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Draft Response to Medishield Life 2020 Review

Practising Certificate Seminar

23 Nov 2020 (Monday)
5:15pm – 6:00pm

SAS Medishield Life 2020 Working Group

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Medishield Life 2020 Review SAS Working Group

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Housekeeping & Disclaimer

Please change your display name to your registered names. This will allow the SAS Secretariat to validate attendance.

All participants are muted, so that the speakers can talk without interruption.

Participants are encouraged to type our questions in Chat (to the moderator only) in Zoom. The moderator will compile the questions for speakers to answer during the Q&A session at the end.

The views expressed by the working group are their own and do not represent the views of their companies nor the SAS.

We welcome feedback. Please spend 1 min to answer the poll at the end of this forum.

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Objectives

The objectives of the Society are:

- to **serve the public interest** by promoting the study, discussion, publication and research into the application of economic, financial and statistical principles to practical problems, as well as the actuarial, economic and allied aspects of life assurance, non-life insurance, employee retirement benefits, finance and investment, risk management and other fields where such principles can be applied with particular reference to Singapore and the ASEAN region

The working group targets to finalise the response to the MOH by **30 Nov 2020**, we would like all members to send your feedback to health@actuaries.org.sg by **24 Nov 2020**

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Agenda

1. Universal Healthcare – Coverage vs Affordability
2. Rising Claims Costs - Data-driven Decision-making
3. Rising Claims Costs - Management of Moral Hazard
4. Actuarial Value Add

Link to Draft Response

https://www.actuaries.org.sg/sites/default/files/2020-11/SASResponseMSHLReview2020draftsent.pdf

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Singapore's Healthcare Funding

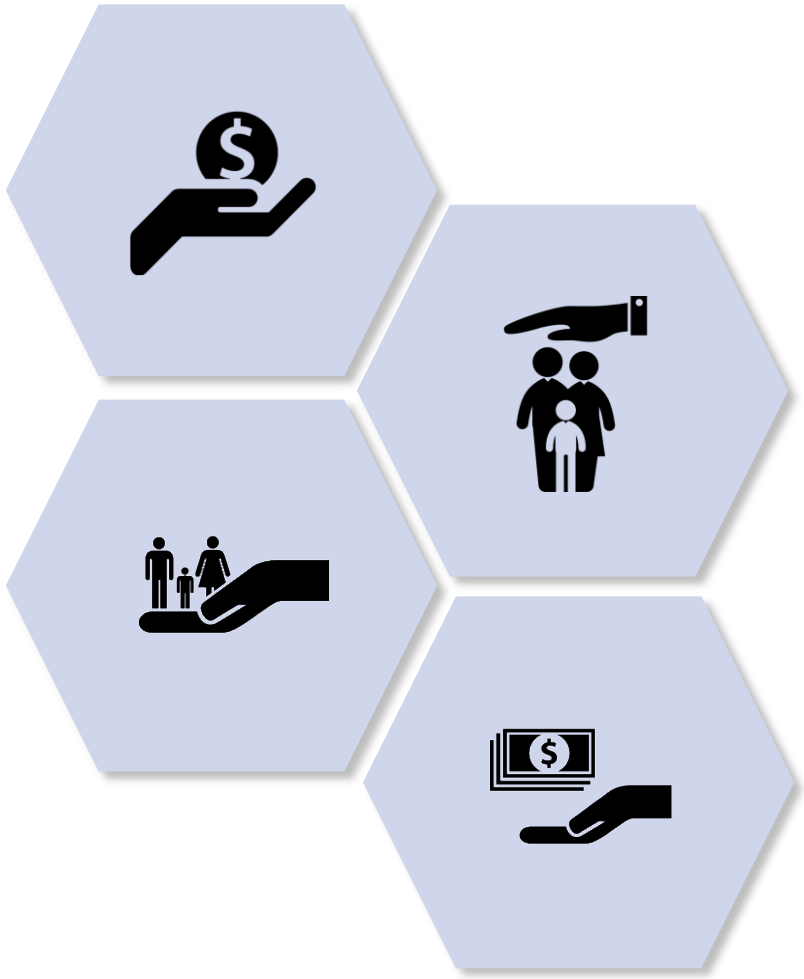
3M + S Framework

Medisave

Mandatory savings account funded by one's income to pay for large inpatient and selected outpatient bills. Contribute 8-10.5% of monthly salary

MediFund

For individuals who have exhausted all available help



MediShield Life (MSHL)

National universal healthcare insurance to help with large hospital bills and selected costly outpatient treatments. Benchmarked to B2/C Class wards at Government hospitals

Subsidies

Range of subsidies to keep healthcare affordable

From: SAS Afternoon forum on Universal Healthare on 29 May 2020

1. Universal Healthcare – Coverage vs Affordability
Proposed Changes to Medishield Life - Benefits

Table B1: Recommended Changes to Claim Limits

	Current	Recommended
Inpatient Treatments		
Daily Ward and Treatment Charges		
- Normal Ward - ICU Ward	$700 per day $1,200 per day	$800 per day* $2,200 per day*
** An additional claim limit of $200 per day applies for the first two days*		
- Psychiatric	$100 per day, up to 35 days per policy year	$160 per day, up to 60 days per policy year
Stereotactic Radiosurgery	$4,800 per treatment course	$10,000 per treatment course
Community Hospital		
- Rehabilitative care^ - Sub-acute care^	$350 per day	$350 per day $430 per day
Outpatient Treatments		
Kidney Dialysis	$1,000 per month	$1,100 per month
Immunosuppressants for Organ Transplant	$200 per month	$550 per month
Radiotherapy for Cancer		
External Radiotherapy (except Hemi-body)	$140 per treatment	$300 per treatment
Hemi-Body Radiotherapy		$900 per treatment
Maximum Claim Limits		
Policy Year Claim Limit	$100,000	$150,000

^ Rehabilitative care refers to therapy to improve one's post-illness disability and functional impairment. Sub-acute care is for complicated medical conditions that require additional medical and nursing care at a lower intensity compared to that provided at the acute hospitals.

Table B2: Recommended Changes to the Deductibles

Ward/Treatment	Current	Recommended
Day Surgery - Age above 80	$3,000	$2,000

Table B3: Recommended Changes to the Proration factors

Ward/Treatment	Current	Recommended
Private Hospital (including Day Surgery)	35%	25%

Previous Changes to MSHL (2018-2020)

- direct **admissions to community hospitals** from emergency departments of public hospitals
- **$1,700 per month** for patients on **long-term parenteral nutrition** due to chronic intestinal failure
- **coverage to** surgical interventions for **trisomy 18** and **alobar holoprosencephaly** (rare congenital conditions)
- coverage for **serious pregnancy complications**.
- **$6,000 per treatment** for outpatient autologous **bone marrow transplant** treatment
- Increased and more granular claim limits for surgical procedures (from $200 - $2000 to $260 - $2600)
- coverage for inpatient hospice palliative care in community hospitals and inpatient hospices

Source: https://www.moh.gov.sg/docs/librariesprovider5/mshl-econsult/mshl-2020-consultation-paper

1. Universal Healthcare – Coverage vs Affordability
Proposed Changes to Medishield Life - Premiums

Age Next Birthday (i)	Current Premiums Before Subsidy	Revised Premiums Before Subsidy	% increase
1 – 20	$130	$145	11.5%
21 – 30	$195	$250	28.2%
31 – 40	$310	$390	25.8%
41 – 50	$435	$525	20.7%
51 – 60	$630	$800	27.0%
61 – 65	$755	$1,020	35.1%
66 – 70	$815	$1,100	35.0%
71 – 73	$885	$1,195	35.0%
74 – 75	$975	$1,320	35.4%
76 – 78	$1,130	$1,530	35.4%
79 – 80	$1,175	$1,590	35.3%
81 – 83	$1,250	$1,675	34.0%
84 – 85	$1,430	$1,935	35.3%
86 – 90	$1,500	$2,025	35.0%
> 90	$1,530	$2,055	34.3%
Weighted Average (iv)	**$463**	**$597**	**28.9%**

Age Group (ii)	Singapore Residents	% weight
0 - 19	803,440	19.9%
20 - 29	531,534	13.1%
30 - 39	597,313	14.8%
40 - 49	611,031	15.1%
50 - 59	601,898	14.9%
60 - 64	284,626	7.0%
65 - 69	229,396	5.7%
70 – 72 (iii)	113,339	2.8%
73 – 74 (iii)	56,669	1.4%
75 – 77 (iii)	60,660	1.5%
78 – 79 (iii)	30,330	0.7%
80 – 82 (iii)	44,342	1.1%
83 – 84 (iii)	22,171	0.5%
85 - 89	36,586	0.9%
90 Years & Over	20,875	0.5%
Total	**4,044,210**	**100.0%**

15%

Government subsidies

- $1.8 billion for next 3 years (means tested subsidy, Merdeka/ Pioneer Generation, Additional Premium Support)
- $360 million for next 2 years (once-off COVID-19 subsidy)

Net result is premium increase of 10% for Singaporeans in 1st year

Notes:

(i) from Table C1: Indicative Revised MediShield Life Premium Schedule in 2021 https://www.moh.gov.sg/docs/librariesprovider5/mshl-econsult/mshl-2020-consultation-paper

(ii) From M810011 - Singapore Residents By Age Group, End June 2020, Annual https://www.tablebuilder.singstat.gov.sg/publicfacing/createDataTable.action?refId=14911

(iii) assume 2/3 of respective age band in first 3 years band and remainder in last 2 years

(iv) weighted by Singapore Residents by Age Group from (ii) above

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1.1 Impact on those covered by MediShield Life only

Portfolio Results

Year	Premiums Collected [A]	Claims Paid [B]	Change in Required Reserves [C]	Incurred Loss Ratio [B] + [C] / [A]
2016 - 2019	$7,578m*	$3,533m	$4,314m	104%
2013 - 2019#	$10,170m	$4,686m	$5,581m	101%

* includes $3.1 billion in premium subsidies
\# Medishield Life started in Nov 2015, this includes previous Medishield portfolio results

Increase needed for future

Weighted average **premium increase ~29%** driven by

two-third of premium Δ or 19% points = growth in utilisation and payout

One-quarter of premium Δ or 7% points = refreshing the claim limits

~10% = past benefit enhancements

Some postulates

- Bulk of increase (19% points) is growth in utilization and payout, therefore, we estimate internal projections are:
  6% Δ in claims y-o-y, if next premium Δ in 2025, or
  9% Δ in claims y-o-y, if next premium Δ in 2024

- Persistent increase in medical spending that is disproportionate vs GDP of ~ 3% is a cause for concern

Urgency to have Cost Management model in place

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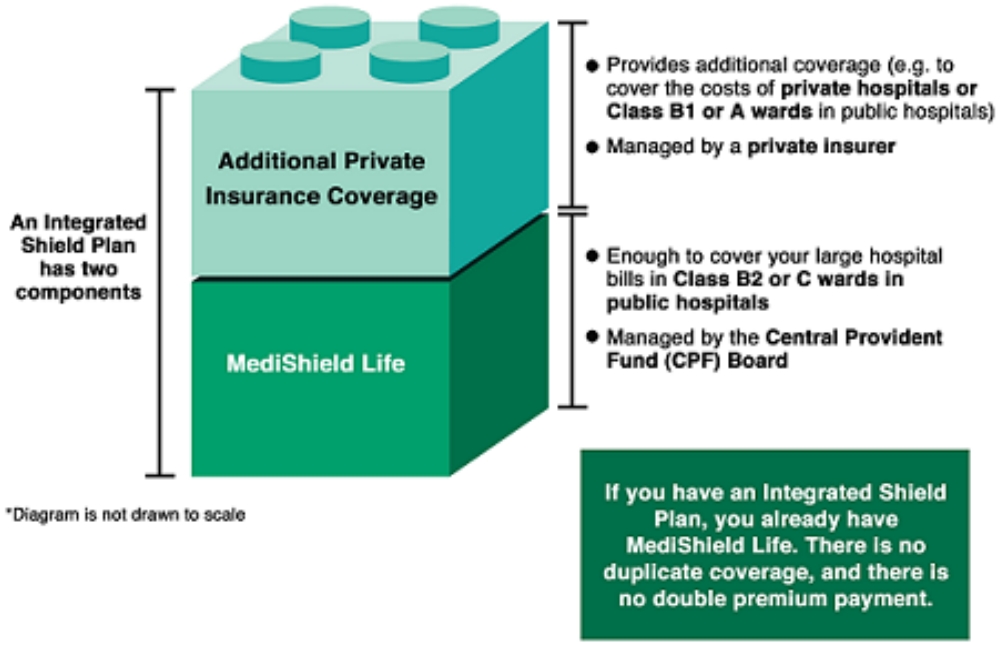
1.2 Impact on those with Integrated Shield Plans

What are Integrated Shield Plans (IPs)?



Source:
https://www.moh.gov.sg/cost-financing/healthcare-schemes-subsidies/medishield-life

Some numbers

- 69% of Singapore residents (2.81m) have IPs
- Estimated half of above have IP riders
- Majority of Shield Insurers have underwriting losses in their Long-term Health portfolio therefore IP premiums will likely rise.

Year	Gross premiums [A]	Gross claims [B]	Management Expenses [C]	Commission [D]	Change in Reserves and Other expenses [(A)-(B)-(C)-(D)-(E)]	Underwriting Gain/ (Loss) (E)
2016	$1,608m	$1,190m	$106m	$131m	$279m	($98m)
2017 #	$1,859m	$1,390m	$126m	$160m	$329m	($146m)
2018	$1,836m	$1,399m	$140m	$182m	$153m	($38m)
2019	$2,143m	$1,617m	$166m	$197m	$206m	($43m)
2016 -2019	**$7,447m**	**$5,596m**	**$538m**	**$670m**	**$967m**	**($325m)**
% of Gross premiums		75%	7%	9%	13%	(4%)

Source: MAS Annual Returns (Long term health) for AIA, Aviva, AXA, GE Life, NTUC, Prudential, and Raffles. Estimated ¾ of insured lives are IPs and riders.
adjusted for the one-off effect of reinsurance from one insurer.
https://www.tnp.sg/news/business/insurers-suffer-losses-intergrated-shield-plans-premiums-may-rise

1.2 Impact on those with Integrated Shield Plans

- Pro-ration factor for Private Hospitals reduce to 25% from 35% previously.
  (Pro-ration is applied first, then deductible, limits, co-insurance is applied)
- This maintains equity in payouts between private (18% claims) and public hospitals (82% claims).
- Actual cost savings for MSHL due to change in pro-ration is small (<5%)

Medishield Life portfolio	Integrated Shield portfolio
• Assuming 18% of the 2019 claims payout of $1,038m is at private hospitals. Change in pro-ration is expected to reduce MSHL payout by maximum of 5% or $53m ($1,038m*18%*((35%-25%)/35%)) • Max 5% because change in pro-ration impacts different size claims differently - large claims will not have a change (specific to pro-ration) as limits will be main restriction - small claims (does not hit limits) will be reduced by the full 10% points drop in pro-ration factor	• affects 2.81 million SG residents owning IPs and riders • reduction of the pro-ration factor applied on private hospital bills is expected to increase the payable by IPs for private hospital claims due to reductions in MSHL payouts. • More IP cost management measures are coming “online” in April 2021 – full transition away from full coverage riders; increased use of pre-authorisations before claims
• Suggest MOH look into specific group of people who are expected to benefit from enhancements and target using Medifund. Likely less than MSHL subsidies	• Suggest MOH consider postponement to end 2021, due to economic uncertainty, and give insurers time to see cost management impact (and price better)

1.3 Inclusivity

Removal of exclusions for

i. treatments arising from attempted suicide or intentional self-injury, and

ii. treatments arising from drug addiction, alcoholism or the person being under the influence of drugs or alcohol

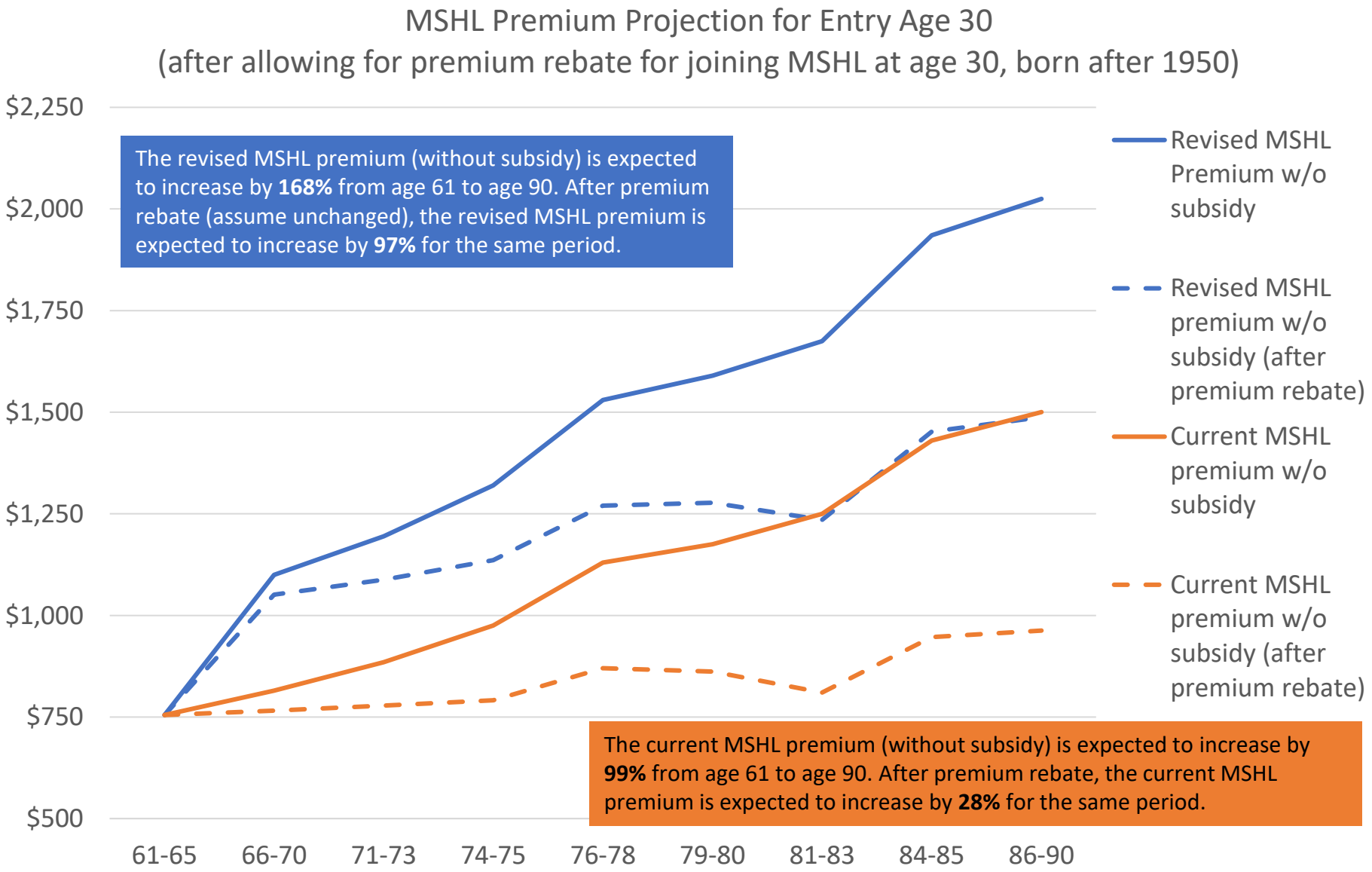
There is expectation that private insurers will have to provide the same extensions. Noted that there is lack of industry experience in handling such claims.

Suggest MOH share:

i. appropriate clinical standards to assess such claims, so insurers are assessing claims consistently; and

ii. statistics, so insurers can price these benefits with more confidence

1.4 Premium Rebates



- Pre-funding is critical for MSHL. It makes premium "affordable" at later years via compounding of investment returns.
- 57% of premiums collected (2016-2019) went to reserves
- 2 Nov : MOH shares "*…premium rebates … bulk of future commitments.. in the reserves…*"
- **But public awareness is low. Suggest MOH to improve public communications.**

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1.5 Increased claims limits

Increase of annual limits to $150k (from $100k) is good

But will match the Standard Integrated Shield Plan for Public Hospital Class B1 coverage (Standard B1 Plan).

Standard B1 Plan is sublimited, with higher limits than MSHL.
https://www.moh.gov.sg/docs/librariesprovider5/integrated-shield-plans-documents/march-2019/comparison-of-standard-ips-(1-march-2019).pdf

Suggest MOH (and insurers):

1. Improve Standard B1 Plan – such that it offers a meaningful alternative between "As charged" Shield Plans and MSHL

2. Standard B1 Plan – should be promoted on https://www.comparefirst.sg/ helps improve efficiency of distribution in health insurance, and also reduce overpurchasing of health insurance (which lead to overconsumption of care)

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2. Rising Claims Costs

Data-driven Decision-making

2.1 Health Claims Analytics – Medishield Life

Key MediShield Life Statistics during 2016 to 2019

Year	Amount of Payout [A]	Number of Claimants [B]	Avg Payout per Claim [C]	% of Claims from Private Hospitals#
2016	$758M	173k	$1,500	17%
2017	$845M	190k	$1,520	17%
2018	$929M	204k	$1,540	18%
2019	$1,038M	221k	$1,520	18%
CAGR	**11%**	**9%**	**0%**	**<1% point increase**

Derived statistics

Number of Insured [D]	Est. Number of Claims [E] = [A]/[C]	Claims Incidence (%) [E]/[D]	Claimants/ Insured (%) [B]/[D]
3,934k	505k	13%	4.4%
3,966k	556k	14%	4.8%
3,994k	603k	15%	5.1%
4,026k	683k	17%	5.5%
0.8%	**11%**	**10%**	**7.7%**

Stable, but most likely related to sub-limited design of MSHL

More people claiming more

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2.1 Health Claims Analytics – IP Insurers

Claim Statistics from IP Insurers - Long Term Health Portfolio Claim Experience

Year	Gross Claims [A]	Number of Claims Registered [B]	No. of Lives Covered [C]	Est. Average Payout per Claim [A]/[B]	% Clams incidence [B]/[C]
2016	$1,190m	616,335	3,406,607	$1,930	18.1%
2017	$1,390m	727,279	3,461,147	$1,911	21.0%
2018	$1,399m	792,804	3,557,822	$1,764	22.3%
2019	$1,617m	852,558	3,658,910	$1,897	23.3%
CAGR	11%	11%	2%	-1%	9%

Slight reduction (no public details):
hypothesis includes:

- more lower intensity claims (e.g. more scopes?)
- longer pre/post hospitalization benefits

Similar to MSHL, more claims

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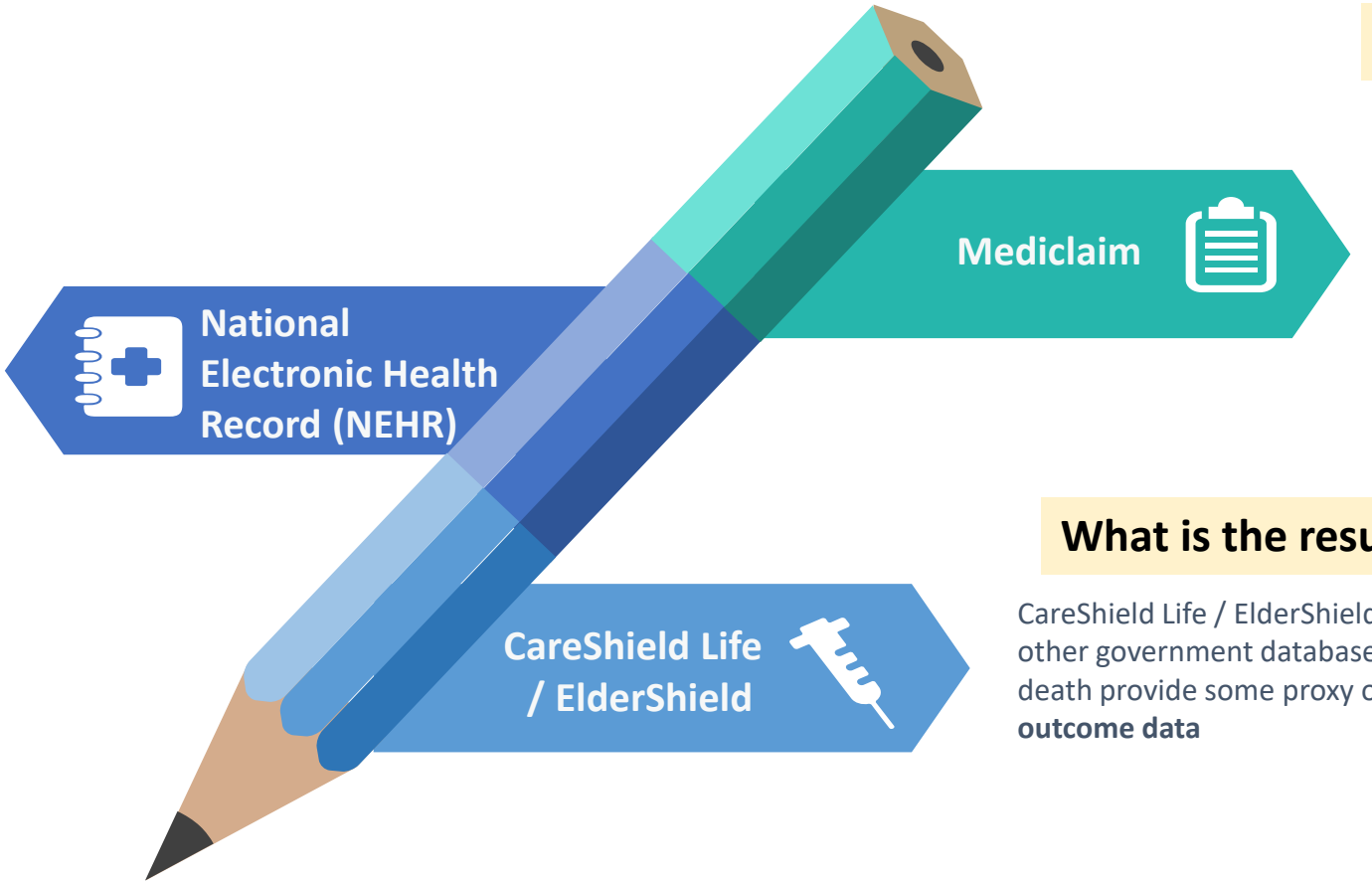
2.2 Source Data for Analytics

What was done?

National Electronic Health Record (NEHR) and other Electronic Medical Records (EMR) implementations can provide clinical data **(treatment given)**



How much?

Mediclaim system used for submission of:

- Medisave,
- MediShield Life, and
- Integrated Shield,

claims can provide detailed **utilisation costs**

What is the result?

CareShield Life / ElderShield and other government databases on death provide some proxy of **outcome data**

Analyse medical providers in relation to how much, what was done, and the result.
Analyse those medical professionals that are outliers vs the population of their peers.

2.3. Preliminary Recommendations

1. Rise in claim incidence rates and claim costs was due to the ageing of the insured population (that is disproportionate vs premium bands) or due to other factors?

2. Study cost of pre-existing conditions coverage vs 2x priced for.
   If yes, then targeted medical intervention to this group may make $ sense

3. Generalised Linear Model (GLM) to better understand the drivers of claim costs

Dependent variable (outcome)	**Independent variable**
• Claims frequency • Claims cost	• age of the insured, • ownership of IP plan, • type of IP, • years of insurance, • resident status, • number of visits to private hospitals, • number of visits to public hospitals, etc

4. Identify potential over consumption and over treatment by detailed provider profiling (i.e. cost for the same treatment vs doctor and/or hospital)

5. Better explain premium changes by sharing analysis. E.g. actual versus expected claims by age bands, gender, top causes of claims by age bands, proportions of claims from private hospitals by age bands, and so on.

3. Rising Claims Costs

Management of Moral Hazard

3.1 Insured Behaviour

Healthy people claim less, unhealthy people claim more

In Global Burden of Disease 2019 study

Singapore was ranked first globally for
- *life expectancy (LE) at birth, and*
- *healthy life expectancy (HALE) at birth, with*
- *lowest Disability-Adjusted Life Years (DALYs) per 100k pop.*

35% of the DALY burden in Singapore can potentially be reduced by early intervention on modifiable risk factors

smoking, poor diet, low physical activity, high blood pressure, high fasting plasma glucose level, high body-mass index and high low-density lipoprotein (cholesterol) level.

We suggest Health Promotion Board shares results (including claims) of wellness programmes such as Health 365 & Lumihealth, to catalyse investments by insurers to encourage healthy behaviours among their insured lives.

3.1 Insured Behaviour

Moral hazard (in other words, overconsumption) occurs when:
- the insured utilises more of their insurance that
- they would not have otherwise done,

without health insurance.

IP insurers have adopted different approaches to minimise moral hazard, such as:
- claim-based pricing,
- preferred panel of private hospitals/doctors, to
- pre-authorisation prior to treatment, and
- removal of 100% coverage for deductibles and coinsurance.

But applicability (of IP insurers efforts) to MSHL is an issue.
E.g. claims based pricing is unlikely to be done for MSHL.

3.2 Value-Driven Care (VDC)

MOH has a unique perspective, as

- 83% of acute care hospital beds are managed by the MOH, and
- 82% of MediShield Life (MSHL) claims are incurred at public hospitals.

Therefore, can more be done on cost management via:

- *"Value-driven care (VDC) – achieving the best possible outcome relative to cost"*
- *"…treatment protocols that provide the best value for patients… optimisation of healthcare outcomes.."*

We suggest more communication of existing efforts by MOH (case studies, etc).

Is there opportunity to link MSHL payouts to VDC?
Look at global case studies, or even lead globally?

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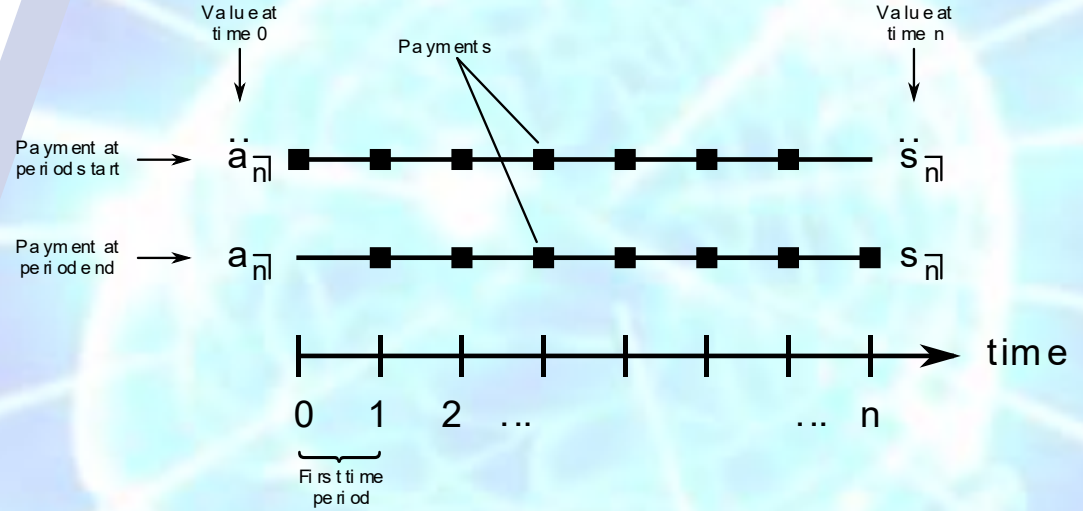
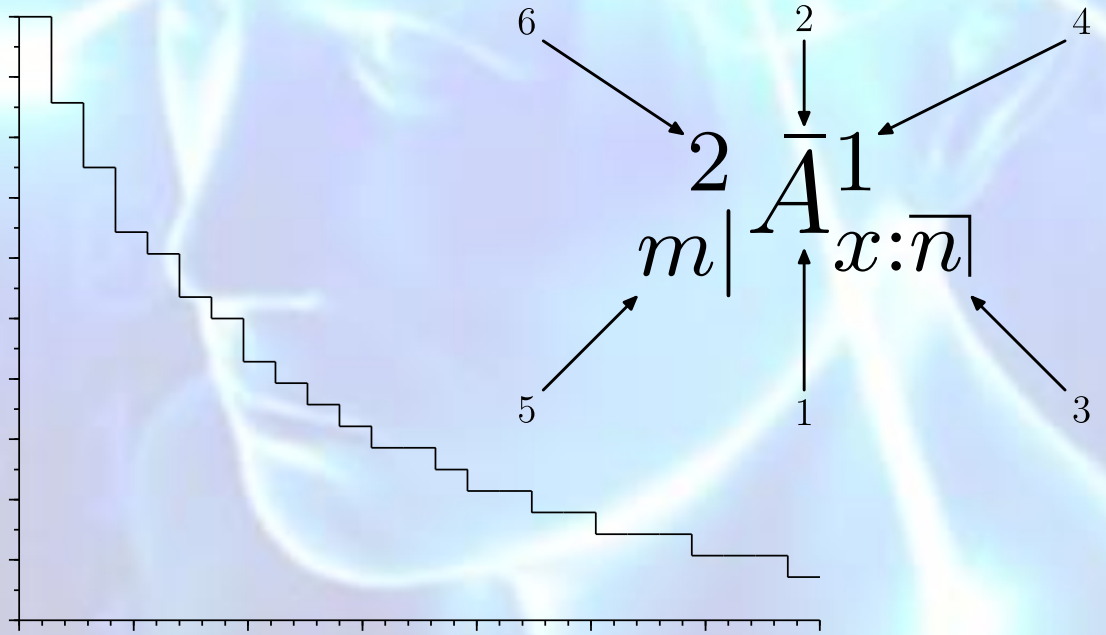
4. Actuarial Value Add





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4. Actuarial Value Add

These are broad observations based on publicly available information

We suggest MOH provides more detailed info on:

- actuarial reserving methodology of MSHL
- anonymised claim information with breakdown by age bands, claim causes, hospitals
- access to the work of actuaries engaged by the MOH on MSHL, their brief from MOH
- detailed claims and treatment information held by health providers.

With data we can bring actuarial expertise to bear and explore the:

- Over-utilisation of healthcare - assessment and impact
- Claim incidence rates - key drivers
- Deductibles and Co-insurance - extent of mitigation, appropriateness of levels set
- Use of riders – to mitigate impact of deductibles and co-insurance
- How companies are handling these issues - what is working, what isn't working, why

Example collaborations include: 2013 report by the Society of Actuaries and Canadian Institute of Actuaries, "Sustainability of the Canadian Health Care System and Impact of the 2014 Revision to the Canada Health Transfer,"

Summary

1. There is urgency for action, but there is 2 large groups of policyholders to consider (MSHL & IP). Rising claims incidence is a concern for both.
2. There exists good infrastructure for data, further and deeper analytics is required to pinpoint core issues, and test action plans
3. Need to manage both insured behavior (via healthier lifestyles) and provider behavior (via value-driven care)
4. More data for better and deeper collaboration between the government and the actuarial profession

The working group targets to finalise the response to the MOH by **30 Nov 2020**,
we would like all members to send your feedback to health@actuaries.org.sg by **24 Nov 2020**

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