Accelerated ART roll-out – An investigation on the potential impact for SA life assurers

Marius Strydom, Davy Corubolo and Carike Nel
The entry-level space in SA is ripe for positive developments

1. Access to greater cover for clients.
2. Better value for money for clients.
3. Wider variety of products for clients.
4. High growth rates for companies.
5. Sustained margins for companies.
6. Higher savings for clients and the country.
7. Higher consumption for clients and the country.
Stats to be proud of

Total Industry Premiums for Assistance Business (Rm)

- 7-fold increase in assistance business premiums from 2001 according to FSB;
- 2013 entry-level premiums between R19.5bn and R20.5bn (7%-7.5% of total premiums received in 2013) based on financials statements and FSB;
- Proportion of South Africans with funeral cover has doubled to 77% (51% with formal institutions) according to FinScope studies;
- R50bn in death cover paid out over 15 years (10% of gross household savings) based on financial statements and Reserve Bank;
- R200bn in sum assured to 9.5m primary and secondary lives - questionnaires;
- Covering up to 27% of household income and equal to 3.5 times gross household savings – 2011 Census and Reserve Bank.
Audience response – Question 1

What is the general perception about AIDS mortality in your organisation (staff, intermediaries, clients, shareholders)?

1. The AIDS epidemic is getting worse;
2. There have been small improvements in AIDS mortality;
3. Improvements in AIDS mortality have been large;
4. AIDS mortality about the same or I am not sure.
The AIDS epidemic has turned

SA Death Rate 1997-2012

Number of Patients Receiving ART in SA

SA Total Life Expectancy (years)

Source: StatsSA; 2011 Census; Rapid Mortality Surveillance Report

Mortality will continue to improve

<table>
<thead>
<tr>
<th>Item</th>
<th>2008 tender (including OSD from August 2009)</th>
<th>2010 tender</th>
<th>2012 tender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average first-line cost</td>
<td>5 617</td>
<td>5 303</td>
<td>4 334</td>
</tr>
<tr>
<td>- of which drug cost</td>
<td>2 530 (58%)</td>
<td>2 216 (51%)</td>
<td>956 (22%)</td>
</tr>
</tbody>
</table>

Source: NACM from HE²RO, University of Witwatersrand/Boston University

- CD4 threshold increased to 350 cells/μl in 2011;
- Further increase to 500 cells/μl in 2015 – treatment to become prophylactic;
- Government has a very strong track record of delivery, enrolling double the 80% target of those eligible (making up back-log);
- Government strategic objectives to boost mortality, if delivered.

Source: Estimates of National Expenditure – 2014; CEGAA; Author’s calculations; *: Budgeted numbers vs. actual
Impact on life assurers delayed

- Mortality investigations based on historic data;
- Basis changes usually once a year;
- Basis not changed every year – sufficient evidence required;
- Future mortality improvements not allowed for – except annuities;
- CD4 threshold increase to 350 cells/μl likely not yet in all bases;
- Sustained basis changes likely;
- Positive experience variances likely to continue;
- Room for further re-pricing.

<table>
<thead>
<tr>
<th>Mortality* Experience Variance and Basis Change as a % of Starting Embedded Value</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company 2</td>
<td>0.4%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>1.4%</td>
<td>1.8%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Company 3</td>
<td>0.9%</td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.8%</td>
<td>1.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Company 4</td>
<td>4.6%</td>
<td>1.6%</td>
<td>-0.6%</td>
<td>-0.2%</td>
<td>2.0%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Company 5</td>
<td>0.2%</td>
<td>2.1%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>5.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Average</td>
<td>1.5%</td>
<td>1.7%</td>
<td>0.7%</td>
<td>0.9%</td>
<td>2.6%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Source: Published Company Financial Statements; *In some cases, this includes morbidity as well
Audience response – Question 2

Do you think that your company has sufficiently allowed for AIDS mortality improvements already materialised?

1. Yes, it is all in our pricing and reserving bases;

2. To some extent, but recent improvements still need to be factored in;

3. No, improvements in the past two years since the CD4 threshold was lifted have not yet been allowed for;

4. I don’t know, not relevant to my company.
Audience response – Question 3

How likely do you think it is for total SA life expectancy to exceed pre-AIDS epidemic levels (>62 years) in the next decade?

1. Highly likely;
2. Somewhat likely, depending on Government programmes;
3. Highly unlikely – AIDS remains a large concern;
4. I don’t know.
Life expectancy to reach 65 in a decade and increase further

SA Combined Life Expectancy

Source: ASSA2008, THEMBISA, Modelling by Researchers

- Projections based on THEMBISA HIV/AIDS model;
- **Baseline** allows for current Government policy;
- **CD4<500** allows for new Government policy;
- **Conservative** is an estimate of the average current basis used by life assurers – no improvements allowed for after 2013.
Modelling methodology and assumptions

Portfolio of **new business, funeral** policies with similar characteristics to business currently sold by insurers in the **entry-level market** in terms of:

- Age, gender and dependants profile;
- Premiums and average sum assureds;
- Mortality assumptions - Conservative scenario
- Other assumptions (lapses, expense, commission, etc.)

Not calibrated to market data.

8% new business profit margin (net of tax and CoC).

Persistency key challenge, therefore different lapse scenarios in addition to alternative mortality scenarios.
New Business Profit Margins could increase by 60%

- **Assumption** – All mortality improvement benefits accrue to Shareholders
- 60% increase under **Baseline**, 61% increase under and **CD4<500** – all else unchanged;
- Margin maintained, even with 20% higher lapses;
- Purely illustrative – benefits likely to be shared between Shareholders and Policyholders.
Audience response – Question 4

Do you think that mortality improvements (in recent years and going forward) could drive higher profits, lower premiums or higher sums assured?

1. Yes, bases are conservative and once they allow for improvements, there are margins that can be released;
2. No, there are other factors that will more than offset delivered and expected mortality improvements;
3. No, mortality will not improve as much as some think;
4. I don’t know.
Premiums could be cut by 11% or sum assured increased by 29%

- **Assumption** – All mortality improvement benefits accrue to Policyholders. Profit margin of 8% maintained.
- Premiums could be cut by 11% under Baseline, maintained if lapses +20%;
- Sum assured could increase by 29% under Baseline, maintained if lapses +20%;
Alternative policy designs

- **Alternative policy designs considered:**
  - Cash-back benefits
  - Surrender value benefits
  - Premium waivers
  - Premium holidays

- **Assumptions:**
  - All mortality improvement benefits accrue to **Policyholders**. *Purely illustrative – benefits likely to be shared between Shareholders and Policyholders*
  - Profit margin of **8%** maintained.
  - Cash-back, surrender value, premium waiver and premium holiday policy designs are mutually exclusive.
Increased room for cash-backs

<table>
<thead>
<tr>
<th>Number of monthly premiums as Cash-back every 5 years</th>
<th>Conservative</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Lapses</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Lapses 20% Lower (years 1 – 4)</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Lapses 50% Lower (years 1 – 4)</td>
<td>15</td>
<td>21</td>
</tr>
</tbody>
</table>

- **Assumption** – 10% premium increase to maintain margin and fund 6-months’ premiums as a cash-back every 5 years;

- Cash-back increases to 13 months every 5 years under **Baseline**;

- Cash-back as high as 17/21 months every 5 years if lapses reduce 20%/50% under **Baseline**;
Surrender values on funeral policies could be offered

<table>
<thead>
<tr>
<th>Surrender Value Percentage of Premiums to date</th>
<th>Conservative</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Lapses</td>
<td>14%</td>
<td>30%</td>
</tr>
<tr>
<td>Lapses 20% Lower (years 1 – 4)</td>
<td>29%</td>
<td>45%</td>
</tr>
<tr>
<td>Lapses 50% Lower (years 1 – 4)</td>
<td>40%</td>
<td>56%</td>
</tr>
</tbody>
</table>

- **Assumption** – 10% premium increase to maintain margin and fund 14% of accrued premiums as a surrender value after 5 years;

- Surrender value increases to 30% after 5 years under Baseline;

- Surrender value as high as 45%/56% after 5 years if lapses reduce 20%/50% under Baseline;
Premium waivers for policyholders reaching age 60 years

<table>
<thead>
<tr>
<th>Premium (% of Current premium) for a Waiver of Premium Benefit Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservative</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Current Lapses</td>
</tr>
<tr>
<td>Lapses 20% Lower</td>
</tr>
<tr>
<td>Lapses 50% Lower</td>
</tr>
</tbody>
</table>

• **Assumption** – 8% premium increase to maintain margin and fund premium waiver for policyholders reaching 60 years;

• Premium reduces by 4% (compared to no waiver) under **Baseline**;

• Premium reduces 10%/15% (compared to no waiver) if lapses reduce 20%/50% under **Baseline**;
Premium holidays of up to 4 months

| Implied Percentage of Total Premiums Received as Premium Holiday |
|---------------------------------|-----------------|-----------------|
|                                 | Conservative    | Baseline        |
| Current Lapses                  | 90%             | 80%             |
| Lapses 20% Lower                | 84%             | 74%             |
| Lapses 50% Lower                | 77%             | 68%             |

- **Assumption** – 10% premiums missed under basic portfolio (base case);
- 20% of premiums could be missed (compared to 10%) under Baseline;
- 26%/32% of premiums could be missed if lapses reduce 20%/50% under Baseline;
- If 60% of policyholders skip premiums, this implies a 2.4 month holiday under Baseline and 4 months if lapses reduce by 20%;
Audience response – Question 5

Do you agree that mortality improvements could drive meaningful changes in the product development arena?

1. No, current products are tried and tested;

2. Maybe, but many of these products have been attempted and the take-up has been poor;

3. Yes, it makes sense to dip a toe in the water and start introducing new products;

4. Yes, it is time to radically change the types of products offered and to market them aggressively.
Audience response – Question 6

Do you think that mortality improvements could change underwriting, cover levels and products in the entry-level market?

1. No, there are other factors that are more important than mortality;

2. Maybe, but resistance to underwriting runs deep and clients are likely to reduce premiums rather than increase cover;

3. Yes, but clients may be slow to change and it would be necessary for companies to push hard to enact changes;

4. Yes, it is time to change the way that the entry-level market is approached.
Underwriting – a new approach

- **Post-sale Underwriting** – i.e. offering enhanced benefits to policyholders that exhibit better mortality experience than had been priced for in the original contract – through cash-backs, surrender values and other policy designs;
- **Underwriting HIV+ individuals** – already happening, but could be more aggressively marketed to clients;
- **Reduced HIV/AIDS stigma** – could reduce the entry-level market’s reticence to underwriting;
- Opportunity for meaningful shifts in the market.
Level of cover should increase

Average percentage of entry-level sums assured in different bands

Source: Questionnaires to Major Life Assurers, Modelling by Researchers

- Aggressive Marketing
- Broader Value Proposition
- Increased Underwriting
- Reduction of Premiums
Cash-back and surrender value policies should be more prevalent

- Current pricing basis is likely too conservative;
- Reserve releases over coming years?;
- New products that offer better value for money and encourage better behaviour;
- Potential for increasing consumption and savings;
- Increased persistency.
Audience response – Question 7

Do you think that mortality improvements could lead to increased penetration and a reduced insurance gap in the entry-level market?

1. No, mortality improvements are unlikely to outweigh other factors;

2. No, entry-level clients cover their needs and will cover it at a lower premium if premiums were to reduce;

3. Maybe, but companies may opt to pass mortality improvements to shareholders rather than policyholders;

4. Yes, expected mortality improvements offer a big opportunity for increasing cover, with the help of innovative product design.
Increased penetration

- Reduction of Premiums
- Increase of Sums Assured
- Cash backs could fund more purchases
- Increased demand for new products
Insurance gap could reduce

<table>
<thead>
<tr>
<th>Rm p.a.</th>
<th>2013 Insurance Gap Study</th>
<th>Baseline mortality</th>
<th>Baseline with 20% lower lapses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Income Cover Gap Gap %</td>
<td>Cover Gap %</td>
<td>Cover Gap %</td>
</tr>
<tr>
<td>Quintile 1</td>
<td>9 000 5 724 3 276 36%</td>
<td>7 384 18%</td>
<td>8 529 5%</td>
</tr>
<tr>
<td>Quintile 2</td>
<td>26 000 9 452 16 548 64%</td>
<td>12 193 53%</td>
<td>14 083 46%</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>52 000 19 564 32 436 62%</td>
<td>25 238 51%</td>
<td>29 150 44%</td>
</tr>
<tr>
<td>Quintile 4</td>
<td>111 000 53 868 57 132 51%</td>
<td>69 490 37%</td>
<td>80 263 28%</td>
</tr>
<tr>
<td>Average</td>
<td>49 500 22 152 27 348 55%</td>
<td>28 576 42%</td>
<td>33 006 33%</td>
</tr>
</tbody>
</table>

Source: ASISA 2013 Insurance Gap Study, Modelling by Researchers

- **Assumption 1** – Bottom 4 quintiles in insurance gap study have similar mortality characteristics to our model portfolio;
- **Assumption 2** – Bottom 4 quintiles receive cover only from funeral products;
- **Assumption 3** – Increase in projected sum assured translates into a similar increase in the cover for the bottom 4 quintiles of the study;
- **Assumption 4** – Increase in sum assured does not lead to reduced purchases of products – premiums remain unchanged;
- The average insurance gap for the bottom 4 quintiles reduces from 55% to 42% under **Baseline** (29% increase in sum assured);
- Purely illustrative – best-case scenario, assuming all benefits to policyholders via increased sums assured;
Can product design have an impact on persistency in the entry-level market in the light of mortality improvements?

1. No, persistency is driven by affordability issues and will remain low in this market;

2. No, aggressive product marketing drives persistency and lower premium rates will aggravate this;

3. Maybe, but this will not work unless the new products are marketed aggressively;

4. Yes, offering cash-backs and surrender values after 5 years will have a large impact on persistency.
Mortality improvements can help to improve persistency

Average individual lapse rate over 3-years ending December 2013

- Funeral policies suffer from much higher lapses than life policies in the middle and upper income market (17.3% vs. 7.7%);
- Innovative policy designs such as cash backs or surrender values on funeral products could use expected mortality improvement benefits to encourage improved behaviour by policyholders;
- Sizeable cash backs every 5 years and healthy surrender values after 5 years should encourage better persistency in years 1-4 (when lapses are particularly high) – in turn allowing even better benefits to accrue to policyholders.

Source: Annual Reports of the Registrar of Long-term Insurance
Audience response – Question 9

How likely is it that cash-back benefits are reinvested into savings products by entry-level clients?

1. Unlikely, entry-level clients do not want cash-back benefits;

2. Unlikely, entry-level clients are more likely to boost consumption if they receive cash-backs;

3. Somewhat likely, but life assureds would have to market reinvestment opportunities aggressively;

4. Likely, if presented with attractive reinvestment opportunities, entry-level clients would be keen to buy savings products that they could not normally afford.
SA savings rate could increase

Surrender values on funeral policies could boost gross and net household savings

- Gross Household Savings
- Net Household Savings

Source: SA Reserve Bank Quarterly Bulletin; Annual Reports of the Registrar of Long-term Insurance; Company Financials; Modelling by Researchers; *: The 2013 numbers have been increased R8.5bn, which is 40% of the upper estimate of entry-level recurring premiums during 2013 (R19bn – R21bn)

- **Assumption 1** – All mortality improvement benefits accrue to **Policyholders** through enhanced surrender values;
- **Assumption 2** – Enhancement of 40% allowed for (modelled range is 30% - 56%);
- With improved mortality and some lapse reduction, leading to entry-level surrender values equal to 40% of premiums, 2013 Gross Household Savings could have been 15% higher and Net Household Savings could have been positive.
- **Purely illustrative** – best-case scenario, assuming all benefits to policyholders via increased sums assured.
Entry-level driving growth in SA insurance and should continue

- Over the past 5 years, the major SA insurance players have seen an increase in the proportion of new business premiums from entry level policies (up from 40% to 45%) with more than 50% of VNB in SA coming from this source;
- Increased penetration and improved persistency could help to sustain healthy growth rates in the entry-level space without the sacrifice of margins;
- SA life assurers could also benefit from healthy earnings and VIF growth from the entry-level market as a result.

Source: Company Financial Statements, 2010 - 2013
Audience response – Question 10

Having seen our presentation, do you think that expected mortality improvements are overblown, could have a positive impact on the entry-level market if properly utilised or offer the opportunity to revolutionise the entry-level market?

1. Overblown;
2. Positive, but must be utilised properly;
3. Could revolutionise the entry-level market;