

Health service delivery in the Middle Ramu District of Madang Province in Papua New Guinea

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Abstract

Developing countries face many challenges to service delivery, despite efforts being made by governments and relevant organisations. Developing countries have many in common when faced with health service delivery. Commonalities exist in the challenges and solutions they bring to mitigate the impacts of the lack of service delivery. Papua New Guinea (PNG) like other countries faces similar challenges. The basic health needs of the vast rural-based population remain unsatisfied. The Middle Ramu, one of the districts, has been identified as one of the least developed in PNG, with poor health service delivery. This paper reports on a study undertaken to identify some challenges to health service delivery and provide recommendations to address these challenges. Mixed methods were employed, including questionnaires and interviews to collect data, which were then analysed using statistical and thematic analysis. The findings identified various challenges and recommendations for improvement. The Madang Provincial Government and Health Authority can use these findings and recommendations to make proper planning and decisions so that the status of service delivery is improved to the expected levels.

Keywords: Health service delivery, Madang Province, Middle Ramu District, Papua New Guinea.

Introduction

Madang Province has one of the most underperforming health systems in PNG despite several initiatives undertaken for improvements in the past decade (Prideaux, 2014). Ineffective leadership, management competencies and weak political and institutional capacity are barriers to effective health service delivery. Further, accessibility to health facilities is a critical factor in effective treatment for people in rural areas in developing countries (Murawski & Church, 2009). Health services delivery to a certain population in such areas is a challenging task. It is usually straining when one is expected to deliver to a remote, isolated and less developed district.

This paper will report on a study undertaken to explore the factors affecting health service delivery in the Middle Ramu district and provide recommendations so that the MaPHA, Middle Ramu District Development Authority and relevant stakeholders can collaborate to improve health services delivery mechanism to serve the people better in Madang Province.

Research context

Health services in PNG have been categorised into rural and urban health services. The recent restructuring of the National Department of Health's focus on health service delivery led to the introduction of the Provincial Health Authority (PHA) (PNG Government, 2007). This concept was first introduced in 2007 when it was proposed that these two categories be

amalgamated into one coordinating authority. It was believed that with the decentralisation of the health functions to the provincial level, outreach to the local districts would be manageable and implementable. However, the implementation process and the work of the PHA have not been working effectively as envisioned in some districts such as Middle Ramu in the Madang Province. Joe Agavi is a board member of the Madang PHA and is interested in such studies. Thus, the findings and recommendations of this study will be submitted to MaPHA to be used for proper planning and implementation of health services in Madang and other provinces as appropriate.

Literature Review

Health service delivery in developing countries

Developing countries face many challenges to service delivery (Macintyre, 2019). Despite efforts by governments and relevant organisations, the basic health needs of the vast rural-based population remain unsatisfied (Djukanovic & Mach, 1975). Some challenges include unpleasant and difficult terrains and land formation, lack of political direction, corruption in government delivery systems and lack of attention to basic service delivery by those responsible. PNG is not immune to such challenges (Murawski & Church, 2009). Despite many attempts to introduce various intervention programs to alleviate and improve this sector of developmental expectations, some rural areas are slowly seeing improvements whilst some are struggling to see results.

The challenges to delivering goods and services are a great agenda that is driving governments and leadership across the globe in their endeavour to provide for their people. Governments have initiated various reforms to effectively deliver to the majority of the population (Lindquist, 2011). These challenges become far greater and more stressful when faced with economies or environments that are underdeveloped with an unbalanced act of developed economies on one end of the scale and the least developed on the other extreme (Mohammed, 2016).

Health service delivery in Africa, Asia and the Pacific

Developing countries in Africa, Asia and the Pacific have many in common when faced with health service delivery. Commonalities exist in the challenges and solutions they bring to mitigate the impacts of the lack of service delivery (Peters, et al., 2008). These challenges include the issue of leadership and its accountability in terms of decision-making and the distribution of resources to all areas under its mandated coverage. Maxwell's famous quote often iterated in discussions and literature, 'everything rises and falls on Leadership', rings true of the failures or successes in capably and effectively providing for the people they are mandated to serve (Maxwell, 2024). Another common factor hindering health service delivery is the natural environment including its geography, weather, and seasonal changes that accompany those, which create accessibility and logistical issues (Peters, et al., 2008).

There is also the rural-urban drift that is placing a burden on the service delivery mechanism. It poses some challenges in the rural as well as in the urban areas even though there are expected benefits (Moses et al., 2017). In most rural areas, the drift led to rapid deterioration

and dysfunction of the rural economy leading to chronic poverty, a drop in enforcement of law and order and food insecurity. It is not only affecting rural areas but also pushing the implementers of public policy and service delivery to urban areas. The public servants abandon their work locations in search of comfort and pleasantries in urban and suburban areas (Gibbs, et al., 2016). Changes can occur if leadership focuses on time, budget, visibility, ownership, personal contact and relationship-building with its people (Peters, et al., 2008).

Many rural areas have vast and diverse geographical locations, which prohibit proper penetration of health care (Panagariya, 2014). Healthcare personnel are reluctant to work in such areas as they have to face challenges such as the absence of reasonable living conditions (e.g. proper housing, electricity and a good school for their children) and the under-functioning of the majority of healthcare facilities in such areas, which provide limited opportunity to apply their knowledge and skills.

Health service delivery system in PNG

PNG's health services have been decentralised with leadership and management roles, finance and service delivery to provincial and district governments (Prideaux, 2014). The provincial hospital had its governance structure, whilst the districts operated under the rural health sector. The two separate governance systems led to continuous challenges and conflicts in the delivery of quality health care to the needy at an affordable cost (Littlejohns et al., 2012). In recognising this weakness, the PNG government enacted the Provincial Health Authority Act 2007, to establish provincial health authorities so that the two separate governance structures can be amalgamated into one system. Madang Province obtained its PHA status in 2019 (TVWAN, 2024). The MaPHA is now charged with the responsibility of managing all health facilities and services in the province.

Health service delivery in Madang

The Middle Ramu district has been identified as one of the least developed in PNG (Gibbs, et al., 2016). Currently, there are about fifty aid posts in the district. Twenty-three are in operation whilst twenty-seven are closed for various need-to-be-explained reasons. The district has seen little changes and is one of the most disadvantaged districts (Rogers et al., 2011). Many factors that hamper service delivery include road and transport infrastructure barriers, law and order, pay structure, drug and medicinal procurement and supply and the responsiveness of the local and administrative leadership (Prideaux, 2014). The district has also faced other challenges such as floods and scattered terrains and rivers in the delivery of health programs, resulting in poor access to outside markets and services. These issues were further explored in this study.

Methodology

Methodology refers to “how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or methods adopted” (Saunders et al., 2016, p. 720). It includes the methods used to collect and analyse the data collected to answer the research questions. Mixed methods were

used in this study, that is, both the qualitative and quantitative methods of data collection and analysis, which were conducted concurrently.

Non-probability sampling was used as the Middle Ramu district is geographically dispersed, making it difficult to visit the whole area. Purposive sampling was used to identify participants for the interviews and convenience sampling participants for the questionnaires from four LLGs: Aiome, Josephtaal, Kovon and Simbai. These participants were believed to have the relevant data required to achieve the aim of the research.

Questionnaires were used to collect quantitative data and semi-structured interviews qualitative data. A semi-structured interview is a meeting in which the interviewer does not strictly follow a formalised list of questions (Saunders et al., 2016). Instead, they ask open-ended questions, allowing for a discussion with the interviewee.

The data collected from the questionnaires were entered into Excel and analysed using statistical techniques such as exploratory data analysis and descriptive statistics. The interview data were entered in QDA and thematically analysed. These data were analysed to identify the main challenges and provide recommendations for improvement in health service delivery. Ethical processes were followed, which included obtaining clearance and informed consent from the participants and keeping data confidential.

Findings

From the data analysis, there was a general consensus that health service delivery in the Middle Ramu district is affected by several factors including a lack of health workers, medicines and drugs, leadership and maintenance of existing infrastructure (Figure 1).



Figure 1: Challenges to health service delivery in the Middle Ramu District

Lack of health workers

The findings show that there is a lack of health workers. Many aid posts do not have health workers. They are either out in town sourcing drugs and medicines or have absconded from

work, and migrated to town or their villages, whilst on full pay by the National Department of Health (NDoH). A female villager (54 years old) from Arabaka stated, “ol lain save wok o raun nating nating, ol kisim pei nating (These health workers are not working, they are getting paid for doing very little or nothing)” (FPA1). A male ward councillor (48 years old) from Kovon, complained bitterly, “aid posts are like ghost houses, no workmen, no medicines” (MPK2). Another participant, a student from Kovon (28 years old) expressed in frustration, “we have not seen our CHW for a long time, he may be dead and buried in Madang town” (MPK3). There is a lack of health workers at all aid posts in the district (Figure 2).

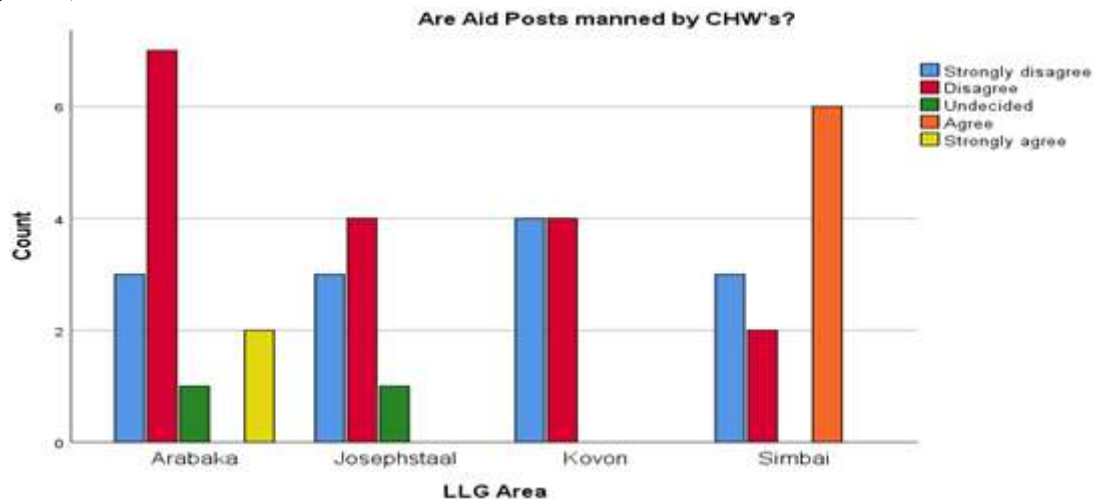


Figure 2: Manning level of CHWs at local aid posts

Lack of availability of drugs at health centres

Due to environmental constraints, road inaccessibility, and closure of rural airstrips, drug and medicine distribution to health facilities in the district has been very slow (Figure 3). The route taken to distribute medicines and drugs is by road, then by a river and then by foot to the respective health posts. For the Simbai health facilities, drugs are driven to Mt Hagen from Madang town, then airlifted to Simbai airstrip. This route is taken because the freight costs from Mt Hagen to Simbai are cheaper than from Madang to Simbai. The survey findings show that at most facilities, drugs are either very scarce or empty on the dispensary shelves.

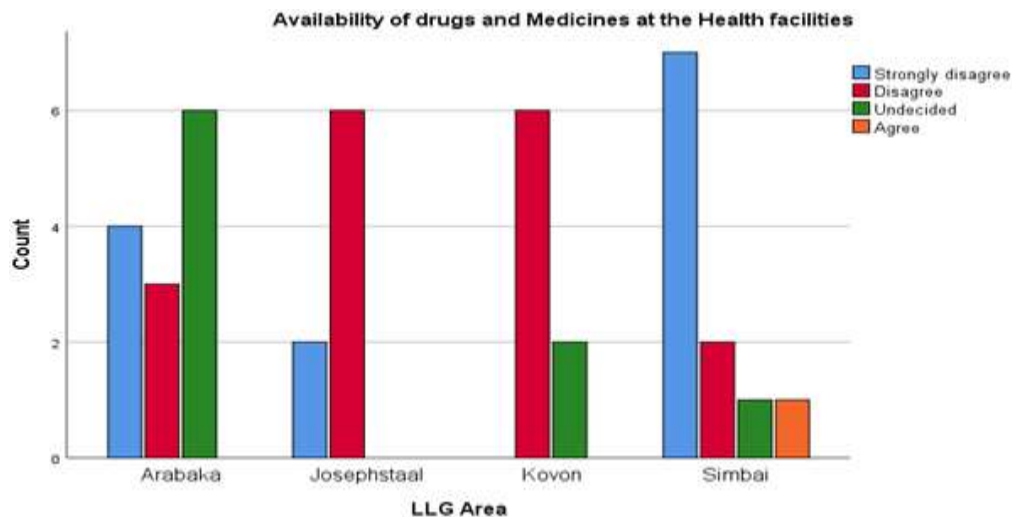


Figure 3: Availability of drugs and medicines at health posts

A case in point was recorded where drugs procured for Aiome in February 2021, were finally delivered on the 27th of July; a delay of 5 months after their procurement. At the Aiome health centre, it was found out that the local dispensary was depleted of much-needed drugs for over 5 months before replenishments arrived. A male Health worker from Kovon (aged 37), could not hold his emotions and said with tears, “I have lost so many mothers here due to lack of drugs; preventable diseases have taken hold and are killing people. There should be a better way to procure and transport drugs to us regularly” (MPK4).

Lack of leadership visibility

There is no presence or visibility of leadership in the district, which includes leadership at the local administrative, provincial and national government levels. A male participant (57 years old) from Kovon frustratingly stated, “Our district’s leadership is dead. There is no one to see for help in our main district station of Aiome. They have all migrated to Madang” (MPK5). Another, a female participant (53 years old) from Arabaka stated, “we will not take part in elections anymore. We waste our time to vote for leaders when in reality there is no presence of both local and national political representation in the district” (FPA10). Another male participant (aged 47) from Arabaka stated, “all of the leaders have migrated away from the district and are now living and working or absconding from work and living in Madang town, Walium, and Ramu Sugar. The local Middle Ramu MP has offices in Madang town and Port Moresby. His local office at Aiome is unmanned and left in ruins” (MPA2).

The Middle Ramu District Development Authority (MRDDA) public servants have deserted Aiome District Centre and are now working out of a rented unit at the Madang Provincial administration centre.

The findings are similar to the literature, which indicates that leadership forms the core of the beginning of restoration or changes to be kick-started in the district. With good and visible leadership in the district, all other variables, such as roads and airstrips, law and order, and community support will fall into place to set a mechanism for change to start.

Lack of visibility of health workers

Many participants expressed having seen no visibility of health workers in the district for a long time (Figure 4). These include doctors, nurses, health extension officers and other general programs such as health and nutrition, maternal and child health, HIV Aids, TB, and related programs. A male participant (aged 48, a ward councillor from Arabaka) stated that “the last time we saw a full medical team visit Aiome was in 1992. Till now 2021, there was nothing of this sort of group visits” (MPA4). Another female participant (aged 42) from Josephstaal, stated angrily, that “our District Health Manager is hardly here, he comes in for a week and goes back and stays in Madang for months and months” (FPJ11).

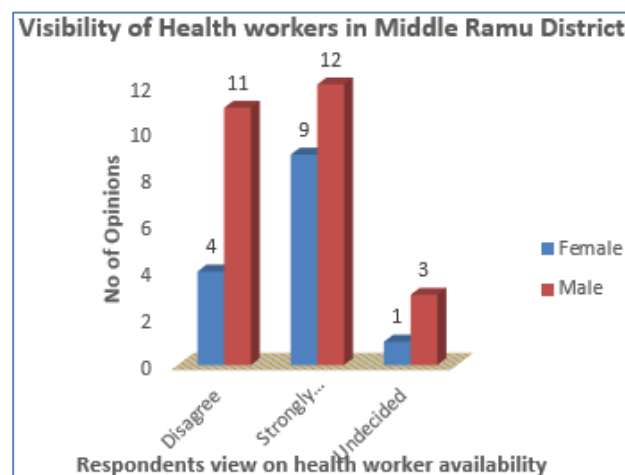


Figure 4: Visibility of Health Workers in the District

According to participants, rural-urban drift has impacted the level of service that is rendered at the rural district levels. Nursing officers, aid post orderlies, now termed CHWs, rural doctors, health extension officers, and health inspectors began the exodus from rural to urban settings. This is all done in the name of seeking the urban pleasantries of good education, entertainment, cheaper and affordable costs of goods and services, affordable and reliable running water and sanitation systems and a general upgrade in the standard of living for their families. MPS8 continued, “Ol yangpela i laikim hamamas blong taun na ol i go” (The young generation is attracted to the pleasantries of urban life and has left).

Aging workforce

Another factor that is contributing to the low level of health service delivery is the age of the present workforce. Most of the present CHWs and health professionals are nearing the retirement age of 60 or have gone past it. There is a far greater need for these officers to be retrenched and for new fresh and young CHWs to fill in the positions. A male health worker (aged 60) from Simbai stated, “I will work till I drop dead. There is no young health worker that wants to come to my aid post as it is not attractive to work here” (MPS5).

Drop in Communications and information reporting

Reporting issues from the district level to the provincial level is also very ineffective. The research found that some areas do not have adequate mobile phone coverage. However, they stated that the 2-way radio communications as practiced in the past were effective in that messages were sent and received extensively.

Road and airstrip improvements lead to better service delivery

Many participants agreed that the key to the successful improvement of health service delivery in the Middle Ramu district lies in the need to upgrade roads and airstrips (Figure 5). Due to the district's massive scattering environment, roads and airstrips will open up the way for improvement.

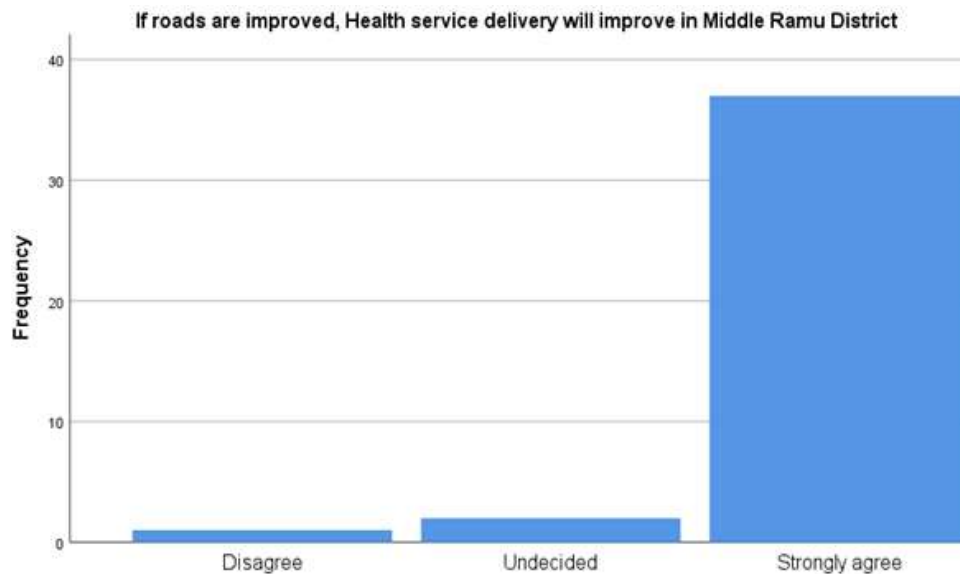


Figure 5: Impact of road and airstrip improvements on health service delivery in Middle Ramu

A male participant (retired public servant aged 56) from Arabaka proclaimed with vigour that “roads and airstrips are the keys to resurrecting this district. Leadership at all levels should work together to drive this infrastructure agenda if Middle Ramu is to see real and meaningful change” (MPA5). There are pilot tracks that need an upgrade and permanent gravelling, which will enable easier transport of goods and services. These pilot tracks are from (i) Sogeram to Umerum to Pasingkap and Atembre, (ii) Sogeram to Agraski and (iii) Zukin to Guam and Ramu River. The upgrades of these identified tracks will greatly aid the health sector with:

- mobilization and transportation of drugs, vaccines, and medicines,
- movement of medical officers for diagnosis, immunization, and public health programs,
- movement of awareness teams on nutrition, TB, HIV AIDS, nutrition,
- transfer and referral of patients, both critical and non-critical for further medical diagnosis,
- movement of medical officers seeking other services like schools for their children, banking, general shopping, and personal matters.

Factors of attraction in reducing urban-rural migration

The respondents, mainly health workers, suggested that (i) housing subsidy, (ii) allowances and attractive remuneration and (iii) fixtures and furniture, be provided to lure, motivate and retain health workers in the district.

Comparison of Health service delivery in different periods

Health services were delivered better in the periods between 1960 and 1980. The service delivery levels started to fall in the period after that from 1981 to the present. 57.5% of respondents agree that health services were delivered better in the years from 1960 to 1980. When the colonial government and white expatriate officers were administering the district, respect for the rule of law, cleanliness, housekeeping and the general good behaviour of people were in existence. The costs of goods and services were cheap and affordable at the time, including the costs of fuel and basic store goods. Schools and health centres were run by experienced colonial administrators, who managed rations, fuel supply, and people's attitudes well. A male participant (age 68) from Simbai stated that "everything was cheap. White man made sure all supplies are available for health and store goods. There were no law and order issues, everyone respected each other" (MPS8).

Poor state of service delivery

Service levels including roads in the rural Middle Ramu district are in a poor state (Kassa, 2024; PCAdminPNG, 2019b). After achieving political independence in 1975, PNGeans eventually took over the reins from white expatriates, which saw them leaving the rural areas for either the urban settings or immigrating to their homeland. The attention to detail in housekeeping began to fall, with district work cooperation amongst public servants fading away. Rivalry amongst public servants in particular roles caused infighting and conflicts, which led to a drop in service delivery levels.

Discussion

Contextual environmental /geographical spread

Middle Ramu District has four local level governments (PCAdminPNG, 2021). They are separated by the Bismarck mountain range and the meandering Ramu River and its many tributaries, making accessibility an arduous task. These physical barriers pose a great difficulty for effective health service delivery in the district.

Solutions in sight: Call for Leadership to step up

Some solutions have been discussed and agreed upon. All are now dependent and incumbent upon the political and administrative leadership at the district, provincial and national levels to make these changes happen (PCAdminPNG, 2019a). For the Middle Ramu District to improve its standings on the stakeholder performance grading, several prerequisites needed to be undertaken. Leadership is required to deal with road and airstrip improvement programs (PCAdminPNG, 2021). It then reverberates and transcends to answering the research question, which desires an improved and higher level of health service delivery, ultimately leading to a healthy population in the district.

Upgrade of existing road links

New roads new to be built and existing road links must be updated such as from Jimi Valley to Simbai (Kolo, 2024; Taime, 2023). There is also another pilot track that is left to see the overgrowth of bushes from Sogeram to Umerum. The road can be resurrected from Umerum to lead to Atemble, which can give easy access to Aiome, Kwanga, and Annaberg (Arabaka) and the Kovon LLGs, situated towards the border of Western Highlands and East Sepik Provinces. There is another existing road route from Bogia coastal to Josephstaal. There is only a 6-kilometre stretch that is yet to be cleared, upgraded, and made accessible for Josephstaal's use. The fourth road route, which should give access to the Kovon is from the Bogia coast to Igom, then to Zukin. This reaches the Ramu River and enables access to Kovon.

Existing machinery from the PNG Defence Force Engineering Battalion (PNGDFEB) is currently sitting idle at the Aiome District station for the last seven years (Figure 6). These machinery, plant, and equipment can be readily utilized by the district to grade the pilot tracks. It only needs funding for fuel, mobilisation and manpower, which can be met by the Middle Ramu District Development Authority (MRDDA).



Figure 6: Idle PNGDFEB machinery sitting in Aiome station for the last 7 years

Road and airstrip access can open up the way for (i) faster and easier delivery of medicines and drugs, (ii) faster mobilization and referral of sick inpatients and outpatients to the District Health centres and eventually to the main Madang Hospital, (iii) general nutritional, TB, HIV Aids, Coronavirus and maternal and child health programs can be easily provided by the health department officials, and (iv) for a specialist team of doctors and health officials to constantly visit the Middle Ramu on planned consultation visits, (v) The road and airstrip access will also enable public servants, especially health workers, who have deserted the district to live in Madang town (PCAdminPNG, 2019b) to return to the District station at Aiome, Simbai, and Josephstaal to return and provide the much-needed services, (vi) the Rural Airstrip Agency (RAA) can be engaged by the local national Member of Parliament to upgrade the number of airstrips in Middle Ramu. Recently the RAA was engaged by the South Bougainville MP to upgrade and open the unused Buin airstrip (PostCourierOnline, 2021).

This improvement in roads and airstrips can also lead to a resurgence of business activity, opening up opportunities for cocoa, vanilla, and beetle nut trade, which can sustain the Middle Ramu people's economic livelihood. It will also fulfil the national government of Papua New Guinea's Vision 2050, which calls for the population to be Healthy and Wealthy (PNG Government, 2009).

Budget

To boost the motivation levels of the health public service delivery mechanism, the annual budget appropriation for the Madang and Middle Ramu health sector should be increased (Ambang, 2019). Further, decentralization of funding disbursement will give easy access to procure services, drugs, and supplies at the local level, rather than the present cumbersome process, which is engrossed in red tape and delays. Appropriate funding is required to implement programs such as TB and HIV prevention, food nutrition and handling, quarantine inspection patrols, water supply and sanitation and the Healthy Island concept.

Enabling factors

To boost performance levels, several enabling factors needed to be considered and procured to greatly assist the endeavour. These factors include equipment and assets such as vehicles and dinghies that will enable the mobility of health officers to visit all facilities to carry out the relevant programs and improve service delivery (Ambang, 2019).

Sponsorship, training and motivation

Since Madang has several health training institutions such as the Divine Word University, Lutheran School of Nursing and Gaubin CHW training school, the Madang PHA in conjunction with the MRDDA should sponsor capable students from the 4 LLG areas to undertake training on health-related areas such as nursing or health extension. The administration can then tie the graduate outputs to employment contracts to work at the 4 LLG areas, and provide mechanisms such as incentives to retain them in the district.

Recommendations

With all the enabling factors in place, the onus is now on the Madang Provincial Health Authority as well as the Middle Ramu District Development Authority to take full control and ownership of the health facilities and undertake the following regularly.

- i. Conduct consistent audit visits to ensure accountability in reporting, drug administration, and adherence to manning requirements.
- ii. Conduct planned in-service training for areas of need for health officers at their posts.
- iii. Assist poor-performing facilities to improve in their key indicators.
- iv. Transfer officers based on performance and need.
- v. Assist with fuel for dinghies, vehicles, and motorcycles.
- vi. Allocate sufficient budget for repair and maintenance of transport (road and river to ensure continuity of service delivery levels.
- vii. carry out a planned and programmed maintenance of one health centre at the given period.

- viii. Take over the responsibilities of the distribution of drugs, medicines, and vaccines to all health facilities from the current external contractor.
- ix. Engage doctors, health extension officers, health inspectors, and nursing officers to work in the rural outposts.
- x. Organise life skills training for young health professionals as part of the professional profile.
- xi. Install integrated 2-way radio services to remote areas inaccessible by mobile phone connectivity. The survey found out that when these were installed by the former Health Minister – Sir. Peter Barter in 2007, they were working very effectively in disseminating awareness and service messages.

With the implementation of the suggested recommendations, the integrated and cooperative approach between the leadership of MaPHA, the Middle Ramu political leadership and the Middle Ramu District Development Authority and the enabling factors as presented, the current level of health service delivery in the Middle Ramu District can be improved in the next 3 to 5 years, further leading to an improvement in the district's national profile and health standard ranking.

Conclusion

This paper presented the results of the research, which was aimed at identifying the factors that contributed to the low level of health service delivery in the Middle Ramu District. The paper also offers suggestions for improvements and measures to be undertaken by the relevant authorities in the political, administrative and health sector leadership to embrace and implement to achieve positive changes and progress in the health service delivery mechanism. It is incumbent that these findings and the recommendations should be implemented by the relevant stakeholders, especially the district's leadership in their strategies and plans to enhance the health service delivery mechanism. This will contribute to a healthier population and a realisation of improvements in the district's annual national rankings, which have been placed in the lower rung of the 89 districts of PNG.

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Appendices

The following photos were taken during the data collection trip to the Middle Ramu District.



Loaded with 57 cartons of Drugs, vaccines and medicines for Aiome Health Centre



Posing in front of Aiome Health Centre with the OIC –Mr.David Wunding



The dilapidated labour ward at Aiome Health Centre



Bushes and overgrowth cover the Aiome airstrip



Two of the Middle Ramu district health services' workhorses