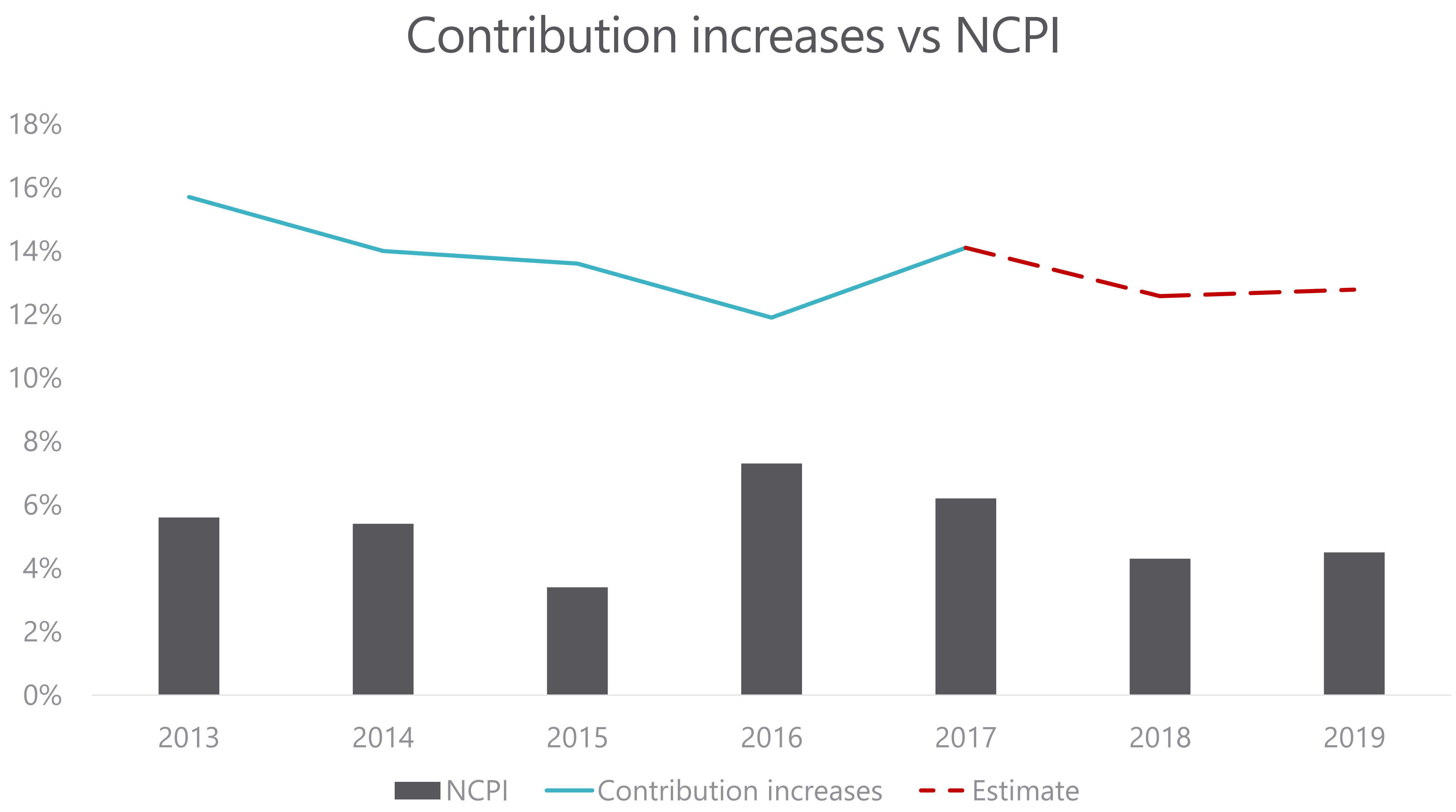

Namfisa Annual Report 2018

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Global Medical Inflation Trends
SADC countries that participated in surveys

Cost in addition to inflation (ie Net cost trend)*

• Zimbabwe	5.4%
• South Africa	4.9%
• Botswana	4.2%
• Malawi	3.4%
• Mozambique	3.3%
• Zambia	2.0%

Namibia did not participate in studies – but may be leading SADC region with +6% net cost in addition to inflation

**Based on AON, Willis Towers Watson, and Mercer Marsh 2019 studies & reports*

South Africa's Health Market Inquiry

Drivers of annual cost inflation

All Schemes. All Claims	2011	2012	2013	2014	Average
Total Increase	9.02%	8.58%	9.19%	10.16%	9.24%
CPI	5.00%	5.60%	5.70%	6.10%	5.60%
All Explanatory Factors	2.11%	0.64%	1.81%	1.35%	1.48%
Age	0.57%	2.81%	1.01%	0.87%	1.32%
Gender	-0.03%	-0.04%	0.05%	0.02%	0.00%
Disease Profile	0.99%	-0.53%	0.79%	0.32%	0.39%
Member Profile	1.86%	0.03%	0.07%	0.31%	0.57%
Plan Mix	-1.28%	-1.63%	-0.12%	-0.18%	-0.80%
Unexplained Factors	1.90%	2.34%	1.68%	2.71%	2.16%

Demand-side drivers:
- Adverse selection
- Increased disease burden
- Ageing

Supply-side drivers:
- Fee for service system
- Fragmentation of care
- New technology and procedures
- New hospitals

Solvency objectives

Objectives of a solvency framework

1. Meet regulations

Keep a minimum amount of capital as reserves (25%)

2. Ensure financial stability

- Have enough capital to operate as going concern
- Create healthy competition – solvency framework allows easy entry for fair competition in market

SA solvency wants to allow for risk management, which is impossible because:

The Balancing Acts

Proposed RBC framework

Account for major risks

1. Business risk
2. Asset risk
3. Operational risk

1. Business Risk

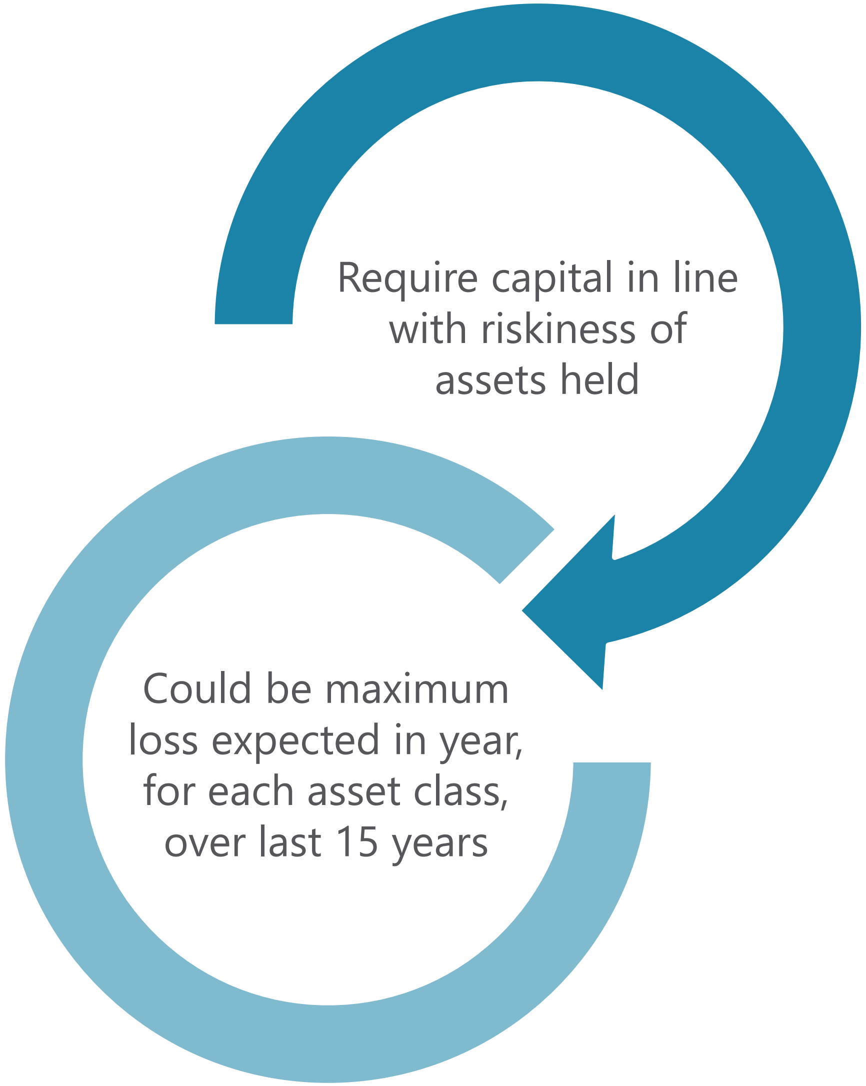
A conceptual model has been developed to determine probability of failure / ruin over 3 year horizon

Risks allowed for:

1. Fluctuations in asset values
2. Claims volatility risk
3. Pricing risk
4. Non-health care expenditure

Model gives the minimum capital required –with 1% chance of insolvency over a three year period

2. Asset Risk


Require capital in line with riskiness of assets held
Could be maximum loss expected in year, for each asset class, over last 15 years

3. Operational Risk

Difficult to estimate accurately

Reasons for failure are unique to scheme	E.g. Want to consider number of complaints	Proposed 10% of annual contributions (between 5% and 15%)	Credit for risk management

Conclusion

Thank you.

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