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Primary Care Physicians

Health Care Plan Selection

Highlights

Perceptions of Healthcare

Effect of Gravitational Stress

Discovering Thoughts, Inventing Future

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Health Care Plan Selection: Medicare Beneficiaries and the Different Factors Taken into Considertation

By Michael Castro, D.B.A.

Abstract- The purpose of this paper was to obtain an enhanced understanding on the main factors that Medicare beneficiaries take into consideration before selecting a plan. This objective was fulfilled by interviewing a total of 16 Medicare beneficiaries from two south Florida counties. The participants were divided equally, 8 participants from Miami- Dade County and another 8 from Broward County. The researcher evaluated the differences between the populations from Miami-Dade County and Broward County participants to determine if there were any similarities. The researcher utilized one research question in order to fulfill the objective of the paper. By comparing the responses from the participants from both counties, health care plans that serve both counties can gain understanding of the differences between the populations.

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I. What are the Different Factors that Medicare Beneficiaries Take into Account when Selecting a Medicare Plan?

The Medicare beneficiaries in South Florida value and demand different benefits within the health care plan (in which they are enrolled) depending on their health status. The Medicare beneficiaries in Broward County and Miami-Dade County are in need of benefits that these health care plans offer. There are several benefits that the senior population may highly value, such as hospital coverage, prescription drug coverage, primary dental benefits, vision benefits, transportation benefits, and over-the-counter (OTC) benefits. Health care plans that lack certain benefits lead to members to dis-enroll from the health care plan when open enrollment begins (Mobley et al., 2007).

II. Medicare Plan Selection Factors among Broward County Medicare Beneficiaries

Broward participants valued dental, vision, prescription drug coverage, and their primary care physician. Five of the eight participants from Broward County (4 males and 1 female) had changed plans due to a lack of dental, vision, prescription drug coverage, and/or because their primary care physician was no longer contracted to practice as part of the plan. These five Broward County participants believed that their dental, vision, prescription drug coverage, and primary care physician were most important. These results suggest that male Medicare beneficiaries in Broward County pursue these benefits at a higher rate compared to the female Medicare beneficiaries. The other three participants, who had not changed plans, did not consider these benefits as important.

III. Medicare Plan Selection Factors among Miami-Dade County Medicare Beneficiaries

Five of the eight participants from Miami-Dade County (3 females and 2 males) had also changed health care plans. These Medicare beneficiaries changed health care plans due to a lack in prescription drug coverage/copays and because their primary care physician was no longer contracted to practice under the Plan. These results suggested that females in Miami-Dade County expect their health care plans to provide such benefits, in contrast to their male counterparts. The Miami-Dade County beneficiaries also valued prescription drug coverage and the copays to those drugs, as well as their primary care physician the most. If a health care plan did not offer such benefits, the Medicare beneficiaries would change plans and pursue a plan that provides such benefits. The other three participants changed health care plans for other reasons.

IV. Comparison of Medicare Plan Selection Factors between Broward County and Miami-Dade County Medicare Beneficiaries

Both samples of Medicare beneficiaries revealed similarities and differences in the various factors they evaluate before enrolling into a health care plan. Differences were as follows. The Broward population valued dental, vision, prescription drug coverage, and their primary care physician the most. The Miami-Dade population valued prescription drug coverage/high copays and their primary care physician the most. Males in Broward County would change health care providers if the plan did not offer dental, vision,

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prescription drug coverage, or their primary care physician. Females in Miami-Dade County changed health care providers if the plan excluded prescription drug coverage, included high copays and/or if their primary care physician was no longer contracted to practice under the Plan.

Both samples reported similarities as well. Miami-Dade County participants and Broward County participants both valued prescription drug coverage and their primary care physician contracted under their health care plan. The researcher also determined that the older the participants were, the more they valued prescription drug coverage and the copays certain medications had. The younger participants from both counties did not focus as much on prescription drug coverage and the copays they might have to pay for a certain medication. Rather, the younger beneficiaries were more concerned with the primary care physician they were visiting on a regular basis. The older beneficiaries consumed a larger amount of medications on a daily basis compared to the younger participants in both counties.

Both samples also believed that their primary care physician was an important factor when selecting a health care plan. Neither the participant's gender nor age seemed to have an impact on their decision.

V. Summary of Factors Considered when Selecting a Medicare Plan among Broward County and Miami-Dade County Samples

Overall, the researcher determined that the Miami-Dade and Broward County participants had similar responses. However, there were two main conclusions. One main conclusion was that the top factors that beneficiaries took into consideration when selecting a Medicare plan was prescription drug coverage and the primary care physician they were assigned to. The Broward beneficiaries valued dental, vision, prescription drug coverage and their primary care physician the most. On the other hand, Miami-Dade beneficiaries valued prescription drug coverage/high copays and their primary care physician the most.

The other main conclusion was that age played a role in the selection of the Medicare plan. The minimum age of the participants was 65 years of age. The oldest participant was 81 years old. The youngest was 66 years old. The older the participant, the more he or she valued prescription drug coverage. Older beneficiaries valued prescription drug coverage because they consumed a larger amount of medications on a daily basis, compared to the younger beneficiaries.

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Interprofessional Working: Perceptions of Healthcare Professionals in Nepalese Hospitals

By Bachchu Kailash Kaini, Ulke Veersma & Linda Burke
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Abstract- Interprofessional working (IPW) is an essential part of the health service delivery system. Effective delivery of health services relies on the contribution of healthcare professionals (HCPs) from all groups. The aim of the study is to examine how HCPs collaborate and to assess their perceptions of IPW on healthcare delivery. This study follows a qualitative research approach. It was conducted in three hospitals in Nepal using semi-structured interview schedule. Purposive sampling method was used to select the hospitals and the participants. All together thirty-eight HCPs participated in the research. This study suggests that IPW is an integral part of HCPs' life and they viewed it as a booster to support them to deliver the optimal and desired health outcomes. HCPs perceived that organisational support and involvement of service users are important for the successful delivery IPW. Verbal means of communication are mostly used during IPW. Nursing and allied health professionals (AHPs) are more critical to the medical professionals because they feel domination and professional isolation from the medical professionals. This study recognises factors that support IPW and also identifies various barriers to IPW in Nepalese hospitals.

Keywords: interprofessional working, healthcare professionals, perceptions, medical dominance.

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I. Introduction

Various HCPs and organisations contribute to health and social care. Every profession and healthcare organisation has its own purpose, interest and field of specialisation. Healthcare system across the world 'depends on health workers working together across professional groups and system boundaries' (Mickan et al., 2010, p.493). The structure and nature of healthcare team is varied and it depends on various factors such as types of service users, specialties, organisational strategies, and so on. The way interprofessional care (IPC) team is managed and structured may have great impact upon the success or failure of the team. The main objective of IPW is to bring a broader scope of knowledge, skill and expertise of HCPs in the efforts to improve the quality of care and clinical outcomes related to health problems and issues of service users (Bope and Jost, 1994).

Empirical researches have demonstrated that more positive healthcare outcomes are achieved by collaborating interprofessional teams (Pollard *et al*, 2005; Dow and Evans, 2005; Ritter, 1983; Biggs, 1997; Miller *et al,* 2001; Leathard, 2003; CHSRF, 2006; Byrnes *et al,* 2009; Holland *et al*, 2005; McAlister *et al,* 2004). These researches were carried out on IPW in developed health economies. However, it is observed that there were no comprehensive researches carried out and reported in underdeveloped countries to investigate the benefits of IPW and collaborative practice to service users and to assess the perceptions of IPW among HCPs. This study was designed to answer three research questions: (1) how do various HCPs interact and collaborate in Nepalese hospitals? (2) how do HCPs perceive the impact of IPW within teams on the delivery of healthcare? (3) which factors support and hinder IPW between various professionals in teams providing healthcare services?

Nepal is a small landlocked and underdeveloped country situated in South East Asia between India and China. There is a multi-tier health delivery system in Nepal based on the different levels of care - tertiary, secondary and primary care. Health services within the public sector are centrally financed in Nepal with differing degrees of local autonomy and the control of service delivery rests largely in the hands of the relevant professions. Apart from government healthcare facilities, number of private hospitals, nursing homes, medical colleges and voluntary hospitals (hospitals run by charitable or not-for-the profit organisations) are established in Nepal. Public and private educational institutions run various academic and vocational healthcare courses in Nepal at undergraduate and post graduate levels. Professional councils regulate healthcare professionals and all HCPs are required to register with their respective council to be a qualified member of their profession and to practice legally in Nepal.

The health service in Nepal is the biggest employer group and it has more than 50 careers, most of which are qualified, registered or regulated professionals (MOHP, 2012). With such a diversity of professions, it is obvious that co-ordinated patient care requires communication, interaction and joint decision making between HCPs (Reel and Hutchings, 2007, p.138). In this context, this study was carried out to assess how HCPs collaborate and to assess their perceptions of IPW on healthcare delivery in Nepal.

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II. Methods

This research is carried out by using qualitative method and by employing a case study approach. This study mainly focuses on assessing the participants' own experiences and understanding of the subject they are involved in or have experienced. Therefore, qualitative approach is considered as a more appropriate approach.

The 'healthcare professional' is a broad term which covers all professionals working in the health services. Based on the nature of their work, identity, registration requirements with professional councils, established norms and practices; in this study the HCPs were divided into three groups – medical, nursing and AHPs. Data for this study is collected by using semi-structured interview schedule from these three groups of HCPs from three hospitals in Kathmandu, the capital city of Nepal. AHPs include all professionals (excluding medical and nursing) such as- physiotherapists, bio-medical scientists, pharmacists, radiographers, pathology technicians, language and speech therapists, occupational therapists, etc.

a) Sampling and data collection

This study followed non-probability and purposive sampling and identified the cases of interest from people or organisations which were 'information rich' (Patton, 2002). Identifying and negotiating access to research sites, subjects and population are critical parts of the research process especially in qualitative research (Devers and Frankel, 2000). A list of hospitals in Kathmandu was searched and their capacity, nature of work and year of establishment was then compared. One hospital from each group of public, private and voluntary (not-for-the profit) hospital was selected for this study. There were three inclusion criteria for all participants for the study. Firstly, all participants should be professionally qualified. Secondly, the participants should be registered with their professional councils and should be eligible to practise in their healthcare or clinical field. Finally, all HCPs should be working with an IPC team.

A total of 38 HCPs participated from the three hospitals. Of the total participants, 13 were medical professionals, 15 were nursing professionals and 10 were AHPs. Similarly, 13 participants were from the public hospital, 14 were from the private hospital and 11 were from the voluntary hospital. All interviews were conducted in the hospital at the time and date of their choice. The duration of each interview was between approximately 45 minutes to an hour. All interviews were recorded in a digital format with the informed and written consent of the participants. The interviews were transcribed, saved in the digital format and were anonymised to protect confidentiality.

b) Data analysis

This study followed multiple case study approach for data analysis. Qualitative content analysis approach was followed for this study, which identified certain patterns and themes. Inductive approach; by grounding the assessment of categories, patterns and themes, and by drawing inferences; was followed. This study used interpretive thematic approach to analyse the interview data. A combination of paper, post-it divider, highlighters and coloured markers to mark hard copies of transcripts was used to interpret and analyse data. Apart from the data from the interviews, various other hospital documents and policies were also reviewed and analysed for this study.

c) Ethical considerations

Ethical approval was received from the University Research Ethics Committee, University of Greenwich and Nepal Health Research Council (a national regulatory body to oversee and regulate health researches in Nepal). Moreover, approval from three hospitals, where the study was carried out, was obtained.

III. Results

The findings of the study are divided into various sections based on major themes and categories derived from the analysis of interview data and review of hospital procedural documents related to IPW. Interview quotes are presented by professions and hospitals, coded and anonymised (e.g. A1-N, B5-M, C8-A) to maintain confidentiality. First alphabets A, B and C represent the types of hospital (i.e. public, private and voluntary hospital respectively) participants belong to, whereas the last alphabets N, M and C represent nursing, medical and AHPs respectively.

a) Medical dominance

Nursing and AHPs from all hospitals perceived that medical professionals dominate overall service delivery aspects in healthcare and they perceived that it as detrimental for IPW relationships. They mentioned various reasons why the medical professionals dominate the healthcare sector. A nurse from the private hospital states:

> *Doctors are seen as the dominant profession in the hospital. There are many reasons for this; it is mainly because of their education and expertise. (B11-N)*

Participants stated that medical professionals are seen as highly recognised, respected and competent compared to other professionals. They stated this was due to their education, expertise, high recognition of their professions from the public and other HCPs, and specialised roles. Few nursing and AHPs highlighted that medical professionals' degree and specialised knowledge put them on top of the

professional, organisational and team hierarchy in healthcare organisations and hospitals.

A nurse from the public hospital comments how medical professionals feel superior than other professionals:

> *Sometimes we try and suggest the doctors to carry out something for patient care, but they do not easily accept our suggestions and they feel we are doubting them or they feel they are superior than us. (A10-N)*

One AHP from the private hospital highlights the need of equal recognition of all professionals:

> *Even though all professions have to be equally recognised and given equal importance, the doctors completely dominate our profession due to their attitude, social recognition and roles. (B6-A)*

An AHP feels sidelined by medical professionals:

> *We have not been given the authority to produce report and our signature here is nearly invalid. We (AHPs) are seen as helpers by medical professions rather than a secular profession. Therefore, we always feel dominated. (C5-A)*

Medical professionals agreed that dominance of medial professions exists in Nepalese hospitals. One medical professional stated that they get more respect than any other professionals and this may be one of the reasons why they seem more dominant amongst all professions in healthcare. He states:

> *I think the respect and recognition to a doctor is more than that is required and that's why doctors feel more proud and empowered than they should be at times. I think people are more esteemed than they should be. So, we are having more respect than we want. People think a doctor is the God which is not correct. (A2-M)*

b) Organisational support and structures

Participants felt that the healthcare organisations defines roles of clinical leaders and delegates them authority to ensure safe and effective delivery of health services. Participants felt that organisational support was essential for the development of clinical leadership and for successful IPW. One nurse from the public hospital states:

> *I have seen my team leader, a medical professional, has resolved conflicts between two different professionals and driven the team for achieving common goals of our team. (A4-N)*

Participants believed that the initiatives taken by a leader of IPC team helped to enhance skills and competency of HCPs. One AHP from the voluntary hospital states:

> *I feel my team in-charge (medical professional) takes necessary steps to facilitate IPW. He takes actions to promote IPW across the hospital through team meetings, training, education and conferences. (C6-A)*

All professionals from all hospitals stated that medical professionals lead the team and they felt that team leaders were competent and supportive. One nurse from the public hospital states:

> *For now the doctors lead the team. ..... They support us and they are competent but there are still things to improve. (A1-N)*

From the interviews, it is noted that there were no such ground rules, organisational policies or protocols for IPW. One medical professional pointed out that lack of organisational policies for IPW is not helpful for them to deliver IPC:

> *We have no practice to set up rules or policies for IPW to make sound and appropriate decisions for the delivery of IPC. This does not help to improve IPW relations. (A7-M)*

One nurse from the private hospital stated that there were inconsistent approaches due to the lack of protocols for IPW. She states:

> *There are no written protocols for IPW in this hospital. The rules are used according to the situation. (B11-N)*

One AHP from the voluntary hospital comments that there were no guidance or protocols for IPW at any levels. She adds:

> *I have never seen any guidance or protocols for IPW, not only in this hospital, but also in other hospitals, at national or regional levels. (C6-A)*

From the analysis of hospital documents, strategies and policies of participating hospitals, it was noted that hospitals did not have protocols or guidance for IPW. During the research, job descriptions of ward managers, in-charges and department heads were reviewed. The job descriptions of healthcare did not have any components or roles specified for IPW or collaborative practice between HCPs.

c) Communication and interaction

Participants mentioned that they used different means of communication to communicate with service users and other professionals while they deliver health services. It is apparent from the interviews that most of the time HCPs used verbal means of communication. Participants mentioned face to face meetings or discussions, telephone conversations, continuous medical education (CME) and clinical conferences are widely used to communicate with other colleagues at work. One medical professional from the public hospital states that they conduct a medical conference every morning to communicate between all professional groups in the hospital:

> *There is a morning conference. That is one of the most important ways of communication. And, we*

communicate about patient's health both formally and informally, I mean verbally and by phone. (A7-M)

One nursing professional from the private hospital experienced that the verbal means of communication is used mostly:

There are various means used for communication between the team members. For example, proper job description and tasks are studied and then jobs are assigned to the individuals. Mostly, verbal communication is carried out. (C11-N)

Participants from all hospitals stated that they used medical notes, documents or forms to note their clinical assessment, management, findings, observations and treatment plan apart from fact to face meetings and verbal communication. One medical professional from the public hospital states:

We have a mechanism where the doctors write on the form or medical notes. That is a means of communication (A2-M)

d) Involvement of service users

All participants from all hospitals pointed out that service users' awareness of their problems and understanding from their perspectives are equally important to both sides – HCPs and service users for the successful delivery of IPC. One nurse from the private hospital states:

Whenever you are going to conduct a procedure relating the patient, the patient should have a good idea of what is happening around him/her and should give consent on whether it should be carried out or not. (B1-N)

The importance of understanding service user is highlighted by an AHP from the voluntary hospital:

The most important thing is the understanding of the patient. (C8-A)

Participants expressed that involvement of service users for their care planning and management is valued by service users. One doctor states:

When I speak to patients and explain the problems, issues, pros and cons of the treatment; they always feel great. They feel that they are valued. (A13-M)

One AHP from the voluntary hospital experienced that service users always feel great when they are fully informed of the issues, diagnosis and treatment. He comments:

It is our responsibility to give them (patients) full information of their diagnosis and treatment. I have seen how patients are thankful to us for giving them detail information. It is also a matter of satisfaction for us. (C5-A)

e) Perceived benefits and challenges of IPW

Participants believed that IPW is beneficial to them, service users and healthcare organisations; and they believed that IPW helped to improve quality of care, improve staff satisfaction, better team performance, better communication and interaction.

Due to IPW, patients get an accurate service and HCPs get better exposure. The organisation gains goodwill. But, it has to be properly supported by leadership, supervision, guidance, training, education etc. (C1-N)

IPW is the most important factor while working in the hospital. You can do nothing at all just by yourself. Doctors, nurses and other supporting staffs make a team capable of working for the welfare of the patient. (B8-N)

IPW is very much important. Without teamwork, patients cannot receive authentic treatment. ... working in the interprofessional team can bring advantage to the institute. The reputation of the hospital can increase due to this. (C5-A)

All participants from all hospitals in this research pointed out obstacles, barriers and challenges of IPW. These barriers and challenges are related to personal, professional and organisational depending on the nature of IPW. HCPs professionals point out various barriers and challenges of IPW:

We do not understand each others' roles and responsibilities in terms of working together and it can be an obstacle. ... egoism is another obstacle for interprofessional team working and it should be stopped. (A11-M)

Lack of proper communication is also a barrier between the professionals in a team. (C3-M)

If there is no mutual respect between the professions, problems arise. Another barrier we can find is the communication barrier i.e. low level of communication. ... medical dominance also plays as a barrier for IPW. (B3-N)

Negative attitude, knowledge, education, lack of communication, lack of training, medical dominance can be mentioned as some of the barriers in the IPC team. (C5-A)

IV. Discussion

This study concludes that medicine is the most established and dominant profession amongst all professions in the context of Nepalese healthcare due to their education, knowledge and expertise; and the respect and recognition they receive from the public and other professionals in Nepal. This may have been linked to the education and training system for HCPs in Nepal. There is tough competition to get entry into the medical courses compared to nursing and other healthcare professional courses. Medical graduates go through very extensive training during their university courses, in comparison to nursing and AHP. Medical dominance is widely discussed by various authors and research

scholars (Freidson, 1970 & 1986; Larson, 1977; Larkin; 1983; Kenny and Adamson, 1992). Nursing and AHPs lack specialist body of knowledge and have no monopoly in the healthcare field and dominated by medicine (Rawson, 1994; pp.47). Wall (2003) asserts that doctors have been dominant and the law accepted that 'what was done to patients was the doctor's responsibility even if they had not administered the particular treatment' (Wall, 2003, pp.73).

This research highlights the importance of organisational support for the development and implementation of IPW agenda in hospitals. Formal structures and processes are required in healthcare organisations to use the talents of different HCPs. This becomes important in Nepalese healthcare context as this research confirms that there were no organisational policies and guidance for IPW in any of the hospitals under study. HCPs in Nepalese hospitals believed that organisational policies give them a direction to deliver successful IPC and help them to improve the quality of care.

It is also important to highlight that healthcare organisations have to play active roles and need to allocate enough resources to support and encourage their employees to practice IPW, which ultimately helps to deliver effective health services and benefits service users, healthcare providers, HCPs and health system across the board. Literature also suggest that IPW is influenced by organisational factors, such as organisational culture, policies and regulations (Drinka and Clark, 2000, Payne, 2000 and Reel and Hutchings, 2007).

Most senior doctors in the interprofessional care team take the leadership roles and responsibilities for IPC in Nepalese hospitals. It is agreed as a common and accepted practice in Nepalese hospitals; and it is practised in a less formalised or less structured basis. The authority that medical professionals get through the licensing process gives them the power, privilege and exclusive rights. Most of clinical teams and professional groups in healthcare are led by senior clinicians (Fagin, 1992; Bope and Jost, 1994; Hammeman, 1995; McWilliam *et al*, 2003; Richardson and Storr, 2010), who are responsible for care given by the healthcare team.

This research suggests that many forms of communication and interaction; such as mainly co-operation, consultation, multiple entry and teamwork; occur during IPW in Nepalese hospitals. This study highlights that healthcare professionals also use informal means of communication; such as face-to-face discussion and phone consultation; in many situations in Nepalese hospitals. The CIHC (2010) states that communication in an IPC environment is demonstrated through listening and other non verbal and verbal means through negotiating, consulting, interacting, discussing or debating. This research confirms that team meetings in Nepalese hospitals were regularly held for various reasons; such as clinical decision, information sharing and team management. Team meeting is considered as one of the main forms of IPW and a way of communication. However, the effectiveness of team meetings depends on how decisions of the team meetings were communicated to all members and stakeholders. Borril et al (2002) highlight the importance of group discussions and role play for IPW.

Involvement of service users in IPW and clinical decision making was another important finding of this study. IPC is delivered to service users and one of the objectives of IPW practice is to deliver effective and improved health services to service users. Empirical researches have demonstrated that more positive healthcare outcomes are achieved by engaging service users in clinical decision making (Colyer, 2012; CIHC; 2010; WHO, 2010; Pecukonis, *et al,* 2008). This study confirms that HCPs perceived consensual decision making was good for service users, even though all HCPs did not have equal involvement in clinical decision making. It is important that medical professionals are authorised legally for admitting patients, ordering tests and procedures, prescribing medications, making clinical decisions, carrying out interventions and procedures; which are restricted to nursing and AHPs. One of the attributes of IPW is consensual clinical decision making for the benefits of patients (Carnwell and Buchanan, 2005; Wells et al, 1998).

The findings of this study established that HCPs perceived interprofessional practices positively and they were aware of the importance of IPW for the effective delivery of health services even though they thought IPW was relatively a new concept in the Nepalese context. Literature (CIHC, 2010; Petri, 2010; Way et al*,* 2005) suggest that interprofessional practices influence the way healthcare organisations are run, managed and now the healthcare system are developed. This study highlights that many organisational factors such as training and education; organisational protocols and guidance for IPW; strong leadership; support from organisation, flexible rules, competent and confident workforce, clear job description and supervision are important for successful IPW in Nepalese hospitals.

IPW does not occur smoothly all the time without any obstacles. Several barriers to inter-professional practices perceived by HCPs within the structure of Nepalese hospitals, between and among HCPs. This study points out that funding and resource issues, organisational guidance and protocols for IPW and lack of education and training are the main challenges of IPW. Any move towards a greater integration and co-operation between agencies and practitioners may bring benefits, but also create tensions that need to be recognised and resolved for successful working relationships to be maintained (Fitzsimmons and White, 1997). IPW is recognised as the best practice in healthcare. However, the

implementation and operationalisation of the concept of interprofessional collaboration in health and social care has been a challenge (Petri, 2010).

V. Conclusion

This study assesses HCPs' perceptions of IPW in the delivery of health services in Nepalese hospitals. HCPs in Nepalese hospitals perceived that IPW is beneficial to HCPs, service users and healthcare delivery; and they thought it as a booster for effective delivery of health services and improving quality of care. This study confirms that the core concept of IPW is equally applicable in the context of Nepalese healthcare. This study confirms that dominance of medical professionals exists in Nepalese hospitals. HCPs perceived that IPW is not sufficiently motivated amongst HCPs and adequate support is lacking from all stakeholders in Nepalese hospitals. This study highlights the importance of organisations support and involvement of service users for the successful delivery of IPC. This study recognises factors that support IPW and identifies various organisational, professional and interpersonal barriers to IPW in Nepalese hospitals.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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How Important are Primary Care Physicians and Specialists when Choosing a Medicare Plan

By Michael Castro, D.B.A.

Abstract- A primary care physician can be one of the most important components in the minds of Medicare beneficiaries. Primary care physicians are responsible for providing their patients with preventive care services as well as establishing care for individuals who are ill and require health care services. As a result, the primary care physician coordinates the patient's overall care, including referrals to specialists. The purpose of this paper was to obtain a concrete understating if primary care physicians and specialist play a key role for Medicare recipients when selecting a health care plan. The researcher evaluated the differences between the populations from Miami-Dade County and Broward County participants to determine if there were any similarities. The researcher utilized one research question in order to fulfill the objective of the paper. A total of 16 Medicare beneficiaries from two South Florida counties were interviewed.

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I. Role of Physician in Selecting a Medicare Plan among Broward County Medicare Beneficiaries

Six out of the eight beneficiaries from Broward County (2 females and 4 males) reported that either their primary care physician or specialist played an important role in their selection of a health care plan. Participant age varied but did not appear to play a significant role in this. Four of the six participants only valued their primary care physician. The other two valued both their primary care physician and specialists. As a result, the Broward participants highly valued their current primary care physician.

The male participants in Broward County valued their primary care physician or specialist more than did their female counterparts. The other two participants within Broward County did not value their current primary care physician.

II. Role of Physician in Selecting a Medicare Plan among Miami-Dade Medicare Beneficiaries

The eight participating Miami-Dade beneficiaries also value their primary care physician and specialists they visit on a regular basis. Of the eight, 6 participants (3 females and 3 males) responded that they highly valued their primary care physician and specialists. Two participants valued both their primary care physician and specialists. Four participants only valued their primary care physician. Their ages varied and did not appear to have a significant impact on this decision. These findings suggested that the participants from Miami-Dade also value both their primary care physician and specialists; however, the males and females from the county equally valued these providers.

III. Comparison of Physician Role in Selecting a Medicare Plan between Broward County and Miami-Dade County Medicare Beneficiaries

Both the Miami-Dade County and Broward County participants value their primary care physician and specialists that they visit on a regular basis. Six of the eight from Broward County valued either their primary care physician or specialists. In Miami-Dade County, six of the eight participants also valued their primary care physician or specialists. The only difference between the participants from both counties pertained to gender. In Broward County, more males valued either their primary care physician or specialist.

In contrast, the Miami-Dade participants equally valued either their primary care physician or specialist. This research question obtained similar results regarding the importance of the members' primary care physicians and specialists being contracted with their health care plan.

IV. Summary of the Role of Primary Care Physicians when Selecting a Medicare Plan among Broward County and Miami-Dade County Samples

The conclusion obtained from both populations resulted in the participants highly valuing their primary care physician and specialists. Six of the eight Broward County beneficiaries valued either their primary care physician or specialists. Six of the eight Miami-Dade County beneficiaries also valued their primary care physician or specialists. These 12 participants told the researcher that if their current primary care physician or specialist were not contracted to practice within a specific Medicare plan, they would not consider enrolling into that heath care plan. The researcher concluded that the Miami-Dade and Broward County populations had identical responses.

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Experiences of Implementers and Decision- Makers with Maternal and Child Health Demand Side Targeting Mechanisms: A Case Study of National Health Insurance Fund Pro-Poor Scheme in Rungwe District-Tanzania

By August Kuwawenaruwa, Gemini Mtei, Jitihada Baraka & Tani Kassimu

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Abstract- *Background:* Low and middle income countries have adopted targeting mechanisms as a means of increasing program efficiency in reaching marginalized people in the community given the available resources. Design of targeting mechanisms has been changing over time and it is important to understand implementers' experience with such targeting mechanisms since such mechanisms impact equity in access and use of maternal health care services.

Methods: The case study approach was considered as appropriate method for exploring implementers' and decisionmakers' experiences with the two targeting mechanisms. Indepth interviews in order to explore implementer experience with the two targeting mechanisms.

Keywords: *insurance, demand-side-financing, equity, individual and geographical targeting mechanism, tanzania.*

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Experiences of Implementers and Decision-Makers with Maternal and Child Health Demand Side Targeting Mechanisms: A Case Study of National Health Insurance Fund Pro-Poor Scheme in Rungwe District-Tanzania

August Kuwawenaruwa [α], Gemini Mtei [σ], Jitihada Baraka [ρ] & Tani Kassimu [ω]

Abstract- ***Background:*** Low and middle income countries have adopted targeting mechanisms as a means of increasing program efficiency in reaching marginalized people in the community given the available resources. Design of targeting mechanisms has been changing over time and it is important to understand implementers' experience with such targeting mechanisms since such mechanisms impact equity in access and use of maternal health care services.

Methods: The case study approach was considered as appropriate method for exploring implementers' and decision-makers' experiences with the two targeting mechanisms. In-depth interviews in order to explore implementer experience with the two targeting mechanisms. A total of 10 in-depth interviews (IDI) and 4 group discussions (GDs) were conducted with implementers at national level, regional, district and health care facility level. A thematic analysis approach was adopted during data analysis.

Results: The whole process of screening and identifying poor pregnant women resulted in delay in implementation of the intervention. Individual targeting was perceived to have some form of stigmatization; hence beneficiaries did not like to be termed as poor. Geographical targeting had a few cons as health care providers experienced an increase in workload while staff remained the same and poor quality of information in the claim forms. However geographical targeting increase in the number of women going to higher level of care (district/regional referral hospital), increase in facility revenue and insurance coverage.

Conclusion: Interventions which are using targeting mechanisms to reach poor people are useful in increasing access and use of health care services for marginalized communities so long as they are well designed and beneficiaries as well as all implementers and decision makers are involved from the very beginning. Implementation of demand side financing strategies using targeting mechanisms should go together with supply side interventions in order to achieve project objectives.

Keywords: insurance, demand-side-financing, equity, individual and geographical targeting mechanism, tanzania.

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I. Introduction

Low and middle income countries have adopted targeting mechanisms as a means of increasing program efficiency in reaching marginalized people in the community given the available resources (Coady, Grosh, & Hoddinott, 2008; Domelen, 2007; Handa, 2012). A targeting mechanism is a policy option of concentrating the benefits of an intervention on a pre-identified specific group and has been widely applied in health care interventions (Meessen & Criel, 2008). These targeting mechanisms include individual (Aryeetey, 2013; Collins, 2009), geographical (Elbersa, 2007) and self selection (Domelen, 2007; Meessen & Criel, 2008). Implementation of such mechanisms requires actors who will be responsible for the implementation of the targeting method and the subsequent implementation of the intervention (Coady, et al., 2008). The actors/ implementers could either be from the national level, regional, district, facility or community level based on the program design and overall purpose.

In 2010, Tanzania's National Health Insurance Fund (NHIF) and German Development Bank (KfW) used geographical and individual targeting mechanisms in Rungwe district to pilot a social health insurance program (MCH insurance card) for poor pregnant women. Women were identified using a score card which had eight components that related to housing characteristics, remoteness from health providers, income, food security, and number of dependents (Kuwawenaruwa, 2015). Women who qualified as "poor" were given the MCH insurance card and used it to access care from accredited health care facilities. For reasons that will be detailed in this paper, the individual targeting approach was abandoned and geographical targeting was implemented in the district. Figure 1 and 2 show steps which were required to obtain a card under the individual and geographical targeting respectively.

Evidence shows that many countries have been using such targeting mechanisms to accelerate access and use of maternal and child health care (Ahmed &

Khan, 2011) (Bhatia & Gorter, 2007). In some countries, interventions which were implemented using targeting mechanisms had a positive impact (B. Bellows, Kyobutungi, Mutua, Warren, & Ezeh, 2013; Ekirapa-Kiracho, 2011), while others had negative or no impact (N. Bellows, Bellows, & Warren, 2011). A recent study conducted by Ifakara Health Institute on a similar project showed that the program impacted few outcomes (mainly out of pocket payment), and no effect was observed on the quality of care and equity (Borghi, 2015). Proper implementation of such targeting mechanisms has great potential for achieving the policy objectives and enhancing program efficiency (B. Bellows, et al., 2013; Gopalan, Das, & Mutasa, 2014; Meessen & Criel, 2008).

Design of targeting mechanisms has been changing over time and it is important to understand implementers' experience with such targeting mechanisms. At this point in time, however, there is limited evidence on implementers' and decision-makers' experience with targeting mechanisms, the implementation process, and results of switching between the two mechanisms. The aim of this study was to examine the implementer's experience in the process of implementing targeting mechanisms since such mechanisms impact equity in access and use of maternal health care services.

II. Methods

a) Study Setting

The study was conducted in Rungwe district in Mbeya Region. According to a 2012 census the district has a population of about 339,157 (male 161,249 and 177,908 female) (NBS, 2013). The population density is high in Rungwe district (153 compared to the national average 51 persons per square kilometer) and the main economic activity is agriculture (NBS, 2013). Out of 10 district councils in Mbeya, Rungwe is the only district that had implemented the intervention using the two targeting mechanisms, while the other districts had adopted a geographical targeting mechanism. It thus offered not only the opportunity to describe the implementer's experiences with the current geographic targeting strategy, but also to explore the implementer's attitudes toward both strategies and the reasons for abandoning individual targeting.

b) Study Design

The study adopted case study methodology, an empirical inquiry that investigates a phenomenon within its real life context (Yin, 2003). Implementation of maternal and child health care using targeting mechanisms is a complex, context dependent process. The case study approach was thus considered the appropriate method for exploring implementers' and decision-makers' experiences with the two targeting mechanisms.

c) Data Collection Techniques

The study used in-depth interviews in order to explore implementer experience with the two targeting mechanisms. Because the implementation of the MCH insurance card program involved stakeholders at the national level (NHIF and GFA consultant), regional level (NHIF zone office, Regional medical Office), and district level (NHIF/CHF coordinators, and Council Health Management team), as well as health care providers, it was necessary to collect data at all these levels. Study participants were purposively selected from public health care facilities, district and regional level health authorities, and NHIF headquarters (Table 1). The district had only one district hospital and two public health centers. All of them were included in the study and four dispensaries were selected based on physical accessibility, experience with the targeting mechanisms, and being served by a health centre. Thus, a total of 7 health care facilities were included in the study. In total, 10 in-depth interviews (IDI) and 4 group discussions (GDs) were carried out by 2 research scientists and 2 field assistants in September 2014.

Interview guides were developed and contained a range of topics related to the experience with individual targeting, decision to change, experience with geographical targeting, and recommendations about targeting mechanisms. Interview guides were prepared in English and subsequently translated into Kiswahili by the bi-lingual research scientists and research assistants, who also conducted the interviews. Interviews were conducted in pairs: one research scientist facilitated the interview while a field assistant was taking notes. All interviews were also digitally recorded, and the audio files were transcribed and translated by a research assistant. Subsequently, the researchers cross-checked the audio files and transcripts for data quality assurance.

d) Data Analysis

A thematic analysis approach was adopted. Two research scientists read each transcript independently and developed a final code book. A brief discussion was held by the researchers and to determine the final themes. The team worked together and coded a few transcripts together. The remainder was coded independently by each of the research scientists. At the end the team reconvened and discussed the coded scripts. Data were analyzed using Nvivo 10 software.

e) Ethical Clearance

The case study was approved by the Ifakara Health Institute Review Board. Written consent was sought from the study participants after the team leader had explained the objectives of the study. Participants were informed that their participation was voluntary and at any time they had the right to withdraw without any penalty. The field team assured participants about

confidentiality of all information throughout the study. Interviews were conducted in the local language (Kiswahili) and tape recorded with the permission of the study participants.

III. Results

a) Individual Targeting

i. *Experience with program management*

According to those interviewed, MCH insurance card program activities were executed using the existing government structures. No new staff was employed to handle the activities and no additional payments were made to the existing staff. For example at the district level, district officials were expected to conduct sensitization about the MCH insurance card, conduct job training for the health care providers, handle client complaints, supervise the health workers at facilities, ensure that screening forms were available and were submitted to the respective levels as required, prepare and distribute cards, and act as a link between the zone, district office, and health facilities. At the village level, the village leaders were supposed to undertake screening of potentially eligible women.

"……as a focal person at the district level I was supposed to handle client's complains, conducting community sensitization, conducting supportive supervision in the facility to oversee overall implementation of the program, taking the screening/registration forms from village executives and healthcare providers to the district, also submitting the forms to the regional level…" (GD, with district level implementer)

"….because it's the same person fulfilling same tasks…….for example I was supposed to continue with my normal duties as a ……..……while at the same time fulfilling MCH insurance card tasks which were not within my normal routine, so the time which I was supposed to keep records, review inventories, requisition of supplies and supervision of medical supplies, part of the time was being used on MCH insurance card project in one way or another I can say fifty percent of my tasks were affected…." (GD, with district level implementer)

ii. *Experience with program engagement*

Most of the respondents from the zone and district level implementers had a positive perception of the program and perceived that it was initiated to support women and improve health care services in the region; however, many challenges in the process of implementation were reported. For example, it was reported that in some cases, the individual targeting approach had created a sense of stigmatization. Village executives were supposed to justify that beneficiaries were poor based on the screening criteria, but the community perceived that the need to obtain such justification created stigmatization in the community, causing women to not enroll in the program. The quote below testifies that.

"..with individual targeting it was viewed that providers were discriminating people and were not doing fairness to some women, those with insurance were being treated as those insured by the National Health Insurance Fund, but the one who had no MCH insurance card was supposed to pay from the pocket, this brought a big difference as women were complaining why should I pay and others are not paying?" (IDI with health care provider)

Furthermore, most of the respondents interviewed from the district level supported the program; however there was a lot of paper work, bureaucracy, and some of the women were not registered because of the whole process in which one was supposed to be confirmed to be poor by village executives,

"…….It is a good program but has a long process for a woman to get a health insurance card and this lead to some of the women to not be registered ,because of missing photographs and sometimes termed to be not qualified as poor….."(GD, with district level implementer)

b) Experience with the Screening Process

According to zone and district level implementers, the process resulted in falsification of the real poverty condition of women, leading to the enrolment of non-poor women. Village executives used the opportunity of screening to enroll their relatives and friends, which also resulted in complaints. Targeted women were not enrolled because of favoritism of some of the village leaders who were given mandate/ autonomy to conduct screening.

"Women were complaining that some of the village executives were recruiting even those who have good houses, those have money to earn a living ,their relatives and leave out those who were real in need of the free health services"(GD with Health care provider)

Centrally the regional implementers, reported that on the administration issues, there were challenges with the screening forms, as they were filled incorrectly, as stated in the quote below.

"….one of the challenge was related to the screening process as most of the forms were not returned back from village executives, in case she had a lot of other tasks to handle, the forms were not returned on time and could not be sent to the regional level and headquarter, at times they were sent but too late so some of the services which were intended for the women before delivery were not rendered…" (GD, district level implementer)

A related challenge that implementers faced during individual targeting was informal payments. During the screening process, some village leaders

requested money from the women before signing the forms.

"…..one of the challenges with individual targeting was on the role of village executives, as some of them were using the screening forms as business, a woman was supposed to pay some money to get the signature; in addition to that the forms did not portray the reality of someone's economic status…." (GD, with zone level implementer)

c) Bureaucracy in accessing the Card

Difficulties were also encountered in obtaining the photo necessary for the identity card under the individual targeting scheme. A photographer in the village was contracted to take photographs; however, this activity created challenges for both the photographer and the potential beneficiary. It was difficult to arrange to have multiple women photographed at a single site and time, and there were also problems with the photographer not being available as scheduled and with payment arrangements/ mechanisms. Payments for the photographer were through cheques and were delayed for a number of months. Most of the respondent highlighted that:

"…...it had a long process as sometimes women were organized but the photographer was not available, sometimes the photographer was around but women were not present……..." (GD with district level implementer)

Interviews also revealed that during individual targeting, women could not access health care services until they received the insurance card. At the same time, card processing took a long time, and women sometimes delivered before receiving their cards. Additionally, facilities could not claim the money for the services rendered to women who were waiting for the insurance card. This was perceived as wastage of the resources.

"……in case there have been delays of the identity card while delivery date is due, the card become useless while costs have been incurred in screening, photographing and preparing the cards…. " (GD with district level implementer)

d) Experience with switching targeting mechanism

i. *Engagement in decision making*

According to regional implementers, the decision to change the program was based on complaints from women within the catchment population as they came to seek health care services. They complained to health providers that they had not been enrolled even though they were eligible:

"…..there were complaints from women to the health care providers, as I said before some of women were being charged by the village executives and sometimes executives were not in the offices as a result forms were not signed on time….." (GD, regional level implementer)

"….they told us the program's owner observed that there were some of the women left out from the program therefore all should be given the health insurance card…." (GD, health facility provider)

In addition to the complaints, national level and regional managers visited the districts and discussed the progress of the project with council health management teams. They collected some suggestions which led to the shift from individual to geographical targeting.

"…..I remember as they came to give us information they inquired about the challenges which we had been facing, they questioned us, as we explained the challenges they asked some questions, and we explained the challenges later on they decided to make it geographical…" (GD, with district level implementer)

e) Lessons from other districts

According to the district level implementers, the successes observed in areas which had implemented geographical targeting influenced the decision to switch from individual to geographical targeting. That is, more women in areas with geographical targeting had been enrolled in the program than women in areas with individual targeting. Geographical targeting had fewer complexities, such as screening and photographing, than individual targeting, which had cost and time implications.

"….it was perceived that program had success in the districts which had implemented geographical targeting as more women were enrolled…..for example they were saying a facility which was in a certain village, women around the facility catchment area had same economic status so any women who was pregnant has to be given a form……" (GD, with district level implementer)

Furthermore, unspent funds influenced the decision to adopt geographical targeting and grant a one year extension of the program up to December 2015 as resources were still available as the program neared its planned end date.

"…we were thinking of the costs involved when switching from individual to geographical…but we were told by national level managers that the amount of funds which had been used was small compared with the amount which was budgeted….." (GD, with zone level implementer)

f) Experience with the communication processes

The majority of the implementers and health care providers reported that they received verbal notification from their superiors that they should no longer enroll women on an individual basis using the poverty screening. The decision-making appeared to have been done centrally. Information was sent from the NHIF head office to the zone office, and managers at the zone office conveyed information to the district medical officers at the respective districts in the region.

District officials were then responsible to send information about the program to the health facility in-charges.

"….health care providers were informed about the changes via district medical officers; we communicated with district managers for the districts which were not implementing geographical targeting…" (GD, with regional implementers)

At the facility level, staffs were responsible for sharing information with the health facility governing committee members and village leaders. Transfer of information from the district to the facility and community level was mainly through telephone and via verbal channels during submission of the claim forms to the district by facility representative. In a number of places, information was conveyed during facility visits by the district and regional implementers.

"…some people came, I cannot remember from where, as they came they told us there is a project in which pregnant women are supposed to be enrolled in the MCH insurance card, moreover they told us that donors had given out funds, and we are supposed to register pregnant women, and will be treated free of charge for the whole duration of pregnancy, delivery and three months after delivery…." (GD, with Health care provider)

"….what we did is that, we informed community health workers, so that they could assist us to sensitize women to come and register with the MCH insurance card and we were giving them screening forms… "(GD, with health care provider)

"…a person from the district came and told us that there are these and these changes…she said that they have perceived that there were some kind of stigmatization to the women so right now we should start registering all women in the MCH insurance card program without looking at income/economic status, no more going to the village executives…." (GD, with health care provider)

g) Geographical targeting

Under geographical targeting, the regional level respondents reported that more women were enrolled in the MCH insurance card program and received care.

"….with geographical targeting a lot of people have been registered also even if you want to make follow up on the progress of the project it becomes easier, as you go to the facility and review the records on the number of pregnant women who have been registered…." (GD, with district level implementer)

"….in general geographical targeting has more than 100% success compared to the individual targeting…" (GD, with district level implementer)

In terms of the availability of services, beneficiaries were allowed to access health care at any facility within the intervention region.

"…… because the government cannot provide everything at the health care facilities, with the use of MCH insurance card women can access health care services from private providers, this has reduced congestion in some of the government health facility, MCH insurance card gives a woman wider choice of the provider, another thing is that a woman can access medication which are very expensive outside the hospital even if it's a private hospital, there are certain drugs which are sold more than two hundred thousand, with the insurance program a woman can access the drug….." (GD, with district level implementer)

Regional level implementers reported that this resulted in an increase in the number of women going to the regional referral hospital. The reason given for this is that at the hospital level all services are available and beneficiaries learned that the services were available at no cost; they only had to pay for the transport cost to the hospital.

"If you go there at the ward almost 99% are MCH insurance members, many women are coming, wards are crowded and some women had to sleep on the floor) (GD, with zone level Implementer)

h) Increase in facility resources

Another positive impact was noted in terms of increased facility revenue. With the increased enrolment, providers were able to initiate a number of claims for services after registering women, which increased the amount of revenue to the facility and district. Facilities were able to use the revenue to purchase equipment and fund other health facility needs. In the past, most women delivering in facilities had been exempted from paying and the facilities had to absorb these costs. A majority highlighted that:

"…now we are sure of having enough drugs in the health care facilities because it will cover a large group of those who are exempted, all the women had exemption, whether you had the ability to render services to them or not, you were forced to treat them for free.." (GD with zone level implementer)

"…what I have learned with geographical targeting is that more women have enrolled and benefited from the program, facilities have also benefited as a lot of money comes back to the facility, facility financial resources have increased to the extent of being able to purchase missed equipments and medicines…" (GD, with district level implementer)

i) Insurance coverage

The switch to geographic targeting also resulted in an increase in enrolment in the national insurance scheme. Women who receive the MCH card are entitled to a CHF card for one year for their partner and up to four children. This card can be used to access health care services from public primary-level facilities. With the greater enrolment following the switch to geographic

targeting for the MCH card, coverage of CHF in the district has increased overall from about 3% to 11%.

One challenge that resulted from the switch in targeting was the increase in workload experienced by health care providers. Health care providers are responsible for registration, education, and submission of claim forms. With the increased number of beneficiaries, this resulted in an increased workload at the facility, district, and regional level. At the same time, however, the number of staff remained the same. When asked about the experience with the geographical targeting, a respondent pointed out that:

"..we have observed that members have increased about four times compared with individual targeting, this was attributed by the increase in enrolment, registration forms and claim forms leading to the increase of workload to the staffs at all levels.." (GD, with regional level implementer)

j) Health Service provision

The increase in work load has been mentioned by health providers and NHIF program implementers at the regional level as a factor that affected the quality of information in the claim forms. The providers mentioned that they have to render services to other clients and at the same time register beneficiaries and complete the claim forms. This resulted in a reduction of quality of services provided and poor attention to the details required for completing the patients' registration form and claims for service reimbursement.

…..we have a challenge on how the claim forms are being filled some of the forms are poorly filled, this is something new to the staffs and sensitization has to be done…… you may find a staff was supposed to record this way but she does the other way……." (GD, with regional level implementers)

The NHIF implementers mentioned that there were a number of cases where providers recorded only some of the visits that each patient had made, which resulted in challenges when auditing information at the facility level. There were also reported instances of contradictory information about the same patient being recorded. For example one respondent pointed out that:

"….a woman is reported to have normal delivery but at the same time she is reported to have caesarean section or same woman was reported delivering at a certain facility but has come to deliver here on referral basis…" (GD with the regional level implementer)

After the implementation of geographical targeting, card processing was no longer done at the headquarters in Dar es Salaam, but instead at the zone office. This has reduced the time for registration and card processing. Beneficiaries were allowed to access health services before receiving their card as long as they had a unique number written on top of the ANC card.

IV. Discussion

The case study aimed to examine in-depth the experiences of implementers and decision-makers with maternal and child health demand side targeting mechanisms by studying the implementation of the MCH insurance card program in Rungwe District. More specifically, it describes implementers' experiences with the current geographic targeting strategy, implementers' attitudes toward both strategies, and the reasons for abandoning individual targeting. The findings show that implementation of each mechanism has some drawbacks; however, individual targeting was ineffectively implemented.

It is evident from the findings that although individual targeting mechanisms aimed to enhance financial protection to the marginalized households in the community, it proved challenging to implement. The screening process faced a lot of challenges especially at the community and health care facility level, where some of those who received the insurance card were not the real poor targeted by the intervention. Other studies have highlighted the importance of using community members to help to determine who is actually poor as they know each other's resources and needs (Hanson, Worrall, & Wiseman, 2006; Jaspars & Shoham, 1999). Additionally, individual targeting was perceived to have some form of stigmatization; hence beneficiaries did not like to be termed as poor. According to Hanson et al., benefits associated with taking the targeted benefits does create a sense of stigma to the beneficiaries (Hanson, et al., 2006). Hanson et al., highlighted the problem of not revealing required information and misusing information based on the relationship with the targeted people (Hanson, et al., 2006). Some implementers demanded payments or enrolled their relatives/friends who were not poor. In many cases, administrative discretion has led to exclusion of people from targeted interventions, and targeting mechanisms which vest a lot of power in the hands of bureaucrats have been subject to the manipulation of enrolment information (Mkandawire, 2005). Perhaps lack of incentives to the lower level implementers as the program was implemented within the existing platform contributed to this problem. A recent study undertaken by the World Bank and the World Health Organization (WHO) on the potential use of the community-directed intervention approach to carry out interventions showed that community level implementers expressed a desire for financial incentives; however the lack of financial incentives did not have a significant effect on their willingness to serve (WHO, 2009). Incentives must be structured in such a way that there will be transparency and local community accountability in order to ensure effective use of limited resources.

It is still questionable whether individual targeting managed to reach the marginalized women in the community, particularly those who were in need of care in the remote areas. For example, Cambodia used individual targeting mechanisms to distribute vouchers for safe delivery to poor pregnant women; findings showed that 24.9% were identified as eligible for vouchers, while 75.1% of potentially poor pregnant women were excluded from the program (Por, 2008).

Furthermore, existing bureaucracy impeded the implementation of individual targeting, making the whole process slower than expected. The whole process of screening and identifying poor pregnant women resulted in delay in implementation of the intervention. Opportunity cost to those involved in the implementation has been documented as one of the drawbacks with individual targeting (Collins, 2009; Hanson, et al., 2006). In Cambodia individual targeting was found to induce unnecessary cost to identify the non-poor pregnant women and delay the distribution of vouchers (Por, 2008).

Evidence from the findings shows that inefficiency in the implementation of individual targeting; complaints from women; lesson from other districts implementing geographical targeting; and unspent funds influenced the decision to adopt geographical targeting.

Implementation of geographical targeting faced some pros and cons. Some of the pros included increased enrolment of beneficiaries in the intervention, increase in the number of women going to higher level of care (district/regional referral hospital), increase in facility revenue and increase in insurance coverage. The increase in insurance coverage at the intervention (from 3% to 11%) sites has a substantial increase in overall national insurance coverage. Geographical targeting had a few cons as health care providers experienced an increase in workload while staff remained the same and poor quality of information in the claim forms. Geographical targeting has been widely used in health care interventions because it is simple to administer, has no labor disincentive, is unlikely to create stigma effects and is easy to combine with other targeting methods (Coady, Margaret, & John, 2004).

V. Recommendation

The intervention was implemented following a top-down approach where community/providers and district level implementers received information from the top officials. Communication channels should be strengthened to ensure clear flow of information to and from the community. Feedback is important to the implementers as they will be able to know implementation progress. Future interventions should involve all the implementers from the beginning of the intervention. The choice and decision to implement targeting mechanisms should be based on the accessibility, availability of the resources (human labor and financial), correct identification of the targeted population, and sensitization as well as proper communication at all levels. Furthermore, since the implementation of the intervention was done in parallel with the existing policy of waiver/exemption, there is a need to ensure that such interventions are implemented in such a way they do not create misunderstanding in the system, from both the provider and the user perspectives. Providers should be sensitized on the use of program resources in improving service provision in the facilities. Health care providers should be trained on how to fill registration and claim forms as well as other facility records.

a) Study Limitation

The study suffered a number of limitations. We were not able to sample village leaders who were involved in the process of screening MCH insurance card beneficiaries. Information from such stakeholders would have added value in terms of their time involvement and informal payments which were experienced during individual targeting. Another limitation was in terms of recall bias, as the study was done one year after decision was made in favor of geographical targeting. We could not manage to sample private health care providers who are also rendering services to the program beneficiaries; their information could have added value to the overall experience with the intervention. However, our findings are useful in the sense that we were able to draw some evidence on the experience with the targeting mechanisms.

VI. Conclusion

Interventions which are using targeting mechanisms to reach poor people are useful in increasing access and use of health care services for marginalized communities so long as they are well designed and beneficiaries as well as all implementers and decision makers are involved from the very beginning. Implementation of demand side financing strategies using targeting mechanisms should go together with supply side interventions in order to achieve project objectives.

List of Abbreviations

CHF	Community Health Fund
GD	Group Discussion
KfW	German Development Bank
NHIF	national health insurance fund

Competing interests

The authors declare that they have no competing interests.

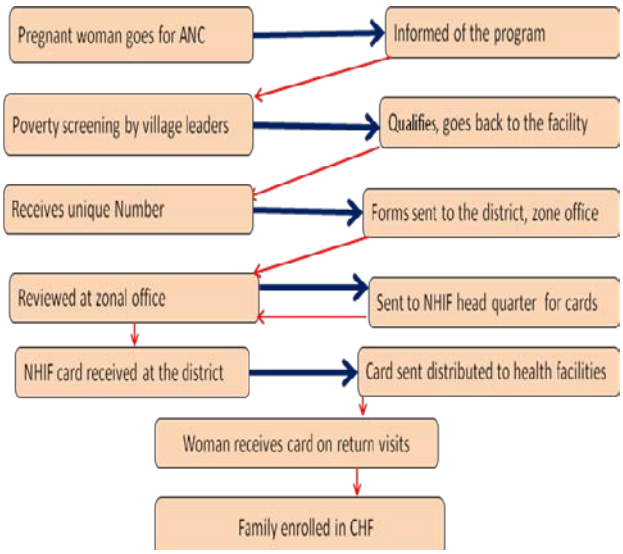

Figure 1: Individual Targeting

The figure shows complexity involved in obtained the MCH insurance card during individual targeting in the study area

NB: She is not entitled to any care till she receives unique number

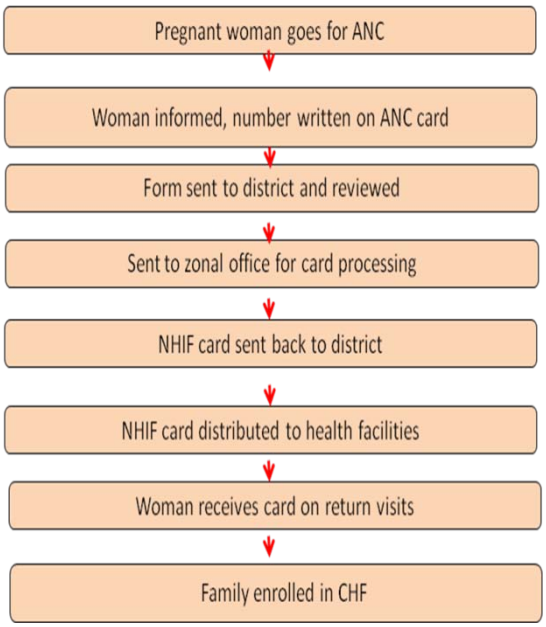

Figure 2 : Geographical Targeting

The figure shows how women obtained the MCH insurance card during geographical targeting in the study area. The process was less complex compared with individual targeting

NB: She still receives care using unique number

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Effect of Gravitational Stress and Exercises on Bone Demineralization & Renal Complication in Paraplegics & Quadriplegics

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Abstract- *Background:* Spinal cord injury (SCI) is a multisystem injury with life-threatening complications. Bone demineralization & renal complications have serious consequences for the affected person. It is hypothesized that verticalisation along with early mobilization reduces skeletal & renal complications.

Methodology: 48 subjects (36 patients+12 controls) participated in this study. The patients were divided into groups A, B & C and the controls were in Group D. Basal parameters (BP, PR, RR) were recorded and Urine samples were sent for analysis. Group A was treated with only limb exercises & Group B was given limb exercises & tilt table standing. Group C had chronic patients to visualize the longterm effect of physical rehabilitation & body's attempt at bone mineral homeostasis on urinary parameters.

Results: Significant changes were noted in the values of urine calcium, inorganic phosphate, hydroxyproline & serum enzyme alkaline phosphatase among groups A, B & C when compare with D.

Keywords: *spinal cord injury, gravitational stress, renal complication, bone demineralization, active/passive exercises, verticalisation.*

GJMR-K Classification: *NLMC Code: WE 200, WJ 378*

Strictly as per the compliance and regulations of:

Effect of Gravitational Stress and Exercises on Bone Demineralization & Renal Complication in Paraplegics & Quadriplegics

Gravitational Stress & Exercises for Spinal Cord Injury

Verma CV [α], Khadkikar A [σ], Bellare B [ρ] & Krishnan V [ω]

Abstract- Background: Spinal cord injury (SCI) is a multisystem injury with life-threatening complications. Bone demineralization & renal complications have serious consequences for the affected person. It is hypothesized that verticalisation along with early mobilization reduces skeletal & renal complications.

Methodology: 48 subjects (36 patients+12 controls) participated in this study. The patients were divided into groups A, B & C and the controls were in Group D. Basal parameters (BP, PR, RR) were recorded and Urine samples were sent for analysis. Group A was treated with only limb exercises & Group B was given limb exercises & tilt table standing. Group C had chronic patients to visualize the long-term effect of physical rehabilitation & body's attempt at bone mineral homeostasis on urinary parameters.

Results: Significant changes were noted in the values of urine calcium, inorganic phosphate, hydroxyproline & serum enzyme alkaline phosphatase among groups A, B & C when compare with D.

Conclusion: Tilt–table standing along with limb exercises were more effective in decreasing demineralization & renal complications. Also, active wheelchair bound life style can replace the need for verticalisation in chronic stages.

Keywords: spinal cord injury, gravitational stress, renal complication, bone demineralization, active/passive exercises, verticalisation.

I. Introduction

A spinal cord injury (SCI) is a multi-system damage with life-threatening complications. It can result in autonomic, neuromuscular and physiologic impairment of the legs, arms or trunk with the severity of the symptoms dependent upon the level and magnitude of the injury to the spinal column. A SCI to the cervical segments of the spinal column (C1-C8) down to the most proximal thoracic segment (T-1) often causes quadriplegia and results in impairment of the arms, trunk, legs, bladder, bowels and sexual organs. Any SCI occurring at the level of the 2nd thoracic vertebrae (T-2) or distally can result in paraplegia, with accompanying impairments of the trunk, legs and pelvic organs, with a decreasing severity of deficiencies the more distal incursion of the SCI[1]. Persons with SCI have a reduced health status, decreased quality of life and increased rates of mortality compared to able-bodied population. The most common medical complications observed in SCI are muscular atrophy, bone metabolism disorders, cardiovascular disease & autonomic dysregulation due to removal of neural drive to the impaired muscles resulting in subsequent reduced metabolic demand accompanied by rapid & chronic deconditioning[2].

Osteoporosis: a well-known complication of SCI, is characterized by low bone mass & deterioration of the skeletal microarchitecture[3]. The mechanism of bone loss in SCI is not completely understood; however, a significant amount of bone loss occurs during the first 4–6 months after injury and stabilizes between months 12 and 16. Bone demineralization reaches almost 50% by the end of the first year following SCI. However, bone mineral loss continues to a lesser degree in the pelvis and lower extremities over the next 10 years[4, 5].

The pathophysiology of SCI-induced osteoporosis is complex and differs from that observed after prolonged bed rest in patients without SCI and in those with other neurologic deficits[6].SCI can cause immediate and, in some regions, permanent gravitational unloading, leading to disuse structural change. It triggers significant increase in osteoclastic activity peaking at 10 weeks following SCI at values 10 times the upper limit of normal[7].Hypercalciuria is 2–4 times that of persons without SCI who undergo bed rest and reaches a peak 1–6 months post injury; this marked increase in urinary calcium is the direct result of an imbalance between bone formation and resorption[8, 9].A reduction of bone mineral content during the first year after the injury of 4% per month in regions rich in cancellous bone, and 2% per month on sites containing mainly cortical bone is reported[10].

SCI- mediated hormonal changes also lead to osteoporosis by[5]-

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- Increased renal elimination
- Reduced intestinal calcium absorption resulting in negative calcium balance
- Vitamin D deficiency
- Inhibits osteoanabolic action of sex steroids
- Hyperleptinaemia
- Pituitary suppression of TSH
- Insulin resistance & IGF

Renal complications: Neurogenic bladder dysfunction due to SCI poses a significant threat to patient well-being. This can result from detrusor hypocompliance, detrusor-sphincter dyssynergia & neurogenic detrusor overactivity. Some of the complications observed are- Incontinence, Renal impairment, Urinary tract infection, Stones etc[11, 12]. In the absence of adequate treatment, calculi can lead to sepsis & renal failure. The major risk factors found are[13]-

- Hypercaliuria
- Increased susceptibility to Urinary tract infection.
- Immobilization
- Stasis of urine
- Altered urine ph

The chemical composition of SCI-related urinary stones is predominantly nonoxalate calcium (carbonate apatite) during the early years and consists of a higher proportion of magnesium (struvite) in the later years[14].

It is hypothesized that verticalization, early mobilization & exercising of paralysed muscles may lower blood & urine concentration of catabolic products from collagen & bone and thus reduce the skeletal & renal complications[15]. Donaldson et al found that quiet standing for 2 hrs a day appears to reverse the changes in mineral metabolism induced by immobilization, whereas vigorous supine exercises for as long as 4 hrs daily is ineffective[16].

Therefore, this study was undertaken to compare the effects of tilt-table standing & limb exercises against limb exercises alone in paraplegics & quadriplegics with a treatment regimen of 15 days. Also a comparison was made to assess the levels of urinary parameters between chronic patients& normal ambulatory control group.

II. Methodology

Post an institutional ethics committee approval, an informed consent was obtained from all the subjects prior to commencement of the study.

A total of 36 patients with a spinal cord injury, level of lesion ranging from C3-4 to T12 vertebrae were included in this study. Their age groups ranged between 18-55 yrs. The cause of lesion varied from trauma, myelopathy, transverse myelitis, and extra medullary tumor to Koch's spine. Participants were recruited from the outpatient & inpatient department of a tertiary care public hospital & a renowned paraplegic foundation for the study conducted for a period of 15 days.

The inclusion criteria were as follows-

- Absence of cardiovascular, pulmonary or metabolic disorder
- Naturally free from spasticity or spasticity controlled pharmacologically
- Subjects willing to participate in the study

Exclusion criteria consisted of-

- Unstable or poor surgical fixation
- Presence of debilitating pressure sores

24 of these patients with acute injury were divided randomly by coin toss method into Groups A & B. 12 patients with chronic injury formed Group C & 12 normal subjects shaped the control Group D to assess the effect of this regimen in long-term management of these patients.

Basal parameters of PR, RR & BP were measured and recorded prior & post the study. 24hour urine sample & fasting blood sample was collected on day1, day7 & day15 for analyses in the biochemistry lab. The parameters analyzed were

- Urine calcium
- Urine inorganic phosphate
- Urine hydroxyproline
- Serum enzyme alkaline phosphatase

Exercise Protocol:

- Upper body active or active assisted exercises
- Passive lower limb movements with 10 repetitions for each joint
- Log rolling
- Deep breathing exercises with effective coughing techniques.

Tilt table standing:

- The patient was mounted on the tilt table with the help of 2 ward boys.
- Slings were tied across the patient's chest & knee to ensure maximum stability
- The table was then tilted with the degree of tilt maintained according to the patient's tolerance& pulse rate, volume to prevent postural hypotension
- Post tilt vitals were recorded
- Within 3-4 days the duration of tilt was increased to an 85-90 degree upright position for a period of 30 mins without much discomfort.

Procedure:

Group A: included 2 females & 10 males with 4 quadriplegics & 8 paraplegic patients. Their mean age was 35.08 yrs & mean injury duration was 4.25 weeks. This group followed the exercise protocol twice a day.

Group B: incorporated 5 females & 7 males, 6 quadriplegics & 6 paraplegics, mean age 29.49 & mean

injury duration of 7.98 weeks. They were subjected to tilt table standing along with limb exercises.

Group A & B both patients had an indwelling urine catheter.

Group C: consisted of 2 females & 10 males, 3 quadriplegics & 9 paraplegics with a mean age of 30.25 yrs & injury duration of 16.08 yrs. These patients were actively moving in wheel chairs, independent in ADL & some even participating in wheel chair sports. None of them were subjected to tilt table standing during their early paralysis phase.

This group was studied to see the long-term effect of physical rehabilitation & body's attempt at bone mineral homeostasis on urinary parameters.

Group D: comprised of normal ambulatory subjects with 5 females & 7 males and a mean age of 32.7 yrs. Their urine parameters were considered as normal values for comparison.

III. Results

Comparison was made between the 3 study groups with the control group. All statistical analysis were done by using bivariate methods. Comparison of parameters between Groups A & B was done using unpaired student's t test & paired t test was used to analyze difference within a group.

Table 1 : Comparison of urine calcium between group A & B

URINE CALCIUM		
DAYS	GROUP A	GROUP B
1	12.38 + 5.23	13.75 + 6.19
7	10.53 + 3.12	10.45 + 2.48
15	10.60 + 3.48	8.38 + 1.56
t value	2.58	5.65
p value	< 0.05	< 0.001

Inference: A significant fall in the urine calcium levels were observed in both the groups with group B greater than group A from day 1 to 15

Table 2 : Comparison of urine phosphatase between group A & B

URINE INORGANIC PHOSPHATE		
DAYS	GROUP A	GROUP B
1	46.27 + 17.42	50.33 + 14.91
7	45.66 + 12.97	50.43 + 11.11
15	46.98 + 13.31	43.93 + 10.43
t value	1.36	4.51
p value	> 0.05	< 0.001

Inference: Levels of phosphate showed significant difference in group B while it was non-significant in group A.

Table 3 : Comparison of urine hydroxy proline between group A & B

URINE HYDROXY PROLINE		
DAYS	GROUP A	GROUP B
1	2.93 + 0.43	2.98 + 0.78
7	2.83 + 0.29	2.64 + 0.48
15	2.78 + 0.29	2.29 + 0.48
t value	2.45	4.54
p value	< 0.05	< 0.001

Inference: Levels of hydroxy proline showed significant difference in group B

Table 4 : Comparison of serum enzyme alkaline phosphatase between group A & B

SERUM ENZYME ALKALINE PHOSPHATASE		
DAYS	GROUP A	GROUP B
1	12.39 + 2.09	14.13 + 2.98
7	11.60 + 1.17	11.25 + 1.74
15	11.14 + 1.23	10.01 + 2.41
t value	2.91	7.1
p value	< 0.05	< 0.001

Inference: Serum enzyme alkaline phosphatase was significantly reduced in group B after 15 days of treatment

Table 5 : Comparison of urine parameters between group C & D

URINARY PARAMETERS		
PARAMETER	GROUP C	GROUP D
CALCIUM	6.79 + 1.39	6.91 + 0.95
PHOSPHATASE	65.65 + 6.61	64.02 + 5.84
HYDROXY PROLINE	2.55 + 0.48	2.19 + 0.49
SR. A. P	12.03 + 2.89	11.60 + 1.09

Inference: Urine parameters & serum enzyme alkaline phosphatase were near normal between groups C & D

IV. Discussion

The recent progress in the management of SCI has prolonged the survival of patients. The incidence of secondary bone & joint disorders has also increased considerably[17]. Bearing in mind the evaluation and particularities of the osteoporosis occurring in SCI patients, one should pay special attention to the time of injury. Intervention must ideally be introduced early as a large portion of bone loss occurs within 6 months, stabilizing at 12 to 24 months after SCI at values 60% to 70% of normal in the femoral neck and 40% to 50% in the proximal tibia[10, 18].

The physiological changes in various systems occur as a result of[19]-

- Change from partially upright-partially horizontal body position to a completely horizontal one
- Reduction in energy expenditure due to relative confinement in bed
- Almost complete reduction of stress on muscles & bones

Muscular loading of bones has been thought to play a role in the maintenance of bone density. Exercise increases site-specific osteogenesis in able-bodied individuals[20]. A study demonstrated that standing might reduce the loss of trabecular bone after SCI. In this prospective study of 19 acute SCI patients, the patients involved in early loading intervention exercise lost almost no bone mineral, whereas the immobilization patients lost 6.9 to 9.4% of trabecular bone[21].

A study done by Schoutens et al. has shown that exercises without weight bearing cannot counter act the loss of bone mass provoked by bed rest. Also, Kaplan et al, observed reduction in hypercalcemia in quadriplegics after weight bearing & strengthening exercises. Our findings, depicted in tables 1, 2, 3 & 4 correlate well the above studies. Mild significant fall in urine calcium is observed in group A too due to the fact that muscle loading & contraction in the form of active & active assisted exercises, promote maturation of newly formed collagen & calcification of bone matrix[8, 21].

Hydroxy proline also, returned to baseline as found in our study, supported by conclusion by Bergmann et al & Chantraine A[22, 23].

The abnormality in bone mineral metabolism is directly proportional to the amount of bone tissue immobilized. Thus, SCI patients develop hypercalciuria & mild hypercalcemia. With time, the bones become severely osteoporotic, mobilization of calcium reduces & eventually normalizes[15]. This was confirmed by our study in table 5. Since the patients in group C had a mean duration of paralysis of 16 yrs, the urinary levels had come back to their normal limits. This could be because of the body's adaptive strategy to control bone mineral loss over a prolonged period. During this period changes in hormonal factors such as growth hormone or a decrease in IGF-1 may result in a reduced bone turn over[24]. Also, the independent & active lifestyle that the patients were leading played a crucial role.

a) Limitations

- Male to female ratio could not be maintained equally
- The level of lesion varied amongst patients recruited
- Cause of the lesion was different in amid patients
- Duration of paralysis was also different between patients
- The study had to be restricted to 15 days because of early discharge of patients.

V. Conclusion

Thus in our study we conclude that-

- Tilt-table standing which includes a positive gravitational stress & weight bearing was definitely more effective than limb exercises alone in decreasing bone mineral loss & breakdown products of collagen metabolites. This could be crucial for preventing skeletal deconditioning & renal complications in SCI patients
- In chronic patients, an active wheelchair bound lifestyle replaced the need for verticalisation when compared to the normal control group.

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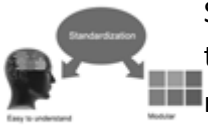

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Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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