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Singapore's Healthcare System: Some Challenges

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My Interest in Health Economics

- Specific events
- Extreme expenditures and death
- Ward-class system
  Good economics, but is it socially desirable?
- Why not universal healthcare not defined by income levels?

Stephen Hawking on US Healthcare Debate

"I wouldn't be here today if it were not for the NHS. I have received a large amount of high-quality treatment without which I would not have survived.“ Guardian

Universal healthcare

- Problems with UK style universal healthcare systems well-known; waiting lists and rationing, heavy tax burden.
- President Obama proposed a single-payer universal healthcare scheme for the US (in 2003), but has dropped the idea from his current proposals.
- Is Singapore a better alternative?

Singapore's healthcare achievements

- Among the best in the world
- WHO assessment (ranked 6 out of 191 countries)

  Health status

  Responsiveness

  Equity

  Efficiency (achievement per dollar spent)
- Singapore scores highly on efficiency, not so well on equity (next slide). This is the key challenge.

  (Note: healthcare achievements is a package deal, education, nutrition, hygiene, healthcare system etc.)

WHO Ranking (WHR 2000, 191 countries)

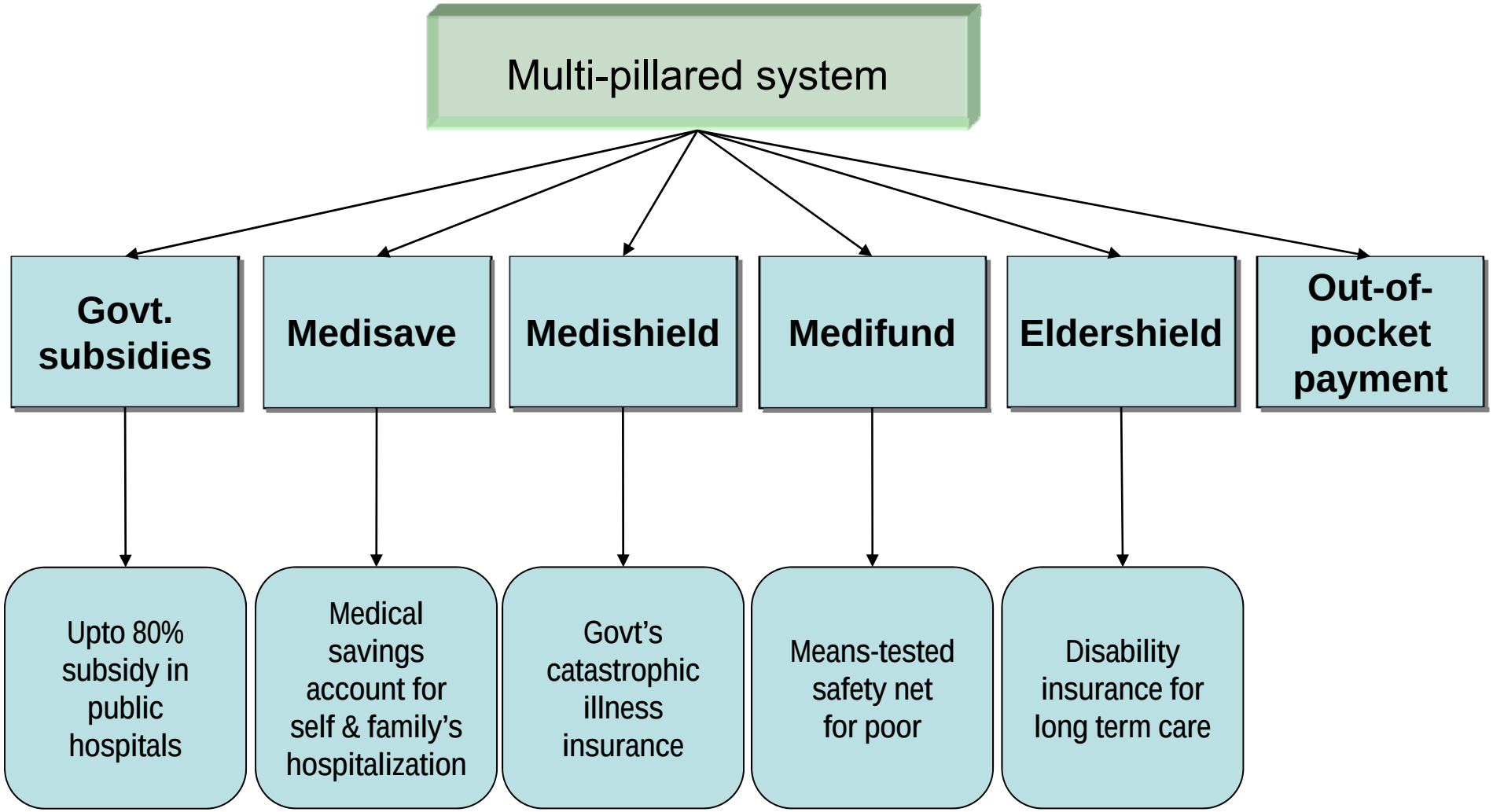
Member state	ATTAINMENT OF GOALS						Health expendi-ture percap	PERFORMANCE	
	Health		Responsiveness		Fairness in fin cont	Overall attain-ment		On level of health	**Overall perfor-mance**
	Level	Dist	Level	Dist					
France	3	12	16 – 17	3 – 38	26 – 29	6	4	4	1
Italy	6	14	22 – 23	3 – 38	45 – 47	11	11	3	2
San Marino	11	9	32	3 – 38	30 – 32	21	21	5	3
Andorra	10	25	28	39 – 42	33 – 34	17	23	7	4
Malta	21	38	43 – 44	3 – 38	42 – 44	31	37	2	5
Singapore	**30**	**29**	**20 – 21**	**3 – 38**	**101 – 102**	**27**	**38**	**14**	**6**
Spain	5	11	34	3 – 38	26 – 29	19	24	6	7
Oman	**72**	**59**	**83**	**49**	**56 – 57**	**59**	**62**	**1**	**8**
Austria	17	8	12 – 13	3 – 38	12 – 15	10	6	15	9
Japan	**1**	**3**	**6**	**3 – 38**	**8 – 11**	**1**	**13**	**9**	**10**
UK	14	2	26 – 27	3 – 38	8 – 11	9	26	24	18
Australia	2	17	12 – 13	3 – 38	26 – 29	12	17	39	32
USA	24	32	1	3 – 38	54 – 55	15	1	72	37

Singapore's Health Care Financing Philosophy*

- Rests on individual responsibility, family & community support.
- Patients to co-pay part of their medical expenses.
- Government subsidies to keep basic healthcare affordable.

*Ministry of Health, Singapore

Singapore's Health Care Financing System



Government Subsidies & System of Ward Classes

- Implemented through system of ward class in public hospitals.
- Means testing introduced since Jan 2009 in class B2 and C wards.

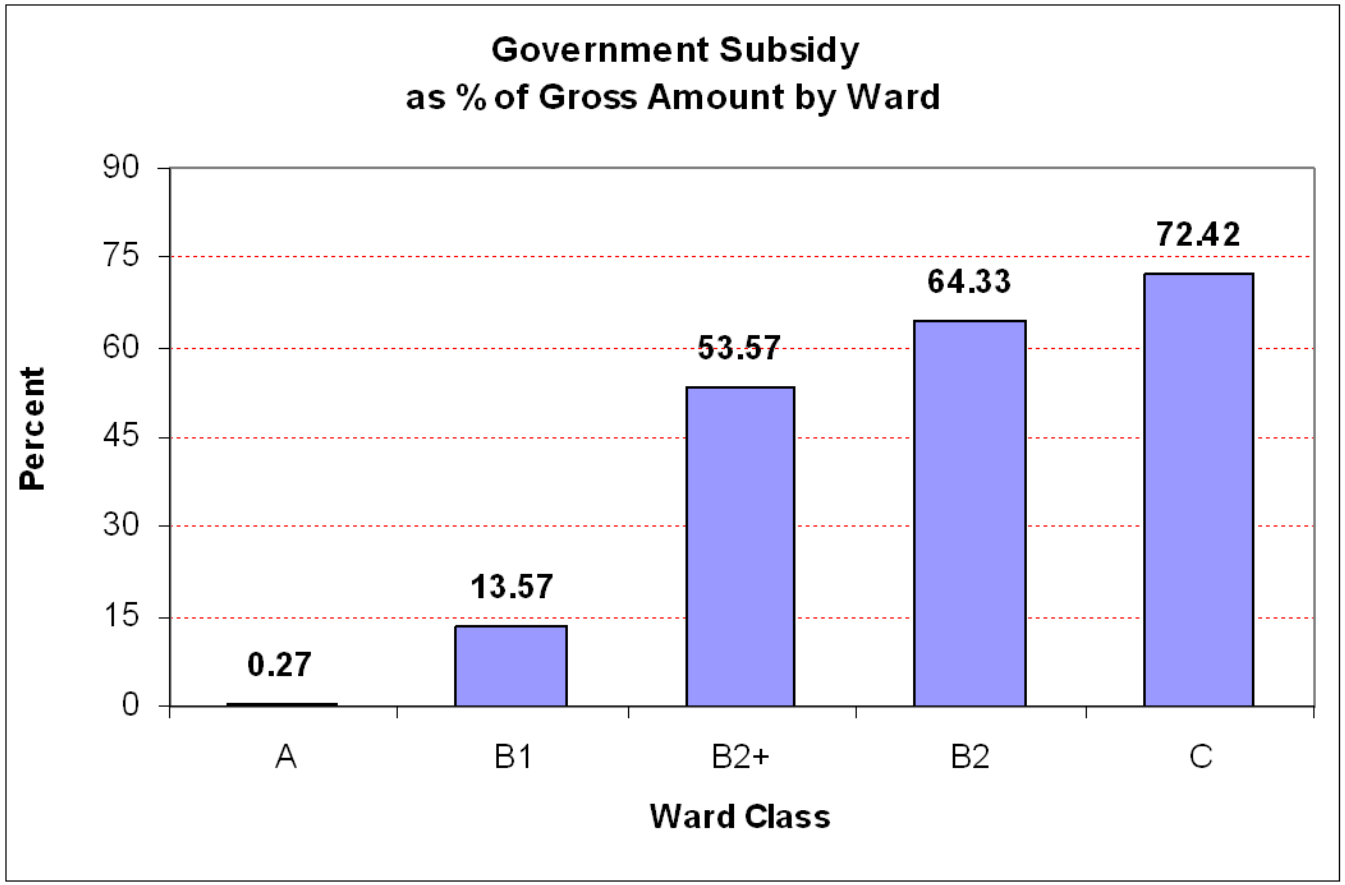
Ward	Subsidy	Beds/ room	Attached Toilet & Shower	Air-con	T.V. & Phone
A	0	1	Yes	Yes	Yes
B1	20%	4	Yes	Yes	Yes
B2+	50%	5	Yes	Yes	No
B2	50 – 65%	6	No	No	No
C	65 - 80%	>6 (open ward)	No	No	No

Some Results from Himani's Data Analysis

- Data from hospital bills of elderly (≥ 64 yrs) admitted in a tertiary public hospital from Jan 2007-Dec 2007.
- Information on patient's age, gender, length of stay, ward class, primary & secondary diagnoses, outcome of hospitalization, itemized inpatient expenses, modes of financing.
- Sample size: 30,192 hospitalization episodes of 18,935 elderly patients.
- Unlike survey data, these data are free from memory recalling errors.

Government Subsidies

- Mean gross amount ~ S$6,067.

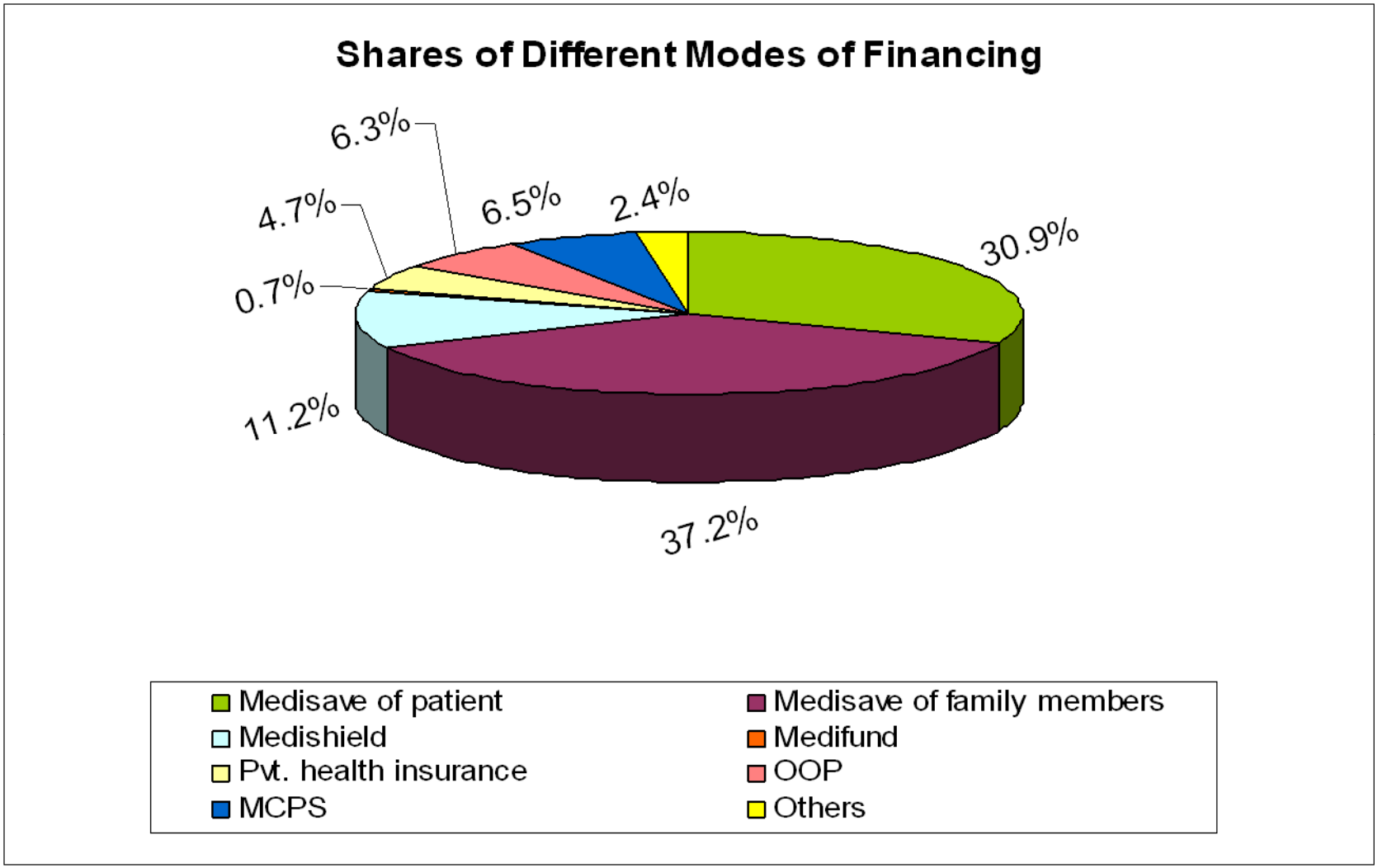


Hospital Bill Size of the Elderly

- Mean net expense of a hospitalization episode ~ S$2,320.
- Class A ward bill ~ 5.5 times class C ward bill & ~ 4.5 times class B2 ward bill.

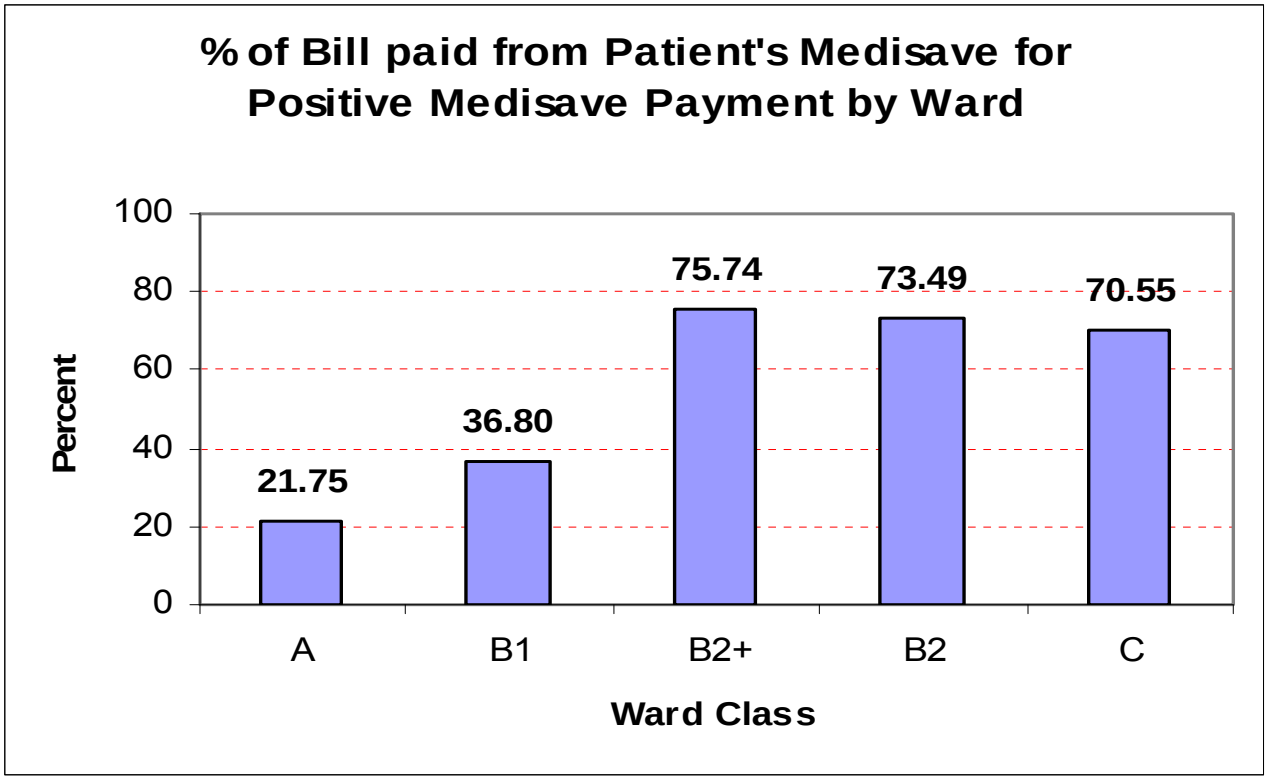
Ward Class	N	Mean (S$)	Median (S$)	90th Percentile (S$)	95th Percentile (S$)	99th Percentile (S$)
A	1,395	8,108	4,180	18,326	23,266	48,793
B1	2,324	6,560	3,574	14,819	18,404	33,646
B2+	822	2,305	1,804	4,074	5,681	10,851
B2	15,260	1,727	986	3,989	5,257	10,083
C	10,391	1,466	842	3,257	4,431	9,004
Total	30,192	2,320	1,087	4,778	8,133	19,126

Modes of Financing (about 75% personal and family)



Medical Savings Account (Medisave) of the Patient

- 55% of elderly use Medisave to pay for hospitalization.
  - Females:46%, Males: 66%
- For elderly who use Medisave, 68% of bill is paid from Medisave.



Medical Savings Account (Medisave) of the Patient (*cont'd*)

Why is role of Medisave limited?

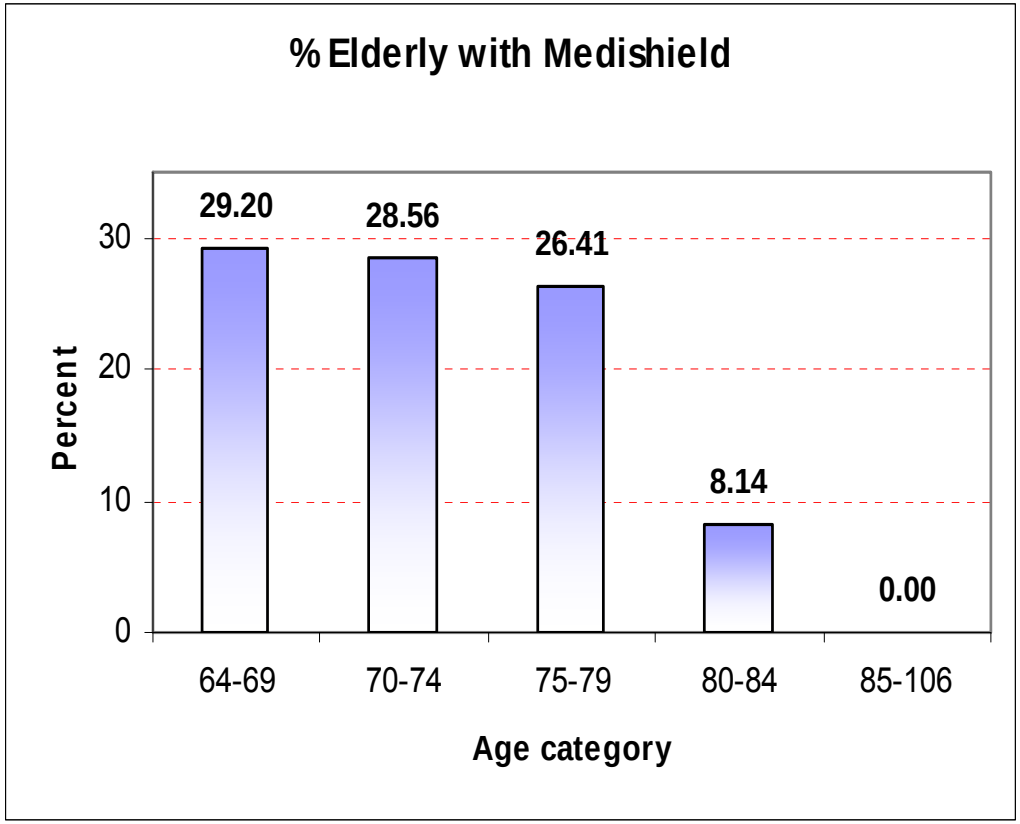
- Medisave balances of majority of elderly fall short of minimum sum.
  - In 2005, average Medisave balance ~ S$5,300 while minimum sum ~ S$27,500*.
- Reason
  - Not enough working years after scheme was implemented in 1984 to accumulate required balances.
  - Greater draw-down & no replenishment.

*Ministry of Health, Singapore

Health Insurance: Government (Medishield)

- 22% of elderly have Medishield coverage.
  - –Females: 18%, Males: 26%

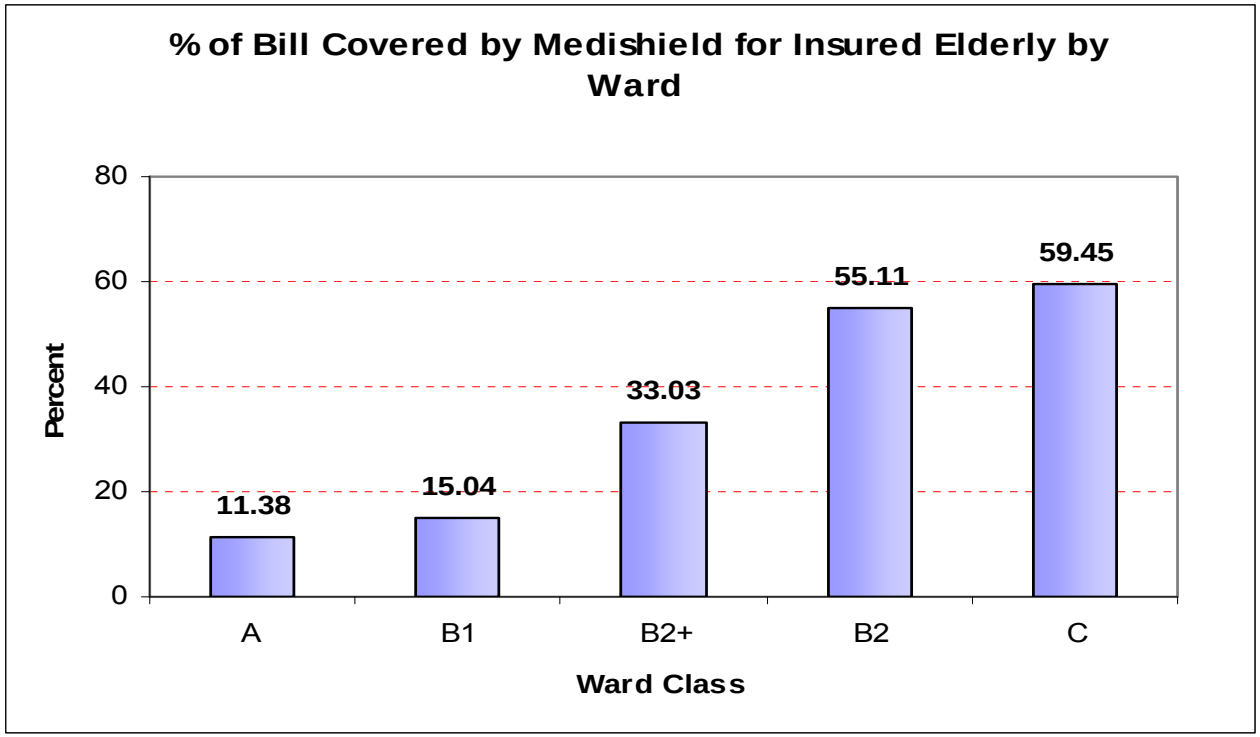
- Older elderly (≥ 80 years) have almost no coverage.
  - –Maximum entry age is 75 years*.
  - –Relatively higher premiums for older elderly.
    - S$524 (76-78)
    - S$615 (79-80)
    - S$1,087 (81-83)
    - S$1,123 (84-85)*
  - –Higher deductible for older elderly
    - For class C ward, S$1,000 (≤ 80) & S$2,000 (81-85)*



*Ministry of Health, Singapore

Health Insurance: Government (Medishield) (*cont'd*)

- Medishield finances 52% of bill of a hospitalization episode for insured elderly.
- Proportion of bill covered in class C/B2 wards ~ 4 times higher than in class A/B1 wards.

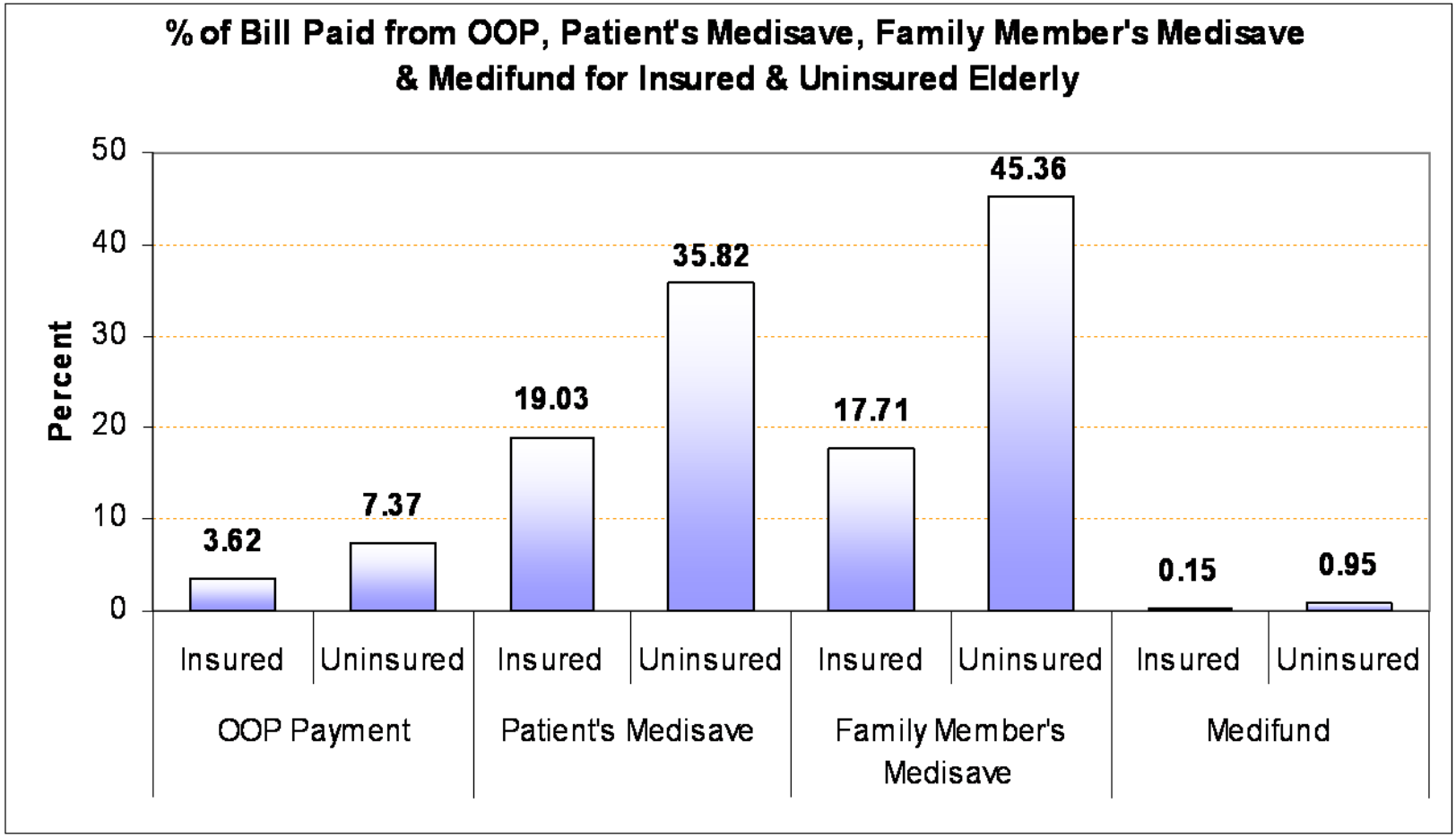


Health Insurance: Private (*cont'd*)

- Pvt. health insurance is even less popular ~ 8% of the elderly are covered.
  - Females: 8%, Males: 8.7%
- 62% of cost of a hospitalization episode for insured elderly is financed by pvt. insurance.

Insured vs Uninsured (*cont'd*)

- 54% of bill for insured elderly is covered.

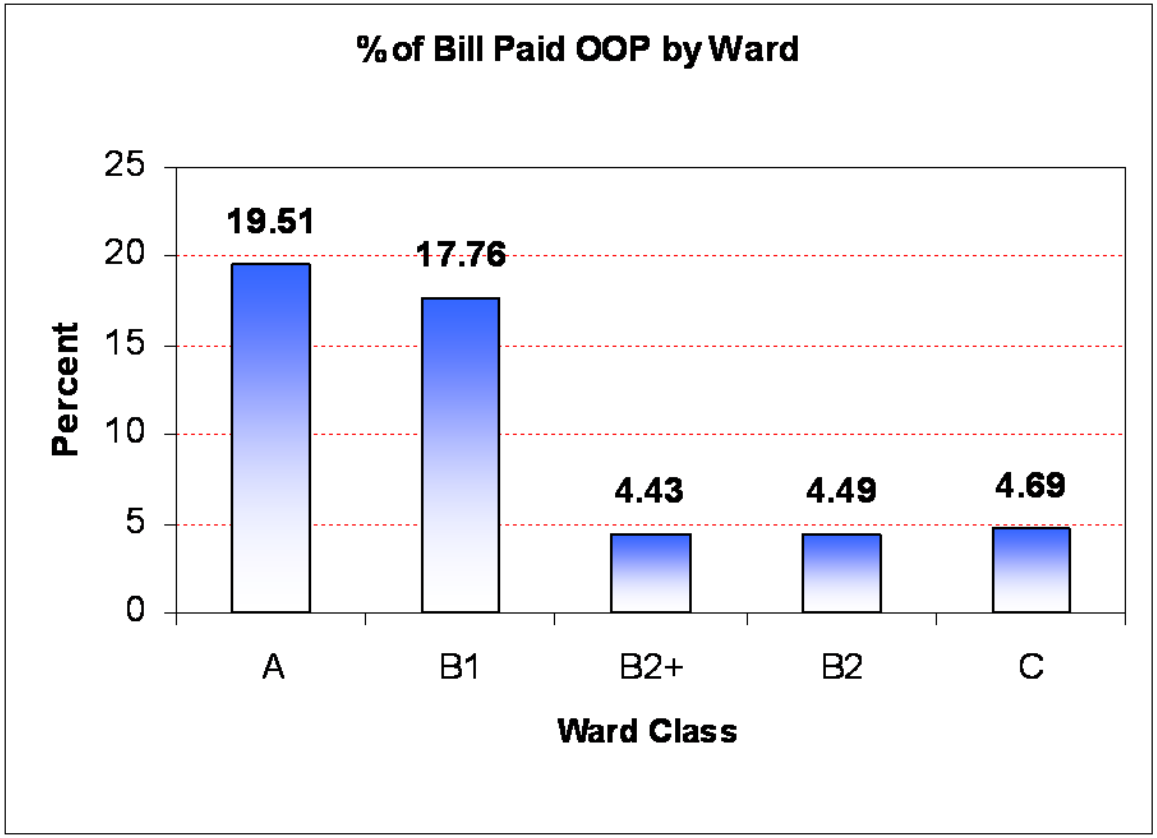


Medifund

- Only class B2 & C wards admissions are eligible for Medifund.
- 0.9% of elderly got Medifund assistance.
- 75% of expenses of a hospitalization episode are paid by Medifund for those who obtain aid.
  - Class B2: 51%, Class C: 78%

Out-of-Pocket (OOP) Payment

- In entire sample, OOP payment ~ 6% of bill.
- In class B2/C wards, OOP payment ~ 4.5%
- OOP payment for top decile ~ 14% & 21% for top one percentile.

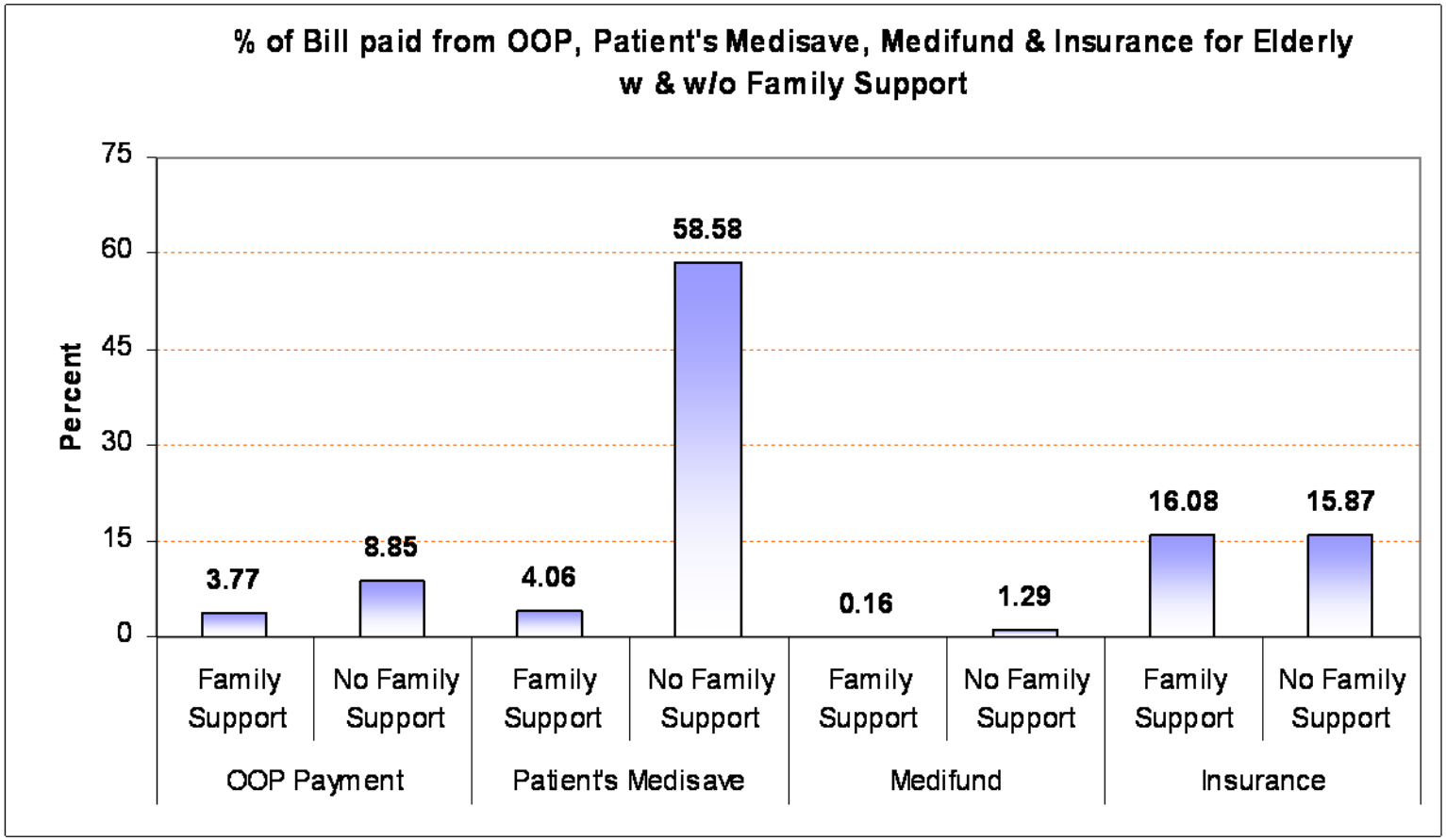


Medical Savings Account (Medisave) of a Family Member

- 51% of elderly have their hospital bills paid from their family members' Medisave.
- More females (64%) than males (38%) tap on family members’ medical savings.
- Older elderly (56%) more dependent on family than younger elderly (49%).

Dependent vs Independent Elderly (*cont'd*)

73% of cost of an inpatient episode is paid from a family member's Medisave for the dependent elderly.

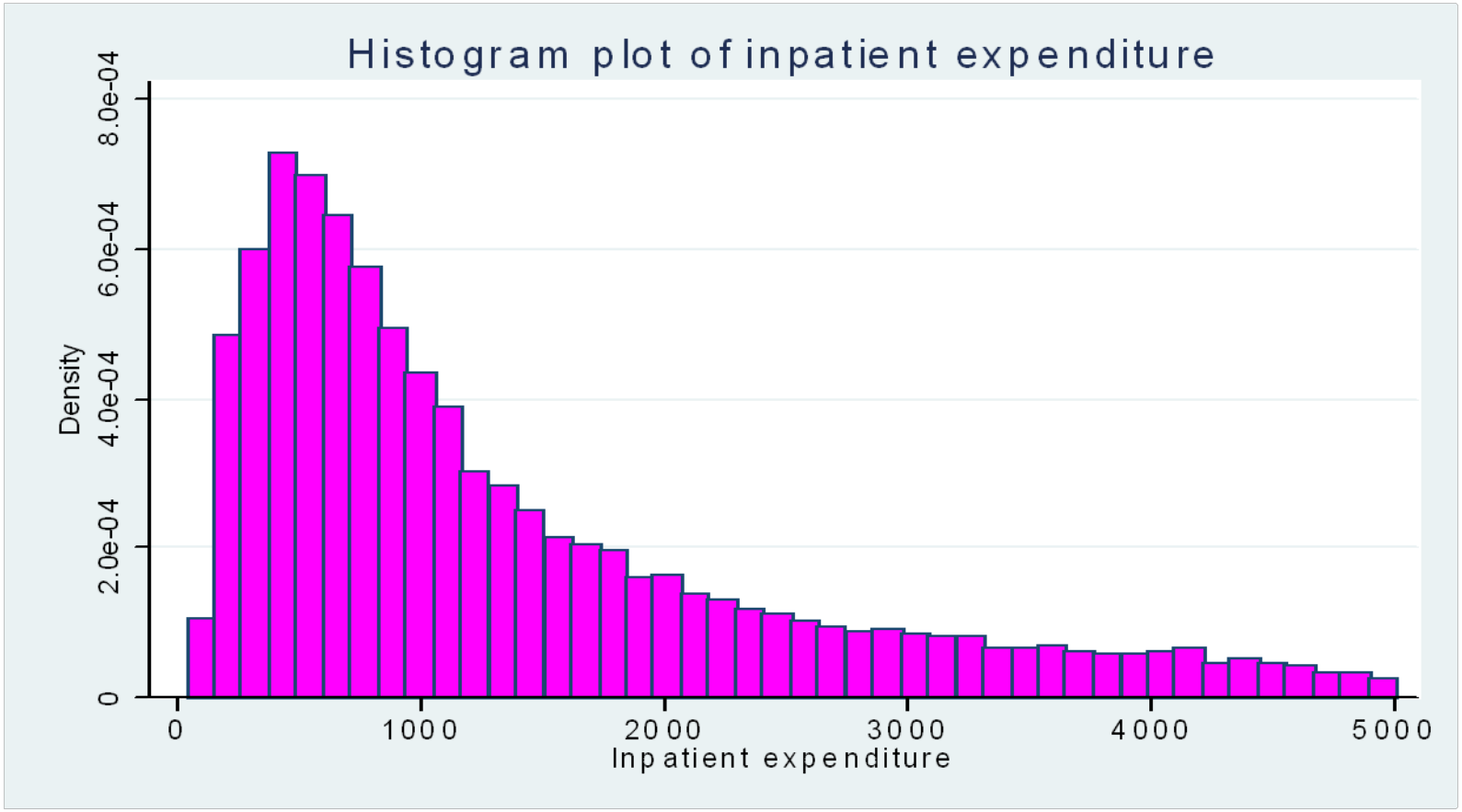


Some observations

- Govt subsidies remain vital to affordability.
- Medisave enacted 'too late' to be very useful to the present cohort of elderly, also greater draw-down & no replenishment for elderly.
- Ability to tap on family members' medical savings very important in paying for healthcare.
- Medishield has limited value to elderly because latest entry age of 75 years, relatively high premiums & high deductible.

Modeling Catastrophic Expenditure

Seven cases more than $100,000. Maximum more than $200,000



Some important observations by fitting a conditional Pareto distribution

- Insurance cover (both Medishield and private) predicts larger bills. This indicates the presence of a self-selection bias in these insurance schemes. Less healthy go for insurance. Healthy go without insurance and face the risk of catastrophic expenditure.
- Ward class type shows a systematic pattern of predicting catastrophic expenditure with patients going to A wards facing the highest risk.

General observations and challenges

- Increasing challenges ahead as elderly increase in proportion with larger political voice.
  - Govt. would be strained to finance ever-increasing health subsidies from a shrinking tax base.
  - Greater demand on children's Medisave when they themselves grow old & face rising personal medical expenses, e.g. Medisave account holder 60 yrs old with an elderly dependent 85 yrs old.

General observations and challenges

- Given most of the expenditure falls upon the individual and family members, the financing system is too much income dependent and less equitable. Efficient but less equitable system can breed unhappiness.
- Portability issue: Portable Medical Benefit Scheme (PMBS) and Transferable Medical Insurance Scheme (TMIS) are voluntary employer-based; do not apply to retirement.
- No comprehensive insurance coverage after retirement, the time when a cover is most needed.

Recommendations (personal viewpoints)

- Basic thesis: why not move in the direction of universal healthcare that is less dependent on income levels?
- Make Medishield compulsory. This eliminates the adverse selection problem.
- Impose a Medishield tax; a fixed % of income. Cross subsidy (from rich to poor, active to inactive, well to sick) is desirable in healthcare.
- As the Medishield funds build up, increase the coverage and eventually make it a comprehensive package.

Recommendations (personal viewpoints)

- Co-payment (and deductible?) should be retained to curb over-use (moral hazard) and encourage healthy living.
- Supplementary private insurance optional.
- Work towards eliminating the ward-class system from public wards. At least in hospital people feel equal ☺
- Separate private wards in public hospitals?