RISING HEALTHCARE EXPENDITURE – DEMAND SIDE:
A SYSTEMATIC REVIEW

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ABSTRACT

Background: Globally, total health expenditure is rising including in Malaysia. Healthcare demand is the decision that is made based on variety of choices that is available for utilising healthcare, consequently stimulating productivity. Among others, healthcare demand can be represented by healthcare expenditure. The concept of estimation of health production function provides derivative of utility/satisfaction. Elasticity is the responsiveness of quantity demanded that alters with respect to for example, income. Healthcare is generally inelastic; therefore there is increment of expenditure on healthcare despite price increment for healthcare utilisation - reflecting quantity demanded for healthcare. The aim of this manuscript is to critically analyse demand-side of rising healthcare expenditure.

Materials and Methods: A systematic review was conducted using the PRISMA 2009 flow. Public domains used were PubMed, Medline, CINAHL and Scopus. Keywords used were health OR health care OR medical care AND expenditure OR household expenditure OR spending AND demand OR demand side OR demand-side. Inclusion criteria included publications in English and were published within 15 years. Reviews and commentaries were excluded. Finally, 30 articles were included in the review.

Result and Discussion: The chosen articles are divided into sections on healthcare demand and expenditure and also health insurance. Based on the review, rising healthcare expenditure can be as a result of the demand for healthcare according to healthcare expenditure and financial hardship, prepayment programme and also demand-side policies.

Conclusion: This review showed that the rise of healthcare expenditure could be resulted from healthcare demand based on healthcare expenditure and financial hardship, prepayment programme and also demand-side policies. The rise would not be solved with just the exchange of private sector’s third-party payment to public domain system. Third-party payers and consumers should implement cost-sharing and more importantly a cost effective national health policy be present without the compromise of a good quality healthcare service.

Keywords: healthcare, health, medical care, household expenditure, demand, demand side
1.0 Introduction

Real healthcare expenditure is on the rise. Gross Domestic Product (GDP) had been rising from years 1997 until 2003. However, following this even when there is some decrement and increment of GDP over the years, it has actually been quite stagnant until year 2015 (as shown in Figure 1). This scenario indicates that Malaysia is becoming wealthier but resource allocation to various sectors is still questionable, prioritisation is perhaps still the same.

1.1 Health Expenditure

Globally, total health expenditure is on the rise in most countries. The percentage of GDP on health from 2000 to 2015 was 8.6% to 9.9% respectively (World Bank, 2018a). In 2015, the percentage differs for high-, middle- and low-income countries. High income countries such as Germany and France had a health GDP of almost 12% whilst middle income countries for instances Iran and Mexico had health GDP of 6% and low-income countries for examples Cambodia and Nepal had 7% of GDP on health (World Bank, 2018a; World Health Organization, 2017).

In Malaysia, total health expenditure as percentage of GDP has also been rising. In 2000, the percentage was almost 3.3%, and intensified to almost 4.6% in 2015 (Ministry of Health Malaysia, 2017). Malaysia is a middle income country (World Bank, 2018c) but this expenditure is not even equivalent to the average for low income countries.

Figure 1: Total Health Expenditure Trend for Malaysia 1997-2015 (RM Million and Percentage GDP on Health)
Source: (Department of Statistics Malaysia, 2016)
1.2 Healthcare Expenditure and Healthcare Demand

Healthcare demand is the decision that is made based on variety of choices that is available for utilising healthcare. Healthcare utilisation consequently stimulates productivity (Jack, 1999). Among others, healthcare demand can be represented by healthcare expenditure (Shih-Ti Yu & Chii-Shyan Kuo, 2016). Demand can be illustrated in the forms of table/schedule, graph/curve and also equation/function (Scott, 2016). The concept of estimation of health production function provides derivative of utility/satisfaction (Adhikari, 2011; Scott, 2016).

1.2.1 Law of Demand

The relationship of quantity of goods or services demanded by consumer in relation to price is the essence of law of demand (provided that all relating factors of demand are held constant). As price increases, quantity demanded decreases; it is an inverse relationship. There are three reasons for this inverse relationship; income effect, substitution effect and declining of marginal utility. Income effect relates to the power of purchasing that is reduced when there is increment of goods or services’ prices. In regards to substitution effect, consumer will choose an equivalent cheaper option when price is high. As for declining marginal utility, this implies that consumer will choose to consume the first unit as oppose to the last unit because first unit has the highest satisfaction, also known as utility (Scott, 2016).

1.2.2 Demand Curve

Figure 2: Demand and Supply Curve
Source: (Sorkin, 1992)

Figure 2 portrays demand and supply curve in the form of graphical appearance. It shows consumer demands for goods or services and supplier willingness to supply at certain prices, respectively.

1.2.3 Elasticity

Elasticity is the responsiveness of quantity demanded that alters with respect to for example, income (Scott, 2016). Healthcare is generally inelastic; therefore there is still increment of expenditure on healthcare despite the increment in price for healthcare utilisation (Nahata, Ostaszewski, & Sahoo, 2005) – which also reflect quantity demanded for healthcare that is not in an inverse relationship with price.

AIM: The aim of this manuscript is to critically analyse demand-side of rising healthcare expenditure.
2.0 Materials and Methods

A systematic review was conducted using the PRISMA 2009 flow (as shown in Figure 3). Public domains used were PubMed, Medline, CINAHL and Scopus. Keywords used were health OR health care OR medical care AND expenditure OR household expenditure OR spending AND demand OR demand side OR demand-side. Inclusion criteria included publications in English and were published within 15 years. Reviews and commentaries were excluded. Finally, 30 articles were included in the review.

![PRISMA Flow Diagram for Rising Healthcare Expenditure -Demand Side: A Systematic Review](image-url)

(n¹ = Pubmed, n² = Medline, n³ = CINAHL, n⁴ = Scopus, n⁵ = Additional records)

**Figure 3:** PRISMA Flow Diagram for Rising Healthcare Expenditure -Demand Side: A Systematic Review
3.0 Results and Discussion

The chosen articles are further divided into sections on healthcare demand and expenditure and also health insurance.

3.1 Healthcare Demand and Expenditure

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Author, Year, Country</th>
<th>N. Population setting/Data Source</th>
<th>Healthcare demand and expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Assessing out-of-pocket expenditures for primary health care: how responsive is the Democratic Republic of Congo health system to providing financial risk protection?</td>
<td>(Laokri, Soelaeman, &amp; Hotchkiss, 2018) Democratic Republic of Congo</td>
<td>3341 individuals Four provinces Population based household survey in 2014</td>
<td>The predictors for financial risk burden were; utilising public services offering complementary benefit package, severity of illness, being a member of a large household, dissatisfaction with care received, expenditure composition, residence and wealth ($p &lt; 0.05$). There is no association with catastrophe.</td>
</tr>
<tr>
<td>2.</td>
<td>Medical expenditure and unmet need of the pre-elderly and the elderly according to job status in Korea: Are the elderly indeed most vulnerable?</td>
<td>(Lee, Kondo, &amp; Oh, 2018) Korea</td>
<td>Medical expenditure and unmet needs: 20,451 and 14,170 elderly 22,602 and 14,663 pre-elderly Korea Health Panel Data 2008-2014 (medical expenditure) and 2009-2014 (unmet needs)</td>
<td>There is a negative and significant association between healthcare expenditure levels in the pre-elderly ($p&lt;0.01$). Unemployment was also significant towards lowering unmet need due to time lacking ($p&lt;0.001$).</td>
</tr>
<tr>
<td>3.</td>
<td>Demand for health care service and associated factors among patients in</td>
<td>(Wellay et al., 2018) Northern Ethiopia</td>
<td>423 individuals</td>
<td>72.5% demanded health care services (95% CI = 61.6, 81.1). Multinomial logistic regression econometric model showed, associations with the demand: educated</td>
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<tr>
<td>Study</td>
<td>Location</td>
<td>Study Type</td>
<td>Key Findings</td>
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<tr>
<td>The community of Tsegedie District, Northern Ethiopia.</td>
<td>Ethiopia</td>
<td>Community based cross sectional study in 2016</td>
<td>Household head ($\beta = 0.079; \text{CI} = 0.96, 1.74$), treatment quality ($\beta = 0.99; \text{CI} = 0.47, 1.5$), treatment cost ($\beta = -1.99; \text{CI} = 0.85, 3.13$), perceived illness severity ($\beta = 1.27; \text{CI} = 0.74, 1.82$) and distance to health facility ($\beta = 1.96; \text{CI} = 0.11, 0.27$).</td>
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<tr>
<td>Changes in catastrophic health expenditure in post-conflict Sierra Leone: an Oaxaca-blinder decomposition analysis</td>
<td>Sierra Leone</td>
<td>6800 households in 2011 &amp; 3700 households in 2003</td>
<td>Three determinants of catastrophic health expenditure - types of health facility used, ill health and the household reside region. A decrease in catastrophic health expenditure is associated with: a decrease of ill-health incidences, regional household location changes, increase public health facilities usage, and decrement of non-governmental organisations’ service usage.</td>
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<tr>
<td>Predictors of high out-of-pocket healthcare expenditure: an analysis using Bangladesh household income and expenditure survey, 2010.</td>
<td>Bangladesh</td>
<td>12,240 households Bangladesh household income and expenditure survey data 2010</td>
<td>High household expenditure is predicted based on household income and presence of chronic diseases ($p &lt; 0.001$). Urban dwellers spent 7% more than households in the rural. A 2% decrease in healthcare expenditure of the household when there is a 100% increase of female members in a family. Other predictors include: household income ($p &lt; 0.001$), presence of health shocks in families and family size ($p &gt; 0.05$ respectively).</td>
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<tr>
<td>Outpatient visits after Retirement in Europe and the US</td>
<td>Europe and USA</td>
<td>Survey of Health, Aging and Retirement in Europe 2004/2005 &amp; Health and Retirement Study 1992-2012</td>
<td>There is positive relation between retirement and the usage of outpatient care, contributed by retirement characteristics such as age and health status, increasing leisure time and stronger preference for health.</td>
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<tr>
<td>Income-related inequalities and inequities in health care</td>
<td>(Devaux, 2015)</td>
<td>Between 1,452 to 101,127 individuals</td>
<td>Higher income individuals tend to attain doctor consultation more likely than lower income individuals.</td>
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<tr>
<td>No.</td>
<td>Study Title</td>
<td>Authors</td>
<td>Data/Methodology</td>
<td>Summary</td>
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<td>8.</td>
<td>Preferences of Bulgarian consumers for quality, access and price attributes of healthcare services-result of a discrete choice experiment</td>
<td>Zamzaireen Z.A. &amp; Muhamad Hanafiah Juni</td>
<td>Data from national health surveys of 18 OECD countries between 2006 and 2009</td>
<td>Preferences of Bulgarian consumers revealed a significant preference for quality, access, and price attributes of healthcare services. Healthcare providers’ skills and reputation are reported to be important components among the respondents ($p&lt;0.05$), in addition to equipment state, facility condition and staff attitude ($p&lt;0.05$). Fee-level, waiting and travelling time were of less importance.</td>
</tr>
<tr>
<td>9.</td>
<td>Correlates of out-of-pocket and catastrophic health expenditures in Tanzania: results from a national household survey.</td>
<td>Zamzaireen Z.A. &amp; Muhamad Hanafiah Juni</td>
<td>Data from national health surveys of 18 OECD countries between 2006 and 2009</td>
<td>Older, female, obese, and functional disability increase adult’s out-of-pocket health expenditure. Older individuals factors were functional disability and seeking traditional healers. Adults, lacking formal education or had worked as labourers earned lesser ($p &lt; 0.001$) and spend lesser on health ($p &lt; 0.001$), even if high disability level. High catastrophic health expenditures is associated with large household size, household member with chronic illness, household head's occupation as a manual laborer, traditional healer's visits and domestic violence.</td>
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<td>No.</td>
<td>Topic</td>
<td>Country/Region</td>
<td>Sample Size/Details</td>
<td>Summary/Relevance</td>
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<tr>
<td>10.</td>
<td>Consumer Health information and the demand for physician visits</td>
<td>Switzerland</td>
<td>14,393 individuals Swiss Health Survey data 2007</td>
<td>As the health information amongst consumers increases, the number of visits to seek physician care reduces and potentially reducing expenditure on healthcare.</td>
</tr>
<tr>
<td>11.</td>
<td>Is health care a luxury or a necessity or both? Evidence from Turkey</td>
<td>Turkey</td>
<td>OECD Health Data 2010</td>
<td>In the short run, income as a necessity good revealed that a 1% increment in per capita income creates a 0.75% increment of health expenditure per capita. Percentage of older people gives a positive effect on health expenditure.</td>
</tr>
<tr>
<td>12.</td>
<td>Income elasticity of health expenditures in Iran.</td>
<td>Iran</td>
<td>Between 27,148 to 39,062 households</td>
<td>Spline regression estimated that amongst the poorest in urban and rural areas, income elasticity is lowest in regards to medical expenses. A quantile regression model revealed that there is less elasticity amongst households with lower medical expenses.</td>
</tr>
<tr>
<td>13.</td>
<td>A health production model with endogenous retirement</td>
<td>Portugal</td>
<td>3700 individuals</td>
<td>Retirement age is decreased with the advancement of population health. As health deteriorates, individuals will retire.</td>
</tr>
<tr>
<td>15.</td>
<td>Is health care really a luxury? A demand and supply approach</td>
<td>Taiwan</td>
<td>Taiwan healthcare expenditure data 1964 to 2001</td>
<td>The expenditure on healthcare is primarily for curing as opposed to caring. Healthcare is a necessity and price elasticity is -0.712.</td>
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</tbody>
</table>
### 3.2 Health Insurance

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Author, Year, Country</th>
<th>N, Population setting/Data Source/Study Description</th>
<th>Health Insurance Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The effect of complementary private health insurance on the use of health care services</td>
<td>(Kii &amp; Arendt, 2017)</td>
<td>5447 respondents Cross sectional survey 2009 using internet-based questionnaire, distributed via YouGov Zapera’s Denmark panel</td>
<td>There is a positive and significant effect of complementary private health insurance on prescribed medicine, chiropractic care, dental care, physiotherapy and general practice ((p&lt;0.01)). Outpatient care is generally not affected.</td>
</tr>
<tr>
<td>2.</td>
<td>China's medical savings accounts: an analysis of the price elasticity of demand for health care.</td>
<td>(Yu, 2016)</td>
<td>33,158 enrollees Medical Saving Accounts data 1997-1999</td>
<td>China’s Medical Saving Accounts’ price elasticity was between -0.42 and -0.5. This higher elasticity of price suggested that this insurance may help control costs in the short term.</td>
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<tr>
<td>3.</td>
<td>Does Full Insurance Increase the Demand for Health Care?</td>
<td>(Boes &amp; Gerfin, 2015)</td>
<td>85,626 individuals Four cities: Zurich, Basel, Berne, Lucerne Christian Social Insurance (CSS) claims panel data 2002-2004</td>
<td>Lower cost ranges have higher sensitiveness in healthcare demand: health cost elasticity 1.0 for low quantiles and 0.1 at higher quantiles. Low-cost patients react to the change in price, reducing the demand to zero. Average cost patients’ elasticity is about 0.14. Hence, cost-sharing model revealed demand elasticity of -0.14 when compared with full insurance.</td>
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<tr>
<td>4.</td>
<td>Expenditures and use of wraparound health insurance for employed people with disabilities.</td>
<td>(Gettens, Hoffman, &amp; Henry, 2015)</td>
<td>15,338 enrollees CommonHealth Working plan 2012 enrollees and Massachusetts Medicaid administrative data</td>
<td>The demand for wraparound health insurance is highest for community-based services. Demand is greatest for the primary insurance that provides coverage that lessens out-of-pocket costs.</td>
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<td>How might the Affordable Care Act's coverage expansion provisions influence demand for medical care?</td>
<td>(Abraham, 2014) USA</td>
<td>184.7 million Medical Expenditure Panel Survey Household Component data 2008-2010</td>
<td>Affordable Care Act’s target population reported to be younger and probably to be male, uninsure with income under 200% of the federal poverty line and lesser rates of multiple medical conditions as compared to the publicly and privately insured. There is moderate increment of ambulatory care and total increment of overall medical care demand among the newly insured.</td>
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<td>6.</td>
<td>Voluntary private health insurance among the over 50s in Europe</td>
<td>(Paccagnella, Rebba, &amp; Weber, 2013) Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, Switzerland</td>
<td>19,356 households Survey of Health, Ageing and Retirement in Europe 2004</td>
<td>Policyholders of Voluntary Private Health Insurance have lower out-of-pocket spending but in some countries (Italy, Spain, Denmark and Austria), they spend significantly more due to increment of utilisation and also cost-sharing measures (reduce moral hazard and adverse selection)</td>
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<td>7.</td>
<td>How price responsive is the demand for specialty care?</td>
<td>(Maciejewski, Liu, Kavee, &amp; Olsen, 2012) USA</td>
<td>51,503 veterans Four tertiary Veterans Affairs medical centres Retrospective cohort</td>
<td>The likelihood of attaining specialty care was not impacted by a USD35 co-payment visit for specialty. However, over time there is a decrement on specialty expenditures. There was an increment from -0.25 to -0.31 of price responsiveness (elasticity).</td>
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<tr>
<td>8.</td>
<td>Medical spending and the health of the elderly</td>
<td>(Hadley, Waidmann, Zuckerman, &amp; Berenson, 2011) USA</td>
<td>17,438 beneficiaries Medicare Current Beneficiary Surveys data 1992 to 2002</td>
<td>The relationship between medical spending and better health is statistically significant: 10% higher medical spending within three years prior (mean = USD 2,709) is associated with a 1.9% higher Health and Activity Limitation Index (HALex) value ($p = 0.045; 1.2–2.2%$)</td>
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<td>Taking up or turning down: new estimates of household demand for employer-sponsored health insurance.</td>
<td>(Abraham &amp; Feldman, 2010) USA</td>
<td>4,706 households Medical Expenditure Panel Survey data 1997-1999 and 2001 (linked Household Component-Insurance Component)</td>
<td>The likelihood of commencing health insurance coverage that is employer-sponsored has an inverse relationship with out-of-pocket premium. Depending on measure of medical spending) and a 1.5% higher survival probability ($p = 0.039; 1.2\textendash1.7%$)</td>
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<tr>
<td>9.</td>
<td>Clarifying sources of geographic differences in Medicare spending.</td>
<td>(Zuckerman, Waidmann, Berenson, &amp; Hadley, 2010) USA</td>
<td>6725 beneficiaries Medicare Current Beneficiary Surveys data 2000-2002</td>
<td>In geographic regions in the highest spending quintile, there was a 52% higher unadjusted Medicare spending per beneficiary as compared with geographic regions in the lowest quintile. Difference in spending between these quintiles decreased to 33% after adjusted for baseline health characteristics, demographics and health status.</td>
</tr>
<tr>
<td>10.</td>
<td>The differences in characteristics between health-care users and non-users: implication for introducing community-based health insurance in Burkina Faso.</td>
<td>(Dong, Gbangou, Allegri, Pokhrel, &amp; Sauerborn, 2008) Burkina Faso</td>
<td>988 households North-west Burkina Faso Household survey 2003</td>
<td>Multinomial logistic regression revealed for non-users of Western healthcare; factors include: lower household expenditure and income, lower perceived disease severity and also older age. Self-care and no-care choices were made based on having 'not enough money' with factors of older age and higher ratio of price-cash income. Community-based insurance increase likelihood of Western healthcare by 4.33% and reduce self-care likelihood to 3.98%.</td>
</tr>
<tr>
<td>11.</td>
<td>The impact of health insurance on outpatient utilization and expenditure: evidence from one middle-income</td>
<td>(Ekman, 2007) Jordan</td>
<td>8,300 individuals Jordan Healthcare Utilisation and Expenditure Survey data 2000</td>
<td>Having insurance resulted in the increment of healthcare utilisation and reduces out-of-pocket spending,</td>
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<tr>
<td>Country</td>
<td>Study Title</td>
<td>Method</td>
<td>Sample Size</td>
<td>Findings</td>
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<tr>
<td>Iran</td>
<td>Estimating rural households’ willingness to pay for health insurance</td>
<td>(Asgary, Willis, Taghvaei, &amp; Rafeian, 2004)</td>
<td>2,139 households</td>
<td>Willingness to pay for health insurance is related to household socioeconomic characteristics and perceived insurance benefits. Regression analysis revealed age, level of education, medical needs, health care facilities availability and accessibility are significant factors.</td>
</tr>
<tr>
<td>USA</td>
<td>Dental insurance visits and expenditures among older adults.</td>
<td>(Manski, Goodman, Reid, &amp; Macek, 2004)</td>
<td>Medical Expenditure Panel Survey 1996 data</td>
<td>Lesser likelihood of having coverage and attaining dental visit amongst edentulous and poorer older adults as compared to dentate of richer older adults.</td>
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<tr>
<td>USA</td>
<td>Evaluation of the effect of a consumer-driven health plan on medical care expenditures and utilisation.</td>
<td>(Parente, Feldman, &amp; Christianson, 2004)</td>
<td>Health insurance claims and benefits data from self-insured employer that offers Consumer-Driven Health Plan 2001</td>
<td>Lower total expenditure was reported among Consumer-Driven Health Plan enrollees as compared to Preferred Provider Organisation but higher than Health Maintenance Organisation. Among the Consumer-Driven Health Plan enrollees, pharmaceutical costs and use and physician visits were lower compared to others but higher for admission rates, hospital costs and total physician expenditures</td>
</tr>
</tbody>
</table>

Based on the review, rising healthcare expenditure can be as a result of the demand for healthcare according to healthcare expenditure and financial hardship, prepayment programme and also demand-side policies, which is further discussed in the following section.
3.3 Healthcare Expenditure and Financial Hardship

The process of making a decision to seek healthcare has been discussed way back 1980s. Firstly, the patient will decide to visit a healthcare provider. Then, the healthcare provider shall determine the needed treatment intensity and subsequently the healthcare expenditure is determined (Duan, Manning, Morris, & Newhouse, 1983). Spending on health is a crucial determinant towards the burden of financial household, attributable for health service payment (World Health Organization, 2017).

At lower income level, healthcare expenditure in Organisation for Economic Co-operation and Development (OECD) countries was reported to be elastic whereas inelasticity is observed at high income level, based on cross sectional analysis of datasets from United States state level, Canadian province level and 16 OECD countries at national level (Di Matteo, 2003). Therefore, this resulted in the increment of healthcare spending among the poor. In contrary to non OECD countries, analysis of the Iranian Household Expenditure and Income Survey data showed that lower income had lower elasticity as compared to higher income. Consequently, government intervention is much more needed to focus on reducing net out-of-pocket prices for healthcare and an improvement towards accessibility of healthcare (Zare et al., 2013).

Out-of-pocket spending that is high is associated with risk of financial hardship and the need to forgo healthcare (World Health Organization and The World Bank, 2017). Out-of-pocket spending is a major share of health spending especially so in low- and middle income countries. Over the years, out-of-pocket share of health expenditure has been decreasing gradually (World Health Organization, 2017), from 2000 to 2015: 48.9% to 44.2% for low income countries, 46.5% to 36.5% for middle income countries and 16.2% to 13.5% for high income countries (World Bank, 2018b).

In Democratic Republic of Congo, a low income country, household out-of-pocket is an important source of health financing. Out-of-pocket contributions is relied upon for the delivery of public primary care service including facilities under government contract (Bertone, Lurton, & Mutombo, 2016). Another low income country, such as Tanzania, apart from functional disability, older participants increase out-of-pocket health expenditure because of traditional healers attainment (Brinda et al., 2014). On another note, Bangladesh, a middle income country, household out-of-pocket for health expenditure is 63.3% (Molla et al., 2017). Aside from knowing about the drivers of healthcare expenditure, predictors of high payments burden are of importance too (Laokri et al., 2018).

Pertaining to the elderly, early retirement is regarded as a relation to deterioration of health. A model showed that individuals with higher human capital have higher health investment, are healthier and would retire later than those health that deteriorates faster due to lesser lower human capital towards health (Galama et al., 2012). General practitioners as gatekeepers can mitigate the increase of demand for outpatient among the retirees (Biro, 2016). In regards to the pre-elderly, because of being unemployed, they reduce utilisation for healthcare, subsequently leading to non adherence towards treatment and negative health effects (Lee et al., 2018). On another note, higher prices for services may also be accepted more in exchange to improved service quality. Bulgarian healthcare consumers prioritise quality of improvement in terms of healthcare utilization (Schoot et al., 2015).
3.4 Prepayment Programme

Prepayment programmes are the ways towards achieving universal healthcare coverage. This approach, being most pragmatic would include several programmes both voluntary and compulsory (Ekman, 2007). Healthcare insurance for the urban and expanding for rural need further considerations such as price of insurance is available at a minimum level, Willingness To Pay for lesser premium and subsidised difference by the government (Asgary et al., 2004). Community-based insurance is an advisable alternative for out-of-pocket as a prepayment scheme as oppose to user fees (Wellay et al., 2018). Community-based insurance may result in the increment of healthcare usage among the poor with additional income premium adjustment and subsidies. Co-payment for the wealthier may be needed too (Dong et al., 2008).

Primary insurance should be able to reduce out-of-pocket spending for healthcare services that are provided (Gettens et al., 2015). Insurance scheme acting as one of the alternative source of financing for healthcare, should be able to act as household prevention of impoverishment as a result of high out-of-pocket healthcare expenditure (Molla et al., 2017). Higher elasticity of price suggests that insurance may help control costs in the short term (Shih-Ti Yu & Chii-Shyan Kuo, 2016). An upward shift of full insurance as compared to cost-sharing model provides the probability of generating costs (Boes & Gerfin, 2015). In regards to voluntary private health insurance, the insurers may need to adopt cost-sharing measures. This is due to controlling adverse selection and also moral hazard effects (Paccagnella et al., 2013). Private health insurance generally is not just an indicator of higher propensity for healthcare utilisation, but also the usage of some services over and above what would be used in the scenario of that coverage absence (Kiil & Arendt, 2017).

On another note, Medicare spending reduction may lead to poorer health for beneficiaries (Hadley et al., 2011). Medicare spending based on geographic areas should also encompasses input about source of differences and adjustment made to account for theses differences (Zuckerman et al., 2010).

Enrollees of Consumer-Driven Health Plan reported to have a lower total expenditure as compared to enrollees of Preferred Provider Organisation despite attaining higher utilisation of hospital admission. Hence, the new health plain is expected to be a viable alternative (Parente et al., 2004).

3.5 Demand-side Policies

Demand-side policies are of utmost importance as means of reducing financial risk of ill health exposure hence reducing vulnerability towards catastrophic health expenditure (Edoka et al., 2017). Other suggested mechanism includes investing in social welfare programmes and reinforcement of social security mechanism (Brinda et al., 2014).

In regards to the expansion of insurance coverage, the system for healthcare delivery (capacity and respond) need monitoring to cater for the expectation of utilisation increment (Abraham, 2014). Health insurance price sensitiveness is an important component that assist policymakers in developing strategies for the reduction of uninsured people and more
importantly affordability for the lower income groups (Abraham & Feldman, 2010). Pertaining to the safety net of specific population such as the elderly, it should be extended to the pre-elderly population too (Lee et al., 2018)

Modern (western) healthcare awareness should be established through dissemination of health information (Wellay et al., 2018). This has the potential of reducing healthcare expenditure due to the decrement of physician visits (Schmid, 2014).

4.0 Conclusion

As a conclusion, this review showed that the rise of healthcare expenditure could be resulted from healthcare demand based on healthcare expenditure and financial hardship, prepayment programme and also demand-side policies. The rise would not be solved with just the exchange of private sector’s third-party payment to public domain system. Third-party payers and consumers should implement cost-sharing and more importantly a cost effective national health policy be present without the compromise of a good quality healthcare service. A compulsory national health policy may be less cost-effective than health savings accounts and catastrophic plans.

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Declaration

The authors declare that this manuscript has never been published in any other journal.

Authors contribution

Author 1: information gathering and manuscript drafting
Author 2: final review and editing of manuscript

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