

## **An Examination of the Interaction between Poverty and Health Status in the Elderly Population of Jamaica**

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### **ABSTRACT**

*In the Caribbean, ageing is evident and its associated challenges are many. As we acknowledge these issues we are cognisant that, among other factors, the poverty levels experienced by the elderly adversely affect their health status, well-being and quality of life. This paper examines the link between poverty and health status, within the context of ageing and the emergent threat of chronic non-communicable diseases, to present and future elderly populations in Jamaica. From 7 percent in 1960 to 10.2 percent in 2001 and expectations of 22 percent elderly in the population by 2050 (STATIN, 2008), practical elder-focused policies in health, social support and development are proposed to address the impact of poverty on one's health status.*

**Keywords:** Ageing, chronic non-communicable diseases, health seeking behaviour, health status, Jamaica, policy recommendations, poverty, quality of life.

### **INTRODUCTION**

The phenomenon of ageing can be viewed as both an achievement and a challenge for the people of the Caribbean (ECLAC, 2000). The global attainment of increased life expectancy of both males and females reflects in part the gains made in the fields of medical and public health. High mortality and high fertility are features of the past for many countries, however, this achievement has also brought with it a demographic transition which challenges both the health status and the level of social and economic well-being of the elderly globally and those in the Caribbean are not excluded (CARICOM, 2009).

According to ECLAC (2000), the evidence of ageing populations in the Caribbean dates back to the 1960s. This "silent revolution" is not unique to Latin America and the Caribbean (LAC), but has its genesis in Europe and is can be found in many countries today. Schmid (2006) noted that there are 8 Caribbean countries among the top 50 percent of countries in the world with ageing populations. The United Nations Population Division (United Nations, 2006b) noted that 4 Caribbean countries – Barbados, Puerto Rico, Netherlands Antilles and Trinidad and Tobago – had already attained an under replacement level of less than 2.1 children per woman and all other countries, but Haiti, were poised to achieve this condition before the next 10 years had elapsed. The challenge is that as the Caribbean goes through this transition its older persons enjoy not only longer lives, but also better quality life-years. This paper is divided into 4 broad sections. Following this introduction, section 2 examines the Caribbean with respect to the demographic, epidemiological and economic situations facing the elderly. Section 3 examines similar issues with specific reference to the situation of the elderly in Jamaica.

Finally, section 4 provides timely recommendations to improve the situation of the elderly in the Caribbean

## **2. AGEING IN THE CARIBBEAN**

### **2.1 Demographics of the Elderly**

In LAC, the segment of the population identified as the elderly or “older persons” comprises those who are aged 60 years and over. This cohort is by no means homogenous and can be further broken down into the younger elderly, 60 to 74 years, and the older elderly, 75 years and over (ECLAC, 2000). The 2000 census data for 16 countries of the Caribbean Community (CARICOM) show that the older population is growing at a faster rate (25 percent) than the total population (9 percent) (CARICOM, 2009). For the wider Caribbean, persons aged 75 years and older accounted for approximately 20 percent of the older population in 1950, which rose to 28 percent in 2010 and is estimated to increase to 39 percent by 2050. Table 2.1 and Figure 2.1 illustrate the observed and estimated changes in the demographic structure of the Caribbean’s population between 1950 and 2050.

### **2.2 Health of the Elderly**

Life expectancy in the Caribbean has increased dramatically over the last 50 years (PAHO/MIAH, 2004), mainly because of improvements in health care, sanitation and nutrition. Changes in the demographic profile of the Caribbean, accompanied by an epidemiological transition where degenerative life-style diseases have replaced infectious and acute diseases as major causes of premature death, are observed. As early as 1997, some 70 percent of those seeking medical care for chronic diseases were older persons (ECLAC, 2000). Among the elderly, the major causes of morbidity were hypertension and arthritis (Schmid, 2006). The 2000 population census data on the prevalence of 3 illnesses - arthritis, diabetes and hypertension - in 10 CARICOM countries show that women accounted for 65 percent of all reported arthritis cases and 61 percent of all reported hypertensive cases while men reported 52 percent of the diabetes cases (CARICOM, 2009).

### **2.3 Poverty**

Poverty has existed on the landscape of the Caribbean for many decades and still persists today in spite of relatively favourable human development indicators of many countries (ECLAC, 2004). In 1996, the level of poverty in the Caribbean was estimated at 38 percent (World Bank, 1996), but had fallen to 30 percent by 2002 (CDB, 2002). According to Schmid (2006), the vulnerability of older persons to poverty increases because their ability to earn income is lower than those in younger age groups. Old age poverty in the Caribbean is by no means a uniform phenomenon. Elderly women in the main tend to be more prone than men to fall into poverty. Further, a number of elderly women, who are often without financial assistance or regular income, are often saddled with caring for grandchildren when their children migrate in search of better opportunities (ECLAC, 2004). To improve the situation, a number of safety net schemes have been provided to reduce poverty among the elderly (UNFPA, n.d.). Formal safety net programmes include social insurance schemes, contributory and non-contributory old-age pensions, social public assistance and funds, in-kind assistance, and residential homes (World Bank, 1996).

However, both the value of social assistance offered and the number of persons who benefit from these schemes are low. Like Government pension schemes, the coverage of non-contributory old age pension schemes is varied - as low as 5 percent (Grenada) in some countries while as high as 80 percent (Trinidad and Tobago) in others. Consequently, many older persons in the Caribbean are forced to rely on financial and/or in-kind resources from family and civil society in order to attempt to escape poverty and destitution (ECLAC, 2004). The case of the elderly and the prevalence of chronic health conditions and poverty among them will next be highlighted by examining the situation of ageing in Jamaica.

## **3. JAMAICA**

### **3.1 Overview of Ageing in Jamaica**

Jamaica, like many of its Caribbean neighbours, is experiencing a demographic transition marked by an increase in its elderly population. According to census data, the elderly population has been steadily increasing over time from just about 7 percent in 1960 to 10.2 percent in 2001 and according to projections from the Statistical Institute of Jamaica (STATIN), by 2050 approximately 22 percent of the Jamaican population will be over the age of 60 years. This is illustrated in Figure 3.1. Typically, when countries experience a demographic transition it is generally attributed to a combination of factors, chief among them is an increase in life expectancy alongside a falling fertility rate. The Jamaican case fits the bill perfectly as illustrated in the Figure 3.2. Life expectancy and fertility rates over the period 1950 to 2009 continue to move in opposite directions, thus fuelling the demographic transition which is expected to continue well into the foreseeable future.

Clearly, this current transition and its expected future intensification will have serious implications both in terms of the allocation and sustainability of society's scarce resources. It is with these in mind that the analysis now turns to the characteristics of Jamaica's 60 and over population.

### **3.2 Profile of the Elderly**

#### **3.2.1 Age**

According to the 2001 census, while there was a 13 percent increase in those 65 years of age and older, the elderly population in Jamaica was dominated by the young elderly (60-74 years). STATIN's end of year population estimates for 2009 show that the young elderly numbered some 193,392 which represents approximately 65 percent of the 60 and over population. This is illustrated in Figure 3.3. As the population ages it is expected, as was mentioned earlier, that the absolute size of the elderly population will increase however, according to projections, the growth experienced will be largest in the younger elderly (60-74). As illustrated in Figure 3.4, the multiplicity of factors at play during Jamaica's demographic transition will culminate in 2050 with a 12 percent increase in the young elderly population.

#### **3.2.2 Male-Female Ratio**

There has been an increase in the number of males in the 60 and over population between the census years 1991 and 2001, however women comprised a larger proportion of the elderly population. Based on end of year estimates for 2009, elderly females outnumbered males in all of the 60 and over age categories. Further, in the oldest age category of 75 years and over, females outnumbered males by 21 percent. This is in keeping with trends in ageing worldwide. Figure 3.5 refers.

#### **3.2.3 Geographical Location and Dwelling**

The elderly, in the main, live in their private residences with a very small segment of the population living in institutions (Eldermire-Shearer, 2008). The 2001 census found that the elderly tended to reside in rural areas and Crooks (2008) indicated that, "*more than 70% of the elderly are rural residents in eight of the fourteen parishes*". Further, the Jamaica Survey of Living Conditions (JSLC) 2009 indicated that more than half of the elderly surveyed resided in rural areas.

### **3.3 Health Status**

Figure 3.6 graphically displays the incidence of self-reported illnesses by age group as captured by the JSLC 2009. The trend for the period showed that those in the 65 years and over age group reported the most incidences of being ill over the 4-week period of the survey, followed by those in the 60 to 64 age group. A high percentage of each age group - 77.6 percent (60-64 years) and 75.8 percent (65 years and over) - reported that the illnesses experienced over the survey reference period was recurrent. These groups also reported longer days of illness/injury and days of impairment than any other age group.

In addition to being ill more frequently, persons 60 years of age and older tend to be disproportionately affected by chronic ailments. Using data from the JSLC 2007, Bourne and Mc Growder (2009) found that of those persons who reported poor health, the chief ailments were hypertension, diabetes and rheumatoid arthritis. Similarly, the JSLC 2009 found that among the elderly who reported chronic illnesses, the most common ailments were hypertension followed by arthritis and diabetes. Further, the percentage of elderly persons reporting these chronic ailments was higher than the percentage of all the respondents in the survey reporting these ailments. Thus, the available information points squarely to chronic non-communicable diseases (CNCDS) as the primary culprit in the ill health of the elderly. The phenomenon of a demographic transition occurring alongside an epidemiological transition adds another dimension to ageing and this has serious future implications for the country. In Table 3.1 both the prevalence of chronic diseases, as well as those persons who are in preliminary stages of developing these diseases, are highlighted.

As can be seen the combination of persons in the pre-65+ age groups who are not afflicted with chronic diseases, but who are also in the preliminary stages of developing these diseases, outstrips the number of persons age 65 years and over in both categories. This in itself is a good predictor of the prevalence of chronic diseases in the elderly because, as Eldermire-Shearer (2008) notes, "*the main causes of health problems in older persons have their origins 30 to 40 years earlier*". A further complication arises when this phenomenon of persons in the younger age category transitioning to chronic ailments is paired with the fact that large numbers of persons are unaware of their chronic disease status. This is captured in the Table 3.2. This lack of awareness on the part of chronic disease sufferers has serious implications, particularly in the case of complications which can result from persons not making the necessary adjustments to their lifestyles, as well as not seeking the appropriate medical interventions. The situation is further exacerbated by the fact that even in cases where persons are aware of their health conditions they may not make the required changes or adhere to medical treatments.

The Jamaica Health and Life Style Survey (JHLS) 2008 reported that of those persons who reported that they were hypertensive, 50 percent indicated that they adhered to their treatment as opposed to the 90 percent self-reported adherence for persons who identified themselves as diabetic. This quite naturally leads into the issue of management of CNCDs, especially with regard to hypertension given the serious complications (strokes and heart diseases) which a lack of treatment can induce. Further, the JHLS alluded to the fact that this may just be the tip of the iceberg, in that, in instances where the risks of having a CNCD were high, the health seeking behaviours were low. This however contrasts sharply with the health seeking behaviour of the elderly. Thus, it seems as though the tendency is to ignore the chronic condition in its early more manageable stages and to wait until the later stages of the disease or later in life to deal with the ailment.

#### **CNCDs - Geographic Location and Social Status**

Another dimension to the discourse was purported by Bourne and Mc Growder (2009) who found that “*there was a statistical relation between health status and area of residence*”. They noted that those residing in rural areas were more likely to report poor health status than their counterparts residing in urban areas. This relationship was further substantiated by the JHLS II 2008, which found that persons in rural areas tended to be disproportionately affected by chronic diseases. Figure 3.7 illustrates. As is evident, persons in rural areas outnumbered those in urban areas in the incidence of hypertension, pre-hypertension, high cholesterol, and diabetes and impaired fasting glucose. In addition to a concentration of CNCDs in rural areas, there is a concentration of poverty in these areas as well. Figure 3.8 shows the poverty levels in Jamaica by region for the period 1989 to 2009. The census of 2001 indicated that the elderly also tended to reside in rural areas. This situation is elucidated in Figure 3.9 where it can be seen that the very young and those over 65 years tended in the main to be disproportionately affected by poverty. The impact of poverty cannot be minimized given the fluctuations in poverty rates in Jamaica from a high of 44.6 percent in 1991, a low of 9.9 percent in 2007 and to 16.5 percent in 2009 following the global financial crisis.

The JSLC 2009 showed that more persons in the poorest quintile reported having hypertension and arthritis when compared to those in the wealthier quintiles. Additionally, as shown in Figure 3.10, the incidence of arthritis and hypertension is higher than the national average in the poorest quintile. This is indeed worrying given the potential for disability and impaired functioning which these ailments can cause, particularly for persons who are poor and also dwell in rural areas. Adding to this emerging picture of CNCDs intertwined with rural poverty, Bourne (2009) - using JSLC 1998-2007 data – found that poverty and health-seeking behaviour in the form of medical treatment were negatively related. Figure 3.11 illustrates this relationship for the period 1989 to 2009. There is a tendency for health-seeking behaviour to decrease as the poverty rate climbs. This has serious implications for the health of persons in lower quintiles, particularly those with chronic diseases and pre-conditions for chronic diseases. As the population ages this is of concern since persons who are at present in the younger age groups and have not sought medical care in the earlier stages of their chronic diseases enter old age with complications which tend to be costly to treat.<sup>1</sup> Figure 3.12 provides a snapshot of those with diabetes, hypertension and arthritis in the 40-49 and the 65+ age groups within the context of the national averages. In the age groups from 50-59 to 65+ the occurrence of these ailments more than double the national average. The reality is that in the next 20 to 30 years, the national average may very well be what is seen in these groups.

The inference is that as the population ages, the proportion of those with CNCDs will increase. Given the coincidence of a disproportionately ageing population affected by CNCDs and the phenomenon of rural poverty, it is no stretch to state that within the next 2 to 3 decades the Jamaican elderly population will continue to be affected by chronic diseases and may very well be unlikely to cope especially within the context of the newly implemented “no user fee” policy at public health facilities. Thus, the burden the State faces needs to be taken into consideration to immediately stem the tide of CNCDs while reducing poverty levels in order to ensure healthy ageing of the population.

## **4. POLICY RECOMMENDATIONS**

### **4.1 How Do We Respond?**

Poverty in a society has long been recognized by Governments and policy makers and plans and programmes have been designed to mitigate the effects of poverty on one of the country’s most valuable resource – its *human resource*. The causes of poverty have been well-documented in many countries and generally point to the factors of limited educational attainment, lack of employable skills, inter-generational cycles of behaviours that perpetuate poverty, gender imbalances and the economic circumstances of the nation,

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<sup>1</sup> The assumption is that as persons age their health seeking behaviour increases.

but what do policy makers do when the twin-effects of poverty and poor health status potentially threaten the fabrics of an ageing society. The first steps would be to re-examine and re-evaluate the current state of affairs, draw out the major issues and sift from them the core problems for only then can the right policy decisions be designed and implemented.

The preceding sections have already put in context the characteristics of ageing in the Caribbean, as well as, outlined some of the specific characteristics of the elderly population in Jamaica and how poverty has impacted the health status (with/without CNCDS as the basis indicator) of this vulnerable population in their “golden years”. For ease in moving forward, variables are assigned to select groups from which the group with the greatest need emerges. Figure 4.1 refers.

*Variables,*

EP, H <sup>+</sup>	-	Elderly poor, with good health
EP, H <sup>-</sup>	-	Elderly poor, without good health (CNCDS)
ENP, H <sup>+</sup>	-	Elderly non-poor, with good health
ENP, H <sup>-</sup>	-	Elderly non-poor, without good health (CNCDS)

Such an approach is useful for developing the policy prescriptions at a national level, with assigned strategies for delivering programmes to communities and individuals. This paper allowed us to identify the groups of persons for whom targeted programmes of support are to be developed and the resources properly allocated. Mapping the most extreme case (represented by the red circle in Figure 4.1), we find that the elderly poor who are not in good health will encounter the greatest fallout of the condition and tend to absorb a considerable amount of resources, particularly from the State’s purse. Given that the level of financial resources of this group are severely constrained, and in most instances are only sufficient to support their basic needs of food and shelter, health-seeking behaviours fall to the bottom of the hierarchy of needs. Such persons either become lost to the day-to-day battle of meeting basic needs or seek relief where available. In any case, the response of a humane society will inevitably set in.

The measures deployed makes use of the transfer of State resources in the form of grants, social support programmes, housing and health care delivery programmes and other forms of subsidization. While scattered programmes can have some positive effect, it is the pooling and coordination of resources and their redistribution to targeted interventions that can have the greatest beneficial impact. It is the correct understanding of the problems that exist, and the right balance of resources, programmes and people-power that will ultimately produce the best results. On the one hand, the development of the corrective measures comes from the national thinkers, policy makers and the political will. The other hand presents the problems in homes and communities that cannot go unaddressed. A caring society looks after its own and, with the underpinning philosophies of social cohesion, equity and fairness, the safety nets are woven. The situation that confronts Jamaica, although not unique to this country, speaks to 2 distinct approaches – one that addresses the **current group** of elderly poor persons without good health and the other that focuses on the **emerging group - the next generation** - who will fall prey to the same conditions in 15 to 20 years. The following outlines some of the policy recommendations to bring some form of relief to the group identified, as well as to outline the measures that need to be put in place very early in an effort to curtail the current trend – a nexus of poor health and poverty by “elders” in society.

#### 4.2 Addressing the Current Group

The current group cannot be judged as a burden on society and left to live out the rest of their lives in less desirable circumstances. The approach must be one that deals with the set of circumstances in parallel with those strategies aimed at preventing and/or reducing the reoccurrence of the present-day situation. Some specific measures aimed at providing relief to the current group of elderly poor persons without good health are outlined below.

**Cash Transfer/Relief Programmes** – Elderly persons want to know that they have some measure of choice and decision-making over their activities. Cash transfer programmes (old-age grants and pensions) provide a direct revenue source for elderly persons and supplement other sources of funding. For persons with failing health, this transfer policy is intended to provide some level of disposable income sufficient enough to encourage health-seeking behaviour when otherwise it was not possible to do so.

**Health Care Services Programmes** – Free or subsidized programmes of health care can attract large numbers of persons in general, but when properly linked with the care and treatment of health conditions – CNCDS such as diabetes, hypertension, cardiac diseases, cancers, etc. - that are prevalent in elderly persons, the overall burden on society is a net negative effect. In the specific case of persons who are financially unable to manage their health condition, issues of non-compliance to treatment regimens, irregular check-ups, or setting aside needed health care are common.

A programme that allows improved access to health care services at no cost or at affordable costs is intended to increase the demand for such services with the aim of better management of one's health condition. The Jamaica Drugs for the Elderly Programme (JADEP) and the National Health Fund (NHF) Card programme currently provide for the provision of subsidized prescription drugs for the treatment of 10 and 15 chronic disease conditions respectively (NHF, 2011). These programmes have significantly reduced the value of out-of-pocket spending on prescription drugs by as much as JA\$1,400 to JA\$4,199 per month for 41 percent of surveyed beneficiaries of the NHF Card Programme in 2009 (HEU, 2010). The same study identified that 44 percent of the surveyed beneficiaries were aged 60 years and over. Expansion of care programmes in the areas of dentistry, optometry and general medical would go a long way in protecting and preserving "needy" elderly persons.

**Community Living/Elderly Homes** – In the Caribbean, it is often said that "stress is a killer" and not having shelter and a place to call home are worrying for destitute persons. Generally, the culture of the Caribbean is one where the extended family household is still much of the norm. Elderly parents and grandparents reside with relatives and the responsibilities for their needs are taken care of by family members. However, where gaps have emerged in this traditional arrangement some older persons have found themselves in prolonged stressful circumstances, which may negatively impact their health status. The relative new dispensation in the Caribbean has introduced a type of living arrangements where housing communities are designed for elderly persons. Caregivers make regular visits to these homes to check on elderly residents. In the same way that Governments purport that they aim to satisfy the housing demands of the population, so too they should cater for elderly persons who cannot afford shelter in a manner best suited to their specific needs.

**Development/Activity Programmes** – It is not only about "dishing out the funds" in support programmes for elderly persons who are unable to take care of themselves, but more so about empowering them and engendering the value of independence from circumstances (poverty, poor health, etc.) that threaten to prematurely shorten their lives. Nutrition and exercise programmes are apt examples of ways to lead healthier lives. Craft programmes stimulate the brain and allow for interaction among the young, the not-so-young and the old. The State as the lead agency, along with private sector involvement, should take the opportunities to formulate programmes in line with the development of its varied society.

### 4.3 Addressing the Emerging Group

Addressing the emerging group or next generation of elderly poor persons with ill-health calls for a long-term strategic plan, which when implemented now will reap the benefits decades later. The benefits in this case refer to the reduced number of persons living with preventable health conditions, more persons managing non-preventable health conditions, and a greater number of persons managing their economic circumstances such that the State does not bear the major burden of their misfortunes. It means therefore that the root causes of poverty and poor health must be well-defined and solutions – applied now to the young and not-so-young generations – developed for minimizing them. So, what are needed? The answers to this question are described below.

**Education and Training Programmes** – Knowledge is power and one of the first steps would be to educate the population about the importance and benefits of healthy lifestyles – exercise, good diet, etc. This can be entrenched from the early childhood level, as well as at various life stages. In particular, the population groups most at-risk for CNCs should be singled out to be involved in awareness and training programmes at their work places, community centres and centres of learning. Timely intervention is critical.

**Health Promotion and Prevention Programmes** – We are familiar with the phrase, "an ounce of prevention is better than a pound of cure" and this rings true for health care. Knowing what to do to prevent illnesses and taking the necessary action could mean the difference in the numbers of quality life-years for an individual. While we take responsibility for our individual actions, the State may opt to take decisive action by making available screening and testing programmes for conditions, for example cholesterol, diabetes and blood pressure testing. The future saving in health care delivery alone are unmatched by actions that are taken now to prevent illnesses or delay their onset.

**National Health Insurance Programmes** – National health insurance has its foundation rooted in the principle of social solidarity – a concept where persons who can afford pay for persons who cannot afford to pay and health care resources are distributed to the entire population that comprises a spectrum of healthy and ill persons. This form of health financing is common in more developed countries like the USA, Canada and England. More and more Caribbean countries<sup>2</sup> are looking to national health insurance or some stylized version of it as a means of financing the increasing costs of health care.

<sup>2</sup> The Turks and Caicos Islands, Cayman Islands.

For persons determined to be unable to meet the financial contributions, the State may make the decision to pay contributions on their behalf. In this way, all eligible persons will have access to health care services when needed. As countries rationalize their resources, national health insurance is a viable solution to long-term financing of health care.

**Skills Development Programmes** – The development of skills is linked here to the ability to secure continuous employment, which would in turn help one to save for future consumption in one's golden years. Ensuring that academic programmes and/or technical skills training programmes align with the needs of the market can be well-worth the planning. "Future proofing" the society and individuals from fall-outs from unmatched skills is a robust investment.

**Taxation** – The introduction of taxes, which can be air-marked to specific response programmes, is a tool that Governments use to generate revenue. These monies, when properly redirected, can be used to fund specific programmes in health, education and social development. This is the case in Jamaica where a portion of taxes<sup>3</sup> is redirected to the NHF Card Programme. Well-designed tax measures can prove to be beneficial sources of revenue for programmes with long-term goals of CNCD reduction and poverty alleviation.

### Summary

The combination of the age-old issues of poverty and ill-health, along with the relatively newer phenomenon of ageing warrants innovative measures to address the fallouts of these conditions, which impact individuals, communities and society as a whole. The responsibility for devising the right solutions rests with the State from the perspective of protecting the nation's most vulnerable. But doing so would mean taking decisive measures aimed at developing and delivering the right product to the right target market – somewhat emulating the foundation of a marketing firm that conceptualizes, designs and delivers a product specific to its targeted audience.

## TABLES

**Table 2.1: Age Distribution of Older Populations of the Caribbean  
Medium Variant (Selected years)**

Age Group	1950		2000		2010		2015		2050	
	thousands	%	thousands	%	thousands	%	thousands	%	thousands	%
60-64	375	35.7	1,209	30	1,505	29.6	1,684	29	2,905	23.8
65-69	273	26	960	23.9	1,218	24	1,383	23.8	2,505	20.5
70-74	192	18.3	763	19	938	18.4	1,070	18.4	2,049	16.7
75-79	123	11.7	527	13.1	662	13	768	13.2	1,847	15.1
80+	88	8.3	565	14	766	15	907	15.6	2,923	23.9
<b>Total</b>	<b>1,051</b>	<b>100</b>	<b>4,024</b>	<b>100</b>	<b>5,089</b>	<b>100</b>	<b>5,812</b>	<b>100</b>	<b>12,229</b>	<b>100</b>

Source: Population Division of the Department of Economics and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision. <http://esa.un.org/unpp>.

**Table 3.1: Disease Conditions by Age Group, 2009**

Disease Condition	Sex	25-34	35-44	45-54	55-64	65-74
Diabetes Mellitus	Male	0.9	5.1	13.6	12.4	3.4
	Female	3.3	9.4	14.6	24.8	32.2
	Total	2.2	7.3	14.1	18.5	29.6
Impaired Fasting Glucose	Male	2.9	2.2	2.8	7.0	3.4
	Female	2.8	1.8	4.6	4.1	1.2
	Total	2.8	2.0	3.7	5.6	2.3
Hypertension	Male	12.8	22.6	41.1	58.6	60.5
	Female	12.2	23.1	49.8	62.6	71.3
	Total	12.5	22.9	45.4	60.5	66.1
Pre-hypertension	Male	49.2	49.2	39.7	28.1	27.1
	Female	29.3	36.2	29.8	25.3	19.8
	Total	38.7	42.5	34.8	26.7	23.3
High Total Cholesterol	Male	6.3	8.4	11.8	13.4	17.7
	Female	8.5	15.5	27.5	32.0	30.9
	Total	7.5	12.1	19.5	22.6	24.6

Source: Jamaica Health and Life Style Survey II 2008.

<sup>3</sup> The portion of the tax is derived from the collection of 23 percent excise on cigarettes, 1 percent payroll tax and a special consumption tax.

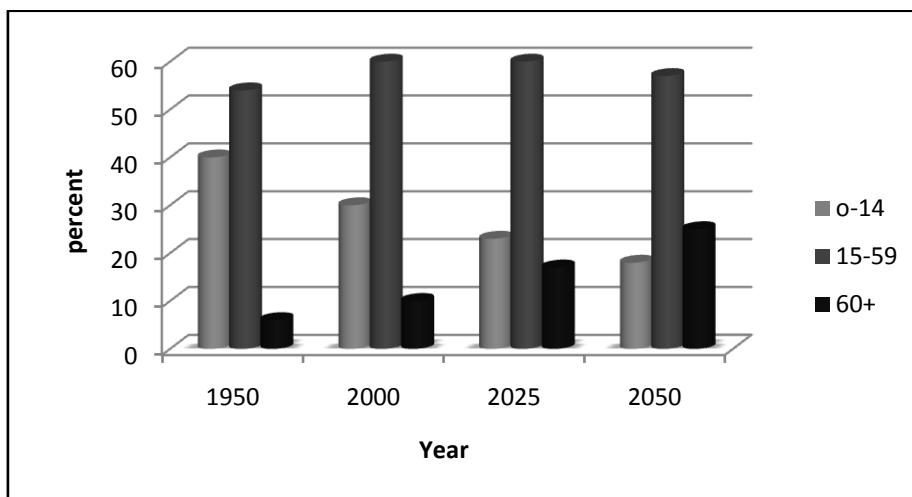
**Table 3.2: Awareness of Chronic Diseases in Persons 15-74 Years, 2008**

Disease		Male	Female	Total
Hypertension	Aware	30.6	69.6	50.7
	Unaware	69.4	30.5	49.3
Diabetes	Aware	73.2	78.0	76.1
	Unaware	26.8	22.0	23.9
High Cholesterol	Aware	16.6	12.7	14.0
	Unaware	83.4	87.3	86.0

Source: Jamaica Health and Life Style Survey II 2008

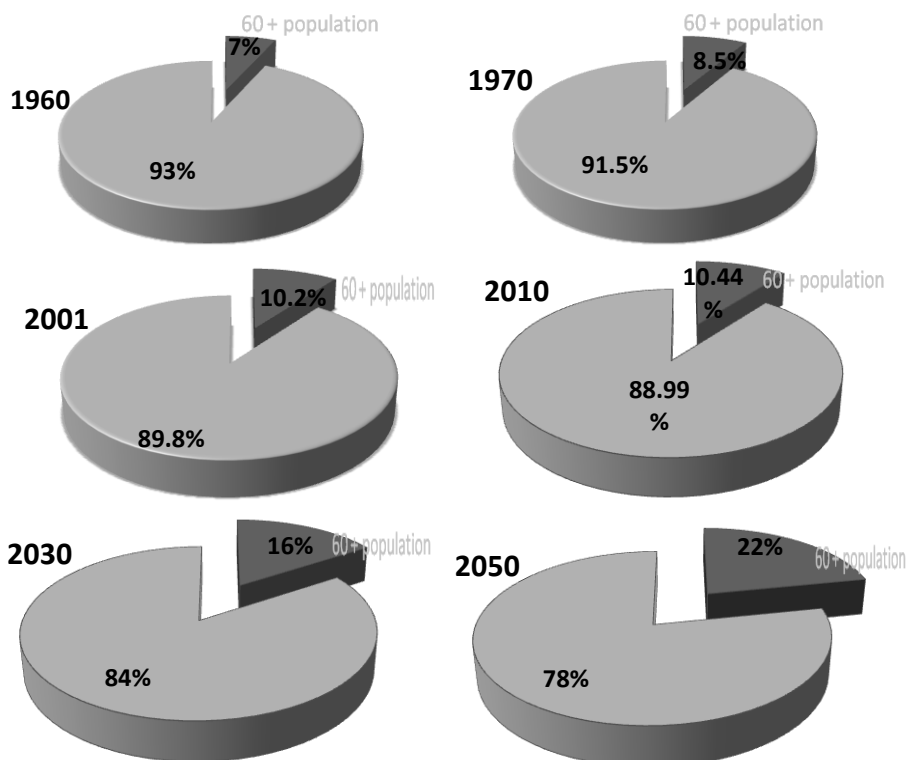
**FIGURES**

**Figure 2.1: Composition of the Population of the Caribbean by Age Groups, Estimates for 1950-2050**



Source: Population Division of the Department of Economics and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision. <http://esa.un.org/unpp>.

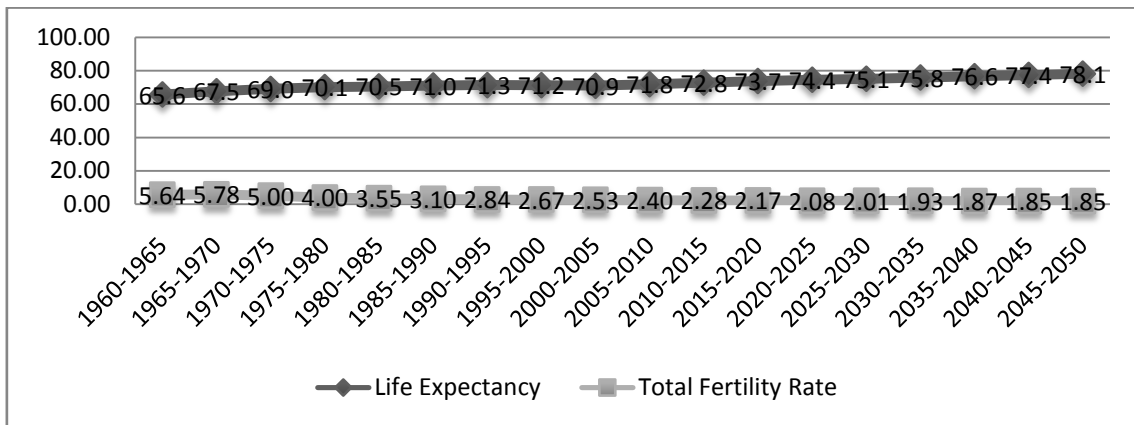
**Figure 3.1: Population 60+ as a Percentage of the Total Population, Census 1960, 1970 and 2001 & 2010, 2030 and 2050 Projections (Medium Projection)**



Source: Author's calculations based on Census reports (various years) & Population Projections 2000-2050, STATIN 2008.

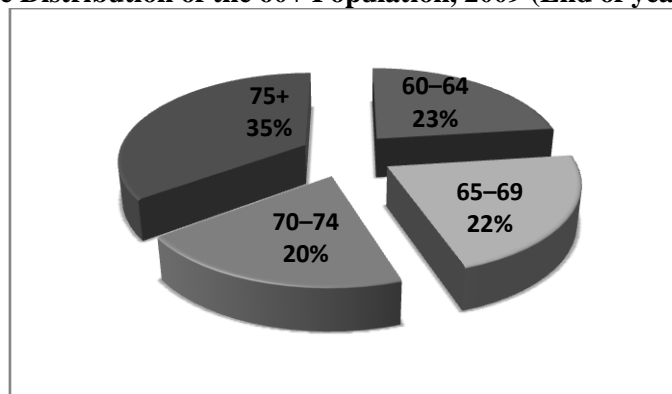


**Figure 3.2: Life Expectancy and Total Fertility Rate, 1960 to 2050**



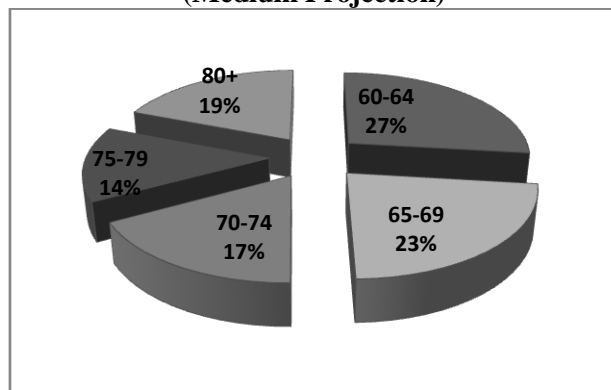
Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision. <http://esa.un.org.unpp>.

**Figure 3.3: Percentage Distribution of the 60+ Population, 2009 (End of year population estimates)**



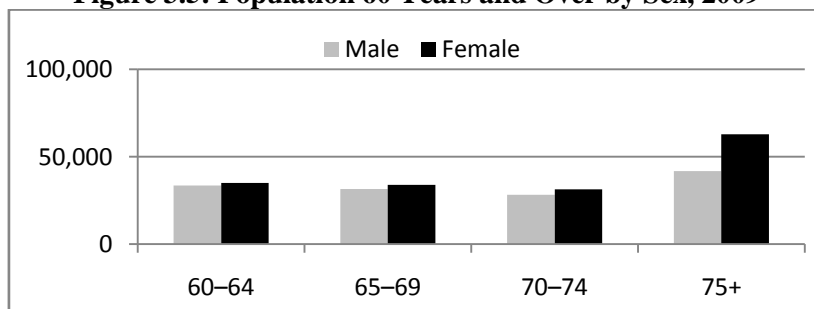
Source: Statistical Institute of Jamaica.

**Figure 3.4: Percentage Distribution of the 60+ Population based on STATIN projections for 2050 (Medium Projection)**



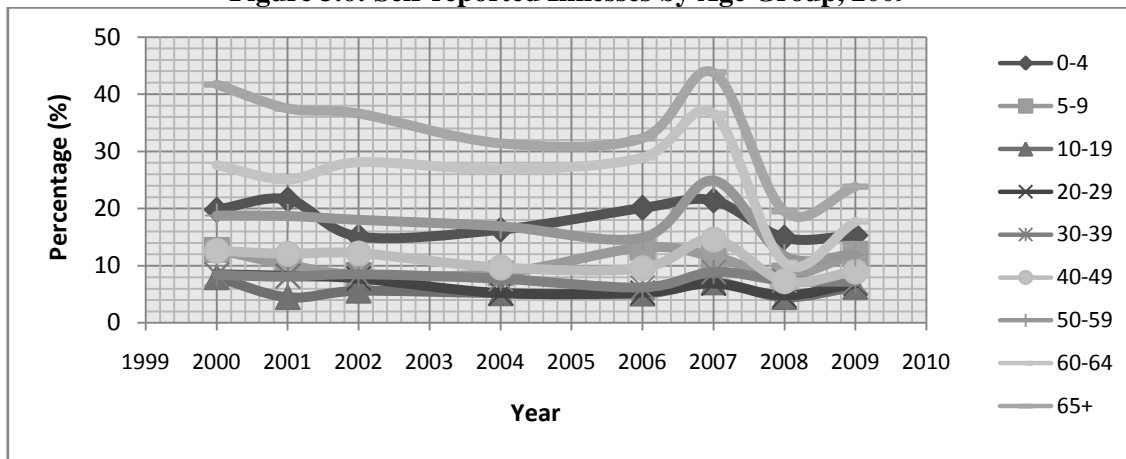
Source: Population Projections 2000-2050, Statistical Institute of Jamaica, 2008

**Figure 3.5: Population 60 Years and Over by Sex, 2009**



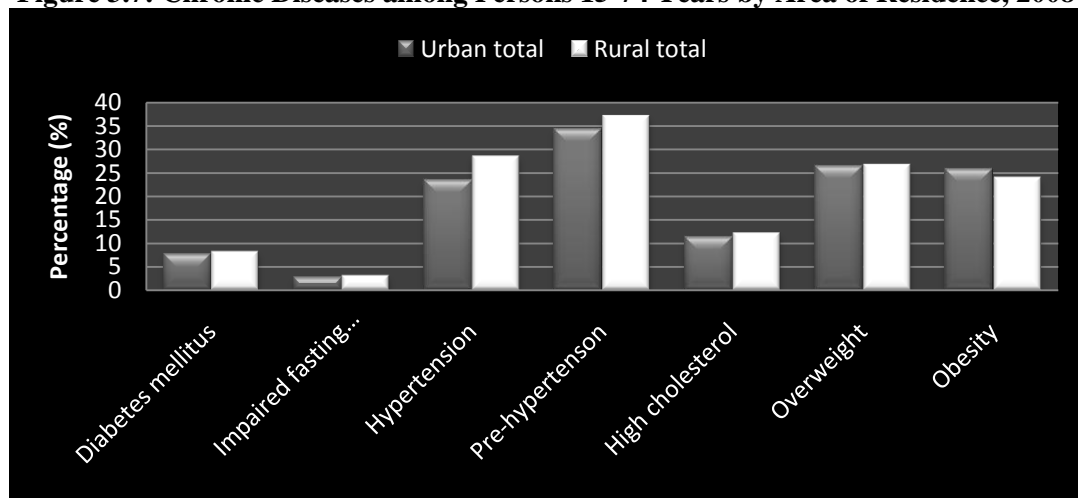
Source: Statistical Institute of Jamaica website.

**Figure 3.6: Self-reported Illnesses by Age Group, 2009**



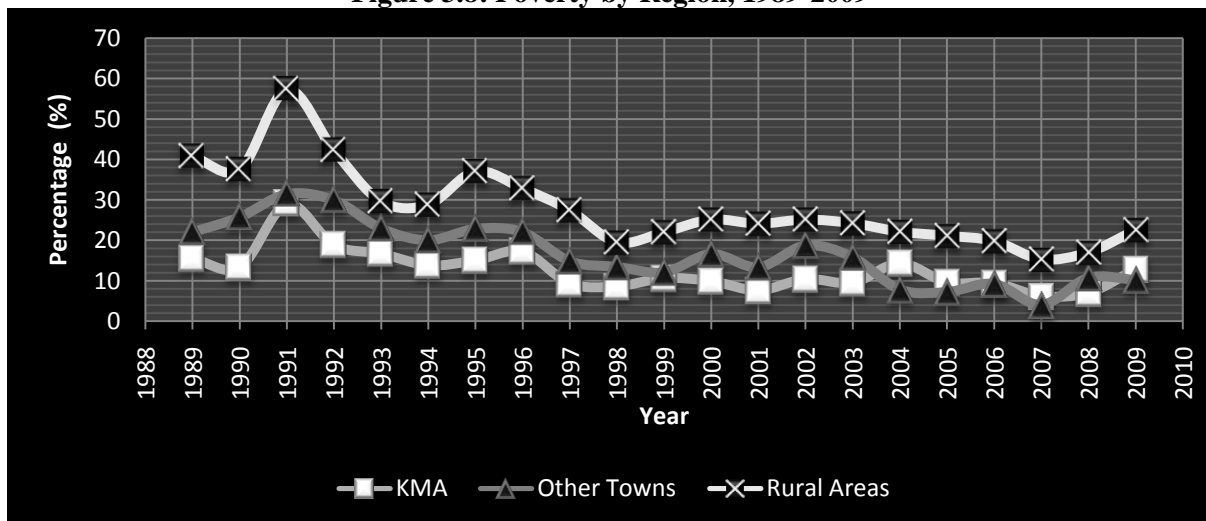
Source: PIOJ and STATIN, Survey of Living Conditions, 2009

**Figure 3.7: Chronic Diseases among Persons 15-74 Years by Area of Residence, 2008**



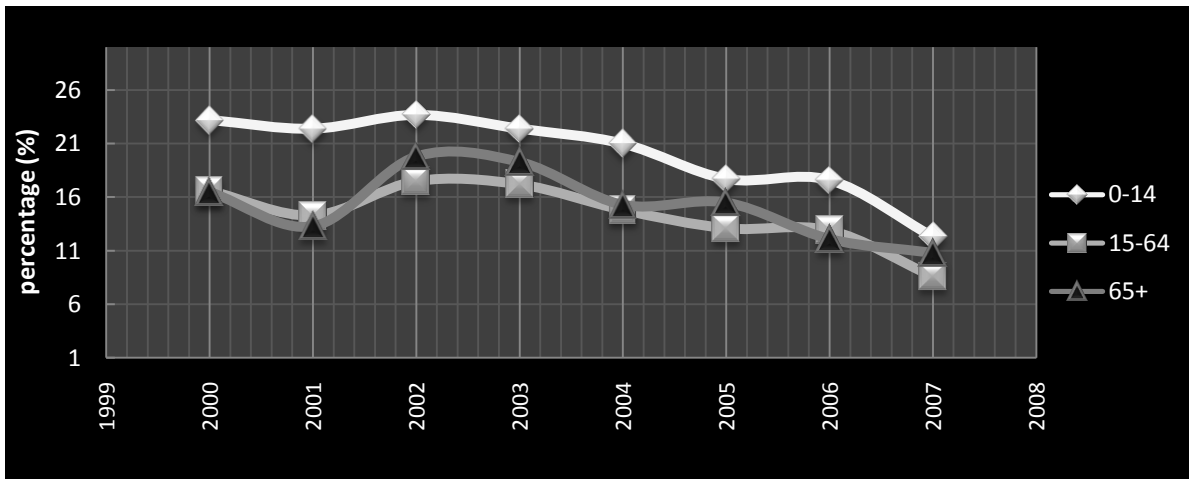
Source: Jamaica Health and Life Style Survey II 2008

**Figure 3.8: Poverty by Region, 1989-2009**



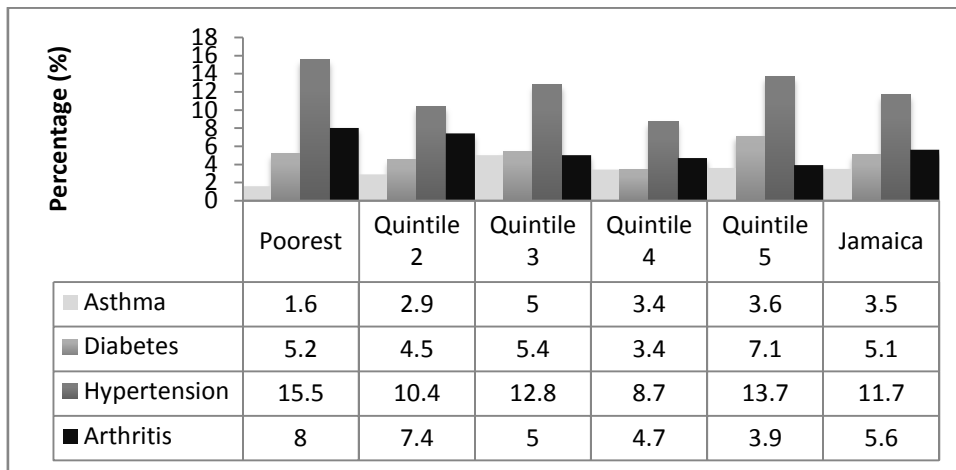
Source: PIOJ and STATIN, Jamaica Survey of Living Conditions (various years)

Figure 3.9: Poverty by Age 2000-2007



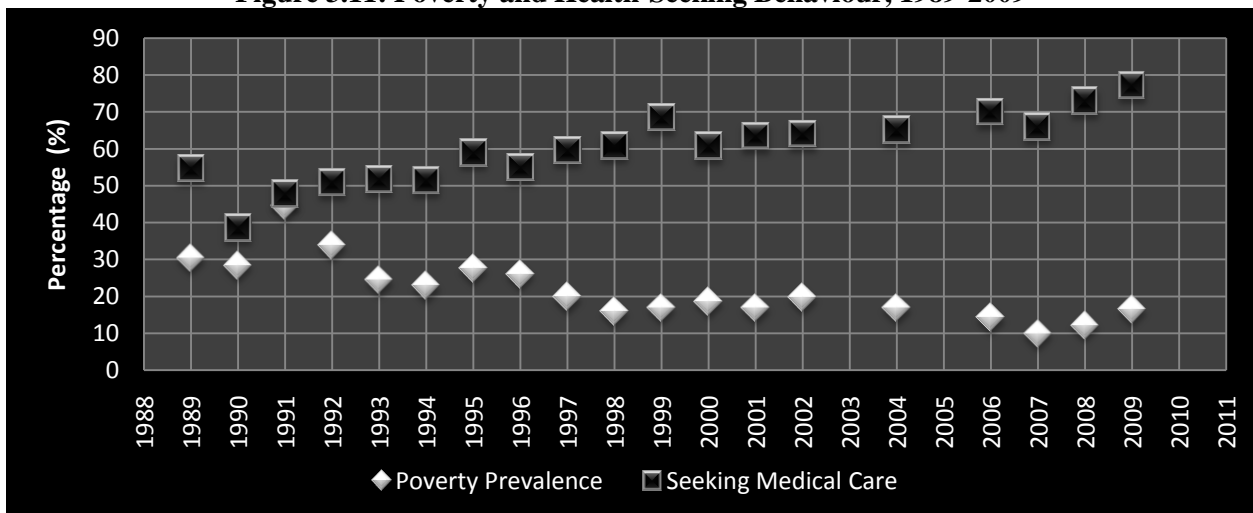
Source: Government of Jamaica, Vision 2030

Figure 3.10: Percentage of Persons Reporting Chronic Diseases by Quintile, 2009



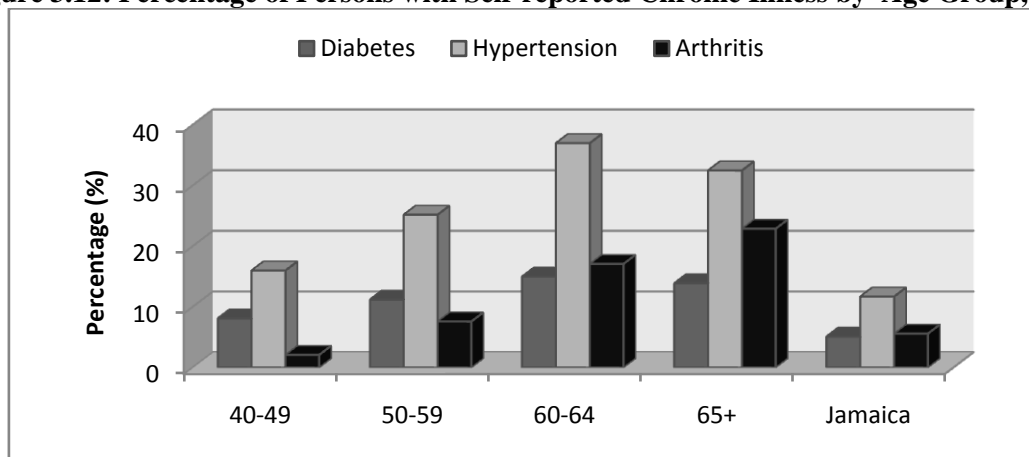
Source: Jamaica Survey of Living Conditions 2009.

Figure 3.11: Poverty and Health-Seeking Behaviour, 1989-2009



Source: Jamaica Survey of Living Conditions Various years.

**Figure 3.12: Percentage of Persons with Self-reported Chronic Illness by Age Group, 2009**



Source: Jamaica Survey of Living Conditions, 2009.

**Figure 4.1: Matrix of Health and Poverty of the Elderly**

	Good Health (H <sup>+</sup> )	Without Good Health (H <sup>-</sup> )
Elderly Poor (EP)	EP, H <sup>+</sup>	<div style="border: 2px solid red; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">                     EP, H<sup>-</sup> </div> <p><i>Greatest need for State resources</i></p>
Elderly Non-Poor (ENP)	ENP, H <sup>+</sup> <i>Least need for State resources</i>	ENP, H <sup>-</sup>

Source: Authors' Construct.

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