

# **IMPLICATIONS OF CHRONIC DISEASE PATIENT TRAVEL TO HEALTHCARE FACILITIES ON THE DESIGN OF NATIONAL HEALTH INSURANCE IN SOUTH AFRICA – A PRELIMINARY REVIEW**

**T MUBAIWA<sup>1</sup> and M MOKONYAMA<sup>2</sup>**

<sup>1</sup>University of Cape Town, Rondebosch, Cape Town, 7700

<sup>2</sup>CSIR, Built Environment Unit, Pretoria, 0001

## **ABSTRACT**

The South African Human Rights Commission acknowledges that access to healthcare services in South Africa, especially for the poor, is severely constrained by expensive, inadequate or non-existent transport services. This is exacerbated in cases of patients with chronic diseases who require regular travel to healthcare facilities. Therefore, any interventionist programme to improve access to healthcare facilities that does not incorporate transport access requirements reduces the efficacy of such a programme. The paper forms part of a research project aimed at identifying public transport design requirements to support patients with chronic diseases. This paper in particular qualitatively benchmarks the proposed South African National Health Insurance against other similar insurance schemes elsewhere in the world through isolating how the different schemes cover non-emergency patient transport requirements. The paper finds that South Africa's National Health Insurance is among the many schemes that disregard patient travel requirements. However, subject to further empirical research, the paper identifies options for consideration that could be incorporated in the NHI for chronic patient travel requirements.

## **1. Introduction**

This paper reviews national health insurance programs of eight countries that include South Africa, India, Russian Federation and Britain, United States of America, Canada, Australia, Turkey, as chosen from the BRICS and OECD organisations. While the paper highlights historical evolution of the health insurances and their funding strategies, the primary focus of the review is outlining the various approaches to practice options in provision of non-emergency patient transport programs (NEPTs). This is essential because unaffordability of transport services is often cited as a reason for premature termination of patient treatment.

## **2. Background**

### **2.1 The burden of disease**

Existing literature on global health profile reflects an emerging epidemic associated with non-communicable diseases, particularly in the low to medium income countries (WHO 2005). For South Africa, apart from poor health profile and socio-economic challenges associated with non-communicable diseases (Hofman, 2014 Van Zyl et al 2012), constrained patient mobility remains a significant barrier to access to

healthcare (Harnack, 2014, ) particularly for the transport disadvantaged group of people (Wallace et al 2005).

## **2.2 Conceptualising accessibility to healthcare services**

Access to healthcare is central to the performance of healthcare systems across the globe (Levesque et al 2013). It is multidimensional and complex in nature (Ursulica, 2016) as healthcare is non-homogeneous in its function (Daniels 2013). The varying definitions of accessibility to health care reflect that defining accessibility to healthcare is not a universally agreed discourse (Levesque et al 2013), however, within the framework of this review, the most relevant definition of accessibility to healthcare is the one outlined by Levesque et al (2013) and Mckinney et al (2104), who defined accessibility to healthcare as *the interaction of the various factors of access to health that enables an individual or group of individuals to utilise health services*. Spatial accessibility, which is a function of health geography, for which patient mobility plays a vital role in the efficacy of health systems performance, is one of the fundamental dimensions of access to health care (Ursulica 2016, Brondeel et al, 2014).

## **2.3 Universal access to health**

Universal access to healthcare can be simply defined as the availability and utilisation of healthcare services by all individuals without undue barriers (NHS 2006). The importance of universal access to healthcare is reflected in the efforts with which nations across the globe have sort to adopt the concept. For example, South Africa, India, United States of America and Britain are among the countries that have health system reform policies, including national health insurances as a panacea to inequalities to health and drive towards universal access to healthcare. However, existing literature on accessibility to healthcare, including Porter et al (2013), Basch (2014), have questioned the universality of the approaches to universal access. The general view is that the transformation frameworks are not comprehensive in their efforts, as health factors such as patient mobility, among others, are not adequately addressed. Benatar (2014) further argues that health systems research should not be limited to medical issues, but should be integrative to include conditions that affect health in general.

## **2.4 Implications of non-emergency patient travel on access to healthcare**

If access to healthcare is a human right as enshrined in the United Nations Human Rights Charter, then patient mobility, particularly for the transportation of disadvantaged persons cannot be ignored. The consequence of unmet transport needs can lead to a number of negative health outcomes, including missed appointments, loss of healthcare services for patients, treatment drop-out and inability of people to obtain prescription for medication. However, the worst outcomes of such eventualities are increased morbidity and mortality rates (Wallace et al, 2005, Wilkem, 2012 Atuyo 2014). In view of the importance of patient mobility in healthcare, as identified through literature, it is imperative for main mobility and health planning to extensively implore this discourse.

## **2.5 Non-emergency patient transportation within the discourse of access to healthcare and transport planning**

Spatial accessibility has been identified as one of the fundamental dimensions of access to health care, where factors such as traveling time, age, medical condition, disability, affordability and travelling distance, the quality of transport infrastructure and appropriateness of transport modes are viewed as critical factors in this regard

(Wallace et al 2005, Ursulica 2016, Porter et al 2013). At a global level, there exists a plethora of literature on accessibility to health care, including significant initiatives by the World Health Organization, as reflected in its health systems transformation agenda (WHO, 2003). However, much of the discussion is primarily focused on the need to address the disparities and inequalities in health systems based on health outcomes, rather than reviewing contextual factors fundamental to accessibility to health care, including spatial accessibility (WHO, 2003) and constraints associated with non-emergency patient transport services.

In South Africa, debates on accessibility to health care, particularly, as it remains relevant today, has been, and remains fixated on addressing the repercussions of apartheid policies characterised by inequalities in healthcare system. Central to this discourse is primary health care reengineering (Sibiya 2013, Sibiya and Gwele 2013), underpinned by the dictates of the Reconstruction and Development Program, the White Paper on Transformation of Health Systems in South Africa, and the subsequent health policies, including the National Health Insurance of 2015. In view that health facility geography in South Africa is characterised by dispersed location of specialised health institutions (Gaedei and Versteeg, 2011) where, arguably, treatment for complicated medical conditions like cancer and renal therapy are likely to be addressed, efficient patient mobility, and particularly non-emergency patient transport remains of significance relevance.

Whereas in countries such as USA and Australia, the discourse on non-emergency patient transport has been brought to the fore, and efforts are being put in place to improve patient mobility as reflected in the discussion on the Impact of the Affordable Care Act on Non-emergency Medical Transportation (Garrity and McGehee 2014; Chisholm-Smith. G (2014), and non-emergency planning initiatives in New South Wales Australia, non-emergency patient transport appears to be an unaddressed issue in South Africa's health transformation planning policy, main stream transport planning and the broader academic research. For example while Mashiri et al. (2008) and Cocoran et al (2012) discuss the important role of non-emergency patient mobility on accessibility to health care, the literature is limited to identifying the empirical factors without outlining innovative transport related design that can potentially improve accessibility to health care.

At a global level, the dispensation related to practices and academic research on main stream transport planning sort much the creation of sustainable neighbourhoods through innovative public transport initiatives like Transit Oriented Development (TODs), transport corridor development and creation of high-density neighbourhoods as a way of managing urban sprawl and reduce environmental transport related impacts with no regard to the role that non-emergency medical transport services have on spatial access to social services. Such efforts and concepts have found significant consideration in South African as reflected in spatial development policies and academic research, including the National Development Plan 2030 published in 2011, and the Draft Spatial Development Framework of South Africa of 2011. Nevertheless, the Transport Research Board's publication 99 of 2011 on Improving Mobility for Veterans, provide significant insights into innovative solutions on how non-emergency patient transport services can be designed and brought in the main stream health and transport planning policies and practices. Furthermore, Hughes-Cromwick et al (2005) provide insight into innovative non-emergency transport services planning methods. However, the research is primarily

limited to the cost-benefit analysis of provision such services. Within the framework of this discussion, research on integrating mainstream health care systems transformation planning, transport planning and non-emergency patient mobility remains an area of relevant interest global wide and South Africa in particular.

**3. Objectives of the paper**

Discussions above pertaining to accessibility to health care services strongly suggest that access to healthcare goes beyond just the patient and service interface. It includes various non-health factors that influence individuals’ wellbeing and their ability to remain healthy. Therefore, within the context of this paper, access to healthcare is synthesised as the inclusive process that optimises an individuals’ opportunity to maintain health and wellbeing. There is evidence, in extant literature (Wallace et al 2012, Sayed et al 2013 among others) that affirms that spatial accessibility, from which patient mobility is a dimension, is a barrier and as such universal access to health is expected to cover such requirements.

The paper presents a review of literature on national health insurances programs of eight countries, chosen from the BRICS and OECD member counties, on how such programs cater for non-emergency patient transport. The countries were selected based on economic membership, geographical location and socio-economic contexts. Literature sources are desktop based; however, correspondences were made with some officials to access information not readily available for the Russian Federation. The sources of literature that were used include;

- 1. National Health Insurance Policy White Papers
- 2. Related Health Insurance Acts
- 3. Journals
- 4. National Annual Reports
- 5. Web based information
- 6. Working Papers
- 7. National Policy Papers

**4. Methodology**

Literature review on National Health Insurances was carried out on eight countries from the BRICS and OCED member countries. The selected countries are South Africa, India Russian Federation, Britain, Turkey, United States of America, Canada and Australia. The review focused on the following key features of the health insurance programs;

- 1. The time and form of prescriptions of the universal health insurances policies.
- 2. Underlying structural driving factors influencing the evolution of the of the national health insurances
- 3. Funding strategies of the national health insurances and;
- 4. Approaches to Provision of Non-Emergency Medical/Patient Transportation within the National Health Insurances programs.

**5. Summary of findings**

Table 1 summarises the research findings. The table contrasts of the various national health insurance policies as outlined in the methodology section.

**Table 1: Summary of key findings**

Country	Summary of key literature findings
South	National Health Insurance Policy was introduced in 2011 and the White Paper was adopted

Country	Summary of key literature findings
Africa	<p>in December 2015. The policy is based on the need to address the inequalities in healthcare system and shift the country towards universal access to health. While the funding strategy is not yet finalised, South Africa envisions a centralised, single and universal funding program wherein sources of funds are from both the public and private sectors, with out-of-pocket payments remaining an option. South Africa's National Health Insurance has no provisions for non-emergency patient transport services. However, South Africa has made attempts to provide accessible transport programs, for example the planned patient transportation program in the North West Department of Health, and the Dial-a-Ride transport program in Cape Town. (<i>NHI, 2015, Access Exchange International 2012</i>).</p>
India	<p>Health systems transformational efforts in India date back to 1947. However, Universal Health Coverage (UHC) policy was introduced in 2010. While UHC is aimed geared towards universal access to health, equitable healthcare forms the fundamental principle of the policy. UHC's funding is centralised, with sources funds from private and public sectors contributions, while out of pocket is considered an option (<i>Planning Commission of India 2011</i>). Similar to South Africa, India's new architecture on UHC is silent on non-emergency patient transport program. However, India has made attempts to provide accessible transport services for transport disadvantaged group of people through the introduction of the auto-rickshaw transport program in New Delhi. (<i>Access Exchange International 2015</i>).</p>
Russian Federation	<p>In contrast to South Africa and India, the Russian Federation as a member state of the BRICS has a different and rather complex form of health insurance. Universal health insurance in Russia is covered and spread through a number of legislative and policy frameworks embodied to form the Health Insurance Law and the Mandatory Health Insurance (MHI). Health system transformation in Russia presents a long history underscored by the pre and post dismantling of the Soviet Union. However, healthcare remains a state obligation where various state bodies share responsibility. National Health Insurance financing is centralised under MHI, however a mixed source of funding forms the hybrid health financing systems through public tax, payroll and out-of-pocket payments (Popovich et al 2011). While Literature on non-emergency patient transport services seems to be scarce, <i>Schechter (1997)</i> highlights that transport services for the Federation is mandated through the Social Security Department, furthermore, the Russian Federation has made significant efforts in providing city-wide accessible transport program in the form of Social Taxi Program particularly in Moscow, particularly for the disabled group of individuals (<i>Access Exchange International, 2012</i>).</p>
Britain	<p>National Health Services (NHS) was introduced in 1948. However, subsequent to various policy reforms and initiatives aimed at addressing structural and inequalities in health systems, Britain adopted a White Paper on Universal Health policy in 2006 (NHS, 2006). Historical and contemporary health systems in Britain follow the Beveridge health care model, where healthcare funding is centralised and financed by the government through a public tax system. However, private health insurance is also an option under NHS. Contrary to South Africa, India, Russia, Turkey, Canada and USA, Britain's NHS directly prescribes a framework for non-emergency patient transport services under section 6.62 to section 6.70. These sections are developed into NEPTs policy and framework led by Local District Health Bodies. Through prescribed eligibility criteria, NEPTs services are provided according to the need. Although the program of NEPTs in Britain may be regarded as recent compared USA and Canada, key features of the planning, design and operations of the program include a multi-stakeholder consultation programs, (including involvement of local authorities, the public and the District Health Authorities), involvement of transport urgencies in services provision and responsive transport design initiatives. (NHS, 2006; (<a href="http://www.dh.gov.uk/publications">http://www.dh.gov.uk/publications</a>, 2007, NHS 2007, NHS Dorset Clinical Commissioning Group (2006);</p>
Turkey	<p>Health insurance in Turkey dates back to 1945. However, in 2003 Turkey introduced health reform through the adoption of the Health Transformation Program (HTP) to address socio-economic inequalities in health, including financial protection of its citizens (Atun 2015), including containing public expenditure on health (Ökema, and Cakar 2015). Whilst HPT is the principal policy driving the universal accesses to health care agenda, Social Security and General Health Insurance Act of 2006, also the central legislation guiding health insurance in Turkey as reflected in Jadoo et al. (2014) discussions on Turkey's health systems reform. Funding of health insurance in Turkey is centralised for public health system, and while private health insurances and out of pocket are optional. Whilst Universal</p>

Country	Summary of key literature findings
	Health Insurance in Turkey does not have direct provision for non-emergency patient transport services, Turkey has made significant attempts in provision of accessible public transport services. In 2007 the Department of Health and Social Services launched accessible transport program for the mobility impaired and low income people, covering about six thousand disabled people, has been reported. ( <i>Access Exchange International, 2010</i> )
United States of America	Universal Health Insurance in the United States of America dates back to 1910. However subsequent to several health system transformation initiatives, Medicare and Medicaid were introduced in 1965 as social insurance program for 65 years and older individuals; and low income group of people respectively (Rice et al 2014). Due to a variety of perceived socio-economic inequalities health systems, USA adopted the Patient Protection and Affordable Care Act of 2010; which forms the profound framework for Health Insurance in the country. The USA has a mixed funding system for health with public sector, private sector and out-of-pockets funding sources contributing 48%, 40% and 12% respectively. Purchasing of health insurance is mandatory for all citizens; however, subsidies are extended to those qualified as being within the federal poverty level datum (Rice et al 2014). The Protection and Affordable Care Act of 2010 does not have direct provision for Non-Emergency Patient Transportation Framework, however, United States of America has a profound NEMETs program with more than 60 organisations involved ( <i>Garrity and McGehee 2014</i> ). Apart from the Federal Transport Administration (FTA and the Veterans Association (VA) program, Medicaid is one of the biggest provider non-emergency patient transport services. Nonetheless, NEMETs in USA are optional medical services that are primarily administered by Medicaid under the Code of Federal Regulations and the Social Security Act of 1902(CMS 2016). While provision of services to clients is based on need based on the legibility criteria requirements, key features of USA's NEMETs program include involvement of various public transportation agencies, funding rebates, development of community based access points, scheduling systems among others, use of modern technology and communication systems, in accessing transport services, integrated transit systems design among others. ( <i>De-Voe et al 2016, Burkhadr et al (2011)</i> ).
Canada	Health systems transformation in Canada has a protracted and long history, with the subsequent adoption of the Canada Health Act of 1984, which forms the single player health insurance framework, driven by the need to address socio-economic inequalities in Canada's healthcare funding. Healthcare funding itself is centralised, with government providing approximately 70% of the budget and other contributions from both the private and public sectors, while private insurance is relegated to non-Medicare sectors of health care (Marchildon, 2013). Although Canada's Health Act of 1984 does not make direct provisions of non-emergency patient transportation programs, the services are provided as universal health insurance option governed by the Medical Transport Framework Policy. Medical transport services are provided in two ways, firstly for patients eligible as part of community of residence requirements, and secondly under Non-Insured Health Benefits (NHIB) program. NHIB provides medical related services that are not covered under private insurance plans, provincial/territorial and social programs or any other program eligible to the First Nations Inuit program. Key features of the NEPTs programs in Canada include multimodal transport systems, cover for living expenses, transport costs for medical professionals, escorts among others (NIHB, 2005). While the eligibility criteria requires the use of the NEPTs services, flexibility in services is optimised through involvement of various transportation agencies, funding rebates, development of community-based access points and scheduling systems (NIHB 2005; NIHB Annual Report 2014/2015).
Australia	Australia's has long and protracted history of health systems transformation with the subsequent creation of Medicare in 1984, primarily driven by the need to address socio-economic disparities in health care (Commonwealth of Australia, 2014). Australian health system involves multiple layers of responsibility and funding provided by governments, individuals, health providers and private health insurers (Biggs 2013). National Health Insurance in Australia is codified under Medicare Australia Act of 1973 and the Human Services Amendment Act of 2011, forming the overarching framework for Universal Health Insurance framework. Funding has mixed funding systems system that involves both public, private and out of pocket payments (Biggs 2013). However, public funding systems is centralised and budgets are distributed throughout the Federal States for administration of the program ( <i>Transport for Health New South Wales, 2016</i> ). In Australia, Medicare Act does not make direct provision for non-emergency patient transport program. However, the

Country	Summary of key literature findings
	<p>services are provided as optional services within the broader health insurance systems, and have been historically administered by the Department of Human Services as a mobility allowance, which is only granted subject to evaluation criteria that is assessed based on the set requirements (<a href="https://www.humanservices.gov.au">https://www.humanservices.gov.au</a>; 2016). As part of scaling up, improve efficiency and demand management, non-emergency patient mobility programs, Australia introduced a Non-Emergency Patient Transport Act of 2003 to regulate provision of such services (Shugg 2012), and programs initiatives have also been decentralised to include participation of Federal States, Local Authorities and District Health Boards. Through a broad-based approach that includes involvement of the communities, private transportation providers, scheduling system among others and multi-stakeholder funding program and appropriate transport infrastructure provision, Australia's Health Insurance systems seeks to expand and develop a sustainable non-emergency patient transport program (<i>Transport for Health New South Wales, 2016 Denmark et al (2006)</i>).</p>

## 6. Analysis

Although all the selected countries have a relatively long history of health systems transformation initiatives, dating to more than half a century on average, the review on the eight cases studies reflects three fundamental forms of National Health Insurances, which include *National Health Acts*, *Specific White Papers on Health Insurance* and *National Health Policies*. Common among these national health insurances is the ultimate goal for universal access. Apart from Turkey, where containing fiscal expenditure is the fundamental driving factor, Britain, USA, Canada, Australia, South Africa and India health system reform initiatives are primarily rooted on the need to address health inequalities, including financial security, while the Russian Federation health transformation is a national obligation.

With regards to funding strategies of national health insurances and non-emergency patient transport serves in particular, three common sources of funding are identified: Public taxation systems, private contribution and out-of-pocket payments. A mixed system of funding is also permitted apart from South Africa and India, where the funding programs are yet to be finalised.

Within the framework of this review, Britain's NHS (2006) is the only health insurance policy that makes direct reference and provision for non-emergency patient mobility, although the program is still in its budding stages. Whereas Canada seems to have long history on the development and implementation of NEMET services, the program is primarily provided as an option to the whole health insurance program. In the cases of Australia, despite the long history of health systems transformation initiatives, non-emergency patient transportation is also provided as an option to health insurance systems. Although the program seems to be in its budding stages, with varying approaches to implementation processes amongst states, Australia has developed a robust non-emergency patient transport framework, including the adoption of specific acts for the programme.

South Africa, India and Turkey's National Health Insurances programs do not have direct provisions for non-emergency patient transport services, neither does the reviewed literature make reference to provision of such program as an option within the national health insurance framework. However, further literature reflects that the three countries have attempts to provide accessible transport programs in Cape Town, New Dehli and Istanbul respectively (Access Exchange International, 2012, 2015). Furthermore, in the case of South Africa, attempts have been made in North West Province's Department of Health to provide patients with transport services in

an attempt to ease pressure on emergency transport services (<http://www.gov.za/north-west-health-department-spends-r88m-patient-transport>).

Although the literature on the Russian Federation remains scarce and very much unclear with regards to non-emergency patient transportation program, Schechter (1997) highlighted that medical transportation in Russia was historically provided under the social security systems. Similar to South Africa, India and Turkey, literature from Access Exchange International (2012) reflects a profound provision of accessible transport program in Moscow administered by the Social Security Department. While initiatives for accessible transport services in South Africa, India, Turkey and Russia have profound impact on accessibility to transport services, particularly for the mobility impaired persons, such services remain limited with regards to the broader requirements for non-emergency patient transport services. Among the limitations is that the program remain territorial initiatives limited at most, to city wide services, and that, the services are not designed to integrate other medical conditions other than mobility impairment. Therefore, the initiatives can only be viewed as compliments to broader patient related mobility requirements.

## **7. Discussion**

The phasing approach in the implementation of the National Health Insurance policy in South Africa presents an opportunity for inclusion of the non-emergency patient transport services into the main stream health transformation initiatives. While improved spatial accessibility remains a fundamental objective in this regard, there initiative opportunity for numerous potential benefits to health care delivery for South Africa and the transport services industry. For example, studies by (Liu, 2014; Hugues-Cromwick et al 2005) indicates that provision of non-emergency patient transport services has numerous benefits to the healthcare systems including, reduced healthcare costs, improved healthcare services utilisation by patients, and improved flexibility in terms of individual choices to healthcare services utilisation. The benefits would be more pronounced in rural health systems.

Hypothetically, within the framework of this view, investments in non-emergency patient mobility provides opportunities for restructuring of the health systems as efficient mobility systems has the potential to resolve geographical barriers to access health care prevalent in South Africa's healthcare system. While empirical research for South African conditions is still required, key features of this review that can be considered for inclusion in South Africa's National Health Insurance policy can be summarised as follows:

- Inclusion of non-emergency patient transport in the mainstream health systems transformation planning policy because it is fundamental to universal access to healthcare.
- Obtaining empirical information required to determine scope of the program.
- Provision of a compulsory and centralised funding program for the non-emergency patient, in addition to out-of-pocket payments.
- Development of a specific non-emergency patient transport program legislative framework that guides and regulates the structural and operational requirements of the program and protect parties involved within the program.
- Broad-based transport services planning, that includes specialists such as town planners and transport engineers in order to foster holism in planning, operations and systems integration.



While the above points are fundamental for policy reform, innovative operational and infrastructure designs for transport systems are still required (Burkhardt et al. 2011; Peterson 2014).

## 8. Conclusions

While informative of trends, the paper is not exhaustive with regard to the discourse on accessibility of healthcare facilities for non-emergency patient transportation. Nonetheless, the paper makes a case for serious consideration for such services for chronic patient care in line with South Africa's efforts for transform healthcare.

It was noted that while the universal access agenda is common to the countries studied under this review, it is evident that non-emergency patient transportation remains area that requires improved attention. This is evidenced by either lack of provision in mainstream healthcare planning initiatives, in the case South Africa, India and Turkey, or in countries where it is provided, the programs have inherent limitations such as lack of availability of transport or high costs of transport services such as in the case of Canada's National Insurance Health Benefits systems. In some cases, there are stringent eligibility criteria regulations which pose the risk of excluding some categories of patients as in the case of Britain and USA.

All the countries reviewed in this paper acknowledge the importance of non-emergency patient mobility in health system transformation. However, the development of appropriate approaches is subject for further research.

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