



The added value of multiple IMCHA research projects on maternal, newborn and child health policy and practice in Nigeria



Report

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Executive summary

The Innovating for Maternal and Child Health in Africa (IMCHA) initiative has funded five research projects in Nigeria; implemented by three research teams. Nigeria is thus the only country after Tanzania to have several projects funded under the initiative (5 projects in Nigeria and 10 projects in Tanzania). This case study aims to show the value added of implementing multiple research projects under the same initiative in a single country; particularly in terms of policy and practice change in Maternal, Neonatal and Child Health care and research development. To this end, we conducted a case study of IMCHA-funded projects in Nigeria. In our study, each research project is considered as a case to identify innovation, synergy with other projects and their influence on maternal, newborn and child health policies, maternal and child health improvement and research development in Nigeria. Three consultants were recruited for health security reasons related to the Covid-19 pandemic. The synthesis of the consultants' reports has resulted in the production of this report, the results of which are presented here.

Each of the research projects features innovations that complemented the others. These innovations lied in the project design, implementation strategies and political commitment that led to the synergistic effects achieved. The synergy of the projects' innovations in terms of improving maternal, neonatal and child health can be analysed through the cascade of the three delays that explain maternal deaths. The home visits and kunika (Hausa word meaning “short birth interval”) interventions in Bauchi and the community education sessions in Benin City addressed the barriers of the first delay, namely the lack of knowledge of the signs of danger during pregnancy, socio-cultural and religious constraints and gender-based violence. For the second delay related to geographical access and transportation, the Text4Life model, the involvement of the Ward Development chairman in the management of the Community Health Fund, the partnership with the transporters' association and referrals removed transportation barriers. As for the third delay, the Drug Revolving Fund, Community Health Insurance, the Text4Life model, the appointment of National Youth Service Corps (NYSC) Medical Doctor in Benin City associated with the Training of Trainers, Frontline training, supervision contribute to ensuring a better quality of care. There is a complementarity of these interventions to improve maternal and child health in Nigeria.

In terms of influencing policy, the changes are most notable at the level of the states where the projects were implemented. The multitude of projects as well as the geographical spread has resulted in the attention and involvement of the Department of Family Health with multiple meetings at the Federal level, with the creation of the Nigeria Research Days for MNCH as a framework for collaboration between researchers, decision makers and other stakeholders.

In terms of research development, the research teams have produced evidence which was used to influence or change MNCH policies and practice both at state and national level. The three research teams have published up to thirty six articles in international peer-reviewed journals.

At the end of this study on the added value of projects funded by the IMCHA initiative in Nigeria, it can be said that the effects will continue to grow over time, given the large network of stakeholders involved and the innovation of the interventions. It can be argued that it is beneficial to allow several research teams to address complementary topics from different angles in the same country; the effects of which are more sustainable synergistically and create a momentum for change.

1. Background

In 2014, a consortium of three Canadian institutions comprising of Global Affairs Canada (GAC), Canadian Institutes of Health Research (CIHR) and International Development Research Centre (IDRC) launched the “Innovating for Maternal and Child Health in Africa (IMCHA)” initiative. The initiative focused on funding implementation research to develop practical solutions to improve maternal, neonatal and child health in Africa. Research teams (RT) were selected to identify interventions (policy, programs and services) that involve multiple strategies and require implementation both within and outside the health sector. In addition, two Health Policy and Research Organisations (HPROs) were selected to provide support to research teams in getting the results to decision makers, strengthening capacity and facilitating mutual learning. In West Africa, the West African Health Organisation (WAHO) played this role all through the lifespan of the initiative. In West Africa, six RTs were funded to implement a total of eight research projects in four countries (Burkina Faso, Mali, Nigeria and Senegal). In Nigeria, IMCHA funded three research teams which implemented five research studies: two in Bauchi, one in Benin City and two in Ibadan. The projects focused on different aspects of maternal, new born and child health (MNCH) including community mobilisation and engagement, perinatal depression and utilisation and quality of health services. The IMCHA initiative was designed to generate findings that could influence policies and practices at the national and subnational levels. We document here the added value of IMCHA projects on maternal, new born and child health policy and practice in Nigeria

2. Methodology

This case study aims to describe the added value of the research projects funded in Nigeria by the IMCHA initiative. The study was conducted from 24 January to 18 February 2022. Three local consultants were recruited to conduct data collection at the research project sites. The participants in the study were members of the research teams, stakeholders, including practitioners and decision makers. Data were collected from desk reviews of project documents (project reports, activity reports, publications) and interviews with key persons (research team members, decision makers involved and beneficiaries). The three reports produced by the consultants were combined and synthesized to produce this report.

3. Results

3.1. Description of projects

The three research teams implemented five research projects. These research teams were located in the three main geographical zones of Nigeria, namely: the North, the South-West and the South-East. This geographical distribution had the advantage of being representative of the different contexts in Nigeria, allowing for analysis of the different facets of MNCH problems in the country including barriers to service utilisation and perinatal depression.

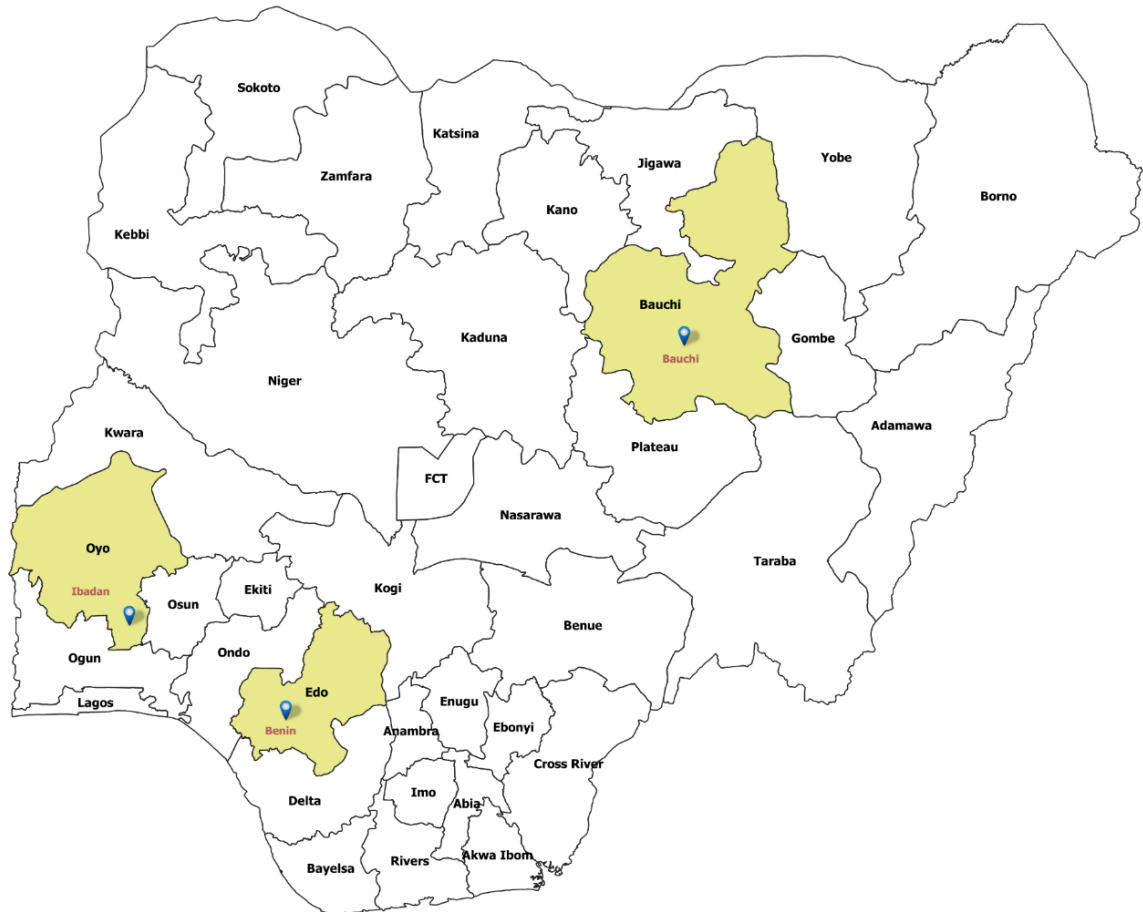


Figure 1: Maps of Nigeria showing the research teams location

IMCHA projects in Ibadan, Oyo State

The Ibadan team received funding to conduct two research studies both focused on perinatal mental health.

The main project was the **Scaling-up Care for Perinatal Depression (SPECTRA)** study carried out by the WHO Collaborative Centre at the University of Ibadan. The overall aim of the SPECTRA study was to assess factors that may impede or facilitate the delivery of evidence-based intervention for screening of perinatal depression by front-line clinicians in primary health care in Nigeria using the WHO mental health gap action implementation guide (mhGAP-IG) in routine practice following step-down training delivered by trained trainers.

The second project awarded alongside this was titled **Responding to the challenge of adolescent Perinatal Depression (RAPID)**. The RAPID study was carried out between 30 October 2017 and 29 October 2020. The RAPID project was designed to address the poor infant outcomes and the deficiencies in parenting skills observed among adolescent mothers in an earlier study. The overall aim of the RAPID study was to test the effectiveness of a specially designed intervention package delivered by primary maternal care providers at relieving symptoms of perinatal depression in adolescent mothers and improving their parenting skills.

IMCHA projects in Benin City, Edo State

Increasing Women's Access to Skilled Pregnancy Care in rural Edo State project, implemented by Women's Health and Action Research Centre (WHARC) aimed to strengthen the availability and access to maternal primary health care services by rural most-at-risk and vulnerable women. The project intended to understand the facilitators and barriers for use and non-use of primary health

care centre both from supply and demand sides. A multifaceted intervention was identified based on baseline study conducted in the rural communities. Scientific evidence was used to enlighten and improve the suggested interventions by the communities. The community involvement and commitment from the beginning was key.

IMCHA funded in Bauchi, Bauchi State

The project **Video edutainment to the doorstep: Impact on maternal and child health in Toro, Bauchi State Nigeria** was implemented by Federation of Muslim Women Association of Nigeria (FOMWAN) from 24 August 2015 to 23 Mai 2020. This project was centred on universal home visits to pregnant women and their spouses with the aim to tackle upstream risk factors for maternal morbidity and mortality, including exposure to domestic violence, continuing heavy work during pregnancy, lack of spousal communication about pregnancy, and lack of knowledge about danger signs during pregnancy. Male involvement was key to addressing these issues trained female home visitors registered all pregnant women in their catchment areas and visited them during their pregnancies to share and discuss shreds of evidence about these risk factors and to identify and refer high-risk pregnancies. Male home visitors discussed the same evidence with the spouses. Innovative digital technology was used for data collection, video edutainment through video clips to share evidence about risk factors, and real-time monitoring of the quality of the data collection.

The Synergies in video edutainment: Child spacing and regional training for rollout in Bauchi, Nigeria project, aimed to maximise the impact of the home visits and video edutainment project on maternal and infant health in Bauchi State. Family planning is a sensitive and contentious topic in many low- and middle-income countries (LMICs). Even after the shift in focus towards reproductive health rather than population control, birth control programmes often face resistance. They are seen as externally driven, paying little attention to cultural and religious beliefs and practices. Many efforts to promote family planning in low and middle-income countries have been clumsy and colonial. Over 90% of the population in Bauchi State is Muslim and there is a widespread belief that Islam is against the use of contraception. Islamic teaching encourages child spacing as a way of protecting the health of mothers¹. In the Hausa language in northern Nigeria, *kunika* means becoming pregnant before the previous child is weaned (that is, short birth interval). On this background, a participatory approach to the question of “how to include family planning in the home visits” was taken.

3.2. Innovation of the cases (study design, strategies, interventions implemented)

The innovations identified and implemented by the research teams also constitute an added value to the projects. These include the design of the study, the implementation strategies used, the engagement of decision makers, and the complementarity of the research topics.

3.2.1. Study Design & strategies

In earlier studies of depression in primary care by the Ibadan team, training of primary health care workers had been undertaken by psychiatrists. Considering the manpower and financial resource constraints in most low- and middle-income countries like Nigeria where there are very few psychiatrists who mostly work in large tertiary care centres in urban areas, this model for training is not practical and sustainable. The team considered that a more feasible and sustainable approach is to equip more senior and experienced primary care providers with the necessary skills required to train and supervise their junior colleagues who are the frontline providers engaged in maternal and child health services to deliver care for perinatal depression with mental health specialists providing

¹Islamic Perspective on Reproductive Health & Childbirth Spacing in Nigeria. 2017.
https://tciurbanhealth.org/wp-content/uploads/2018/12/islamic_perspective_new.pdf

support. Hence this study adopted a cascade training model with specialists providing training to senior-level primary care providers who in turn trained the frontline providers thereby building a pool of potential trainers in the primary care system. Another innovation is the testing of the utility of training primary health care workers to screen all women presenting for antenatal care for depression using the 2-item Patient Health Questionnaire (PHQ-2) to aid in identifying women in need of further assessments for perinatal depression.

Another key innovation of the IMCHA studies was the involvement of decision makers in the research project. Each RT included a decision maker as co-principal investigator (Co-PI) and were encouraged to work collaboratively with other relevant decision makers at the state level. In addition, further policy engagement at the national level was facilitated by the WAHO. The Ibadan RT was able to engage and foster adequate collaboration that ensured the active participation of relevant decision makers all through the life of the project.

In the first year of the SPECTRA study, the team observed that a substantial proportion of women who present with perinatal depression are adolescents. The team had documented in an earlier study that adolescent mothers have special needs including those related to poor infant growth and inadequate parental skills which the health care providers were not equipped to address. With additional funding through the RAPID project, the team explored interventions needed to address adolescent perinatal depression. The RAPID study was designed to meet the needs of adolescent mothers by providing them with support to improve their parenting skills. A particular innovation included in the RAPID study was the use of older mothers selected by each adolescent (neighbourhood mother) to support them in the care of the new born.

As for the Bauchi project, the home visitors and supervisors had received informal feedback from communities and households about the home visits. Towards the end of the project, the team organised meetings with home visitors in each ward to get their feedback on the implementation of the home visits and community reactions. The feedback was overwhelmingly positive. Discussions with community leaders in selected communities indicated not just acceptability of the visits but a demand to continue home visit program even after the project completion. Community groups suggested local mechanisms for sustainability including possible local contributions. Concerning the causes of *kunika* in Bauchi, they used fuzzy cognitive mapping² to systematize local knowledge about the causes of *kunika*. Groups of women and men in communities and at the Local Government Authority (LGA) and State level mapped their ideas about causes of *kunika* and indicated the strength of relationships. They analysed the maps (using thematic analysis to group causes and the technique of transitive closure) and produced summary maps. Three main causes emerged: family dynamics, frequent sex and related factors, and non-use of contraception.

3.2.2. Decision-makers' involvement

Since the conception of the IMCHA initiative, decision-makers have had an important place and role to play in the implementation of projects. However, this role is not always very well perceived by decision makers. The three research teams had different experiences in the process of involving decision-makers. Indeed, the Bauchi team has worked to fully involve the Co-PI decision-maker in all project activities. This includes regular updates on the life of the projects, invitations to attend meetings outside Bauchi and making presentations on behalf of researchers. The change of decision-makers at the government level during the project was challenging, although the decision-maker on the project team remained in post as Chairman of Bauchi State Primary Health Care

²For a recent summary about fuzzy cognitive mapping, see: Andersson N, Silver H. Fuzzy cognitive mapping: an old tool with new uses in nursing research. *Journal of Advanced Nursing*. 2019;75(12);3823-3830

Development Agency (BSPHCDA) until nearly the end of the project and remained actively associated with the project even after he left this post.

The Ibadan research project was designed to build capacity for perinatal mental health care at the primary care level. A very good collaboration has been developed with the Co-PI decision maker, as well as his replacement. He facilitated further engagement between the Ibadan research team and other key decision makers in Oyo State including the Commissioner for Health of Oyo State at that time. This engagement culminated in the signing of a memorandum of understanding between the Oyo State Government and the WHO Collaborating Centre (where the Ibadan team is based) to strengthen the delivery of mental healthcare in Oyo State in 2017. The MOU itemised goals for further collaboration and strategic partnership aimed at assisting the State in the building of capacity of its primary health care workers, especially those involved in the care of perinatal women.

The research days organised by WAHO helped to create emulation among the Co-PI decision-makers who were more committed and offered opportunities to the research teams to be used in policy. Indeed, each decision maker showed his willingness to accompany the research team in his area to succeed, which is also his success. Following the announcement made of a budget line for the scaling up of the home visit in Bauchi, with the support of the decision maker, the Benin City team was able to obtain from the Edo State Ministry of Health the assignment of a young Medical Officer of Health (MOH) each year in the project intervention site. Similarly, the Ibadan team decision-maker announced the creation of a mental health office at the Oyo State Ministry of Health. These various actions could be due to the emulation created by the regular meetings at the federal level where each team presents the progress of the project and benefits obtained from the decision-makers. In addition, the representation of the three major geographical areas of the country gives a sense of equity (although not intentional) leading to the involvement of all actors and more buy-in from decision-makers even from other non-beneficiary states.

The Bauchi Primary Health Care Development Agency (BSPHCDA) allocated and got the approval of NGN 20 million (CAD 70,000) for home visits for 2020.

3.3. Influence on MNCH policy

The Ibadan research team made use of every decision maker engagement opportunity presented through the IMCHA initiative and made additional effort to engage decision makers in Oyo State to drive the translation of the research findings into policy and practice.

The team entered into a memorandum of understanding (MoU) with the Oyo State Ministry of health in 2017. As a part of this agreement, for the first time in Oyo State, a mental health desk officer was assigned in the Ministry to oversee matters related to mental health in the State providing an opportunity for mental health service to receive continual policy attention. Training for this officer was provided by the Ibadan research team through one of the existing capacity building programmes- the Mental Health Leadership and Advocacy Programme (mhLAP). The MoU opened an opportunity for sustained policy engagement and influence on mental health policy development. It also states that the WHO Collaborating Centre at the Ibadan University will offer technical assistance to the Ministry of Health in matters relating to the development of mental health services in the State. The Centre will share research findings that are policy-relevant with the Ministry and involve appropriate officials in relevant research planning and implementation.

The research team signed a MoU with the Oyo Ministry of Health with the creation of mental health desk office and the role technical assistance in matters relating to the development of mental health services in the state

In Bauchi, the project supported the development and piloting of a training curriculum, housed in the Bauchi State College of Nurse and Midwifery (BSCONM), to train human resources necessary for rollout of the home visit programme across Bauchi State. The BSPHCDA’s intended State-wide rollout of the home visits requires a critical mass of trained human resources. In consultation with the State Ministry of Health (SMOH), BSPHCDA identified the Bauchi State College of Nursing and Midwifery (BSCONM) as the partner for establishing a sustainable institutional focus for the training programme. In addition, the project worked with the government officials to rollout the home visit as follows:

- A home visits unit was established under the Directorate of Disease Control, Bauchi State Primary Health Care Development Agency. The unit includes a state focal person, six central supervisors and one data manager. At least two staff members in each of the 20 LGAs in Bauchi State were trained as home visits trainers/supervisors.
- BSPHCDA established a working group of state-level stakeholders headed by its Director of Disease Control. The group recommended scaling up home visits based on the approach of the project and made cost projections for rollout to all 20 LGAs. The scaled-up home visits will also include a *kunika* component.
- In their annual budget for 2019-20, BSPHCDA allocated and got the approval of NGN 20 million (CAD 70,000) for home visits. However, with the changing financial priorities due to the COVID-19 pandemic, the funds are yet to be released.

The BSPHCDA developed a harmonized strategy for State rollout:

- Design and implementation strategy
- Priority topics – key messages
- Recruitment criteria for home visitors
- Training curriculum
- Protocols for monitoring and supervision
- Micro-plan for costs
- BSPHCDA established a home visit unit
- Dedicated budget line with allocation and approval of funds
- BSPHCDA took over management of visits in the first two wards
- Negotiations with development partners
- Consultations with community leadership

The project team had discussed progress and lessons learnt with LGA and state government stakeholders and other project teams. They also discussed options and strategies for mobilising human and financial resources for sustainability and rollout. Government officers from the state and LGAs had participated in the project and consolidated skills in data management, data quality monitoring, and training.

In Benin City, the communities where the project was implemented, a youth medical doctor is being appointed every year for one year of public service. Add to this, advocacy is ongoing for the correct staffing of primary health care centre. The research teams doing high-level advocacy in Edo State and National level for free antenatal, delivery, postpartum and childcare services in PHCs to promote the availability of this service to all women on an equitable and social justice basis.

The first medical doctor appointed for public service got authorisation to open a private clinic in the community. The Community Health Influencers, Promoters, and Services Programme (CHIPS) introduced by the National Primary Health Care Development Agency (NPHCDA) in 2018 is planning to play the Ward Development chairman role in Edo State based on the project results

At national level, the recognition of the importance of research led the Federal Ministry of Health to initiate the development of a new research strategic plan.

3.4. Influence on MNCH practice

The influence of project outlook on MNCH practice varies between research teams but is always complimentary with a synergistic effect.

Training: The implementation of the projects through their geographical distribution has allowed the capacity building of health workers, communities, researchers, decision makers and other project stakeholders throughout the country. These pieces of training focused on topics such as universal home visitation, communication, perinatal depression, adolescent parenting, group psychotherapy, gender-based violence, and the use of tablets for data collection. Curricula have been developed to ensure the sustainability of the training developed in the framework of the projects.

The Ibadan team has developed training manuals that can be used to support the training of non-physician primary care providers to provide care for perinatal depression. This is in addition to the treatment manual. The treatment manual was specifically developed based on mental health gap action programme – intervention (mhGAP-IG) guidelines to guide assessment and provide detailed guidelines for treating perinatal depression in primary care. These resources are available on request from the team for use in other efforts to scale up care for perinatal depression. In Ibadan, the team developed a training curriculum to be used for training frontline health workers at the health centre level. Similarly, an implementation research training curriculum in maternal mental health was developed and delivered as a certificate. The certificate was delivered to thirty mental health workers from the three geographical areas of the country. In addition, a total of 40 senior primary health care workers were trained as trainers on the SPECTRA project leaving a pool of potential trainers in the primary health care system of Oyo State that can be called upon to train other primary health care workers in Oyo State and beyond for further scale-up activities. About 200 frontline primary healthcare workers were trained to identify and provide evidence-based treatment for perinatal depression.

In Bauchi, the Bauchi State College of Nurse and Midwifery (BSCONM) has appointed a focal person and faculty staff members to work with the research team to design the curriculum for the training of trainers, managers, and supervisors for the home visits. The curriculum was piloted and refined by implementing it with six batches of trainees including faculty members from BSCONM, Bauchi State College of Health Technology and staff members from State Ministry of Health and Bauchi State Primary Health Care Development Agency, and relevant health care providers from all 20 Local Government Areas in the state. The curriculum is now in good shape with a critical mass of faculty within the state college trained to serve as the faculty for the ongoing implementation of the training programme in the State.

The research teams participated in each other's training sessions as much as possible. Members of research teams of Bauchi and Ibadan attended training session on Knowledge Translation organised by the Benin City research team. Similarly, Benin City research team members participated to Implementation research on maternal mental health training session organised by Ibadan research team. This allows each team to benefit from knowledge on topics not mainly related to its field.

Service delivery: In Ibadan, the project was designed to build the capacity of the frontline primary healthcare workers in Ibadan, Oyo State to deliver evidence-based treatment for perinatal depression. Primary healthcare workers (PHCWs) reported that they were more knowledgeable and had acquired the needed skills to diagnose and manage perinatal depression as a consequence of their involvement with the implementation research of the Ibadan team. In addition, now that the PHCWs can treat women with perinatal depression, information about perinatal depression has been incorporated into the routine health talks provided during antenatal clinics in Oyo State.

The task shifting approach used by the Ibadan team allowed access to mental health care and increased the diagnosis of perinatal depression at frontline

Quality of care: Before the implementation of the SPECTRA and RAPID projects, perinatal depression was stigmatized and PHCWs could not deliver interventions for perinatal depression that was evidence-based. This was reported in the early phase of the SPECTRA project where only 3 (1.4%) out of 205 women with perinatal depression were identified and none of these women was provided with appropriate interventions. Following the initial training, there was an improvement in the number of women diagnosed to about 4%. To increase the chances of identifying women with perinatal depression, the team introduced a 2-item screening tool for the PHCWs to use in some of the clinics. This increased the rate of identification to 11% in these clinics. To improve identification rates further, the team carried out refresher training and supported the trainers to carry out supportive supervision visits to the primary health care centres. These measures further increased identification rates to about 40% in the clinics where the PHCW were using the screening tool.

A substantial improvement of quality of care was noted in Benin City research site. The implemented multifaceted intervention comprised of: community health fund, rapid SMS, Drug revolving fund, advocacy, staffing and retooling/retraining, MoU with transporters association, community health education. In Bauchi, women's awareness of the danger signs of pregnancy led to high utilisation of health services by pregnant women. In addition, the social diagnosis on kunika has introduced the discussion by the research team on the use of modern contraceptive methods while respecting cultural and regimented values.

At the Benin City project implementation site, the intervention implemented improved the quality of care through the removal of financial barriers, transport, availability of qualified staff and medical and emergency referral. This has resulted in no deaths over the life of the project intervention. This result, presented at the final dissemination workshop, allowed decision-makers to see that it was possible to prevent maternal deaths.

Health service guidelines: Before the implementation of the two studies in Ibadan, there were no tools or clinical guidelines to aid the diagnosis and treatment of perinatal depression. The project introduced training of primary healthcare workers to screen for depression. Copies of this tool were produced and distributed to selected clinics for use by the PHCWs to screen for depression during routine consultation in the clinics. The team produced copies of the WHO mhGAP-IG wall charts as well as desktop charts to guide PHCW for identifying women with perinatal depression and selection of appropriate psychosocial interventions. In addition, the Bauchi team produced a guideline for the conduct of home visits used by all community health workers. This contributes to the improvement of the quality of services of community health workers.

3.5 Influence on research

The three research teams of the IMCHA Initiative in Nigeria have made significant contributions to the generation of policy-relevant evidence on maternal health, including family planning, adolescent and youth health, task shifting and community health. Together, the three teams have produced 36 articles published or in press in scientific peer-reviewed journals.

The Ibadan projects have produced evidence for the effectiveness of task-shifting and supervision in the diagnosis and initial management of perinatal depression. This approach can be extended to other areas of care and even shared with other countries in the sub-region where there are similar challenges in the availability of mental health specialists. It was also noted that perinatal depression was more prevalent in adolescents with a direct effect on new born survival. This enabled WAHO to start advocating for the integration of mental health into the antenatal care package at the Federal Ministry of Health and in other ECOWAS countries. Similarly, the evidence produced by the Bauchi team showed the acceptability, feasibility and effectiveness of home visits for social change such as couple communication on pregnancy management, gender-based violence, use of modern contraceptive methods, and knowledge of danger signs during pregnancy. In terms of strengthening health systems, the evidence from the Benin City research team shows that a combination of community health insurance, community involvement, an early warning messaging system (from women to health centres and transporters), and the provision of trained medical staff can improve the use of health services and quality of care.

WAHO use evidence from Ibadan projects to push integration of mental health in antenatal care at Federal Ministry of Health Level

The Bauchi State Primary Health Care Development Agency adopted the home visit model based on evidence produced by Bauchi team

4. Conclusion

The funding of five research projects by the IMCHA initiative in Nigeria has demonstrated the added value of funding several research projects in one country to produce innovations and evidence to improve the health of populations. Three research teams have effectively implemented five research projects in different areas of maternal, new born and child health problems. The research approaches used, the strategies for identification and implementation of interventions have produced results whose synergistic effects are influencing both state and federal MNCH policies, MNCH practice and research development. Future research funding could build on this model to ensure greater political involvement and ownership at national level.

Annexes: List of publications

1. Ayinde OO, Oladeji BD, Abdulmalik J, Jordan K, Kola L, Gureje O. Quality of perinatal depression care in a primary care setting in Nigeria. *BMC Health Serv Res.* 2018 Nov 22;18(1):879. doi: 10.1186/s12913-018-3716-3. (open access).
2. Stadnick NA, Sadler E, Sandall J, Turienzo CF, Bennett IM, Borkan J, Oladeji B, Gureje O, Aarons GA, Sklar M. Comparative case studies in integrated care implementation from across the globe: a quest for action. *BMC Health Serv Res.* 2019 Nov 27;19(1):899. doi: 10.1186/s12913-019-4661-5. (open access).
3. Gureje O., Oladeji B. D., Ayinde O. O., Kola L., Abdulmalik J., Abass W. A. L., Faregh N., Zekowitz P. (2021). Scaling up care for perinatal depression for improved maternal and infant health (SPECTRA): protocol of a hybrid implementation study of the impact of a cascade training of primary maternal care providers in Nigeria. *International Journal of Mental Health Systems.* 15 (1): 73
4. Gureje O., Kola L., Oladeji B.D., Abdulmalik J., Ayinde O., Zekowitz P., Bennett I. (2020). Responding to the challenge of Adolescent Perinatal Depression (RAPiD): protocol for a cluster randomized hybrid trial of psychosocial intervention in primary maternal care. *Trials.* 27;21(1):231.
5. Kola, L., Abiona, D., Oladeji, BD., Ayinde, O., Bello, T., Gureje, O.. Theory-driven development of a mobile phone supported intervention for adolescents with perinatal depression. *Soc Psychiatry Psychiatr Epidemiol.* 2021 Nov 15. doi: 10.1007/s00127-021-02198-3. Online ahead of print.
6. Kola, L., Bennett, IM., Bhat, A., Ayinde, OO., Oladeji, BD., Abiona, D., Abdulmalik, J., Faregh, N., Collins, PY., Gureje, O. Stigma and utilization of treatment for adolescent perinatal depression in Ibadan Nigeria. *BMC Pregnancy Childbirth.* 2020 May 14;20(1):294.
7. Cockcroft A, Omer K, Gidado Y, Gamawa AI, Andersson N. Impact of universal home visits on maternal and infant outcomes in Bauchi State, Nigeria: protocol of a cluster randomized controlled trial. *BMC Health Services Research,* 2018; 18:510. <https://doi.org/10.1186/s12913-018-3319-z>
8. Cockcroft A, Omer K, Gidado Y, Baba MC, Aziz A, Ansari U, Gamawa AI, Yarima Y, Andersson N. The impact of universal home visits with pregnant women and their spouses on maternal outcomes: a cluster randomized controlled trial in Bauchi State, Nigeria. *BMJ Global Health,* 2019;4:e001172 <https://gh.bmj.com/content/4/1/e001172>.
9. Dramatic delivery: How soap-opera-style videos are helping educate couples in northern Nigeria about maternal and child health. Posted by Posted by Alanna Mitchell on June 20, 2018 in Charting Change series of IDRC and+ Canadian Geographic <http://idrc.canadiangeographic.ca/blog/dramatic-delivery-maternal-child-health-nigeria.asp>.
10. Cockcroft A, Andersson N. Nigerian trial shows how universal home visits help reduce maternal risks. *The Conversation Africa.* 9 April, 2019. <https://theconversation.com/nigerian-trial-shows-how-universal-home-visits-can-help-reduce-maternal-risks-11420>
11. Mudi H, Dutse U, Belaid L, et al. Impact of home visits to pregnant women and their spouses on gender norms and dynamics in Bauchi State, Nigeria: Narratives from visited men and women. *Global Health Promotion.* February 2021. <https://journals.sagepub.com/doi/full/10.1177/1757975920986703>

12. Cockcroft A, Omer K, Gidado Y et al. Universal home visits improve male knowledge and attitudes about maternal and child health in Bauchi State, Nigeria: stepped wedge cluster randomised controlled trial. *Reproductive Health*, 2020.
13. Omer K, Yoga A, Dutse U, Hasan K, Gidado Y, Baba MC, Aziz A, Ansari U, Gamawa AI, Mohammed R, Andersson N, Cockcroft A. Impact of of universal home visits on child health in Bauchi State, Nigeria : a stepped wedge cluster randomised controlled trial. *BMC Health Services Research*, 2021.
14. Belaid L, Ansari U, Omer K, Gidado Y, Baba MC, Daniel LE, Andersson N, Cockcroft A. “I had to change my attitude”: Narratives of change explore the experience of universal home visits to pregnant women and their spouses in Bauchi State, Nigeria. *BMC Public Health*, 2020.
15. Pimentel J, Ansari U, Omer K, Gidado Y, Baba MC, Andersson N, Cockcroft A. Factors related to short birth interval in low- and middle-income countries: a systematic review. *BMC Pregnancy and Childbirth*, 2020, 20: 156 <https://doi.org/10.1186/s12884-020-2852-z> [Open access]
16. Ansari U, Pimentel J, Omer K, Gidado Y, Baba MC, Andersson N, Cockcroft A. “Kunika women are always sick”: Views from community focus groups on short birth interval (kunika) in Bauchi State, Northern Nigeria. *BMC Women’s Health*, 2020; 20:113 <https://doi.org/10.1186/s12905-020-00970-2>
17. Sarmiento I, Ansari U, Omer K, Gidado Y, Baba MC, Gamawa AI, Andersson N, Cockcroft A. Causes of short birth interval (kunika) in Bauchi State, Nigeria: systematizing local knowledge with fuzzy cognitive mapping. *Reproductive Health*, *Reproductive Health* 2021;18, 74 <https://doi.org/10.1186/s12978-021-01066-2>
18. Poster presentation. Ansari U, Omer K, Gidado Y, Baba MC, Andersson N, Cockcroft A. Dialogue groups co-design a culturally safe intervention to reduce kunika (short birth interval) in Bauchi State, Nigeria. Canadian Conference on Global Health, Toronto, Canada (virtual conference). 19-22 October 2020 (e-poster)
19. Okonofua F, Ntoimo LF, Yaya S, et al. Effect of a multifaceted intervention on the utilisation of primary health for maternal and child health care in rural Nigeria: a quasi-experimental study. *BMJ Open* 2022;12: e049499. doi:10.1136/bmjopen-2021-049499
20. Lorretta Favour Chizomam Ntoimo et al. Assessment of service readiness for maternity care in primary health centres in rural Nigeria: implications for service improvement. *Pan African Medical Journal*. 2021;40(151). 10.11604/pamj.2021.40.151.25976 <https://www.panafrican-med-journal.com//content/article/40/151/full>
21. Ntoimo LFC, Oknofua FE, Ekwo C et al. Why Women Utilize Traditional rather than Skilled Birth Attendants for Maternity Care in Rural Nigeria: Implications for Policies and Programs. *Midwifery* 104(2022). <https://doi.org/10.1016/j.midw.2021.103158>
22. Lorretta Favour Chizomam Ntoimo, Igboin Brian, Chioma Ekwo, Sanni Yaya, Wilson Imongan, and Friday Ebhodaghe Okonofua (2021). Building community ownership of maternal and child health interventions in rural Nigeria: A community-based participatory approach *African Journal of Reproductive Health* June 2021; 25 (3s):43-54. <https://www.ajrh.info/index.php/ajrh/article/view/2800>
23. Udenigwe O, Okonofua FE, Ntoimo LFC, et al. (2021) “We have either obsolete knowledge, obsolete equipment or obsolete skills”: policy-makers and clinical managers’

views on maternal health delivery in rural Nigeria. *Fam Med Com Health* 2021;9:e000994. <https://doi.org/10.1136/fmch-2021-000994>

24. Udenigwe O, Okonofua FE, Ntoimo LFC, Imongan W, Igboin, B & Yaya S. (2021) Perspectives of decision makers and health providers on barriers and facilitators to skilled pregnancy care: Findings from a qualitative study in rural Nigeria. *BMC Pregnancy and Childbirth* 21:20 <https://doi.org/10.1186/s12884-020-03493-8>

25. Lorretta Favour C. Ntoimo, Friday E. Okonofua, Josephine Aikpitanyi, Sanni Yaya, Ermel Johnson, Issiaka Sombie, Olabisi Aina and Wilson Imongan (2020) Influence of women's empowerment indices on the utilization of skilled maternity care: evidence from rural Nigeria. *Journal of Biosocial Science*, 1-17. <https://doi.org/10.1017/S0021932020000681>

26. Lorretta Favour C. Ntoimo, Friday E. Okonofua, Sanni Yaya, Wilson Imongan, Blessing Omorodion and Julius Ogungbangbe (2020). Assessment of the Quality of Antenatal and Postnatal Care Services in Primary Health Centres in Rural Nigeria. *The Nigerian Journal of Sociology and Anthropology*. Vol 18, No 2. Doi: 10.36108/NJSA/0202/81(0210)

27. Fantaye, A. W., Okonofua, F., Ntoimo, L., & Yaya, S. (2019). A qualitative study of community elders' perceptions about the underutilization of formal maternal care and maternal death in rural Nigeria. *Reproductive Health*, 16(1), 164. <https://doi.org/10.1186/s12978-019-0831-5>

28. Yaya, S., Okonofua, F., Ntoimo, L., Udenigwe, O., & Bishwajit, G. (2019). Men's perception of barriers to women's use and access of skilled pregnancy care in rural Nigeria: a qualitative study. *Reproductive health*, 16(1), 86.

29. Ntoimo, L. F.C, Okonofua, F. E., Igboin, B., Ekwo, C., Imongan, W., & Yaya, S. (2019). Why rural women do not use primary health centres for pregnancy care: Evidence from a qualitative study in Nigeria. *BMC Pregnancy and Childbirth*, 19:277. <https://doi.org/10.1186/s12884-019-2433-1>

30. Yaya S. Okonofua FE, Ntoimo LF, Udenige O, Bishwajit G. (2019) Gender Inequity as Barrier to Women's Access to Skilled Pregnancy care in Rural Nigeria: A Qualitative Study. *International Health*, Vol 384 DOI: 10.1093/inthealth/ihz019

31. Okonofua FE, Ntoimo LF, Ogungbangbe J, Anjorin S., Imongan W, Sanni Y. (2018) Predictors of Women's Utilization of Primary Health Care for Skilled Pregnancy Care in Rural Nigeria. *BMC Pregnancy and Childbirth*. 18:106. <https://doi.org/10.1186/s12884-018-1730-4>

32. Sanni Y, Okonofua F, Ntoimo L, Kadio B, Deuboue R, Imongan W, Balami W. Increasing women's access to skilled pregnancy care to reduce maternal and perinatal mortality in rural Edo State, Nigeria: A randomized controlled trial. *Global Health Research and Policy*. 2018; 3:12. <https://doi.org/10.1186/s41256-018-0066-y>.

In review

33. Friday E. Okonofua, Lorretta F. C. Ntoimo, Oludamilola Adejumo, Wilson Imongan, Rosemary Ogu, Seun Anjorin. Assessment of interventions in Primary Health Care for improved maternal, new-born and child health in sub-Saharan Africa: A systematic review. *Sage Open*

34. Friday Okonofua, Lorretta Ntoimo, Ermel Johnson, Issiaka Sombie, Solanke Ojuolape, Brian Igboin, Wilson Imongan, Chioma Ekwo, Ogochukwu Udenigwe, Sanni Yaya,

Anne B. Wallis, Joy Adeniran. Texting for Life: A mobile phone application to provide triage, education, and connect pregnant women with emergency transport in rural Nigeria. *Global Health Action*

35. Oladeji BD, Bello T, Ayinde O, Idowu P, Gureje O. 2022. Prevalence and correlates of depression among pregnant adolescents in primary maternal care in Nigeria. *Arch Womens Ment Health*. In Press

36. Gureje, O., Oladeji, BD, Kola, L., Bello, T., Ayinde, O., Faregh, N., Bennett, I., Zelkowitz, P. Effect of intervention delivered by lay maternal care providers to improve outcome and parenting skills among adolescents with perinatal depression in Nigeria (RAPiD): a cluster randomized controlled trial. (Submitted)