UNIVERSITY OF TORONTO
DALLA LANA SCHOOL OF PUBLIC HEALTH

13th International Conference on MCH Handbook, Toronto

global standard tool
health information & knowledge source
improve quality of life
tailored approach
access to healthcare
health promotion
social inclusion
social cohesion
promote equity
culturally sensitive care
quality of care
strengthen communication with families
decision-making autonomy
equity, diversity, and inclusion
maternal & child health handbook
women empowerment
harmonized care for mothers and children
strengthen the health system
self-care tool
health literacy
low-cost solution to address maternal mortality
continuum of care
people-centered
community health care approach
promote self-care
home-based health record
Support the needs of underprivileged families

Maternal & Child Health (MCH) Handbook World Report 2022

Dr. Shafi Bhuiyan, Dr. Agafya Krivova, Dr. Sundas Saboor et al.

13th International Conference on MCH Handbook World Report 2022

Dalla Lana School of Public Health, University of Toronto

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Conference Theme: "Making Me Visible"

13th International Conference on the Maternal Child Health Handbook
Toronto, August 24-25, 2022

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Conference Theme: "Making Me Visible"

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Dr. Shafi Bhuiyan PhD MPH MD MBA

Chair, 13th International Conference on MCH Handbook

Welcome Message

It's my great pleasure to welcome all our proud participants to the 13th International Conference on the Maternal and Child Health [MCH] Handbook. This event is being held at a very critical point in public health when the COVID-19 pandemic has revealed huge gaps in the provision of maternal and child health care. It has indicated an urgent need to prioritize accessible and equitable MCH care.

This conference is organized by the host team at the University of Toronto, Dalla Lana School of Public Health, with the theme of "Making Mothers Visible." I am very pleased to see more than 705 passionate participants from over 61 countries across the globe attending the conference virtually.

As some of you are aware, the MCH Handbook promotes health equity and aims to bring the health of mothers and their children to the forefront. I am happy to share that the handbook has been introduced in more than 50 countries, both developing and developed. This handbook is not only a home-based health record and information tool for mothers, but it also empowers parents. Parents take responsibility and become partners with the professionals; therefore, health is not created in the health center but at home and within the community.

During the conference, we learned about global experiences related to the implementation of the MCH Handbook from over 12 countries; and shared the best practices for digitalization and utilization of the MCH Handbook. We also had the opportunity to contribute to the "2022 Toronto Declaration" for making mothers visible. Details of the events for the conference are available on the website.

In order to ensure that the rights of every mother and child in the world are realized, the implementation of the MCH Handbook as a global standard tool is an important step. I am hopeful that through the MCH handbook, we will be able to provide equitable holistic maternal and child care around the globe.

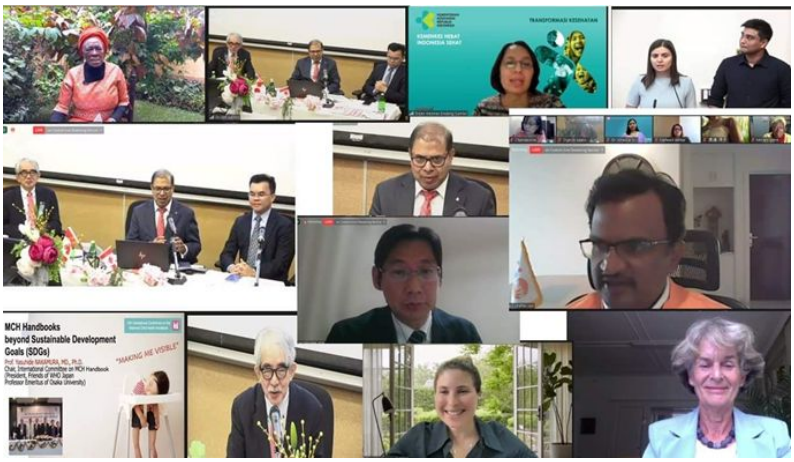
Dr. Shafi Bhuiyan Ph.D., MPH, MD, MBA
Asst. Professor, Dalla Lana School of Public Health, University of Toronto, Canada
CONFERENCE CHAIR

Dr. Shafi Bhuiyan Ph.D., MPH, MD, MBA
Asst. Professor, Dalla Lana School of Public Health, University of Toronto Canada

Brief Overview of World Report

The 13th International Conference on Maternal and Child Health (MCH) Handbook was held on August 24th and 25th, 2022 at the University of Toronto, Canada. The conference was chaired by Dr. Shafi Bhuiyan, a Professor in the Department of Clinical Public Health at the University of Toronto who has been working on the MCH Handbook for more than twenty years. The conference was inaugurated by Dr. Yasuhide Nakamura, Emeritus professor at Osaka University, Japan and president of the International Committee of the Maternal and Child Health Handbook.

At the conference, Her Imperial Highness Crown Princess Akishino of Japan, Senior leadership from the World Health Organization, UNFPA (United Nation Population Fund), UNICEF New York Headquarters , JICA (Japanese International Cooperation Agency) and distinguished members from leading international organizations in different countries worked tirelessly to help fulfill the crucial objective of the conference which was to shed light on the usefulness of the MCH Handbook.



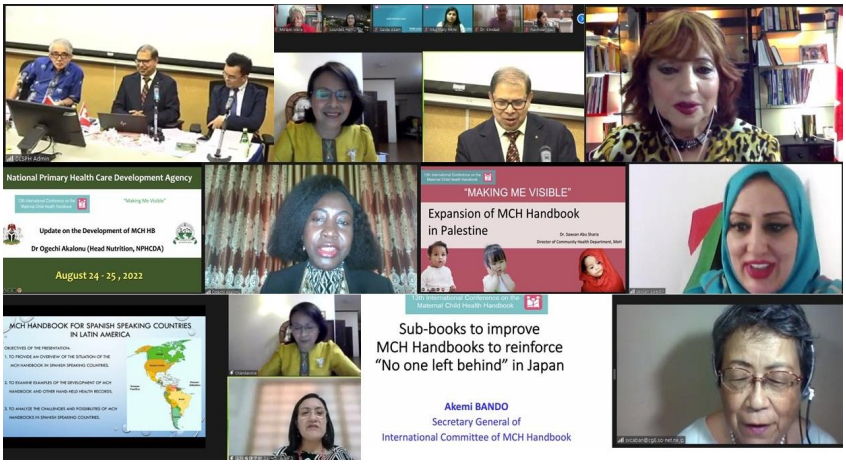
According to the H.I.H Crown Princess Akishino of Japan, the Maternal and Child Health Handbook will serve as a helpful guide for the pregnant mothers, newborn babies and their families. This will play a very important role in a country's prosperous future. Prof. Adalsteinn (Steini), Dean of the Dalla Lana School of Public Health of University of Toronto commented that the book could be the first health-conscious guide for the neglected and underprivileged mothers and their families in society. Also, it will be an efficient tool in childcare. Dr. Peter Singer, special advisor to the Head of WHO, Dr. Tedros Ghebreyesus, expressed great hope that the handbook will act as a primary health care guide that has the potential to achieve the Sustainable Development Goals (SDGs) by reducing maternal and child mortality.

Dr. Shafi Bhuiyan Ph.D., MPH, MD, MBA
Asst. Professor, Dalla Lana School of Public Health, University of Toronto Canada

Dr. Naoko Yamamoto, Assistant Director General of Universal Health Coverage (WHO), Dr. Sathyanarayanan Doraiswamy, Country Representative of the UNFPA Iran, Dr. Jun Sakuma Representative of JICA and many other important figures had given their valuable speeches at the conference. At the end of the conference, a declaration namely "The Toronto Declaration 2022" was made to ensure a healthy, risk-free life for mothers and children through the global circulation of the MCH Handbook, This is expected to play a far-reaching role in increasing the use of the book in the coming days.

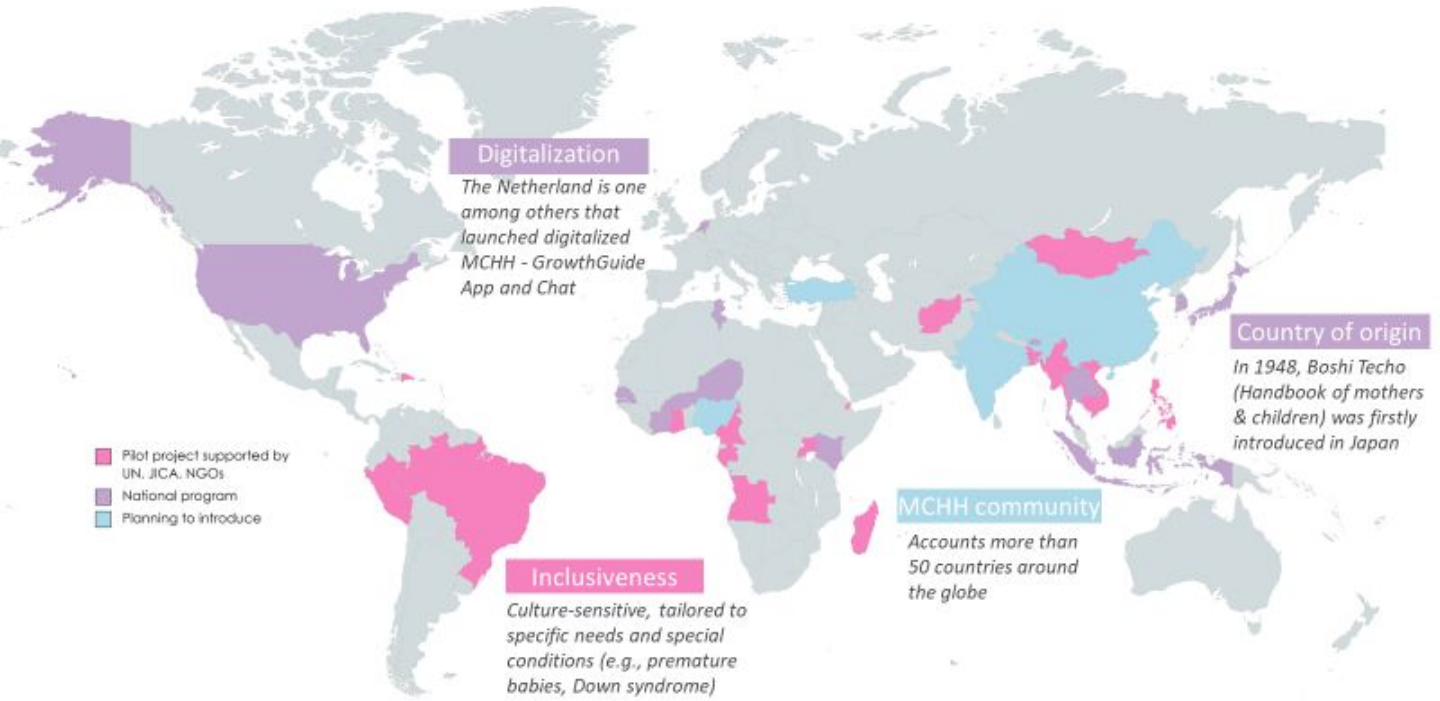
In summary, if MCH Handbook is universally applied to the health system, the MCH Handbook can be instrumental in saving the lives of mothers and babies while acting as an important driver in achieving the Sustainable Development Goals by 2030.

The MCH Handbook is currently being used by mothers and their families in 52 countries across the world on different scales effectively. About 1049 participants from 61 countries attended the two-day 13th international conference through Zoom conference, which is a milestone for the Maternal and Child Health Handbook. The next 14th conference will be held in the Philippines in 2024.



For Conference details: YouTube Link: https://lnkd.in/grjNxSB6

MCH HANDBOOK



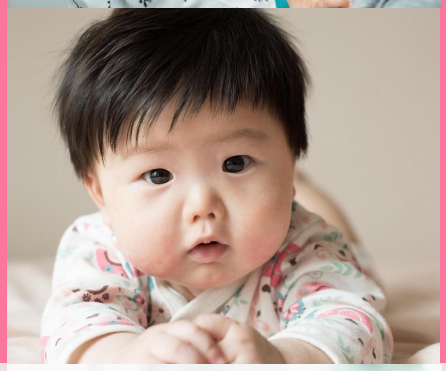
MCH Handbook is a home-based health record and information tool which supports women throughout their pregnancy, delivery, and postnatal period, along with the first few years of their children's lives. The MCH Handbook strives to empower parents by strengthening communication between them and health professionals and encouraging them to be actively involved in the decision-making and management of their family's health.

The primary objectives of this conference are to:

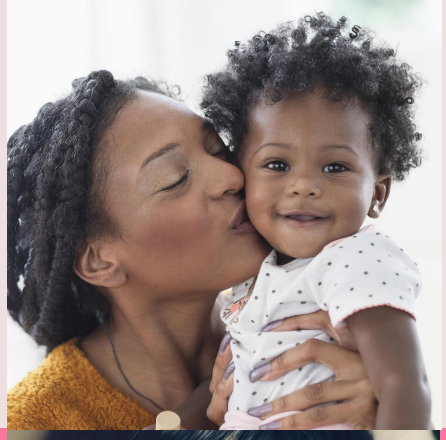
1. Advocate for social cohesion through equitable holistic maternal and child care around the globe
2. Promote the implementation of the MCH Handbook as a global standard self-care tool
3. Support the needs of underprivileged families, including refugees, migrants, and ethnic minorities

The 13th International Conference on the MCH Handbook promotes health equity, diversity, and inclusion and aims to bring the health of mothers and their children to the forefront as, too often, social barriers make mothers feel invisible.

13th International Conference
On MCH Handbook , Toronto
August 24-25, 2022,



Part I



MAKING ME VISIBLE

Her Imperial Highness Crown Princess Akishino, Jap

It is a great pleasure for me to participate online in the 13th International Conference on the Maternal and Child Health Handbook. I would like to express my deep respect to the Organizing Committee of the 13th International Conference on the MCH Handbook, the University of Toronto, the International Committee on the MCH Handbook, and everyone who has worked to realize this international conference.

MCH Handbooks play a very important role in helping pregnant women, nursing mothers, children, and their families. In 2018, I participated in the 11th International Conference on the MCH Handbook held in Thailand. I have fond memories of the Thai MCH Handbook that I was shown at that time.

And last year, I participated in the series of excellent webinars organized by the Local Organizing Committee of the 12th International Conference on the MCH Handbook in the Netherlands and learnt a great deal. I am grateful that I was able to help members of *Boshi-Aiikukai*, the organization of which I am President, to share some information from the webinars with mothers and families in Japan.

The theme of today's conference is "Making Me Visible." It is very important to identify and support vulnerable pregnant women, mothers, newborns, and children whose needs might not yet be visible. MCH handbooks help mothers and their families to communicate with healthcare professionals and volunteers who can listen to and support them. MCH handbooks can also empower women and their families to be the owners of their own health records and to seek help for their health problems. I have been looking forward to today's conference, which will bring another opportunity for us to share valuable experiences, learn new ideas and hold discussions together.

I would like to convey my deep appreciation to all of you who have been utilizing MCH handbooks for the health of pregnant women, nursing mothers, and their children. I hope that this conference will make a great contribution to helping pregnant women, nursing mothers, newborns, children, and their families so that every child will be able to grow up and play their role in building our future.

Her Imperial Highness Crown
Princess Akishino, Japan

13th International Conference on the Maternal Child Health Handbook
Toronto, August 24-25, 2022

Our Special Guests

Dr. Adalsteinn (Steini) Brown

Dean of the Dalla Lana School of Public Health at the University of Toronto

Dr. Peter Singer

Special Advisor to the Director General at WHO

Dr. Naoko Yamamoto

WHO's Assistant Director-General for Universal Health Coverage - Healthier Populations

Dr. Anne Detjen

Health Specialist, Child health, integrated service delivery at UNICEF

Dr. Sathyanarayanan Doraiswamy

Country Representative UNFPA, Islamic Republic of Iran

Mr. Jun Sakuma

Director General of the Human Development Department at Japan International Cooperation Agency (JICA)

MAKING ME VISIBLE

Dr. Adalsteinn (Steini) Brown

Dean of the Dalla Lana School of Public Health (DLSPH) at the University of Toronto, Canada

It is my pleasure to be able to extend a special welcome to the organizers and the participants in this 13th International Conference on the Maternal Child Health Handbook. You are attending this conference, and we are holding it at DLSPH at a critical time for public health when we urgently need sustained energy to support and improve maternal and child health around the world. I do not need to tell you how the global pandemic has isolated us from each other in so many ways when we know that it takes a village to support parents and raise children. It is only fitting that you have chosen the conference theme "Making me Visible" to amplify the voices of the oft-unheard, ever-accommodating mothers who are their families' first health practitioners and promotors and to the children whose loud cries need responses of comfort and care.

I am confident that you will benefit from this opportunity to collaborate, connect, and engage with each other, as you continue with your practices in providing and advocating for maternal and child health.

Congratulations to the conference organizers who are bringing together practitioners to reflect on ensuring a continuum of harmonized care for mothers and children. May your work continue to empower birthing people and their families to adopt culturally appropriate support for maternal and child health care and well-being.

My special thanks to Mr. Shafi Bhuiyan for bringing this great conference here to the school. I wish you success together through these two days, and may the reflections from this conference bring about the impact you envision together.

Dr. Adalsteinn (Steini) Brown

D.Phil (*University of Oxford*), AB (*Harvard University*),
Dean of the DLSPH, University of Toronto, Canada

Dr. Naoko Yamamoto

WHO's Assistant Director-General for Universal Health Coverage - Healthier Populations

It is a pleasure to join the 13th International Conference of the Maternal and Child Health (MCH) Handbook. Since its publication, for more than seven decades, millions of families around the globe have used the handbook. This is an example of innovation and adaptation across time, cultures, and settings.

This year, the theme of this conference is "Making me Visible." This theme highlights the importance of giving voice and attention to those mothers and children whose health has suffered setbacks in recent times.

Globally, MCH outcomes have worsened due to the COVID-19 crisis, and conflict and war in many places like Ukraine have disrupted essential healthcare services. The world is becoming more complex with climate change affecting health in different ways and sustainable food systems making healthy diets less accessible, and energy crisis creating barriers to decent living conditions for good health. Also, barriers to protection are certainly happening, including barriers to reproductive rights. These dramatic circumstances have pushed millions of people to migrate, including many mothers and young children.

The situation we face made it clear that health equity and social support must be the foundation for the health of women, children, and everyone. The MCH handbook aims to promote exactly that. The handbook is a model for people-centered care and support. It puts pregnant women, mothers, and children at the center and facilitates the engagement of men and the community. The handbook is also a tool to empower users, stimulate ownership, and build health literacy. We cannot accept reversing a decade of good progress for maternal and child health. The MCH handbook will have to provide further innovation to respond to the health and social needs of mothers and children affected by the constantly changing world and bring light to new challenges, e.g., increasing obesity, growing urban population, demographic change, and digitalization, etc.

I am convinced that the MCH handbook will continue to be a powerful tool to ensure that maternal and child health is a policy priority for national health and development and international cooperation. I wish for a fruitful discussion at this conference.

Dr. Naoko Yamamoto MD, MPH, Ph.D.
WHO's Assistant Director-General for Universal Health Coverage - Healthier Populations

Peter Singer

Special Advisor to the Director General at World Health Organization

It's a real pleasure for me and a privilege, in fact, to give welcoming remarks for this very important meeting, the 13th International Conference for Maternal and Child Health and Handbook.

Maternal and Child Health is really at the heart of the health-related Sustainable Development Goals (SDG). This is a very important moment halfway through the 15-year period of SDG, but unfortunately, the progress is only about one-quarter of the pace needed to reach the SDGs by 2030. So, the world needs to accelerate through more rigorous delivery. Guidelines like this handbook can certainly contribute to that through innovation, incentives for multilateral collaboration, and through more integrated approaches like primary healthcare. I want to emphasize how important MCH activities are to primary healthcare.

Above all, the top lessons that the pandemic has taught us, and these have been difficult lessons to learn, are equity, equity, and equity. This is the single most important lesson of the pandemic and something to implement and reflect upon throughout your conference.

In closing, I hope you will allow me to offer my respect and appreciation to Dr. Shafi, who has really demonstrated equity in terms of internationally trained medical doctors and integrating them into work in Canada. I hope you have a great conference, and let's work together to accelerate the health-related sustainable goals because that is the challenge that lies before us, that lies before you, and a challenge that I am sure you will help to meet in this important meeting.

Peter Singer OC, MD, MPH, FRSC
Special Advisor to the Director General at World Health Organization

Dr. Sathyanarayanan Doraiswamy

Country Representative United Nations Population Fund (UNFPA), Islamic Republic of Iran

UNFPA has a global mission of ensuring that every pregnancy is wanted, every childbirth is safe, and the full potential of young people is realized. In this context, I want to particularly commend the efforts of my good friend, the champion of the MCH Handbook, Dr. Shafi Bhuiyan, the Chair and the host of the 13th International MCH Handbook Conference.

The conference's intention to address health equity by bringing the health of mothers and children to the forefront is not only noble but also timely.

Humanity has arrived at an inflection point since make-shifts in the climate, demography, inequality, and technology are reshaping the world as never before. These shifts affect the progress and, in some cases, threaten the gains made towards accessibility, the landmark International Conference on Population and Development (ICPD) agenda, and the 2030 agenda for Sustainable Development Goals.

Yet, there is also news to feel proud of as humanity also finds itself, never more than ever before, closer to the goal of achieving universal sexual and reproductive health and rights for all.

Maternal deaths have declined from about 451,000 in 2000 to 295,000 in 2017, a 38% reduction, while the proportion of women of reproductive age who died due to maternal causes, estimated at 9% in 2017, was down by 26.3% since 2000. However, the decline has plateaued in the last five years. And the mission is not complete until we have reached as close as possible to zero preventable maternal deaths. Taking smart, effective, decisive actions to tackle the causes of preventable maternal deaths remains more critical than ever.

In this context, UNFPA recently launched the Global Strategic Plan 2022-2025, with an ambitious goal of helping countries moves towards three zeros: zero preventable maternal deaths, zero unmet need for contraception, and zero gender-based violence and harmful traditional practices. This noble strategic plan factors in the theory of change, a human rights-based approach, by prioritizing three main components behind the human rights-based approach, namely non-discrimination and equality, accountability, and quality of services in reaching marginalized populations.

The plan also introduces a set of accelerators that enhance performance in achieving the strategic plan results. These accelerators include a human rights-based and a gender-transformative approach. This really implies focusing on those who are most marginalized, excluded, or discriminated against and with an objective to empower girls, boys, women, and men as change agents to challenge the social norms that perpetuate gender inequality and shape unequal power relations. Another accelerator is innovation and digitalization. It is important to recognize that successful innovation increases impact with the same investment or makes the impossible possible, including reaching the hardest-to-reach populations. Other accelerators to enhance performance include partnerships, South-South and Triangular Cooperation, and financing.

This conference which brings participants from various parts of the world, both south and the north, is a perfect example of South-South and Triangular Cooperation. Also, an intense effort to capture data and evidence through various data collection approaches and leaving no one behind, and reaching the furthest behind first, are the principles enshrined as accelerators within the strategic plan.

Last but not least, resilience and adaptation, complementarity among development humanitarian action, and peace-responsive efforts are critical in the pursuit of achieving the three zeros.

It will not take much time to realize that the MCH Handbook can be an efficient and effective acceleration tool towards achieving UNFPA's ambitious maternal health-related goals as envisaged in its strategic plan.

I was impressed by how the MCH Handbook has evolved over time and how countries are effectively utilizing them in the pursuit of zero maternal deaths.

Sathyanarayanan DoraiswamyMD, MBBS, DHSc, MBA

Country Representative United Nations Population Fund (UNFPA), Islamic Republic of Iran

MAKING ME VISIBLE

Dr. Anne Detjen

Health Specialist, Child health, integrated service delivery at UNICEF

With the Sustainable Development Goals, countries are committed to ensuring that all children have a chance not only to survive but to thrive and reach their full potential. It is their right to receive all support needed in the form of caring parents and caregivers, as well as health, nutrition, education, and related sectors and systems.

In UNICEF, we recognize specifically the first 1000 days between conception and the child's second birthday as the most important window of opportunity to protect and establish a healthy future and potential to thrive in a child's life. Yet, in many countries, there are numerous lost opportunities to address child's survival, growth, and development because existing systems for primary healthcare and other social systems and services are weak with limited resources.

Home-based records have a role to play in support of the health and well-being of women and children. They have been recommended by WHO to improve care-seeking behavior, men's involvement and support in the household, maternal and child home care practices, infant and child feeding, and communication between health providers and women and caregivers.

MCH Handbook is a useful tool for mothers and caregivers as well as service providers. They can help to ensure that information across different sectors and services is provided, recorded, and they can create a link to civil registration and vital statistics. Yet many countries are facing complex implementation challenges for home-based records, including frequent stock cards, challenges in making them universally accessible, or ensuring their content is used to its full extent by all users. Information might not be recorded or is incomplete, or information available is not used and does not lead to action. Take an example; health records plot the weight and growth of a child, which often suddenly falls off its trajectory.

This information can point to a potential underlying acute or chronic condition and should lead to further evaluation. For home-based records to have an impact on maternal, newborn, and child health and nutrition outcomes, it requires an ongoing effort and coordination across multiple health program administerial departments and links to other health data and communication activities to ensure they are available, used correctly and valued by all users that are women, parents or caregivers, health workers, and program managers within the health system.

Over the past two years, UNICEF, WHO, and JICA have closely collaborated with global partners; some of those global partners are participating in this meeting to advance the implementation of home-based records. In the Fall, we will be launching an implementation guide for home-based records.

The guide is designed for program managers within ministries of health as well as policymakers and other stakeholders involved in decision-making and taking actions to strengthen the implementation and use of home-based records. It aims to support the efforts through improved processes for planning, content creation, design, implementation, and monitoring.

The guide considers eight factors for success that help to ensure home-based records achieve the intended impact. These factors are: high-level support by government and key stakeholders, an established cross-sectoral coordination mechanism to take decisions and oversee implementation, carefully selected content of home-based records that supports national health priorities and objectives, well-planned and cost printing, distribution, and re-supply, accurately estimated budgets and sustainable funding and to ensure that the use of home-based records is valued by all users, health workers, as well as women, parents, caregivers, and community members. And last, monitoring processes are in place to ensure objectives, users' needs are met, and operational support processes are optimized.

Many of these factors and their contribution to the success of home-based records will be discussed at this conference. We look forward to sharing this guide soon and working with all of you, especially our colleagues in developing countries, to advance and learn together how optimizing the use of home-based records ensures that all children have a chance to reach their full potential.

Dr.Anne Detjen MD

Health Specialist, Child health, integrated service delivery at UNICEF

Mr. Jun Sakuma

Director General of the Human Development Department at Japan International Cooperation Agency (JICA)

I am very honored to share a few words at this important conference on the MCH handbook. In the early 1990s, JICA started providing technical cooperation and sharing our knowledge of the MCH Handbook with other countries. This started when an Indonesian doctor saw the handbook used in Japanese health facilities during JICA training and wanted to implement it in his own country. About 30 years have passed since then, and Japanese experience with the MCH Handbook has spread all over the world through JICA's support. The MCH Handbook is now used in over 50 countries around the world, and I am particularly happy that partner countries and territories such as Ghana, Indonesia, and Palestine will share the experience and testimony of the book at this conference.

The theme of this year's conference, "Making me Visible," indeed symbolizes the situation that mothers and children have faced in these difficult years. The onset of COVID-19 interrupted access to care, as the conflict and political instability, among others. Mothers and children have to stay indoors or have to evacuate to safer places, and this situation makes them invisible from care. JICA is an organization to promote human security. We believe that the MCH handbook is a strong tool in many ways. The handbook is to empower mothers to be the owners of their own and families' health records. The handbook helps raise the mothers' awareness of their health and encourages mothers to take charge of their families' well-being. The handbook also delivers important health messages even when mothers and children would not able to reach health services, and these health messages could improve care at home. This is why I am happy to announce today that JICA, in collaboration with WHO and UNICEF, has been working together to finalize an implementation guide on home-based records for MCH.

It was a pleasure to join this dissemination seminar. I hope that participants will refer to this guide for an efficient and effective introduction and implementation of the home-based record. The MCH Handbook is not just any book; it is a product of wisdom that all countries can share. Through this conference, I hope that we can learn from each other's experiences and ensure to make mothers and children be visible.

Mr. Jun Sakuma LL.B., MA in *Education, Stanford University, US*
Director General of the Human Development Department at Japan International Cooperation Agency (JICA)

Our Keynote Speakers

Chair, International MCH Handbook Committee

Professor Emeritus of Osaka University, President of Friends of WHO Japan, National College of Nursing senior fellow professor of at National Center for Global Health & Medicine in JAPAN

Dr. Yasuhide Nakamura

Member of the MCHH International Committee, 2022 Nobel Peace Prize Nominee

Chair of Kenya's National AIDS Control Council (NACC), the Board of AMREF (Africa Medical & Research Foundation), Member of the Board of Global Health Workforce Alliance, and Chancellor of Moi University

Dr. Miriam Khamadi Were

Chair, 12th International Conference on MCH Handbook

Medical Doctor from the University of Leiden, The Netherlands, specialized in Public Health & Society and Infant Mental Health

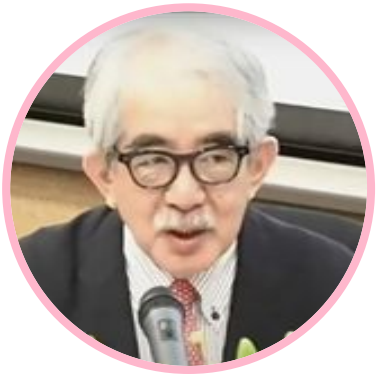
Dr. Anneke Kesler

Chair, 13th International Conference on MCH Handbook (Toronto)

Dr. Shafi Bhuj

Asst. Professor, Clinical Public Health and Social & Behavioural Health Sciences Dalla Lana School of Public Health, University of Toronto, CANADA

13th International Conference on the Maternal Child Health Handbook
Toronto, August 24-25, 2022



Dr. Yasuhide Nakamura

Chair, International MCH Handbook Committee, Professor Emeritus of Osaka University, President of Friends of WHO Japan, National College of Nursing senior fellow professor of at National Center for Global Health & Medicine in JAPAN

MCH Handbooks beyond Sustainable Development Goals

Most children born in Japan this year (2022) will keep their MCH handbook until the 22nd century because currently, the life expectancy at birth in Japan is more than 81 years. Healthcare providers should imagine that the MCH handbook, which is distributed this year, will be utilized for centuries.

The definition of the MCH handbook was discussed in 2009 as follows by the International Committees: MCH handbook is a book that contains essential information kept by the family to promote and maintain the health of mothers and children. At that time, there were very few digital MCH handbooks in the world. Now the situation has drastically changed. The characteristics of the MCH handbook, which are adapted to both paper and digital versions, are considered as follows:

1. *Integrated health records of both a mother and the child*
2. *Essential health information available at home*

MCH handbook was published for the first time in the world in Japan in 1948. The situation of health of mothers and children was very severe just after WWII. At that time infant mortality rate (IMR) was 21 for 1000 live births, and the maternal mortality rate (MMR) was 167. Now the coverage of the MCH handbook is almost 100%. According to Noriko Komatsu's research, 87.5% of mothers with young children, with an average age of 34, keep their own MCH handbook in Japan.

The MCH handbook in Japan consists of the following contents: information on pregnant mothers; birth certificate; health record of pregnancy delivery; child health and immunization; health education, including pregnancy, birth, newborn, and childcare. The basic concept is common in Japan; however, each municipality can add specific local information.

There are numerous programs to improve maternal, neonatal, and child health in Japan, similar to other countries. These interventions are carried out by different health professionals in different facilities at different times. MCH handbook program can guarantee the continuum of care based on the primary health care (PHC) approach, which was launched at the Alma-Ata conference in 1978. The role of the MCH handbook has changed due to the social and economic development in Japan. When IMR was very high, the purpose of the MCH handbook in Japan was to reduce IMR and MMR. After IMR had become low, the role of the MCH handbook changed to encourage psychosocial support during pregnancy and childbearing. **(Table1)**

Year	IMR	The roles of MCH Handbook	Basic needs for mother/children
1945 -1952	76-50	Fight against undernutrition & infectious diseases	Undernutrition, high mortality
1952-1977	50-10	Population-based screening & health check-ups	Institutional delivery, health insurance, economic development
1977-1990	10-5	Early detection & early treatment for diseases and disabilities	Child development, children with disabilities
1990	<5	Psychosocial support for pregnancy & child rearing	Child abuse and neglect, childless society

Table 1. The roles of the MCH Handbook over time

According to the decree of the Minister of Health Indonesia in 2004, every child should be provided with the MCH handbook. Prof. Azrur Azwar, a member of the international committee, said that when parents keep their MCH handbook, they can communicate their concerns to health professionals. The MCH handbook empowers parents.

There are so many beautiful MCH handbooks in the world. The bilingual MCH handbook in French and English was published first in Cameroon. Currently, 26 countries and areas around the world have the MCH handbook as a national program covering the nationwide population. On the other hand, 26 countries have MCH pilot projects either fully developed or in the process of development. **(Picture 1)**

The Lancet COVID-19 Commission statement in 2020 mentioned that the COVID-19 pandemic had brought light to pre-existing social, economic, and political inequities, including inequities of access to basic needs such as good health care and schooling. The most urgent challenges were hunger, food insecurities, and gender discrimination.

Picture 1. Dissemination of the MCH handbook

According to WHO guidelines, self-care interventions are among the most promising new approaches to improving health and well-being. The MCH handbook is also recognized as a useful self-care tool with the support of frontline health workers. Mr. Horton, Editor-in-Chief of the Lancet, in his paper for Planetary Health in 2015, cited Wendell Berry, a famous American novelist, environmental activist, and farmer, "*We have lived our lives by the assumption that what was good for us would be good for the world. We have been wrong. We must change our lives so that it will be possible to live by the contrary assumption, what is good for the world will be good for us.*"

To summarize:

- ❑ Primary health care is being re-evaluated during and after the COVID-19 pandemic.
- ❑ MCH handbook, both paper and/or digital, will be used for centuries to empower women, children, and families, leaving no one behind.
- ❑ Planetary Health is a very new trans-disciplinary approach during and beyond SDGs. At the same time, many ingenious communities in the world have a similar idea that "what is good for the world will be good for us."
- ❑ MCH Handbook is not a high-tech tool but a simple invention suited to the community and planetary health because it does not harm the environment.

Prof. Yasuhide Nakamura, MD, PhD
Chair, International Committee on MCH Handbook

Dr. Miriam Khamadi Were

Member of the MCHH International Committee, 2022 Nobel Peace Prize Nominee, Chair of Kenya's National AIDS Control Council (NACC), the Board of AMREF (Africa Medical & Research Foundation), Member of the Board of Global Health Workforce Alliance, and Chancellor of Moi University

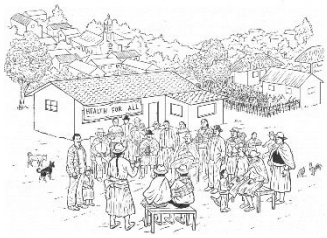
An urge for global approach to the community health services

I would like to say that I have enjoyed my life as a health professional because it helps you as a human being to bring joy to another human being, and so it has been a wonderful experience. Being based in Africa, my concern has been mostly that of Africa, and it also happens that Africa has some of the most serious challenges among other health challenges in the world. In this regard, I want to say that I have had the joy of seeing improvements in hygiene or environmental hygiene, improvements in household hygiene, and even improvements in food handling hygiene, but there are still needs, and these needs are especially and particularly expressed in the form of mother and child challenges. Mother and child challenges in Africa are still quite serious, and this is the population that is most at risk for sickness and death. What kills our mothers and children are not new strange things but things that are average challenges of health care, and that's why I think that we can have hope because, by the average challenges, we can organize how to deal with them and the root and the basis of this organization that gives us the greatest hope and success is the community approach and through community health workers (CHW).

CHW will help us improve our community and hygiene, even more community environment, use of latrines, management of diarrhea, and management of malaria. This community approach gives us the greatest opportunity to do it, and we have been talking about it, and I am one of those people who have been going to communities encouraging them to do this, talking with governments to do this. It requires support, and it requires money even to organize the training, so today, I want to appeal for a global approach to having community health services in every community in the world rather than just talking about the importance of the community health of the MCH handbook and maternal health services. I think we've talked about that enough, and most people know, but how do they get to do it? The challenge that I find most constant is the challenge of getting into the community and getting the handbook into the hands of the mother.

Once the book is in the hands of the mother, I have found that even the least educated mothers know how to use it, but how do we get it? They are not in Kenya. We don't have it in 70% of the population yet, and in some countries, they don't have it even in 10% of the population. I would like to appeal to our global approach. In the good old days, this approach helped us to overcome smallpox which was killing people from all over the world, and in recent times we have seen a global approach to the control of COVID-19. Can we please use the same approach to make sure that community health services are established in every community in the world? Can we please make this a global responsibility?

I remember in the 1970s when I was a member of the international board, going to Bangladeshi communities. How happy I was to see that we had assisted the children and mothers of Bangladesh in overcoming some of their challenges. I don't only feel happy when an African is getting better, and I also feel happy when Bangladeshis are getting better.



Let us organize in the global context. We are citizens on this planet. Let us work together in a way that helps all of us to be healthy. I am appealing to the global community to support the establishment of community health services in every community so that through the CHW, every mother can have access to the mother and child handbook. The MCH handbook is a fantastic tool for improving global health. Rather than continue to waste money on illnesses connected to mother and child health, please make the global community rise up and work with us, especially those of us in Africa.

To have universal access to community health services, if we have community health services and a CHW in every community, I am quite convinced that this will be a big solution towards improved MCH services because the MCH handbook is, after all, for the purpose of improving the MCH. What is wonderful is that it is possible. Like we did with smallpox and COVID-19, it is possible to organize ourselves as a global community to address this challenge. I invite the participants at this conference to join as a global community to address the issue of access to community health services in every community with the support of CHW.

Prof. Miriam Khamadi Were MD, MPH, Ph.D.

Member of the MCHH International Committee, 2022 Nobel Peace Prize Nominee

Dr. Anneke Kesler

Chair, 12th International Conference on MCH Handbook, Medical Doctor from the University of Leiden, The Netherlands, specialized in Public Health & Society and Infant Mental Health

"Early, earlier and earliest"

I would like to focus on what we want to achieve through the information in the MCH handbook to parents. This is a very important source of information available in the MCH handbook about the importance of prevention as early as possible, and that's why I focus my presentation on early, earlier, EARLIEST!

MCH handbook gives an example of prevention to everyone and also for those who are not visible. The handbook is also a positive influence on the unborn children who are not visible either, and it also provides importance to reach the fathers. Are they always visible in the MCH handbook? We can pay attention to things of the very early prevention, and I want to mention and discuss points of leverage regarding this earliest prevention, about the first thousand days, the environment of the developing child, the basic needs such as safety and love, and concepts mentalizing and containment and then finally the task of the professionals on the role of the MCH handbook.

In the first 1000 days, everybody knows that the growth of a child is phenomenal, but do we also realize that the egg from which we originated had evolved when our mothers were in our grandmother's womb? The origin of all organs is in the first 12 weeks of conception. Organs have a lifelong function. New heart muscle cells develop until the moment of birth, and that heart is there three weeks after conception, the same heart that makes you jump. Therefore, we realize that the start of life has lifelong consequences.

A good start is so important; it forms a foundation around which the rest of life is built. Nutrition (e.g., folic acid) but also stress, and material from the environment influence the extent to which different genes are read and how many receptors are created. Environmental influences determine the function of your brain and other organs, influence your behavior, your food preferences, your immune system, and your stress sensitivity at all times that are adjusted.

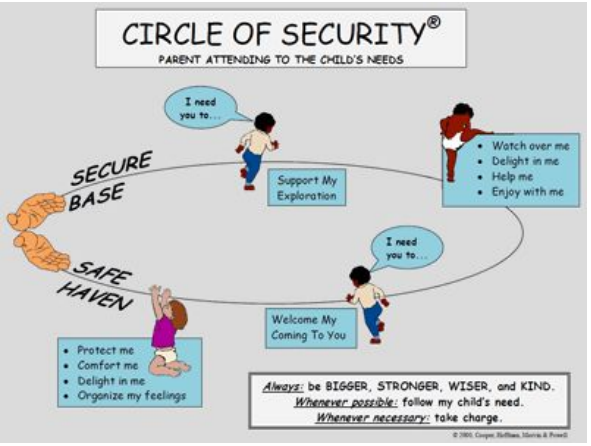
Every country must ensure, in the broadest possible sense, a safe environment in which children can develop properly and grow up undisturbed. This means an environment without war or poverty, where there is enough food and drink, your children can go to school, and the adults are protected.

In Hong Kong, the life expectancy is 88 years, In Central Africa, it is 55 years, while in The Netherlands, it is 80 and a half years, but within cities like Rotterdam, there is a huge difference between neighborhoods regarding life expectancy.

Therefore, we started a national program, “Promising Start.” It pays attention to very early prevention in the first 1000 days. The program focuses on five basic needs for healthy development, also mentioned in the MCH handbook. These include **nutrition, health, stimulation, safety, and love.**

For nutrition, there is a relationship between an unhealthy diet and obesity. Children of overweight fathers have different growth patterns. **For health**, older fathers are more likely to have children with congenital disorders and various forms of childhood cancer and autism. Everybody knows about the power of **stimulation**, e.g., the communication program for preschoolers in the USA also has influenced the grandchildren. For **safety**, the younger the child, the greater the effect of a positive but also unfavorable environmental impact on the child's brain. During WWII, children from Finland who lived at the Russian border were brought to Sweden and Denmark without their parents. Research showed that these children had suboptimal development, different stress responses, increased depression, and a greater chance of diabetes and cardiovascular disease. The same effect could be seen in children with parents who cannot give enough love because of their mental problems of non-sensitive parenting.

The fifth need of the program is **love and mentalizing**. Children need plans to regulate inevitable stress. The ability to mentalize is needed to connect with the thoughts and feelings of the child by also giving words to them and being able to understand and respond appropriately to the child's behavior. Children who cannot rely on their parents do not develop basic trust and, in later life, experience problems with mental health. Professionals have to pay extra attention to stimulating sensitive parenting, of which mentalizing is an important part. It is about the prevention of early life stress by increasing parents’ ability to mentalize. These experiences are necessary for the development of healthy regulation patterns. The child learns to regulate his needs as well as his stress, and thus it helps the parent and child to develop a good attachment relationship. The parent offers a secure basis and a safe haven to their children. The professionals must pay attention to the quality of parenting and especially to the quality of



Picture 2. A Visual “map" of caregiver-child attachment

mentalizing ability. It is also important to focus on factors that make it difficult to improve severe or prolonged stress at a young age, which can disrupt the entire stress system.

We have in The Netherlands an animation in different languages that explains the impact of stress on the development of the brain and how professionals or how parents can help children to process this stress. **(Picture 3)** This animation is now also available in Ukrainian and Russian. The zone in which a person can handle stress well is called the window of tolerance, and as long as the stress remains within this window, there is nothing wrong, and someone might function well. If the stress gets too high or lasts too long, it will shoot out of the window, and in children, this happens more easily if there is no adult to calm them down. Many refugee children who now come to the Netherlands from Ukraine have experienced unpleasant things in a short time. Such an experience can cause an overwhelming feeling of fear and helplessness, and the child can become traumatized.

Picture 3. Techniques to expand the window of tolerance

The MCH handbook (online and offline) is the tool to inform parents about essential things as early as possible and to reach those who are not visible, including unborn children.

Dr. Anneke Kesler MD

Chair, 12th International Conference on MCH Handbook

Our MCH Handbook Presenters Global Experiences Presenters

Dr. Sundas Saboor

MD, MPH Candidate Harvard T.H. Chan School of Public Health, USA

Dr. Khadija Islam Tisha

Research physician (MBBS, MPH) at the International Centre for Diarrhoeal Disease Research, Bangladesh

Jessica Jansen

MSc International Public Health and Youth Healthcare Nurse and the project advisor at GroeiGids app at GGD Amsterdam, Netherlands

Dr. Shawna Novak

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Nutrition Program Manager-diet And Healthy Lifestyle Ghana Health Service

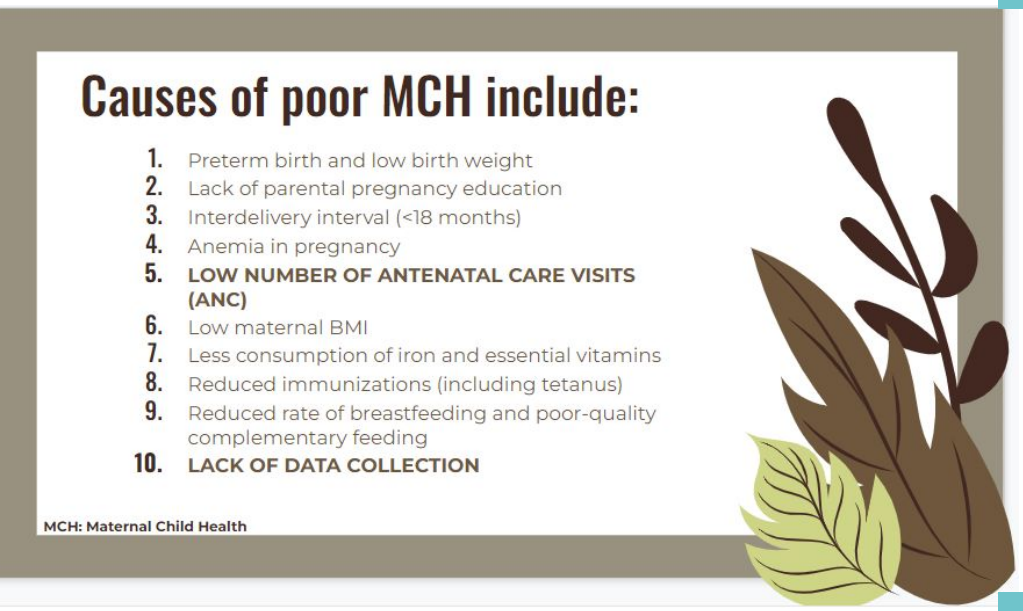
Dr. Maria Endang Sumiwi

Director General of Public Health Department, Ministry of Health, Indonesia

MAKING ME VISIBLE

Dr. Sundas Saboor

MD, MPH Candidate
Harvard T.H. Chan School of Public Health, USA



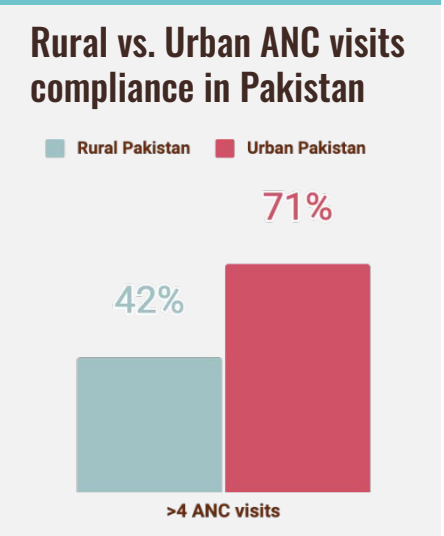
Title: Why does Pakistan need MCH Handbook?

The maternal and neonatal mortality rates in Pakistan are much higher than the combined mortality rates in India, Congo, Guatemala, Kenya, and Zambia. But, if we compare the rural and urban parts of Pakistan, we can easily see that the neonatal and maternal mortality rates in the urban parts of Pakistan are much lower than that of the rural parts. Still, because most Pakistani people, around 60% of Pakistani people, live in rural parts of Pakistan, therefore we need to have proper access to the health care system in rural parts.

There is a lack a lot of MCH resources in Pakistan, which consists of a lack of complementary feeding, lack of proper family planning services, but the two things which I will focus on are the low number of antenatal care visits in Pakistan as well as the lack of MCH data collection.

Before ANC, effective preconception counseling is essential to optimize co-morbidities, to provide genetic counseling and lifestyle changes. ANC visits ensure a safe pregnancy. They help to screen for fetal abnormalities. They help to educate mothers about the danger signs and symptoms. The ANC visits identify conditions that increase the risk of adverse pregnancy outcomes. ANC visits also help in shared decision-making with a multi-disciplinary approach to delivery plan, contraception, and baby care.

WHO recommends that pregnant women with uncomplicated pregnancies receive four ANC visits, with the first visit occurring before 14 weeks of gestation.



Fortunately, Pakistan has improved a lot in ANC visits in the last 30 years. Women are getting the first ANC visits, but there is a problem with the retention and follow-up of more than three or four antenatal care visits in Pakistan. The ratio of antenatal care visits in the urban parts of Pakistan, in the zone of more than four antenatal care visits, can be easily found. This can be attributed to higher education among women. It can also be due to the increased household income and better access to healthcare facilities in urban parts of Pakistan.

A recent study found that the odds of women having a high number of ANC visits is directly proportional to higher education and mothers who received more maternal child health information from the lady health care workers. A study was published in the European Journal of midwifery which showed that the knowledge of the antenatal care package in Pakistan is limited to weight measurements and supplements.

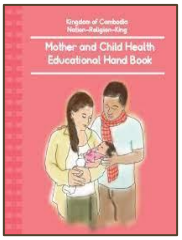
I believe that MCH Handbook is one tried and tested strategy that can help increase the number of ANC visits in the clinics in Pakistan. The current MCH handbooks in Pakistan were analyzed, and it was seen that they were outstanding in analyzing the immunization status of the babies and had very detailed information in written form. However, unfortunately, the handbooks were only in English and Urdu. They were mainly targeted toward educated women in Pakistan.

Pakistan has a vast diversity of languages, but the handbooks are not available in all languages, and they are only present in more developed cities of Pakistan like Karachi. However, the MCH handbook, which JICA has developed, provides culturally tailored educational videos, images, and diagrams to help women to understand their pregnancy and post-pregnancy symptoms.

When the MCH handbook intervention was analyzed in Indonesia, it was found that women in Indonesia were three times more likely to use a skilled birth attendant after the use of the MCH handbook. They were 2.5 times more likely to engage in family planning services.

MCH Handbook in Cambodia

- Increase in the number of pregnant women who went to at least one ANC (**90.6% (post)** vs 81.3% (pre))
- Increase in the number of pregnant women who went >4 times (**45.3% (post)** vs 39.7% (pre)).



MCH Handbook in Vietnam

- Women with >3 antenatal visits were significantly higher in the post-intervention than the pre-intervention (67.5% in pre-intervention, compared to **92.25%** in post-intervention).

Picture 4. MCH handbook in Cambodia and Vietnam

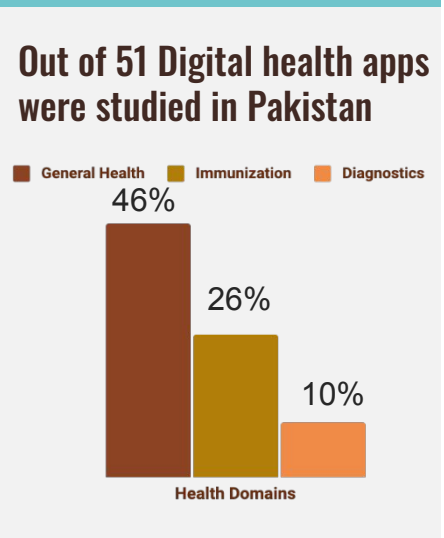
In Cambodia, there was an increase in the number of pregnant women who went to an ANC visit post-handbook intervention compared to pre-handbook intervention.

In Vietnam, the number of women who went for ANC visits increased post-handbook intervention compared to pre-intervention. **(Picture 4)**

Similarly, in Bangladesh, the handbook not only increased the knowledge among women about MCH (78.0% had increased knowledge about the importance of antenatal visits vs. 8.3% in the control group) but also increased the number of women who were going for ANC visits (55.9% of MCH handbook users took part in ANC visits, compared to 35.5% in the control group).

We all live in a digital world, and it is essential to analyze data, but we can only analyze data if we have it. Unfortunately, there is a lack of MCH data collection in Pakistan. Recent studies have shown the present situation of data collection in Pakistan consists of poor record keeping, deficient data, and under-reporting of stillbirths in Pakistan. On the other hand, Pakistan has no national MCH data registry.

In Pakistan, there is a diabetic registry by the name of DROP, a cardiac registry by the name of CROP, and a cancer registry as well. Unfortunately, there is no national MCH data registry. There was a study done in 2020 in Pakistan in which the researchers analyzed 51 digital health apps, with 46% of them related to general health, 26% of the apps related to immunization, and 10% related to diagnostics; however, health apps had limited domains for MCH as well as mental health projects.



The MCH handbook has recently been digitalized, and it can be helpful in collecting data among women. Right now, the digital form of the MCH handbook is being used in Palestine, The Netherlands, and Japan, so it can also be digitalized in Pakistan to collect data.

JICA is running many programs in Pakistan, including MCH ICU in PIMS hospital in Islamabad and an immunization program in Karachi. Similarly, the MCH handbook can also be introduced in different hospitals in Pakistan. The timeline of the implementation plan consists of conceptualization and planning of the MCH handbook while working with the MCH experts in other parts of Pakistan, which will lead to pilot testing of the handbook in selected areas. This might also lead to the nationwide implementation of the handbook and then the entrenchment of the handbook in the health system.

If the MCH handbook is started in Pakistan, the proposed pilot project will begin with the recruitment and education of community health workers and physicians in Pakistan for a certain period, accompanied by a pre-and post-handbook survey. After that, we can introduce and distribute the MCH handbook to pregnant women and new mothers. A pre-and post-intervention handbook survey can also be introduced and then analyzed. We must also identify potential risks and benefits while keeping the financial budget in mind.

Jessica Jansen
MSc International Public Health and Youth Healthcare Nurse and the project advisor at GroeiGids app at GGD Amsterdam, Netherlands

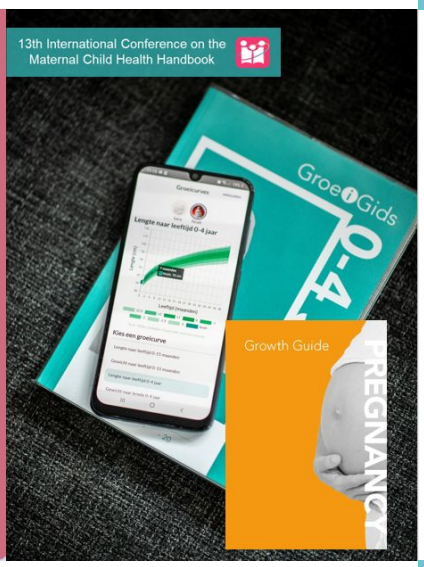
GrowthGuide platform

Independent preventive information from 9 months till 18 years:

- MCH Handbooks for different life phases – first 1000 days and beyond
- Website
- GrowthGuide App (GroeiGids app)
- Online Community
- Chat service

To **inform and involve** parents on the health of their child(ren) and parenting issues

Easily accessible: online tools are free of charge, through smartphone (mobile app) or computer (website)



The Dutch Growth Guide:

MCH Handbook platform in the Netherlands keeps growing

The aim of the MCH handbook platform (with many products providing information to parents) is to provide independent preventive information from pregnancy until 18 years old, and we have developed 2006 MCH handbooks for different life cases, including the first 1000 days and beyond. We have a website with information for parents, a GrowthGuide app, an online community, and a chat service which are both new. We aim to inform and involve parents in their children's health and current issues. Our online tools are free of charge and are accessible through smartphone mobile app or computers, and organizations also provide MCH handbooks free of charge.

The way we work is that we are a collaboration of over 20 public healthcare organizations in The Netherlands. The subscribers pay subscription fees, and together we decide with them how we spend the money on the development of the platform. Currently, over 90% of youth healthcare services hand out the MCH handbook. We have around 178,000 live births in The Netherlands.

Over 114,000 parents use the GrowthGuide app each year, and we now have approximately 5000 new accounts per month, so we suspect that around 30% of newborn parents download the app. We have about 4000 chats for the chat services every month with youth healthcare nurses. **(Picture 5)**
GrowthGuide app is an app for parents to track growth and development from pregnancy to 18 years of age. They can enter information that includes vaccinations, developmental milestones, and diseases, and they can add this to a timeline.

The Dutch Growth Guide:

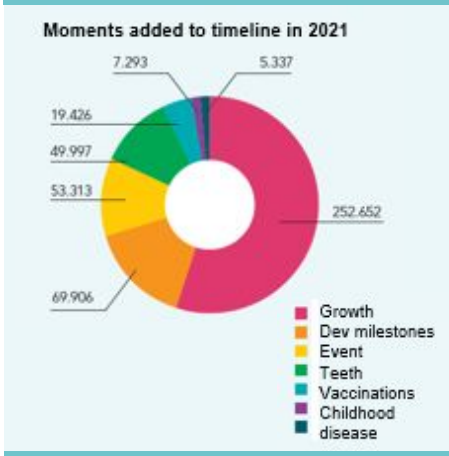
MCH Handbook platform in the Netherlands keeps growing

Picture 5. GrowthGuide app usage

The app is supposed to be fun to use; they can add photos and videos and make an album to make it fun. They are willing to use the application frequently to involve them in knowing what developmental milestones are and constant updates about their child's health.
The preventive information that we provide within the app includes an information database through which parents can search for information in the app on developmental health and parenting issues.
We provide an in-app message service, which sends messages through the app that fit the duration of the pregnancy or the child's age. It is also possible to send messages on zip codes, e.g., if there is a vaccination campaign in a particular area, that public health care service can send a message to a specific group of parents with a child of a certain age in that area.

We researched the effectiveness of the in-app message services. In 2019 and 2020, we did a randomized control trial (RCT) where we studied the effectiveness of the push message surface on knowledge/attitude/behavior for three health behaviors: Vitamin D supplementation, dental care, and water drinking. We did a pre and post-test questionnaire at 14 and 20 months. In total, we had around 1160 participants and a group of parents who had never used it before. Half of the group was asked to use the app, and we also had a group of parents who had used the app already for a longer period. Besides the questionnaire, we did 11 semi-structured interviews on how new app users experienced the use of the app. The results showed that:

- *No significant differences were found in knowledge, attitude, and behavior for these three health behaviors (Vitamin D supplementation, dental care, and water drinking)*
- *No significant effects or differences in the educational level of parents*
- *Lower educated parents seem to read more frequently messages, and the rate is higher, but it was not a significant difference*



We had some lessons learned that we need to do some follow-up research on how interactive tools in the app message service can increase the impact on behavioral change. They also had some methodological issues; for example, the studied health behavior in the industry group had a high level of vitamin D supplement, and they did much toothbrushing, so it's also more difficult to study any change if the behavior is already quite positive. Similarly, the digital questionnaires made it more challenging to reach invisible groups, e.g., the group of parents with low health literacy. We also found in the study that the app needed improvement in navigation, as only 20% found it easy to use.

To accomplish that, we redesigned the GrowthGuide app; we have an overview page where people can easily navigate to the different sections of the app. We did user research on the app this year, and the results were that 75% of the parents read the messages; this is similar to a study we did in 2016. Parents rate the message service, and the app had an 85% of the parents

search for information in the app, so this is something we could still increase, and for the new app, 83% of the parents found the new app easy to use, so that was excellent news. Only 3% of parents were low-educated and 31% had intermediate-level education. In this study, low-educated parents rate the app higher and more often found messages helpful in making healthy choices. It shows that we can reach more invisible low-educated parents. **(Picture 6)**

We also started in recent years the GrowthGuide chat service.

The Dutch Growth Guide:

MCH Handbook platform in the Netherlands keeps growing

Picture 6. GrowthGuide research results

Chat service that is accessible through the application. It is being used in 11 regions in the country. We added last year over 45,000 chats with the youth healthcare nurse. It's accessible for parents with questions about children 0-12 years, but we see that 80% of the questions are about children from zero to one. What we hope to achieve with the chat service is that it's accessible. If you cannot find the information in the app or website, the chat service is an accessible tool for parents.

It is anonymous, so for parents, it's an easy choice to ask questions, which makes a youth health service more accessible and possible. What is also new is that we now have a GrowthGuide community. It is a pilot with an online forum for parents focusing on parenting support.

We have a youth healthcare nurse answering questions, but we stimulate and expect other parents to react and share experiences. We hope that with this new tool, people will be more

supported on parenting issues and feel more mental support in raising their child.

We also have challenges. Funding is one of them. Not all public health services were on board last year. There was a commitment made to make GrowthGuide the national platform for youth healthcare, and it's essential, so we expect next year that all public health community will be joined with the platform.

It is necessary to increase our impact by promoting GrowthGuide among parents. We also have to include birth care professionals. It is challenging to include them in our decision-making and use the MCH handbook because they are not part of the public health service system.

We also have some challenges with the exchange of data with medical files. We do want to offer parents to get the data of the public health service into their app from the professional health file and link it to the MCH data they have in the application. However, we still face difficulties with private software developers' cooperation and costs.

Our goal is to increase the use among lower-educated parents. We expect future development that we decide with partners, with the public healthcare organization based on the needs of the parents. There is a user panel of parents whom we regularly ask regarding what kind of wishes they have and their experience with our platform. We aim to develop special tools for parents with low health literacy because we believe they have more particular needs, exploring how we can increase their access to the app. We are working on messages tailored to the parents' preferences, so they can choose which topics they want more information on, and we are piloting this already.

We plan to use intelligent data technology and applications, e.g., to provide automatically generated advice on growth in the future. For the chat surface, we expect to have evening/weekend services to have more opening hours as now it is only during weekdays and three evenings, so we would like to have full coverage of the week. We also plan to expand the youth healthcare services to the children aged 12-18 years in future.

The Dutch Growth Guide: *MCH Handbook platform in the Netherlands keeps growing*

Dr. Khadija Islam Tisha
Research physician (MBBS, MPH) at the International Centre for Diarrhoeal Disease Research, Bangladesh

Antenatal Care Digitalization

with the MCH Handbook Inclusion: An Innovative Model from Bangladesh

MCH Handbook in Bangladesh

- In 2002, MCH Handbook was first introduced in Bangladesh
- From 2006, Bangladesh Government approved MCH Handbook's implementation on MCH projects
- MCH handbook has been proven as a cost-effective and efficient tool to improve and sustain maternal health by raising awareness and empowering women

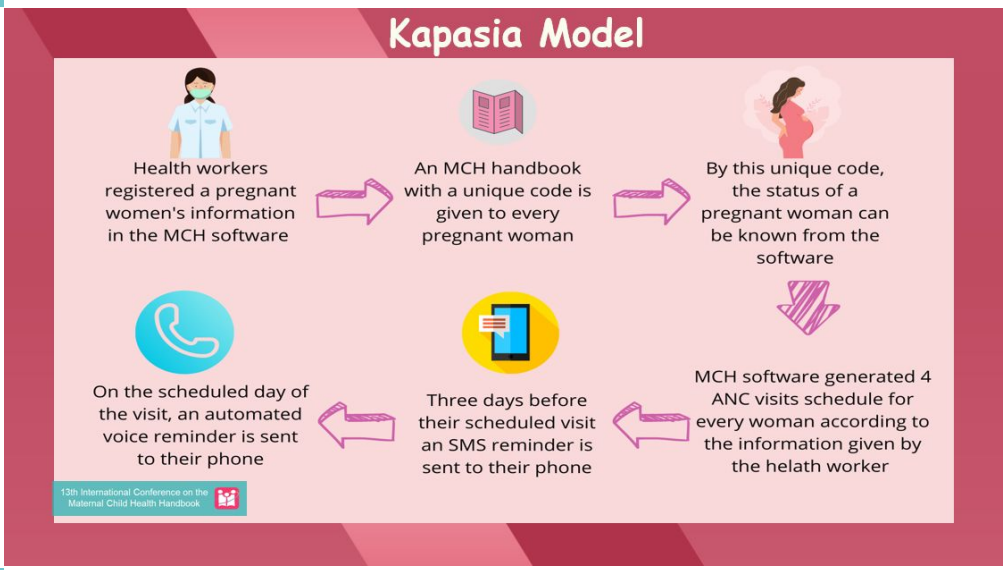
Bangladesh is a densely populated South-Asian country. Although we have made tremendous progress in minimizing maternal and infant mortality rates, we are still behind our target of achieving the Sustainable Development Goal. Maternal mortality has been reduced from 322 to 194 per 100,000 live births, while the infant mortality rate has been reduced from 60 to 28 per 1000 live births over the 2001- 2017 period. As we know, maternal mortality can be prevented through timely and quality antenatal care. Unfortunately, only 18% of pregnant women in the country receive quality antenatal care. The scientists of Osaka university invented the MCH handbook, which has been proven to be a cost-effective and efficient tool to improve and sustain maternal health by raising awareness and empowering women. That is why I was interested in studying the innovative approach of the Kapasia model, which included the MCH handbook in the digitalization of antenatal care (ANC) in Bangladesh.

The Kapasia model, also known as the Maternal Death Free Kapasia model, was launched on 4th December 2017.

Antenatal Care Digitalization

with the MCH Handbook Inclusion: An Innovative Model from Bangladesh

Kapasia is a sub-district of Gazipur, Bangladesh. We aim to bring all pregnant women under the digital services umbrella with innovative concepts like MCH handbook SMS reminders and voice call reminders. It simplifies service delivery and improves care quality, making the mothers visible and heard. The Kapasia model works as follows: healthcare workers register pregnant women's information in the MCH software and give them one MCH handbook with a unique code. By this unique code, the status of the pregnant



Picture 7. The Kapasia Model

woman can be tracked in the MCH software. The MCH software generates four ANC visits scheduled for every woman according to the information given by the health care worker.

Three days prior to the scheduled visit, an SMS reminder is sent to their home. Also, an automated voice call is sent to their phone on the day of the visit both the SMS and the voice calls are sent on the mobile in the native language for better understanding. The dashboard of the MCH software is named pregnant women's mirror, which shows important information like the total number of pregnant women, the total number of infants, and the total number of high-risk pregnancies. A unique code ID number is provided to each pregnant woman.

My study was a cross-sectional study conducted at Kapasia Upazila among 175 pregnant women through face-to-face interviews with semi-structured questionnaires. The study aimed to assess the utilization of digital ANC services in the Kapasia district.

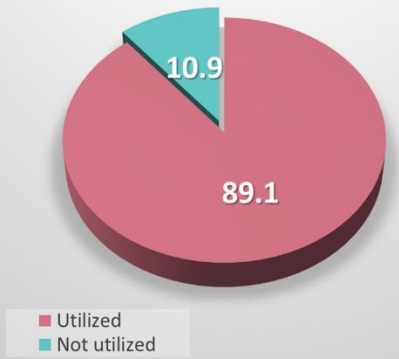
This study found an overwhelming response among the beneficiaries, which reflects the acceptance of digitalized ANC services among rural people. 89.1% of pregnant women utilized the digitalized ANC services. In our study, we found a statistically significant association between the utilization of digitalized ANC and pregnant women's education status, husband education status, mobile phone ownership as well as mobile phone operating knowledge.

However, there were a few challenges identified. Despite a lot of effort to raise awareness, stigma and prejudice are still present in rural areas regarding pregnancy-related health care; model phone ownership is one of the biggest challenges; although the messages and voice calls do not require any internet connection or in self-discharge, many women do not even have a phone. Many of them have access to the shared family phone which is a common scenario in low- and middle-income countries, but that's why they did not get the SMS or phone call in time.

The poor socioeconomic condition is also a barrier to utilizing digitalized ANC services. Moreover, women in rural areas are dependent on their male counterparts and are not in power socially and financially, which makes it difficult for women to make their own healthcare decision. These challenges cannot be solved overnight, but we are optimistic about future progress through a collaborative approach.

The Kapasia model can be an efficient tool to accelerate our effort to achieve the targets of SDG in the domain of maternal as well as child health. This study provides critical insight to policymakers in the planning of the digitalization of maternal health care in the future. The Kapasia model can be duplicated and implemented in other cities to avail the benefit of technology with the combination of the MCH handbook for better MCH.

Utilization of digitalized ANC services



Catherine Adu-Asare

Nutrition Program Manager-Diet And Healthy Lifestyle Ghana Health Service

National Rollout and Achievement

of MCH Record Book in Ghana

The rationale for the Books Integration

- Promote continuum of care coverage based on EMBRACE research
- Provide and monitor integrated RMNCHAN services
- Reduce the cost of printing
- Reduce health worker's workload and improve efficiency and safety
- Strengthen nutrition counseling services and respectful care using the records of one thousand days
- Improve knowledge and care practices among mothers and family members
- Use ANC (coverage of ANC1 was 98% in 2017) as the entry platform to provide quality MCH and Nutrition counseling services
- Empower mothers and caregivers

24 Aug 2022 Ghana MCH RB

Over the past decade, Ghana has been using two record books, one for maternal health and one for child health. However, we have noticed some challenges in using the different books over the period, especially when it comes to the continuum of care (COC) and the global context. Therefore, we decided to develop a combined record book.

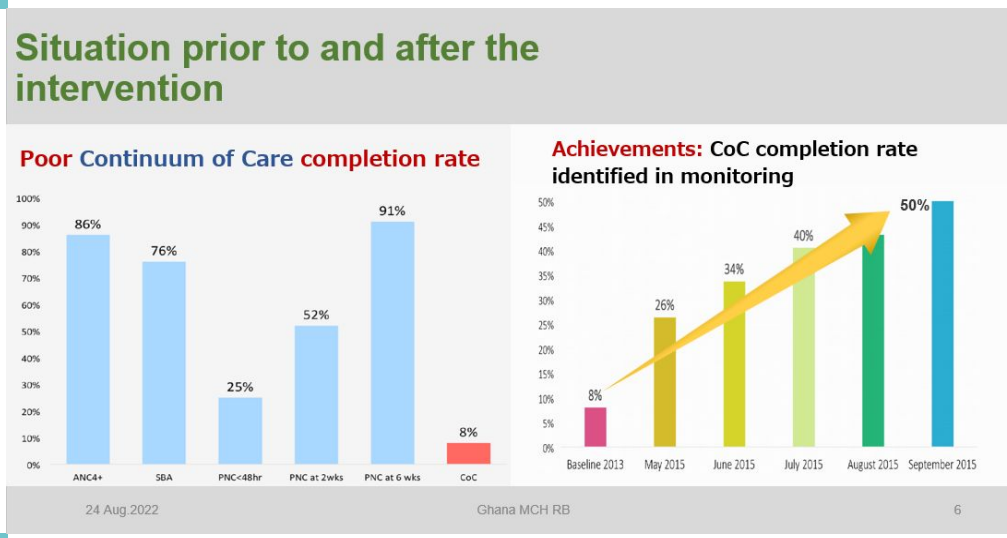
For the rationale for the integration of the books, COC was the primary reason for putting the books together and looking at the cost, which informed the efficiency of managing the books and also to empower mothers and caregivers and the family as a whole because the new book comes with a lot of information and illustrations for even mothers who are unable to read.

We had a study on implementation research that informed the development of the EMBRACE. The study looked at integrating the COC card as part of documents for health records, and the package for the intervention looked at antenatal care

(ANC) where we had very good coverage all through the postnatal period. In the situation prior to the implementation we researched, the individual services had quite good coverage. Regarding COC, it was just around 8%, but now from the implementation research, we're able to reach 50%, and this was enough evidence to look at intervention books and include the COC card as part of the content. **(Picture 8)** The contents of the individual books that have been made into one and combined book include health records, health information,

National Rollout and Achievement

of MCH Record Book in Ghana



Picture 8. Continuum of Care completion rate progress

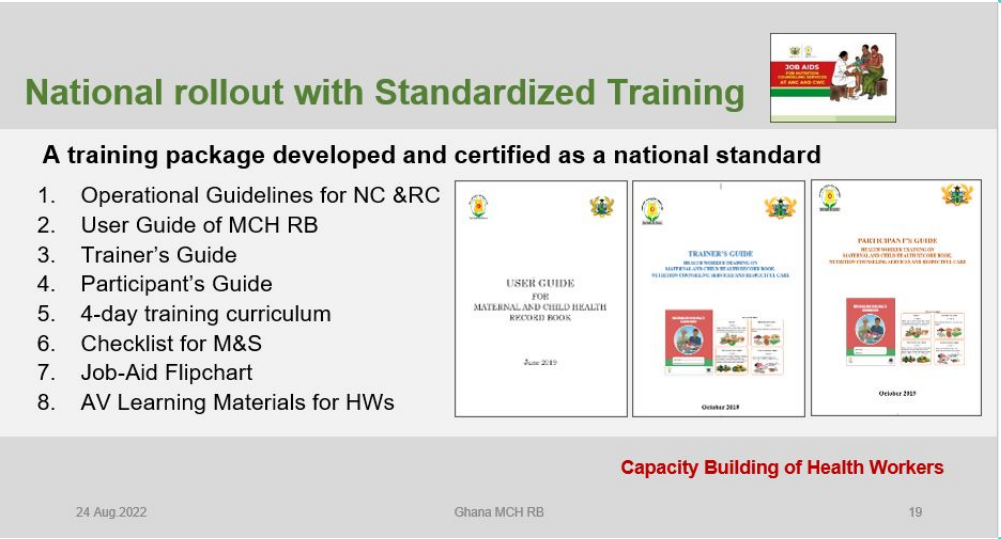
and reminders. The COC card, which is now integrated, includes the measurements of length, and because of our function rate in Ghana, we now have one combined health record of both mother and child.

In Ghana, we started the book development in 2016, based on stakeholder consultations that agreed on the content, and did a pre and pilot test. We are rolling out the books even in 2022. Many stakeholders came on board from the government sector, our development partners, and civil society organizations. We developed a list of indicators and data fields to include in the book. Our selection criteria were based on the policy direction of the health sector at that time, data fields, which were our priority for the MCH situation. One of the selection criteria was the availability of existing data collecting tools and reporting forms at the service delivery level. Then, we had a validation forum where stakeholders endorsed the book's contents.

The key feature of our record book is color coding to make it easy. We have pregnancy, delivery, post-natal, and childhood sections.

The book has also been enhanced with a lot of nutrition-related issues, which was a challenge because we did not have much information in the previous books. In the new book, there are many illustrations so that mothers who are not literate can look at the pictures and understand what they are supposed to provide their children regarding their nutrition.

The role of male partners and the family has also been emphasized in this book to make sure that all are included in the care of the mother and the child. We have included early



National Rollout and Achievement

of MCH Record Book in Ghana

Picture 9. Health workers' training package

childhood development (ECD) aspects so that children with developmental delay will not be left behind. The underdeveloped milestones would be identified early on for appropriate care.

We are currently rolling out the book nationally in all regions of Ghana. We have trained a lot of facilitators and health workers. We have also come up with a development management guide which is an implementation guide based on some of the challenges that we found in the field.

The standardized training materials we have developed include operational guidelines, user guides, trainer and participant guides, etc. Aside from the training materials and funding challenges, we have also developed audiovisual (AV) materials with the help of which health workers can learn on their own if they cannot go through the formal training. **(Picture 9)** We created a management guide which is more of an implementation guide for managers based on the challenges we felt and observed in the field. We identified printing, protecting

copyright issues, quality assurance of the book and the distribution itself, and other operational challenges. With the support of GHS and partners, 465,000 MCH handbooks were printed in Ghana. This year, the government has printed 1 million copies, led by Ghana's national health insurance parity.

One of our remarkable achievements has been the COC completion rate, which has significantly improved. We started around 8% in our model districts, and in 2021, we

National Rollout and Achievement

of MCH Record Book in Ghana

reached 92%, which is a huge success. It means that others are not only accessing services at the ANC but also going all the way to the end. If we look at some of the achievements in terms of the effective use in the past, we have had challenges with recording even for fields like date of birth or even the child's birth weight was not recorded by health workers, but with this new book and training and much mentoring and support, we have seen considerable improvements in terms of recording in the various aspects of the book.

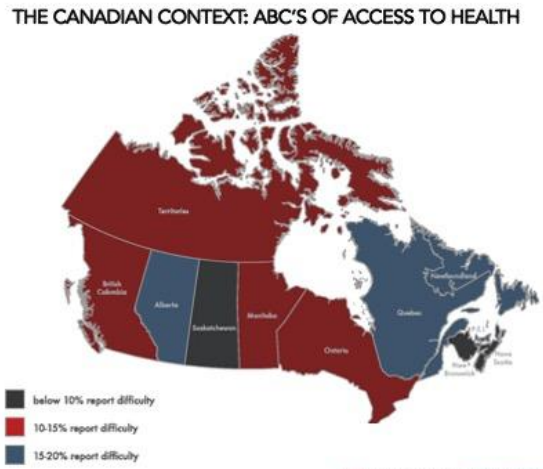
Some of our success factors include the high government commitment, which has been the key. Also, aligning with the national policy, aligning the contents of the national policy has been very important. The development of the management guide has also helped us a lot in terms of money, just knowing the direction that we are moving and the supervision and mentoring, which has been decentralized at all levels so that managers can monitor the book's implementation. These factors supported our successful national rollout of the MCH record book.

Dr. Shawna Novak

Executive Director of the Canada International Scientific Exchange Program (CISEPO), MA, MD, MMCs-GHD (c)

MCH Handbook & The Canadian Context:

addressing vulnerable populations' needs with MCH HB applications



Brandon, A.D., Costanian, C., El Sayed, M.F. et al. Factors associated with difficulty accessing health care for infants in Canada: mothers' reports from the cross-sectional Maternity Experiences Survey. *BMC Pediatr* **16**, 192 (2016). https://doi.org/10.1186/s12887-016-0733-4

HARVARD MEDICAL SCHOOL | BLAVATNIK INSTITUTE GLOBAL HEALTH & SOCIAL MEDICINE

CISEPO

In Canada, we see there is a greater need for access to care in Alberta and Quebec. There is a limitation to data collected from indigenous areas. It is usually not collected from any indigenous group setting, so none of the populations that live on reserves are generally included in surveys. The surveys are not entirely reflective of the access to care for all Canadians; however, over 10% to 15% report difficulty in access to care. So how do we characterize maternal newborn & child health (MNCH)? We have almost 400,000 births per year in Canada, and the maternal mortality rate (MMR) was an average of 8.3 deaths per 100,000 live births in 2018, which has stayed pretty stable. Recently, however, in the past, it has fluctuated between 4.5 and 8.7 deaths per 100,000 live births.

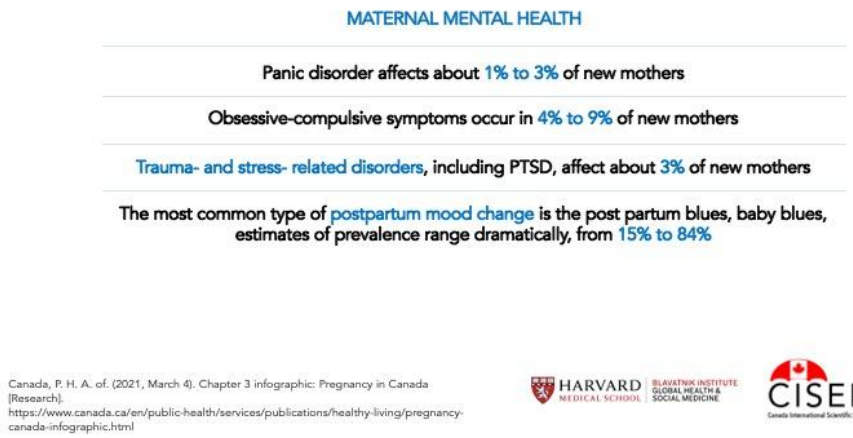
Many women in Canada receive a majority of their prenatal care from obstetricians or from family physicians. Midwifery has also become much more popular as a mechanism for obtaining care.

Maternal health is broader than just antenatal care (ANC) visits, and that's why it is really important to mention the types of presentations that we might see, like mastitis, urinary

incontinence, the relevance of the experience of acts of violence or intimate partner violence, lacerations that happens during vaginal births, postpartum hemorrhages, and type 2 diabetes. Maternal mental health also gets a fairly short shift in terms of the way that we're able to address MCH as a whole. (**Picture 10)** We have panic disorder, anxiety, trauma, stress-related disorders, and postpartum depression, whose prevalence has increased dramatically, especially during the pandemic itself, both in the population at large and

MCH Handbook & The Canadian Context:

addressing vulnerable populations' needs with MCH HB applications



Picture 10. Maternal Health in Canada

particularly in marginalized populations like refugees, newcomers, etc. Newborn health itself can be pretty broad in terms of categorization, and this isn't covered by just reaching several antenatal centers, so a minimum number we're looking at is breastfeeding initiation, premature births, the onset of neonatal sepsis, and the number of singleton live births that are small for gestational age.

One of the issues of access to maternal newborn child healthcare and quality of care in Canada is the rural versus urban dilemma. So often, we're facing a predominance of providers just in facilities in more urban areas and less in rural areas, just as we see in low and middle-income countries (LMICs). Still, we're also continuously facing issues related to the social determinants affecting health and structural forces or structural violence affecting access to care. There are issues with the quality of care, such as the policies related to indigenous populations that have led to intergenerational trauma, which extends to other marginal populations. We can also consider

those who are trying to access care or a provision of lower quality of care because there's a culture of structural violence that places blame on the individual, and we see this very often all across Canada, both rural and urban, in predominately marginalized populations and also non-marginalized, and this goes to say that it continues in terms of exaggeration of its agency for responsibility to seek care. We also have a socialization of scarcity; even though Canada is divided into provinces, we have municipalities as well; still, there aren't enough resources to go around. This is consistent around the world. This leads to a lack of trust in the system of providers' human resource failure. There is a higher amount of staff turnover, insufficient workforce capacity, and a lack of demographic representations. We have a massive demographic representation gap that leads to inappropriate ways to address cultural humility and perpetuate systemic inequities. If you can't identify with those you're serving, it's an ineffective way of handling this population. We have an unaddressed modifiable risk factor for mother and child, lack of access to key MCH information, which means less empowerment for both mothers and caregivers. The inappropriate information that is gathered can tend to be culturally off-base and linguistically inaccessible, particularly for refugee and minority populations and newcomers. We consider this because these vulnerable populations are at high risk for morbidity and mortality.

MCH Handbook is tremendously useful in addressing remedial issues with minimal inputs, such as greater health literacy and potential for accessing postpartum support and focusing on empowerment at the grassroots level, as long as we're able to integrate it in a way that's appropriate and modified for specific and localized needs. We want to be able to use tools to express key health messaging while encouraging trust-building and demand generation for existing local health supports.

MCH Handbook is a big piece of the health system as a whole because we're not just looking at inputs, we're looking at the process, and the process is part of generating better health confidence in systems, developing the workforce, providing tools, appropriately addressing the population's health needs

MCH Handbook & The Canadian Context:

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and expectations, and building into the processes of care that lead to competent healthcare systems and more positive user experiences.

The recommendations for moving forward with the MCH Handbook for implementation and iteration for settings in Canada primarily and heavily depend on what we're doing in settings like this within almost the community of practice that's come about through the initial promulgation of the MCH Handbook in 1948 in Japan, so we've got to establish those key supports. We need to be able to use relevant local partners that can align it with the healthcare strategy so that we get the reduction of maternal and infant morbidity and mortality. At the same time, we should move forward collectively on a national, provincial, and global level. We should conduct robust community-based participatory action research (CBPAR) processes and the very participatory approach to localization relevancy and reach adoption, giving us that decolonized approach to implement MCH Handbook.

I want to emphasize again PARTNER! PARTNER! PARTNER! We need to reach out and build multilateral knowledge transfer opportunities; we want to be able to benefit from the expertise of LMICs because of things that they have done, e.g., Burundi. With the success of health records in Bangladesh with the Kapasia model, in Vietnam and Mongolia with the success of breastfeeding initiation using the handbook.

That is how we end up moving forward. We can develop a version that fits and iterate it for the local settings as they differ across Canada, whether you're looking at Nunavut, British Columbia, Newfoundland, or Toronto. It doesn't matter. We need to be able to take those learnings and develop our version and then focus on demand generalization as a whole and assess and contribute to the literature as much as possible so that collectively we can grow. This way, we can move the dial forward regarding addressing maternal-infant morbidity and mortality in Canada.

Dr. Maria Endang Sumiwi

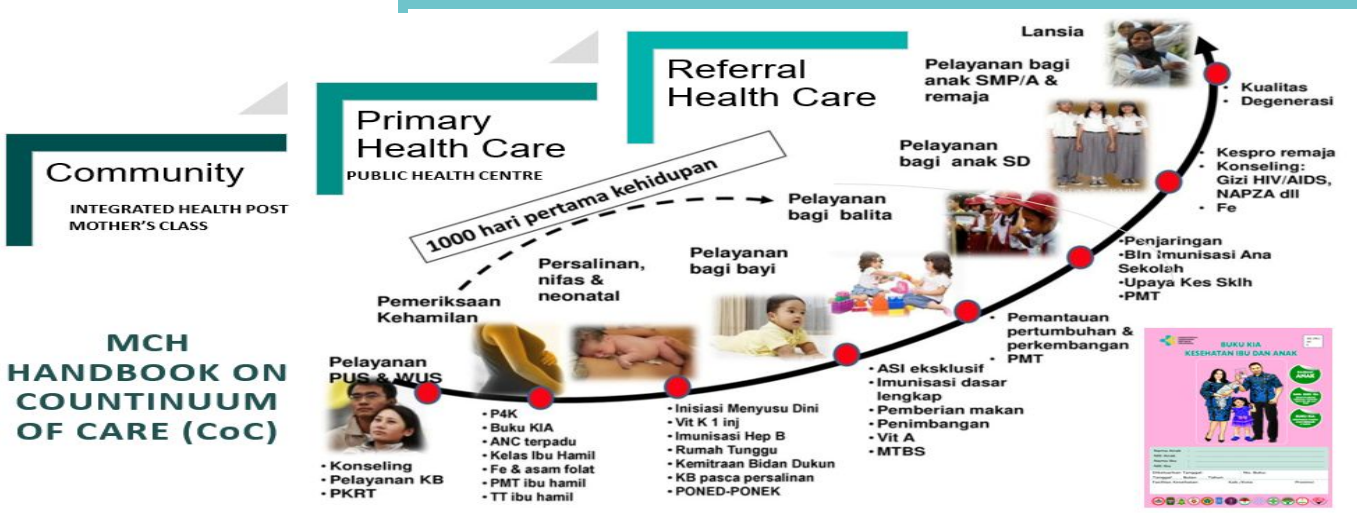
Director General of Public Health Department, Ministry of Health, Indonesia

Our MCH Handbook started in 1994 with a pilot project. We created a combined MCH Handbook from separate leaflets and records. We further developed the MCH Handbook from 1994 to 2003 and expanded it to several more provinces. In 2004, it finally became a national program.

MCH Handbook was the only MCH record tool for mothers and children under 5 years of age in 2004. The revision was scheduled every five years and was conducted in 2009 and 2015. The next version will happen to be this year, in 2022, where we will revise the 2009 edition of the MCH Handbook into colorful pictures in the booklets, encouraging the professional associations to commit to the project as well as the Indonesian Hospital Association to utilize these books. The private hospitals are giving the MCH Handbook to mothers and babies accessing those private hospitals.

We are now transforming our primary healthcare to adopt a more life cycle approach to strengthen the community, public health centers, and referral centers. At the community level,

the MCH handbook is being used in the mother class and in the integrated health activities at the sub-village level, so we have 300,000 sub-villages integrated help posts in Indonesia that are conducting a mother class for pregnant mothers but also for mothers with under five children. This MCH handbook has been very instrumental in conducting all these activities, although all the education is in the content of this book. It is being used by the health workers, the local midwives, and also the community health workers, so are using this MCH handbook as a reference



Picture 11. Continuum of Care completion rate progress

in the mother's class. Mothers of children under 5 years of age share their experience and information about child growth and development, immunization, nutrition management for children, common illnesses at home, etc. While in the pregnant mother's class, they share information on pregnancy, delivery, postpartum, and newborn care. These community-based activities deliver basic health services organized by community health workers under the supervision and assistance of local health workers.

These services cover child growth and development, monitoring immunization, including basic MCH education, so all these services are recorded on the MCH handbook in both primary and referral levels MCH services, including several special services. They are encouraged to document in the MCH handbook from antenatal care, labor, postpartum care, newborn care, infant care, under-five care, and until the growth and development of the children. In addition to this, healthcare personnel benefits from the book when delivering information regarding MCH services.

MCH health records have been implemented nationwide. Since last year, we have implemented and received commitments from many more professional organizations, which have increased from 7 to 13 organizations. We also received commitments from several medical associations, including the Indonesian Medical Association, obstetricians and technologists, pediatricians, midwives, nurses, nutritionists, dentists, general practitioners, practitioner associations, health offices, institutions, hospitals, regional hospital associations, clinics, primary health care facilities, and other clinical associations. They are now committed to using the MCH handbook because the public sector does not serve most of the MCH services. The private sector serves significant numbers of mothers and children, so it's essential that all professional organizations are committed to using the MCH handbook.

Together with the continuous support of JICA, we are also developing the integrated child health checkup, which is now being tested in two cities in Java in Indonesia to integrate monitoring of children's health and development using the MCH handbook evaluating early detection of illness in children, analyzing exclusive breastfeeding, education about child feeding and young infant feeding, and provision of Vitamin A. We have also expanded the program's cross-sectoral collaboration for child health monitoring. We are doing this in two cities, and we will soon have the evaluation results. To accommodate this into the national program, we are also, with the support from JICA, developing the little baby handbook, which is now being tested in three cities in Indonesia (Solok, Kudus, Banyumas), and this book is planned to be used together with the MCH handbook to target small babies. This activity aims to improve the knowledge and skills of mothers and health workers in primary healthcare and regular healthcare in caring for small gestational-age babies and their families.

In Indonesia, we have a decentralized health system with 504 districts, 34 provinces, and about 270 million population, so we have about five million pregnant mothers and almost five million babies every year.

To address the growing needs, we are in the planning phase for the MCH handbook group that needs analysis through an information system about targeting pregnant women. For the little baby handbook planning, we are using real-time data on total babies born under 200 and 500 grams, full length of < 45 centimeters, and gestational age under 37 weeks or born in the last year plus 10% of the buffer stock. This is how we calculate how many we shall provide for the MCH handbook and the little baby handbook. Then, we do national, regional, and independent private procurement to provide this book for our population. Then the MCH handbook is distributed to the districts and cities in Indonesia. We are doing advocacy, socialization, and capacity building for pregnant women and under-five children by providing classes for the implementation activities. We are now moving towards digitalization. We have started digitalizing the MCH Handbook, and the phases continue with the recording, reporting, monitoring, and evaluation.

Since 1998, we have been sharing our experiences internationally. We hosted the MCH Handbook Conference twice in Manado. We also hosted the Third Country Training Program for MCH Handbook from 2007 to 2021. We hosted the 72nd World Health Assembly on the effective implementation of home-based records to improve maternal, newborn, and child health. We also presented the MCH handbook lesson learned in other symposiums.

We hope we can have more quantitative data next time. Now, we will assess if families would be interested in using the digital version of the MCH Handbook, as the current volume is relatively high, so we will continue to produce the digital version of the MCH handbook.

With the COVID-19 pandemic, the country developed a very widely used digital platform to monitor immunization status and other indicators. The application is called Peduli Linguine. One hundred million residents in Indonesia have downloaded it. Once we are ready, we will include the digital version of the MCH handbook in the platform of Peduli Linguine. The country is also now elaborating on the citizen health application that can be used for different purposes, including this digital version of the MCH handbook.

MCH HB research presentation- Toronto Conference Host Team

Saida Fathima Azam

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Yasmine Shalaby

Nao Yoshida

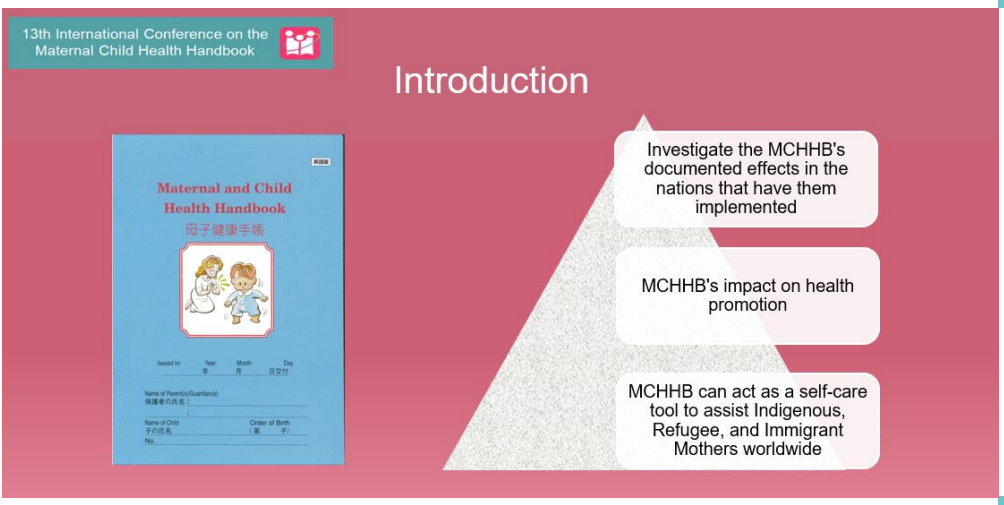
Mithila Orin

Title: A global perspective of the role of maternal and child health handbook in health promotion: Systematic review

Dr. Shafi Bhuiyan, Saida Azam, Mahima Mehrotra, Nao Yoshida, Anuradha Dhawan, Yasmine Shalaby, Eman Radwan, Mithila Orin, Walaa Al-Chetachi, Agafya Krivova, Tasmia Tazrin, Hana'a Badran, Nida Fathima

The MCHHB has been essential in highlighting health promotion factors that have been shown to improve maternal and child health outcomes. Forty-two studies found a beneficial impact on various aspects of health promotion, while one study found no meaningful effect after the MCHHB was implemented. We have also discovered a favourable influence on breastfeeding, immunization, child health, family planning, antenatal care, maternal nutrition, maternal TT Immunization, vitamin A, and iron supplements, smoking and drinking throughout pregnancy, safe delivery, understanding of pregnancy complications and child growth.

Motherhood is such an evolving journey, and to secure safe motherhood, maternal and child health is very crucial. The Maternal and Child Health Handbook (MCHHB) is one of the tools for self-learning and monitoring the health and well-being of families, particularly pregnant women, mothers, and children. The handbook encourages parents to be actively involved in the decision-making and management of their family's health while



A Global Perspective of the MCH HB role in health promotion: *A Systematic review*

Picture 12. Research Aim

maintaining home-based records. This also strengthens the two-way communication between families and healthcare providers and provides parents with essential health education on delivery, breastfeeding, postnatal care, immunization, and family planning. The MCCHB is a record that supports women through pregnancy, delivery, and the postnatal period, along with the first few years of their children's lives.

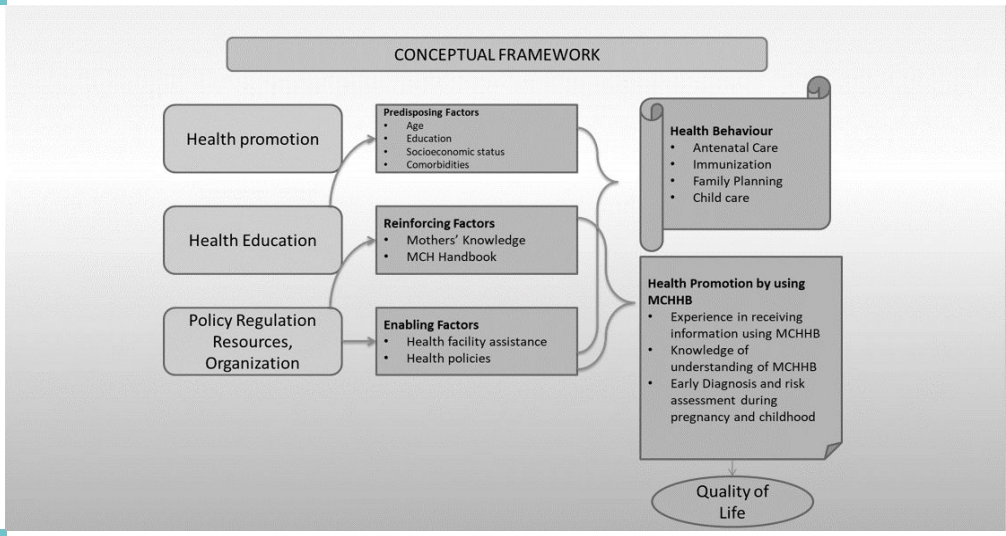
The MCH Handbook is provided to women at the preliminary antenatal care appointment, brought to health service appointments, and is used as a reference during subsequent health assessments.

The main purpose of our study was to **(Picture 12):**

- ❑ Investigate the MCHHB's documented effects in the nations that have them implemented
- ❑ MCHHB impact on health promotion and identify the factors.
- ❑ To analyze what role MCHHB can play as a self-care tool to assist Indigenous, Refugee, and Immigrant Mothers worldwide

For this purpose, we used a precede and proceed model as our conceptual framework. PRECEDE/PROCEED is a community-based, participatory model for designing efficient community health promotion interventions. **(Picture 13)**
As a first step, we investigated the MCHHB program's functioning using information obtained from the MCHHB website. After that, we wanted to assess how the MCHHB had been implemented. We selected three components—health

A Global Perspective of the MCH HB role in health promotion: *A Systematic review*

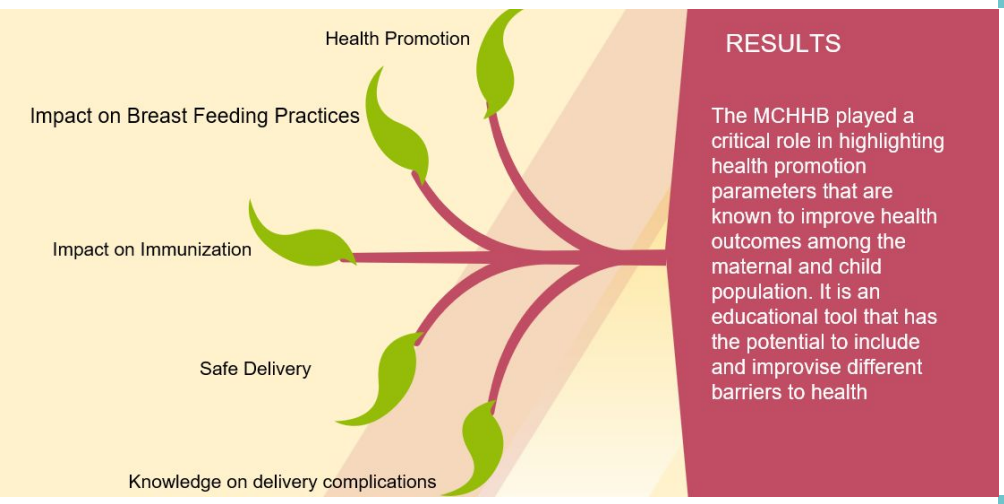


Picture 13. Conceptual framework

promotion, health education, and policy — as the main focuses of MCHHB implementation. Due to resource constraints, we restricted the scope of our systematic review only on MCHHB's health promotion efforts. Following a title and abstract screening, it was observed that breastfeeding and immunization were the two most frequently examined factors in relation to the impacts of MCHHB. As a result, we classified and carefully investigated two factors that enhance health, namely breastfeeding and immunization, based on the available data from the chosen research.
We used the PRISMA model to screen articles, which yielded 43 finalized articles for our review.
As evident from previous studies, the MCHHB played a significant part in highlighting health promotion criteria that are known to improve health outcomes among the maternal and child population. This was a very important step. It is an educational tool that can incorporate and further develop solutions to

overcome a variety of obstacles that stand in the way of good health. It has a significant impact on Health promotion, breastfeeding practice, immunization, safe delivery, and the enhancement of knowledge on delivery complications.

Out of the 43 research we selected based on the inclusion and exclusion criteria, 6 studies had in-depth analyses of breastfeeding, while 10 studies analyzed immunization. The remaining 27 studies included evaluation reports that involved a variety of different health promotion elements.



A Global Perspective of the MCH HB role in health promotion: *A Systematic review*

Picture 14. Results

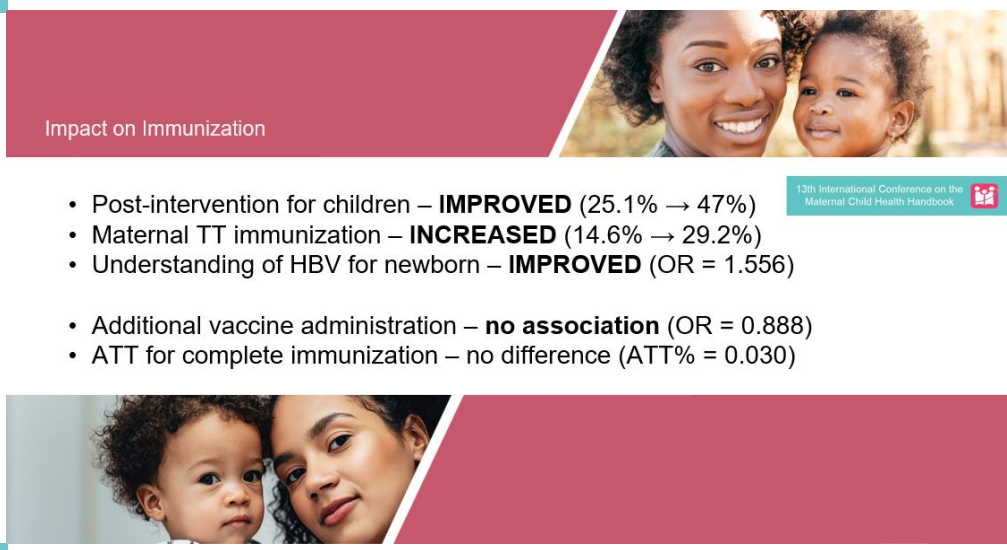
For example, child health, family planning, antenatal care, maternal nutrition, maternal tetanus toxoid, vitamin A and iron supplementation, smoking and drinking during pregnancy, safe delivery, awareness of pregnancy complications, and child growth are additional health promotion factors that were reviewed in our paper. Although other health promotion factors were briefly mentioned in the study, we only focused on those that included quantitative data to rule out any subjective interpretations.

Epidemiological assessment: we assessed the mothers' ages, socioeconomic positions, and educational levels in the reviewed studies. The included studies that provided demographic evaluations focused primarily on women of reproductive age. As appropriate, mothers' socioeconomic position was categorized in each study based on their economic situation, family income, job status, and occupation. Similarly, education status was classified according to level and years of schooling and compared between the intervention and control groups when possible.

For breastfeeding, we analyzed six studies that provided quantitative results on effect measurement. They all showed an enhanced participation percentage or an odds ratio of >1 after the intervention of the MCHHB.

More specifically, four studies demonstrated an improvement in knowledge and awareness of breastfeeding, highlighting the value of MCHHB as an educational tool. Five articles revealed a beneficial effect on breastfeeding practices. However, two studies that tested the MCH handbook's

A Global Perspective of the MCH HB role in health promotion: *A Systematic review*



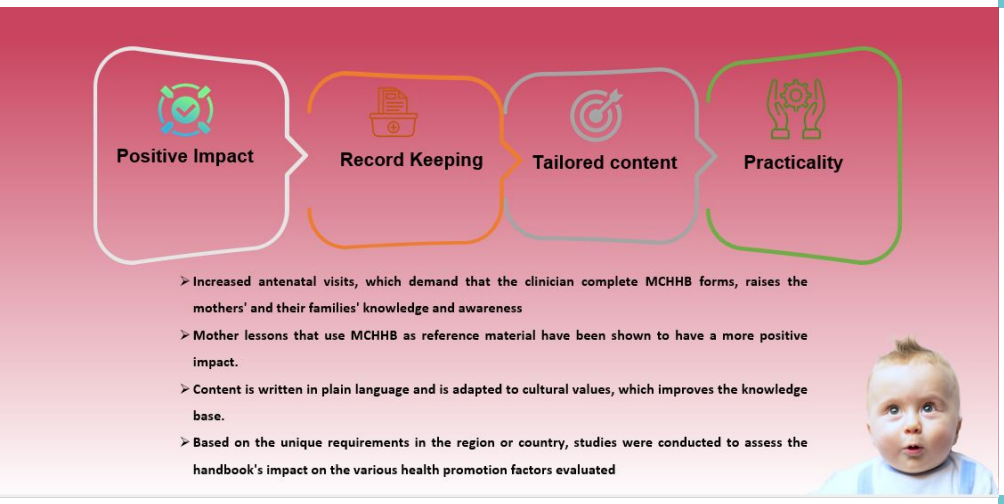
Picture 15. Impact on Immunization

effect as a reference tool in mothers' classes, we did not find any additional information.

We also evaluated the MCH handbook's function and effect on immunization status before and after the intervention.

We were able to find ten articles from four countries – Indonesia, Bangladesh, Kenya, and Japan – that provided evidence to support improved vaccine uptake for both mother and child. Post-intervention practice for children in Indonesia improved from 25.1% to 47%. Maternal Tetanus Toxoid (TT) immunization increased from 14.6% in the control group to 29.2% in the intervention group. And the odds ratio of 1.556 suggested that participants, who attended a class of mothers who utilized the MCHHB, improved their understanding of the Hepatitis B vaccine for a newborn. However, with an odds ratio of 0.888, additional vaccine administration did not reflect this, and there was no discernible difference in the Average Treatment Effect on Treated for complete immunization. **(Picture 15)**

The handbook's content is tailored to the particular requirements of the nation and the area.
Therefore, many studies were carried out to evaluate the handbook's impact on the different factors based on the requirements in a particular region or country.
While the majority of studies provided quantitative data, we have simplified the outcomes to either positive, negative, or neutral.



A Global Perspective of the MCH HB role in health promotion: *A Systematic review*

Picture 16. Key observations

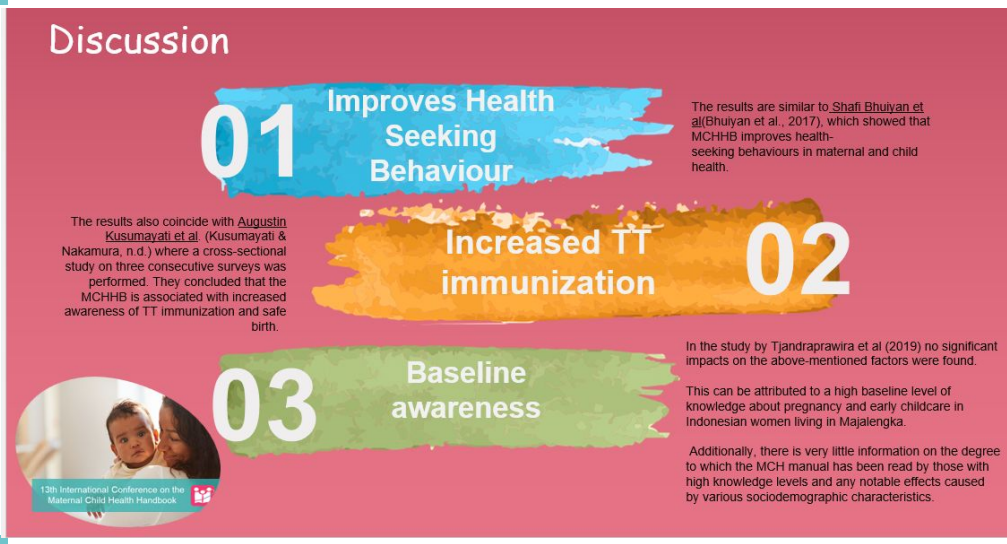
According to this review, a significant number of studies have demonstrated a positive impact on health promotion factors not discussed earlier, including “child health,” “family planning,” “antenatal care,” “maternal nutrition,” “maternal tetanus toxoid,” “vitamin A and iron supplementation,” “smoking and drinking during pregnancy,” “safe delivery,” “understanding of pregnancy complications,” and “child growth and economic impact.” Key observations from the review are that the MCH Handbook Program has been proven to show a positive impact in more than 40 countries where it was implemented and evaluated. The studies also showed that MCHHB **(Picture16):**

- ❑ Increased the number of antenatal visits; because, in each visit, it was demanded that the clinician completes the MCH Handbook, thereby increasing the mothers’ and their families’ knowledge and awareness.
- ❑ Is an excellent record-keeping tool to track their healthy behavior and also to see if there are any abnormalities or danger signs that can be noticed during their pregnancy

- MCH Handbook has tailored content specific to the people and their ethnic values. This helps mothers reflect on themselves when they go through the handbook, increasing the rapport, which makes it easier for mothers to accept and understand the content in the handbook.
- Good practicality with simple language and illustrations

In comparison with other literature, common, consistent observations are: MCH Handbook improves the health-seeking

A Global Perspective of the MCH HB role in health promotion: *A Systematic review*



behaviors in mothers and their families, increase TT immunization. One of the studies showed no significant impact because the mothers in the Majalengka region of Indonesia (where the study was conducted) had strong baseline information about pregnancy that had been passed on from their family and friends.

The MCH HB implications are that it:

- Acts as a self-care tool for mothers
- Acts as a means by which mothers can obtain a well-informed clinical decision by collaborating with the clinicians rather than just following the orders
- MCH Handbook acts as a valuable source of data for examining healthy pregnancy habits, misconceptions, and co-vulnerabilities in a community
- Healthcare policymakers could promote the Handbook use as a tool for developing accessible and more equitable maternal and child healthcare services for everyone, especially indigenous, refugee, and immigrant mothers.

13th International Conference on the Maternal Child Health Handbook

"MAKING ME VISIBLE"

Part II

The Honourable Asha Seth

The first Indo-Canadian female appointed to the Senate of Canada

Thank you for giving me the opportunity to speak regarding MCH Handbook. I would like to thank Dr. Shafi, who has been very kind and invited me to talk about maternal, newborn, and child health issues. As a woman and mother, I pursued my career as a physician, delivered thousands of babies and, helped bring life into the world, heard the first cry of a baby and the laughter of the family. What an incredible experience!

I embraced maternal and child health as one of my leading motives after a lifetime of services to my community as a physician. Being a senator, I was determined to support women and children around the world by giving them an international platform. So, I continued to represent Canada's number one development priority through my professional and philanthropic work in maternal, newborn, and child health by collaborating with civil society organizations to advance the reach of these efforts in places to eliminate preventable deaths in mothers and children, especially in vulnerable populations.

In the Senate, I introduced the second week of May as international newborn child health week with the goal of engaging Canadians on the health issue affecting mothers, newborns, and children in Canada and around the world, reducing maternal and infant mortality and improving the health of mothers and children in the world's poorest countries, promoting equal access to care for women and children, who are living in households of lower socioeconomic status, those with the lower level of education, those who are newcomers, and those group who live in a remote and sparsely populated area of Canada which prevents thousands of mothers and children from accessing healthcare services ultimately unnecessarily dying from preventable illnesses or lack of adequate health care during pregnancy, childhood, childbirth, and infancy.

On November 27th, 2014, I passed a Senate Motion establishing international maternal newborn and child health week, which takes place annually during the second week of May. This awareness opportunity provides a yearly platform to engage citizens and international partners on the health issues affecting mothers, newborns, and children in Canada and worldwide. It was extraordinary to see how international maternal newborn and child health week received support from all levels of government as well as Canadians.

In my opinion, nutrition for mothers, newborns, and children's health care is one of the essential components of optimum MCH. The 13th international conference on the maternal and child health (MCH) handbook promotes a platform to promote health equity. It aims to bring the health of our mothers and their children to the forefront, as too often, social barriers make the mothers feel invisible. We all know the physical development of children worldwide is being compromised; many children do not receive the nourishment they need to develop properly. This leads, in fact, to both physical and mental health issues over time which are often irreversible. The truth is that the first 1000 days of a child's life are the most critical phase in its development, so this spans the time from conception to a child's second birthday; if the damage is done due to malnutrition, it becomes irreversible, highlighting that nutrition has a strong impact on women, girls, and their communities for the generation to come. Yet, one billion women and girls worldwide are held back by malnutrition.

Malnutrition is, in fact, both a symptom and a cause of gender inequality. Malnutrition limits the capacity of women and girls to grow, learn, earn, and lead. Gender discrimination often delegates women to the lowest economic and social ladder levels, which makes matters worse. In some societies, women and girls eat last and the least. Nutrition is an investment the world must make in nurturing today's youth.

To ensure a better world tomorrow, the primary objective of this conference is to advocate for social unity through equitable and holistic maternal and child care across the globe. Everyone has a right to food and good nutrition. It unites people with governments, civil society, United Nations, donors, businesses, and researchers in a collective effort to improve nutrition. Malnutrition costs the global economy $3.5 trillion a year. Nutrition is one of the most cost-effective investments for a healthier, more productive, and equitable world. Studies have shown that every dollar invested in nutrition yields $16, which is a pretty good return on investment. Advocating for children is not a choice; it is an obligation. Do your part, and the world will be a better place.

The Honourable Asha Seth

The first Indo-Canadian female appointed to the Senate of Canada

Our MCH HB Symposium Presenters

Dr. Syed Emdadul Haque

Country Representative
UChicago Research Bangladesh

Bangladesh

Dr. Salim Bahadury

MD, MPH, MCH-HB Project Manager
Directorate, Kabul Afghanistan

Afghanistan

Dr. Ogechi Akalonu

Public Health Nutritionist, Deputy Director of the National Primary Health Care Development Agency, Nigeria

Nigeria

Dr. Rami Mahn HABASH

Chief Health Protection & Promotion UNRWA/ Health Department, HQ - Amman

UNRWA

Dr. Lourdes Herrera Cadillo

Associate Professor, Otemae University, Faculty of Global Nursing

Peru

Dr. Sawsan Abu Sharia

Director of Community Health Department - Ministry of Health, Palestine

Palestine

MAKING ME VISIBLE

Dr. Syed Emdadul Haque

Country Representative UChicago Research Bangladesh, Director, The University of Tokyo Bangladesh Office

MCH HB to improve the continuum of care in rural Bangladesh: *Findings of a cluster randomized controlled trial*

Objective

- To evaluate the effectiveness of the maternal and child health handbook (MCH) enhanced by mobile tools and to generate evidence informing the adoption of the program in Bangladesh.

MCH handbook was piloted in 2002 and 2003 under the leadership of Dr. Nakamura and Dr. Shafi. In Bangladesh, maternal and child health has been a huge concern, and MCH Handbook was a significant initiative by the two leaders.

In 2016, we started an MCH handbook project to improve the continuum of maternal and child care in rural Bangladesh. It was a randomized control clinical trial. The actual initiative was focused on women's knowledge about maternal issues. The pilot project focused on understanding the effectiveness of the MCHHB and showed a strong positive impact on mothers' health knowledge, record keeping, service utilization, and empowerment of women.

Bangladesh has achieved significant progress in the reduction of maternal and child mortality. The new goals of the SDGs are to reduce MMR to less than 70 per 100,000 live births.

With the expansion of mobile phones even in rural Bangladesh, we designed the trial to evaluate the effectiveness of the MCH handbook enhanced by mobile tools to educate mothers.

The study was conducted among 3000 mothers divided into three groups. The first group had the MCH handbook and mobile health education. The second only received the handbook, and the third was the control group. We conducted this study in two divisions of Bangladesh, Kulna, and Dhaka. Our field staff monitored the activities every 15 days.

As a result, the two interventions, especially the integrated one, substantially improved the uptake of multiple healthcare

MCH HB to improve the continuum of care in rural Bangladesh:

Findings of a cluster randomized controlled trial

Table 1. Major findings of the community-based trial

	Adjusted %	95% CI	P
Antenatal care>=4	11.06	9.90–12.22	
MCH+mobile	13.36	11.24–15.49	***
MCH only	12.86	10.77–14.96	***
Control	5.96	4.32– 7.61	ref.
Postnatal care>=1	42.36	40.73–43.99	
MCH+mobile	45.66	42.86–48.46	***
MCH only	43.82	41.07–46.57	***
Control	36.37	33.38–39.36	ref.
Facility-based delivery	61.23	59.99–62.47	
MCH+mobile	64.5	62.34–66.65	**
MCH only	59.89	57.76–62.02	(-)
Control	58.9	56.75–61.05	ref.
Referral for complications	98.24	97.49–98.99	
MCH+mobile	99.01	98.13–99.90	*
MCH only	98.44	97.31–99.57	(-)
Control	96.26	93.80–98.73	ref.

*** <0.001, ** <0.01, * <0.05
(-) no significant difference

Overall results

Neonatal mortality rate (NMR) was 27.8 per 1,000, 28.2 per 1,000 , and 34.8 per 1,000 in Intervention 1, Intervention 2 and control group, respectively

Picture 17. Results Summary

services, including antenatal care, facility delivery, referrals, and postnatal and neonatal care. **(Picture 17)** The outcomes of the study showed that the neonatal mortality rate (NMR) was 27.8 per 1000, 28.2 per 1000, and 34.8 per 1000 in Intervention 1, Intervention 2, and the control group, respectively.

During the follow-up, we found that not only mothers are using the records, but they are also keeping them for their children in the future. Our study was reported as a technical brief by JICA in December 2020.

Based on the findings, we can conclude that the MCH Handbook with a mobile platform, in the era of widespread technology use, could be a perfect option to improve the primary healthcare system delivery by strengthening the partnering between primary healthcare workers and pregnant mothers and their families

Dr. Ogechi Akalonu

Public Health Nutritionist, Deputy Director of the National Primary Health Care Development Agency, Nigeria

Update on the MCH HB Development in Nigeria

Rational for MCH HB

At present, the PHC card is not achieving its full potential

- Single cards are used separately for mother and child
- Inappropriately used by clients and healthcare workers
- Most times not legibly completed by health workers at the time of service
- It is underutilized
- Often not appropriately referenced and used
- Sometimes vary in complexity across States and within MDAs
- Often poor standardization in content, non-uniformity, and consistency
- Some have inappropriate messages
- Poor paper quality
- Poor graphing techniques in growth charts

The National Primary Health Care Development Agency (NPHCDA) is a dynamic organization, a parastatal under the Federal Minister of Health, mandated to make Nigerians healthy. We empower Nigerian communities to achieve better health and promote widespread access to quality health care. We improve the effectiveness and efficiency of primary health care delivery across Nigeria. We aim to create healthy communities across Nigeria and make health and well-being a priority for everyone, especially for the most vulnerable, promoting inclusive access to quality healthcare for all Nigerians regardless of who or where they are. In pursuance of our overall mission, the NPHCDA strives to fulfill these seven corporate goals:

- ❑ Control Preventable Diseases
- ❑ Improve Access to Basic Health Services
- ❑ Improve Quality of Care
- ❑ Strengthen the Institution
- ❑ Develop High Performing Health Workforce
- ❑ Strengthen Partnerships
- ❑ Strengthen Community Engagement

Update on the MCH HB Development in Nigeria

Nigeria, through NPHCDA, has transitioned community structure and rebranded community health workers, community health influencers, promoters, and services. Community people are trained and nominated by the World Development Committee to ensure that they refer a client, do follow-up, and provide first aid. They ensure that pregnant women go to the health facility to access care. They create awareness and demand and ensure that people improve their health-seeking behavior at the community level.

We are interested in upgrading our primary health care (PHC) card. We had several single PHC cards from different organizations, different NGOs, and different development partners all over Nigeria. However, health facilities sometimes do not use these cards appropriately; some healthcare workers are not well-trained and underutilize the PHC cards; certain cards have poor paper quality or poor graphing techniques; thus, personnel can't even plot the growth chart, and sometimes the health messages are not appropriately visible.

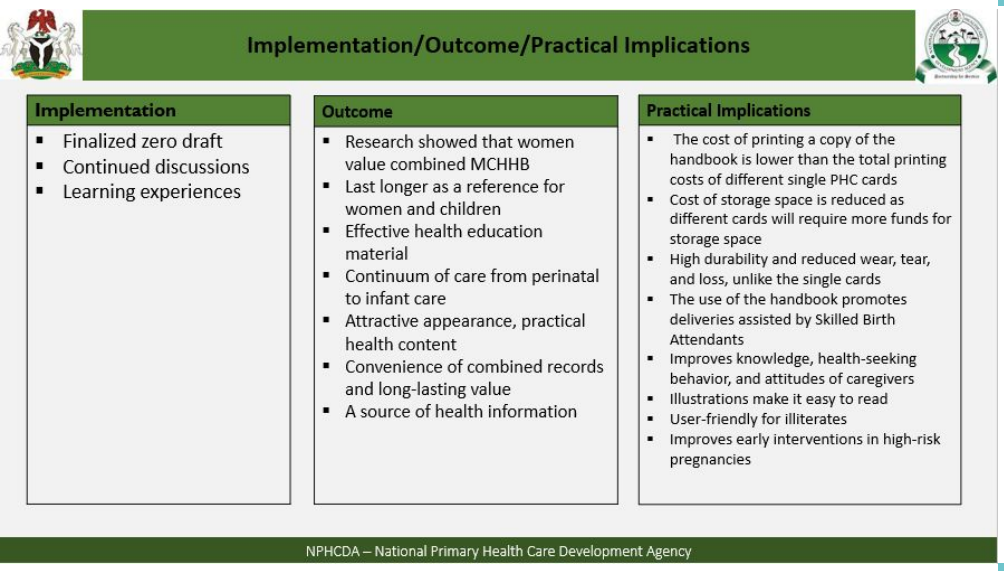
The goal is to update the current separate PHC cards to National Integrated Mother and Child Health Handbook to improve the integration of mother and child health services at the health facility and the community level; optimize their content design and durability; enhance the continuum of care; promote decision ownership about health by providing educational and informational materials that they can benefit from.

After the inception meeting with the UNICEF consultant on the 23rd of August 2022, we have started designing the roadmap, the framework on how we are going to design the handbook, the field test, and post-field test, stakeholders' validation workshop, printing and distribution to all States, communities' sensitization and advocacy, health workers training, supportive supervision and monitoring of access & utilization as well as impact assessment. Our key partner is UNICEF. The role of all the international and local NGOs, development partners, and other stakeholders is to support the NPHCDA in rolling out the handbook. Since NPHCDA is mandated to facilitate all primary health care interventions in Nigeria, implementing the home-based records is the NPHCDA's responsibility. For the handbook to succeed and make it a thriving intervention in Nigeria, there is a need for a solid.

political will. In 2009, the handbook was developed, and I was one of the facilitators trained to work on this project from 2011-2012.

For the implementation, we did a desk review and developed the zero draft. After the inception meeting with the stakeholders, we started MCH HB implementation in Nigeria.

Having a national integrated mother and child handbook will improve the continuum of care for children and mothers. It is a user-friendly health promotion source of information with



Picture 18. Practical implications and outcome

pictures and illustrations that build mothers' health confidence. It is more durable, with reduced chances of loss and tear, than a single card. The handbook also has a community aspect to it. We have agents who are trained community people and community volunteers that go house to house and encourage people, especially pregnant women and mothers of children under five years, to visit the health facility to ensure the continuum of care. **(Picture 18)**

The challenges we face include the COVID-19 pandemic and security issues, which are improving. We are mass vaccinating Nigerians now with COVID-19 vaccines. As for security issues, the government is tackling them successfully. The gaps include funding problems and logistics. We need the International Committee of MCH handbook to support Nigeria in these important projects.

We have started planning the framework, going into the field, identifying and training enumerators, and designing the checklist and the questionnaire to improve MCH in Nigeria.

Update on the MCH HB Development in Nigeria

Dr. Rami Mahmoud Habash

Chief Health Protection & Promotion UNRWA/ Health Department, HQ - Amman

Digital MCH Handbook

by United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

Digital MCH Handbook

- The Mother-Child Healthcare Handbook (MCHH) Application was developed in cooperation between JICA and UNRWA
- Is a digitalized version of the paper Mother and Child Health Handbook.
- Made available to the "public" in app store & play store in April 2017

UNRWA was established in 1949 under the mandate of the United Nations General Assembly. UNRWA provides PHC to 5.7 million Palestine refugees in five locations (Gaza, West Bank including East Jerusalem, Lebanon, Syria, and Jordan). About 141 healthcare centers provide antenatal, postnatal care, and mental health care to Palestinians and to around 87,000 pregnant women. In addition, we provide childcare to approximately 425,000 children below five years of age.

Our MCH application is used and improved by our beneficiaries. As smartphones are becoming part of our daily life, it helps improve communication between our beneficiaries and healthcare provider, especially since we know the names of all healthcare centers and how to contact them. We have friendly questions and answers. We also use this application to send curricular information, announce our dynamic approaches, and facilitate better communication with our beneficiaries. We are now working with our stakeholders to increase this experience and improve its use.

Digital MCH Handbook

by United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

The Mother-Child Healthcare Handbook was developed with the cooperation and support of JICA. It is the same as the handbook that is used and printed, and provided to our beneficiaries. It was made available to the public in the App store and Play store in April 2017.

Since 2018, there has been an increased number of users of this application in Jordan, Gaza, Lebanon, Syria, and Westbank. However, there are differences between applications in all countries simultaneously, giving rise to a lot of challenges that we have to overcome to support the use of the application.

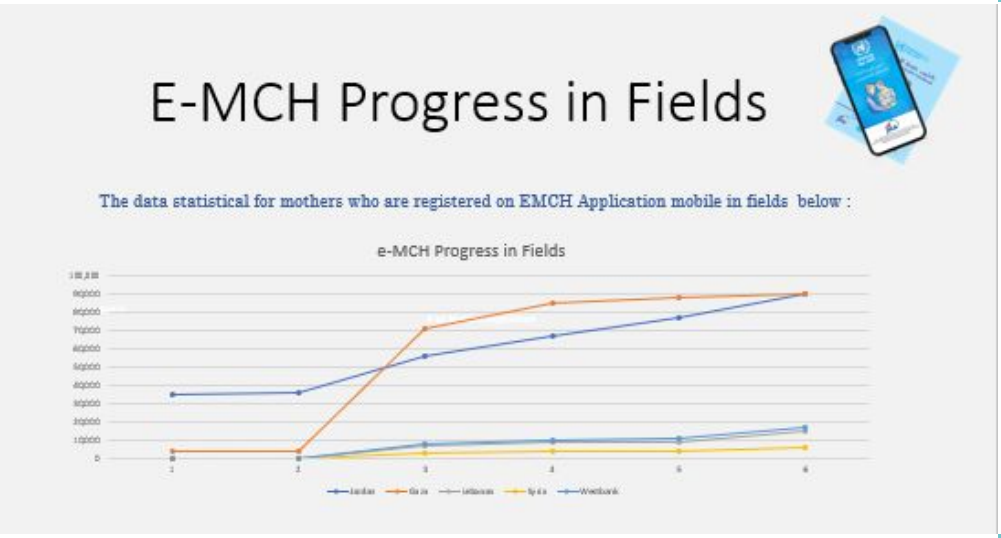
The application is easy to be downloaded from Apple or Google Stores. Once you download it, it is also easy to use. You have to enter information regarding the mother's name, registration number, and password that is secure to be used only by her. After she has logged in for the first time, it should be easy to sign in from any device already downloaded. There are also helpful videos containing detailed and informative instructions about how to use and download the application.

To support our beneficiaries regarding the use of this application, we work at our health centers to have special wi-fi and to allocate some of our staff to support our beneficiaries in downloading the application, registering, and use of the application, e.g., how to check for their data, how to open educational materials and which button to press for specific functions.

Mainly, the application has five modules: one for the mother and another one for the children, one for appointments, one for alerts and health education, and lastly, we have one module for treatment.

In the mother unit, we have different options related to antenatal care, pregnancy and childbirth, postpartum care, family planning, lab tests, appointments by our healthcare centers, and health tips.

For the children, we have multiple child monitoring systems. The application has various pages for each child with their name and picture. There are numerous ways of monitoring vaccinations, appointments, temperature, weight, height, etc.



Digital MCH Handbook

by United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

You can click on the picture and open the report if you need to show detailed information about a particular child. We believe that using applications for the children will be more accurate as the data will be entered electronically, so no information is missed.

The appointment unit has the option that the mother can check before the appointment if any of her children have any appointments at the same time. The application sends notifications, for example, if there are any appointments for her or any of her children and this appointment is coming in a few days, even if it is offline, that means it does not have to be connected all the time to internet, the application will still send the notification.

We have a separate page for health awareness so that the mothers have comprehensive health materials. One section covers the pregnant mother's health and other children's development.

In the notification unit, we have three types of notifications. We have messages that are sent according to the specific duration of pregnancy and the child's age.

Digital MCH Handbook

by United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

Specific messages are sent electronically by our filter to the mother to provide more specific material—notifications for upcoming appointments and reminders to take medications. The application also notifies about the supplements to prevent iron deficiency anemia. Lastly, we have started a free question-and-answer unit so that women can ask questions.

The application is connected to electronic medical record (EMR) at our team center for handling data of pregnant women, the drug monitoring or development chart, and it is

reflected directly on this application which decreases the time used by beneficiaries at the center. Pregnant women do not need to stay or wait for results. She has the results of her examinations in the application; once the data is reflected on her EMR file, it will be simultaneously seen on this application.

The challenges include that mothers don't own mobile and don't have smartphones, and the ones who have, don't have internet. Secondly, mobiles do not have a lot of storage space. There is also some difficulty in training mothers regarding how to log in and use the application.

We need to support the woman downloading the application to overcome these challenges. We also need to go to the community to promote this application to be widely used by the beneficiaries and healthcare providers.

Dr. Sawsan Abu Sharia

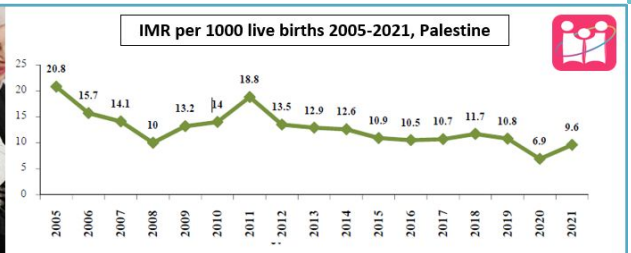
Director of Community Health Department - Ministry of Health, Palestine

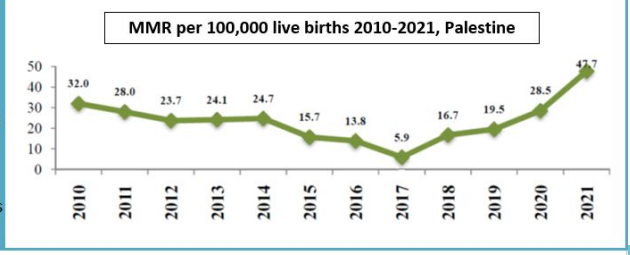
Expansion of MCH Handbook in Palestine

Country Background

Population:	(5,290,925)
WB	(3,154,418)
Gaza	(2,136,507)
TFR:	3.8 births (2017– 2019)
MMR:	47.7 per 100,000 live births
IMR:	9.6 per 1,000 live births

Source: MoH Annual Report 2021





The Palestinian population is around 5 million, with 3 million in West Bank and 2 million in Gaza. After the MCH handbook implementation, infant and maternal mortality reduced, but again both increased due to the COVID-19 pandemic.

We started using MCH Handbook in Palestine in 2005; the Palestinian Ministry of Health (MOH) developed it with JICA, UNRWA, and UNICEF, and it was the first of its kind in Arabic. In 2007, the MOH launched the national MCH Handbook, and since 2008 all public and UNRWA health facilities in Palestine have been using MCH Handbook. In 2009, the MOH decided to replace the old vaccination card with the MCH handbook as a national registration tool; since then, the MCH handbook has been utilized in all public and UNRWA clinics and private hospitals. The ministry of education linked the MCH handbook to the student's file with the vaccination card. Our target is to provide the MCH handbook for all mothers and children in Palestine.

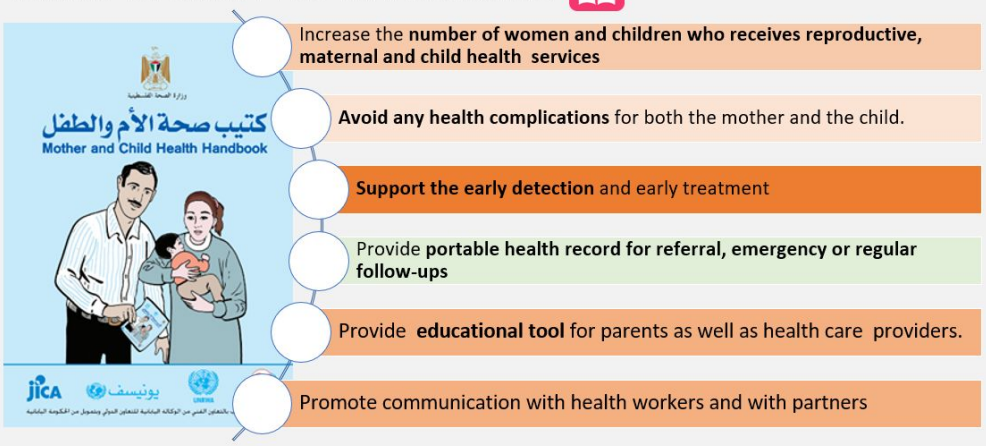
The MCH handbook is aligned with sustainable development

goals and supports governmental commitment to universal health coverage, helping share records among multiple MCH health care providers.

The MCH HB is a powerful tool that supports the sustainable development of health systems through the use of health records for referrals, emergency or regular follow-ups, and expectant mothers' education leading to improvements in birth planning, birth outcomes, and maternal mortality as well as infant mortality which are a challenge in Palestine.

Expansion of MCH Handbook in Palestine

Goals of MCH HB in Palestine



Our goals are to increase the number of women and children who receive reproductive, maternal, and child health high-quality services; avoid any health complications for both mother and child; support early detection and early treatment, and provide an educational tool for parents as well as healthcare providers.

20% of pregnant women visit private clinics and don't receive the MCH handbook during antenatal care. However, they will receive the MCH handbook in a hospital during delivery. Expanding the MCH handbook in a private clinic is a big challenge. We started in 2013 to communicate with OBGY, pediatric, and medical association societies to promote the use of the MCH handbook in private clinics. For that, we need to have an official agreement and prepare all the guidelines and orientations, short and full training for health providers at private clinics. We plan to make the MCH handbook mandatory for private clinics' licensing. The Ministry of Health will produce advertisements through different social media platforms to show and explain to the community the MCH handbook's importance and the necessity of bringing it

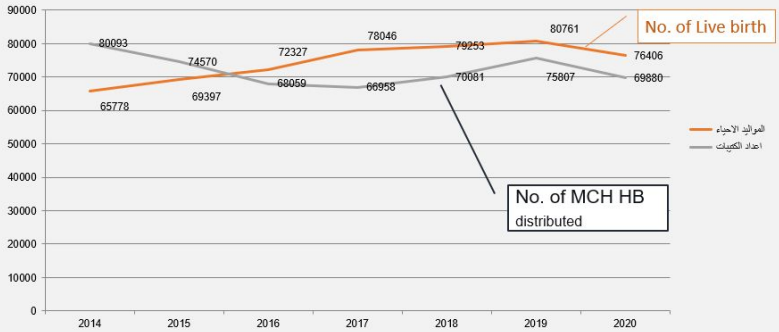
by women to each follow-up until the baby completes vaccination.

We encourage healthcare providers to comply and commit to MCH handbook record-keeping, awareness building, and promotion. It's critical to ensure better monitoring, follow-up, and proper utilization. We communicate with academic institutes, universities, and colleges to facilitate the integration of the MCH handbook into the pre-service doctor, nurses, and midwives training.

Outcome

13th International Conference on the Maternal Child Health Handbook

Maternal and Child Health Handbook, Palestine, 2007

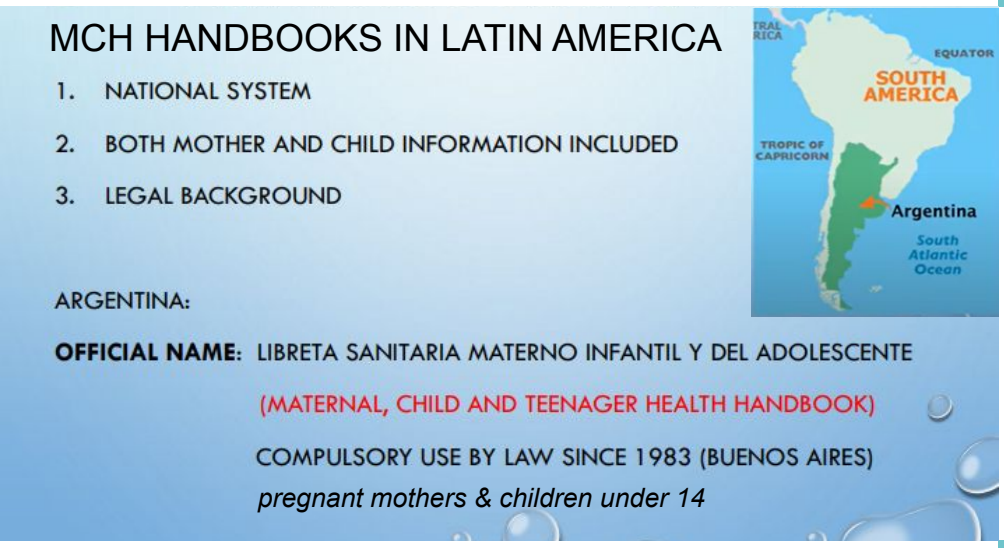


Expansion of MCH Handbook in Palestine

Next year, we plan to proceed with digitalizing the MCH handbook to be connected to digital patient record systems in primary and secondary health facilities, which will facilitate easy access and avoid data duplication. We plan to integrate digital applications and systems related to the MCH handbook with the MCH e-record registry to avoid duplication in data entry.

Dr. Lourdes Herrera Cadillo

Associate Professor, Otemae University, Faculty of Global Nursing, Japan



Expansion, evaluation, and sustainability of MCH Handbooks in Latin America

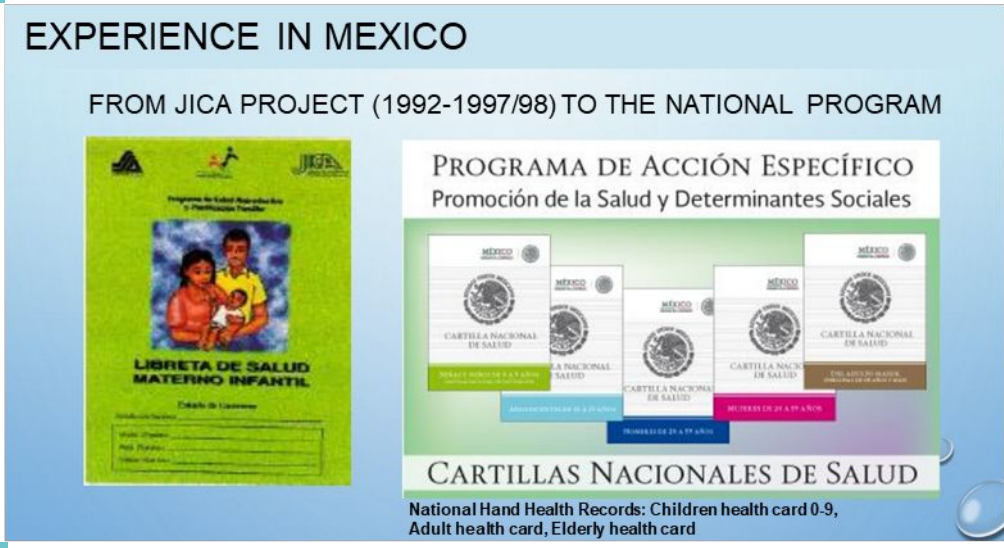
My objectives for this conference are to provide an overview of the situation of MCH handbooks in Spanish-speaking countries in Latin America and to give examples of the development of MCH handbooks and other handheld health records. In the Americas, there are 19 Spanish-speaking countries.

In Argentina, we have the only nationwide MCH handbook in the region that integrates both mother and child information and has a legal background that reminds the maternal and child health law in Japan. The official name in Spanish translates to the maternal child and teenager health handbook. It has been compulsory to use this handbook by law since 1983. At first, it targeted pregnant mothers and children under 14, but nowadays, it covers children's health until they become 19 years old.

In Mexico, most MCH handbook programs have roots in JICA and are dated between 1992 and 1997. It started in two states Guerrero and Veracruz. The program finished and unfortunately, the MCH handbook did not expand to the whole country. In 2002, the country introduced hand health

records for children, teenagers, adolescents, and older people. So, the handbook in Mexico is not integrated with the mother health handbook. The handbook contains comprehensive information regarding health and immunization records for children 0 to 9 years old. It's a national system for everybody, free of charge. There are also charts for the users to see the baby's records and compare the normal and abnormal results. It also includes some educational pages about sex education, addictions, etc.

Expansion, evaluation, and sustainability of MCH Handbooks in Latin America

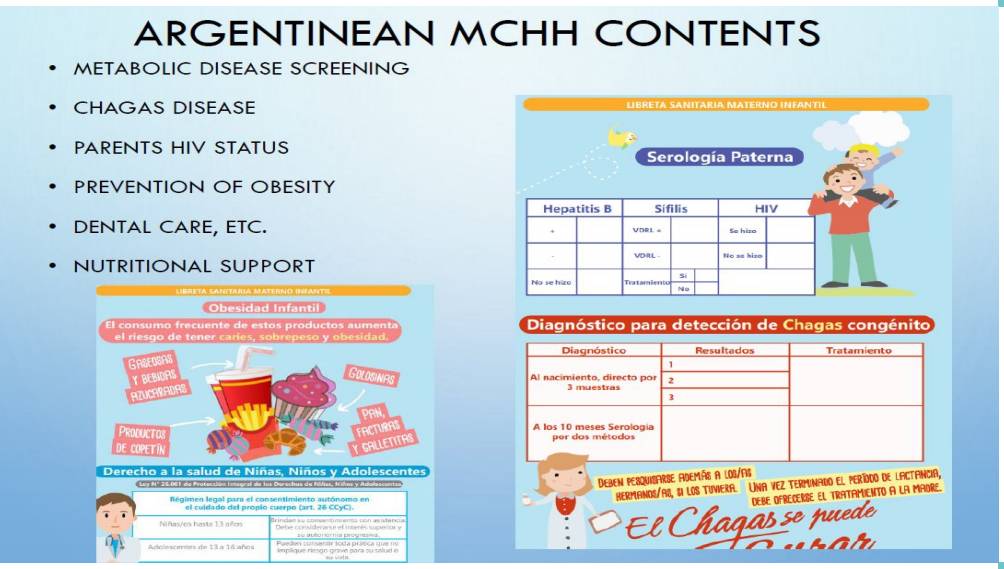


We also have the pregnant women's card, which describes the risks to the expectant mother, provides nutritional education, and so on.

In the Dominican Republic, the Inter-American Development bank had a Japan program, which introduced the MCH handbook in the Dajabon province. The pilot version was developed in 2003; by 2006, it was updated and extended to another area. Also, JICA took over the project from 2004 to 2009 in Samana province, and they continued developing the MCH handbook.

The MCH handbook was introduced in Spanish for the Dominican Republic. They immediately developed a Creole version for pregnant women from Haiti who crossed the borders to seek health care in the Dominican Republic. So, diversity and cultural sensitivity were immediately taken into consideration in this handbook. Nowadays, this project is closed, and the national health system uses two separate handbooks: a mother's handbook 2012 edition and a child health handbook for 0-5 years of age.

In Argentina, the MCH handbooks are disseminated nationwide with similar content, but the states and the provinces have the autonomy to add the information according to population needs. Mother and child health records are integrated, covering children until 19 years of age. Women are also trained to use this MCH handbook. The MCH handbook contains information about metabolic diseases, screening, immunization, dental care, parents' HIV status, addictions, accident prevention, Chagas disease, etc.



Expansion, evaluation, and sustainability of MCH Handbooks in Latin America

In Chile, there are two hand-held records: one for children and one for expectant mothers. For pregnant women in Paraguay also, we find that handheld records have roots in the JICA project. It started in 1995 to introduce the mother's handbook to support mothers who lived in rural areas and did not speak Spanish. Like many Latin American countries, Paraguay has more than one spoken language; for example, Guarani is the language used in rural areas. In Paraguay, in addition to the mother's health handbook, they now have the children's handbook.

Peru has a child health record and maternal' perinatal health records integrated into the national system, which was influenced by the perinatal clinical records from the WHO. It is in the form of a triptych folding brochure. Child health records are compulsory to present in schools since it has records for immunization. We also have a maternal health application similar to the App in Palestine. The content includes antenatal care, appointments, lab results, educational tools, and alerts to the mother who has missed any follow-up visits or clinical tests.

Unfortunately, this App is only available for Materno Perinatal Institute patients, a large hospital with around 60 deliveries per day.

In summary, MCH handbooks in Latin America have been established as national systems, with almost half of the countries having MCH handbooks or other types of hand health records. The idea of home-based records is rooted in Latin America. The presence of JICA and other agencies has been much influential and ensured handheld records quality

Expansion, evaluation, and sustainability of MCH Handbooks in Latin America

in Latin America.

However, unfortunately, we do not have any significant progress at the moment in terms of home-based health records use extension. The weak point is that we need to work on partnering more.

The preference to have separate documents, one for the mother and one for the child, is one of our biggest challenges. Argentina is the only country using the integrated MCH handbook in Latin America.

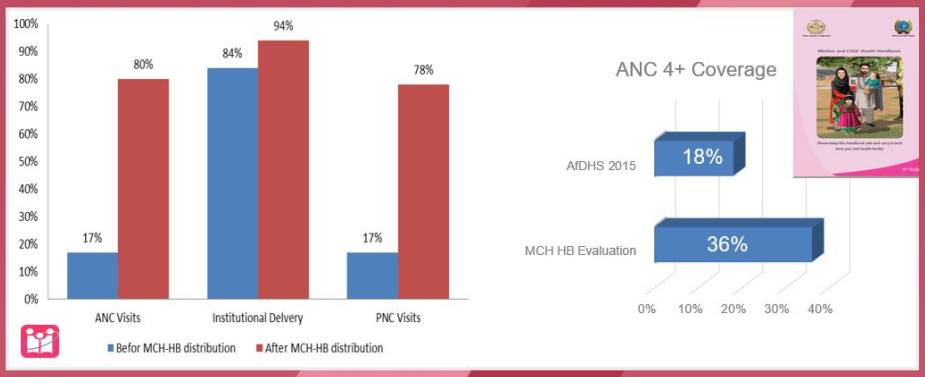
The contents of handheld records are appropriately updated. Still, we also have to consider in the future addressing the cultural issues and developing multi-lingual versions to cover all social groups in Latin America.

Dr. Salim Bahadury
MD, MPH, MCH-HB Project Manager Directorate, Kabul, Afghanistan

MCH Handbook Implementation

Project Summary in the Public Sector of Afghanistan

Key findings of the MCH HB pilot project evaluation



99,5% retention rate

The MCH concept was brought to Afghanistan by a team from Indonesia in 2015. After the technical working group was established, they adapted the MCH handbook content to the context of Afghanistan. With support from JICA, we piloted it in two districts (Kabul and Nangarhar) from August 2017 to July 2018.

The MCH handbook mothers' health information includes health records, antenatal care, delivery, and postnatal care, family planning. The child section contains health records, birth registration, vaccination card, and growth monitoring. All the health messages are comprehensive and supported by illustrations.

Evaluating the pilot project, we found that both antenatal and postnatal visits drastically increased after MCH handbook implementation by more than 60 %. At the same time, antenatal care coverage rose by half, making up 36%.

On August 28, 2018, the grant agreement was signed between the Government of Japan, UNICEF, and the Afghanistan Ministry of Public health to scale up the MCH handbook project. (Please see appendix for more details)

Good Practice Speakers

MCH HB for minorities

Akemi Bando

Secretary General of the MCH Handbook International Committee and Secretary General of the Support of Vietnam Children Association

Digital solutions for MCH services

Dr. Tomohiko Sugishita

President and Director, Yakushima Onoaida Clinic; and Visiting Professor, Tokyo Women's Medical University

MCH Handbook in COVID-19 era

Dr. Sarawut Boonsuk

the Deputy Director–General of the Thai Department of Health

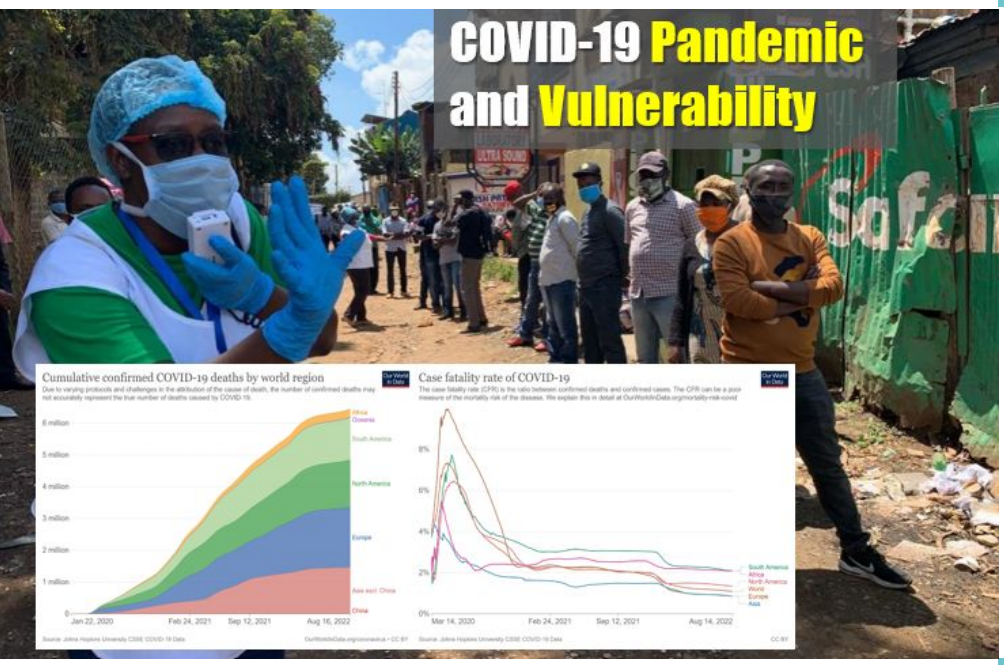
Moderator

Dr. Anneke Kesler

Medical Doctor from the University of Leiden, The Netherlands, specialized in Public Health & Society and Infant Mental Health

13th International Conference on the Maternal Child Health Handbook
Toronto, August 24-25, 2022

Dr. Tomohiko Sugishita
President and Director, Yakushima Onoaida Clinic; and Visiting Professor, Tokyo Women's Medical University



Digital solutions for MCH services

A global perspective

The COVID-19 pandemic hit the world, revealing its vulnerability. The total confirmed COVID-19 death cases by each continent showed that Africa was affected by COVID-19 just slightly more than others. It was completely different from other pandemics in the past. The case fatality rate is quite the same among six continents in the world, which means Africa's mortality rate is not drastically higher than others, even though it has limited healthcare system resources.

However, the problem is the shadow side of the pandemic, which more severely affects women and small children, aggravating gender and economic disparities. Females account for more than 70% of healthcare workers, who more often work at the frontline, and thus have greater chances of being affected by COVID-19. Women are also more susceptible to the health system's weakness. In Nairobi, there is an increased number of Cesarean sections due to antenatal care and other health services delay caused by lockdowns, etc.

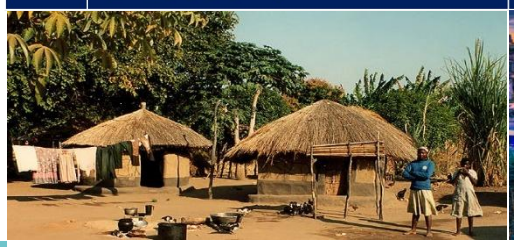
Women also hesitated to have a child and marry during the COVID-19 pandemic due to the higher stress level and financial insecurity, which happened in Africa and everywhere.

That's why we must consider mitigating those gaps, especially gender and economic disparities, to protect females more susceptible to severe adverse events. We also have to redefine the vulnerability term and what should be renewed. Previously vulnerabilities include the

Digital solutions for MCH services

A global perspective

	Old vulnerability	New vulnerability
Attribution	**Poverty** Disparity Rural area Healthcare Systems Gender Nutrition Education	**Human prosperity** Globalization Economic prosperity Urbanization Aging NCDs Science/technology



poverty, rural, gender or poor nutrition, and lower educational status. But COVID-19 revealed new dimensions of vulnerability in our society, such as globalization, urbanization, aging, and prosperity, which is part of human weakness. So, we have to reconsider our vulnerabilities due to the COVID-19 pandemic, and one of the promising solutions is the digitization of the services, mainly focusing on maternal and child health.

In Kenya, the introduction of the digitalized MCH handbook became possible due to the widespread use of mobile phones for money transfer and communication purposes. First, we developed the MCH handbook as a printed booklet in Kenya, and then it was transformed into a digital version. The EMR (electronic medical record) system introduction for the MCH handbook in Kenya is successful because of the willingness of African colleagues to learn new technologies, even at the community level. The mothers are also compliant with using the digital MCH handbook.

Real-time data tracking is available in Kenya because those electronic records are transported to the central government. So they can design and strengthen their health care system, especially maternal services, by generating predictions on which services and resources should be available and supporting dispensaries accordingly. It means real-time data tracking is very important to improve operational efficiency. The digital platform for the MCH handbook has a caution message to avoid any missing

Digital solutions for MCH services

A global perspective

field in the electronic form that has been proven to decrease the amount of missing data.

Digitization is essential for vulnerable mothers' social protection, promoting a continuum of care through community health workers, service tracking, and quality improvement.

Linda Mama is a free maternal care program that includes antenatal, delivery, and postnatal maternal services and newborn care. To receive that package, a woman should create an account using her mobile phone. The user's unique number allows tracking of all the data.

A digital insurance system has been introduced in Kenya recently. Mobile technology connects all other wearable devices and healthcare machines. So, one small smartphone enables mothers to use the healthcare systems for free. In Nairobi, those technologies spread through the innovation and incubation hubs by young entrepreneurs.

Digital solutions for MCH services

A global perspective

Globally, there is an increase in mHealth services, not only the digital MCH handbook but other services. The same trend could also be seen in Africa now. However, the changing landscape of the healthcare system is an opportunity that happened because of COVID-19. The best solution to many gigantic, unsolved challenges in Africa, especially maternal services, is the digitalization of healthcare services. We have to track the service availability and readiness. During the COVID-19 pandemic, people feared going to healthcare facilities, which

was one of the reasons for the delay in services. Digital communication has proven as one of the solutions that enabled global good practices shared by the internet. That's why even local mothers know about what's happening in the world, the MCH handbook is now transforming from a personal tool into a social one.

Therefore, many opportunities are happening to improve the healthcare system in Africa, especially for mothers and children. Digitalization has brought numerous miracle functions to the services, especially in maternal care, and the handbook is one of many.

An ultimate goal of digitizing services is open democracy, where people can share knowledge beyond countries and beyond gender. Services digitalization is one of the solutions that can lead to social transformation by enhancing women's voices.

Dr. Sarawut Boonsuk

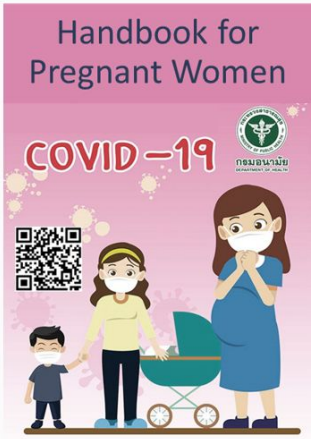
the Deputy Director–General of the Department of Health, Thailand

Role of the MCH handbook in a COVID-era

Thailand experience

Evolution of the MCH handbook in Thailand

- Thailand began using the MCH handbook in 1985.
- 20 years after the launch of the MCH handbook, the maternal mortality rate dropped from 40.7% to 11.3% per 100,000 live births.
- The Department of Health, Thailand has developed a digital version of the MCH handbook to facilitate accessibility (Download PDF from the website, mobile phone application, Website MCH handbook).



The number of weekly confirmed cases of COVID-19 began to decline in August 2022, with a total number of about 5.7 million cases worldwide, while in Thailand, this number remained stable at about 15,000. Looking at the daily COVID-19 death rate, it is noticeable that Thailand has a lower mortality rate than the global mortality rate, with 0.39/million vs. 0.4/million people, respectively. According to the data from the Bureau of Health Promotion Department of Health in Thailand, it was found that the total number of mothers infected with COVID-19 from April last year to August this year was around 15000 cases, with nearly 400 cases documented from July till August 2022.

Based on COVID-19 infection severity among mothers in Thailand, they were divided into four levels, but most of them had mild or no symptoms at all, with 0 dead cases this year.
During the early outbreak of COVID-19 in Thailand, there was a significant impact on the health services access for pregnant women for several reasons. There was a lack of a sufficient workforce because of the number of personnel infected with COVID-19.

Decreased number of medical staff led to the reduced number of services that were only provided in case of emergency in many hospitals. The appointments were postponed for the pregnant woman with no abnormal symptoms. In addition, many pregnant women were reluctant to go to the hospital due to the fear of COVID-19 infection. That reduced the number of ANC visits in the early stage of the outbreak drastically. Currently, all the hospitals are back to regular services; however, educating pregnant women using the MCH handbook cannot be used effectively.

Role of the MCH handbook in a COVID-era

Thailand experience

Chart Platform Pink Book

- **Application** — Records of maternal and child health from birth through age 6, maternal healthcare, and postpartum care are included
- **User** — People's Self-evaluation of health to have health literacy
- **User** — Service unit Department of Health, Health Promotion Center Region.
- **Operating Center** — Call center, communication to the development team, and maintenance of network-related server systems.

Therefore, there is an idea to prepare the MCH handbook in digital format to make it easy to access and modify the necessary information in accordance with the pregnant woman's situation.

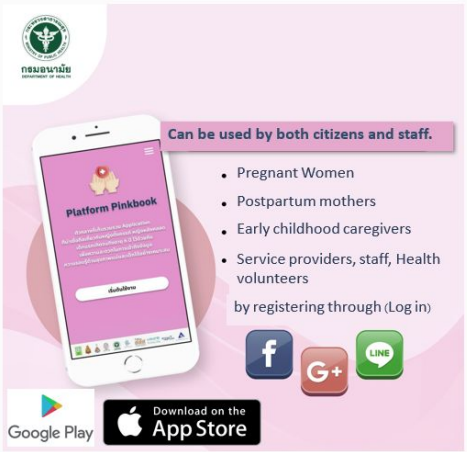
In 2019, the Pink Book evolved in Thailand. The Thailand platforms began using the MCH handbook in the year 1985. After 20 years of using the MCH handbook, Thailand has achieved success in reducing maternal mortality; the maternal mortality rate dropped from 40.7% to 11.3% per 100,000 live births.

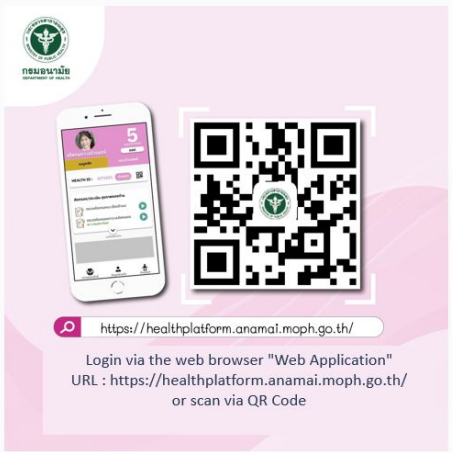
Previously pregnant mothers had to pick up the MCH handbook at the public health services unit. Thailand Department of Health has developed a digital version of the MCH handbook to facilitate accessibility. Now, it can be downloaded in a PDF format from their website, mobile phone application, or MCH handbook website. The chat of the platform of the pink book is divided into three major sections: the application, user, and operating center. The application will store information similar to the physical MCH handbook, about the health of the mothers and newborns up to six

years old. All information will be sent to the online database, reducing the loss of data that has been happening in the past.

The user section is divided into two main groups, namely the mothers and the service units. The service units will be able to see detailed information about the pregnant woman from the community to the national level. The reporting system of all the regions of the country and the department of health can directly access the information. The operating center section acts as a center to communicate with the development team

How to access the Pink Book application





Role of the MCH handbook in a COVID-era

Thailand experience

and both groups of users, and also maintain other network-related server systems.

The users can accept the Pink Book applications by downloading the app from google play and the app store. Apart from the application, there are other online services, such as chats providing information to various social media and websites.

The barriers to the platform of the pink book include the staff and the pregnant woman over the age of 35 do not have adequate technical skills, and there is no published manual for the staff or the public. The data cannot be linked to the institution's previous database. It requires considerable time to develop and improve the applications. Many people in Thailand, especially in remote areas, do not have access to the internet.

That is why we changed the digital platform to paper in remote areas, especially for the minority group. We call the project SAFE WORLD FOR ALL. The project covers Chiang Mai province, Mae Hong Son province, and Tak province, which is near Myanmar country.

Role of the MCH handbook in a COVID-era

Thailand experience

We promote the Pink Book in this area to be used as a guide for the health care workers to empower traditional birth attendance with information about the evaluation of the mother and the child's health and assessment of child development.

Most traditional birth attendants are illiterate and cannot read, write, or speak Thai or English. Consequently, throughout their training, we use pictures, demonstrations and take help from healthcare workers who can converse with traditional birth attendants. The Department of Health has issued the Pink Book in three versions: Thai, Burmese, and English.

How to drive in the area

Used the "pink book" as a guide for healthcare workers. To empower traditional birth attendants with information, evaluation of mother and child problems, and assessment of child development.

As all traditional birth attendants are illiterate, they cannot read, write, or speak Thai or English. Consequently, throughout this training, we make use of pictures, demonstrations, and healthcare workers who are able to converse with traditional birth attendants.

However, the production of those three versions is not enough for some areas, especially with many different ethnic groups speaking more than ten languages. Similarly, the people in the mountains near the border still use the local language specific to a particular group that has no written format, only spoken language. Therefore, the regular MCH handbook cannot be used in that area.

Apart from health education, we supply a health service with around 2000 delivery kits, each of which includes a scale to weigh infants, a plastic sheet, a blanket, sterile gloves, soaps, a razor blade, and an umbilical cord tie. During the COVID pandemic, the project supplied around 20,000 home-use COVID-19 rapid test kits and the self-study guidelines for pregnant women, as well as for the traditional birth attendants and the healthcare staff trained to use the kits.

We divided the project results at the individual level and the national level. The result at the individual level showed that nearly 1000 skilled birth attendants were trained in the program that updated their knowledge about how to evaluate

maternal health care and services by the MCH Board through local hospitals. During the COVID-19 pandemic, around 200 traditional birth attendants were trained to provide maternal healthcare. About 1000 traditional attendants were registered and officially recognized by the Department of Health. We also provided around 20,000 sets of the ATK to provide for pregnant women in these situations.

At the national level, it was found that the project involved and engaged policymakers at the ministerial, department, and

Challenge and next forward

- Continued development of health care workers and traditional birth attendants in the remote area.
- Increase the access of vulnerable communities to public health services.
- Provide the MCH Handbook (pink book) in the appropriate language for ethnic groups.

Role of the MCH handbook in a COVID-era

Thailand experience

MCH at the country level. We try to promote and advocate at the national level, with full support from the Minister of Public Health and the Director General of the Department of Health, for the sustainability of the project in the future.

The challenges and the next steps include the continued development of healthcare workers and traditional birth attendants in remote areas. We will increase the access of vulnerable communities to public health services. And lastly, we will provide the MCH handbook or the Pink Book in the appropriate languages for the ethnic groups.

In this project, we learned that the digital platform could not be performed in some areas, but we will try to scale up the MCH handbook dissemination to other regions of Thailand, whether paper-based or soft version.

Akemi Bando

Secretary General of the MCH Handbook International Committee and Support of Vietnam Children Association

Inclusiveness of the MCH Handbook for *"No one left behind" strategy in Japan*

Babies are born in various situations in any country. Some babies have low birth weight, have a difficult delivery, have developmental disorders, and others. To support the families in providing special care for those infants, there is a need for a specialized MCH handbook in addition to the original version.

According to 2019 statistics in Japan, 9.4% of babies had a birth weight under 2500 grams, and 0.7% of newborns were under 1500 grams. The family's circle of those children asked to make little baby handbooks for their prefectures with contents considered thoroughly and carefully to support those families.

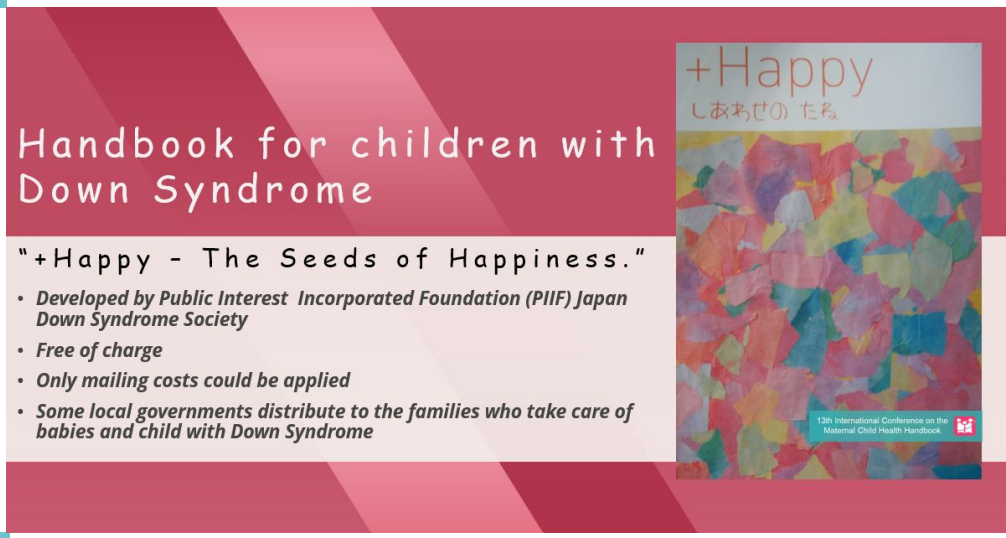
8 out of a total of 47 prefectures in Japan have issued LBH already, and now 25 more prefectures are developing LBH collaboratively with medical experts, primary health care professionals, and families. So, 34 prefectures will begin to use and distribute the little baby handbook in 2023 to families of babies under 1500 grams.

The families, especially mothers, feel remorse for delivering the little baby and are unsure of proper care.

Therefore, families receive the LBH after delivery at a neonatal intensive care unit.

The members who developed the contents of the LBH include the prefecture office, which has MCH responsibility, maternal child health representatives of NICU doctors, nurses, midwives, public health experts, and families. The prefectures made a special committee to create the low birth weight (LBW) MCH handbook content during a series of half-year discussions and build a strong network for future collaboration.

Inclusiveness of the MCH Handbook for *"No one left behind" strategy in Japan*



The important concept of the LBH is that mothers should not compare their children's development to others. So, the booklet provides knowledge about LBW babies, has progress notes to write down each small step and each developmental milestone, physical and mental, and kind inspirational messages from families who had the same experience. It contains supportive statements from doctors, nurses, midwives, and public health nurses. Protection by society is essential for families, and the LBW MCH handbook includes medical records during and after NICU and information on various social services available. We need a LBH, as only one MCH handbook cannot cover all.

The families need specialized handbooks with suitable information for each situation, and they can use them with the standard MCH handbook. Families need observing points to accept their children's conditions. At the same time, they need supporting social networks with medical teams, public health, social welfare, and the community.

There are some handbooks that specialize in certain situations. The private organization issued the MCH handbook for women with multiple pregnancies. Some local governments bought and distributed it to families free of charge. The families also have the option to buy it for themselves in other situations.

There is a lot of information and knowledge about multiple pregnancies and how to take care of twins, as well as more detailed medical records. The Public Interest Incorporated Foundation (PIIF) Japan Down Syndrome Society made the

Branch
Special handbooks for special needs children and families

Trunk
Regular general MCH Handbook

Inclusiveness of the MCH Handbook for *"No one left behind" strategy in Japan*

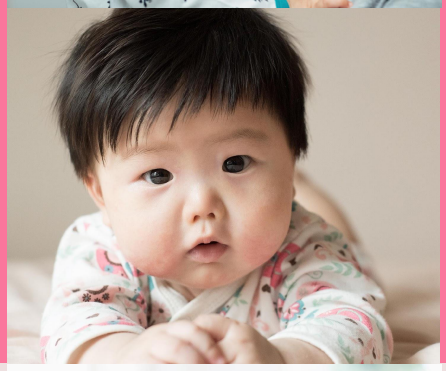
There are more Handbooks in Japan

To ensure "No one is left behind"

MCH handbook called "Plus happy-The seeds of happiness" to help take care of children with Down syndrome. Some of the local governments distribute it to families who have babies with Down Syndrome. Some Prefectures with private organizations developed a handbook for children who need medical care at home, for example, providing oxygen. These booklets share an experience from a family in the same situation.

In Japan, there is a basic MCH handbook along with a specialized handbook for each situation. So, families receive a basic and specialized handbook with social and community support from the books, workers, and system. This is one of the methods to ensure the strategy that no one is left behind and families are provided immense support during their journey to nourish their special child.

13th International Conference
On MCH Handbook , Toronto
August 24-25, 2022,



Part III

MAKING ME VISIBLE

Toronto Declaration

"Making Me Visible"

The 13th International Conference on the Maternal and Child Health (MCH) Handbook conference has brought together more than 700 global health leaders, policymakers, healthcare professionals, academics, and other stakeholders from 61 countries and territories, along with global organization representatives from the World Health Organization (WHO), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), and Japan International Cooperation Agency (JICA), to embrace the MCH Handbook as a global standard self-care tool to provide holistic maternal and child healthcare based on Equity, Diversity, and Inclusion (EDI) principles to assure the quality of services and life.

The MCH Handbook is a home-based health record and a comprehensive information tool that supports women and their families throughout the pregnancy, delivery, and postnatal period, along with the first few years of their children's lives. It was developed in Japan in 1948, and currently, the MCH handbook community accounts for more than 50 countries and areas around the globe. Some countries, such as The Netherlands, Bangladesh, and Thailand, introduced the digital MCH handbook to improve compliance and accessibility of healthcare as a pilot project. Special editions of the MCH handbook were developed tailored to specific needs and conditions (e.g., low birth weight, children with developmental disorders, etc.) to assure that the main agenda of Sustainable Development Goals (SDGs) "Leave No One Behind (LNOB)" is well-addressed and that everyone is "visible," and their voices are heard.

The 13th International Conference participants of the MCH Handbook hereby conclude and recommend that:

1. **The MCH handbook integrates EDI principles into healthcare:**
   - *a)* *Equity*- improved access to quality care for underserved populations
   - *b)* *Diversity*- culturally sensitive services tailored to the needs of the population and its subgroups by embracing a bottom-up approach
   - *c)* *Inclusion*- special editions for specific needs and conditions (low birth weight newborns, children with developmental disorders)

2. **The MCH Handbook assures a holistic approach to healthcare services:**
   - *a)* *Physical*- health promotion and disease prevention, screening, and early diagnosis
   - *b)* *Mental*- increasing awareness about mental health and ending discrimination and stigma
   - *c)* *Social well-being* – advocacy, support, and inclusion

3. **The digitalization of the MCH Handbook supports:**
   a) *Establishing a population database* to enhance social accountability towards healthcare education, research, and service activities and facilitate knowledge translation
   b) *Tackling health myths and misinformation*
   c) *Improving adherence to health management and prevention measures* (e.g., screening reminders)
   d) *Preparedness for public health emergencies and disasters*
4. **The sustainability of the MCH Handbook program** demands multisectoral, multilevel, and diversified approaches as well as social mobilization and empowerment with country ownership and political commitment along with global partners' involvement (WHO, UNICEF, UNFPA, JICA, etc.)
5. **The MCH Handbook is a global standard self-care tool** that is aligned with the five core goals to achieve Universal Health Coverage (UHC), i.e., quality care, end stigma and discrimination, affordability of health services and products, access to a holistic range of health and related services, and lastly, sustainable investment in health:
   a) *People-centered approach*- the decision-making autonomy by empowering women and their families
   b) *Quality care* – assure that every woman and child gets standardized healthcare services with a continuum of care to achieve the best possible outcome and enhance the quality of life

The Toronto Declaration emphasizes the innovative, equitable, and sustainable development of reproductive, maternal, neonatal, child, and adolescent health (RMNCAH) by integrating the MCH handbook as a standard self-care tool.

We are committed to the MCH Handbook concept to ensure that in the future, "Every woman and child is visible."

On behalf of the MCH Handbook International Committee and the 13th International Conference team, in consultation with stakeholders, experts, and participants, we adopt the above-mentioned declaration as our guiding principle to move forward.

Best regards,

Professor Dr. Yasuhihe Nakamura MD, PhD
Chair, International Committee on the MCH Handbook
&
Professor Dr. Shafi Bhuiyan, PhD, MBBS, MPH, MBA
Chair, International Conference on the MCH Handbook

25th August, Toronto, Canada

Our Contact:
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Secretary, MCH Handbook Conference 2022
E-mail: mch.toronto22@gmail.com

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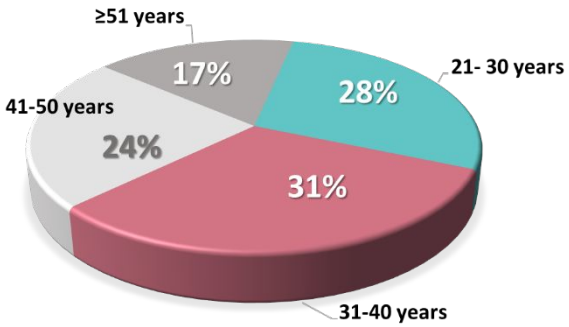
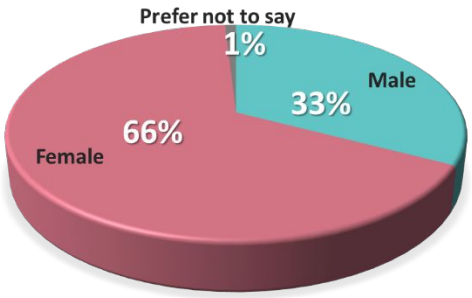
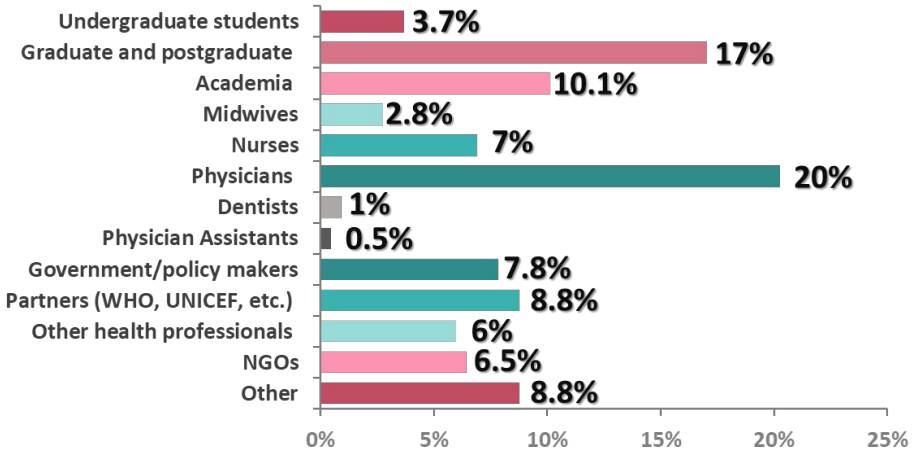
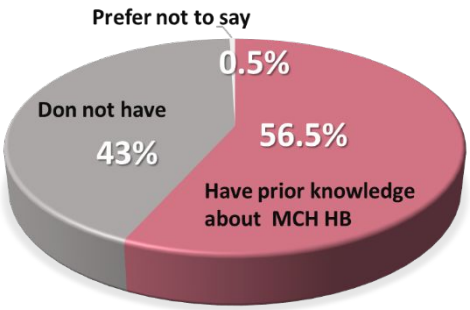
Pre-Conference Survey Results

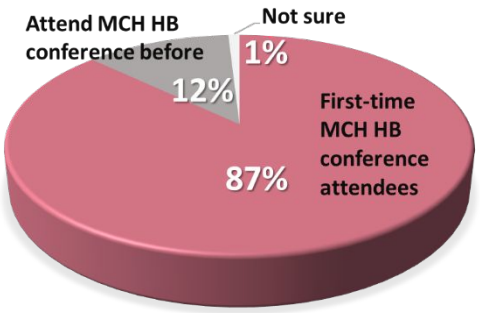




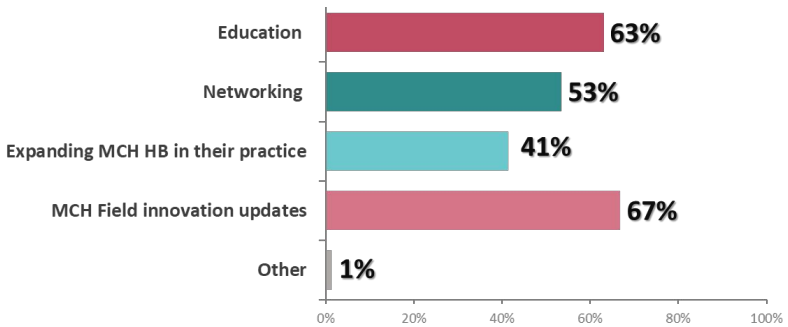
Participants' professional profiles







Participants' main conference expectations



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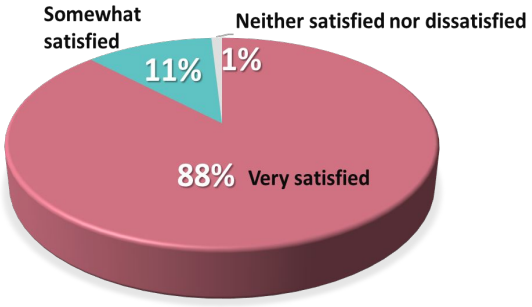
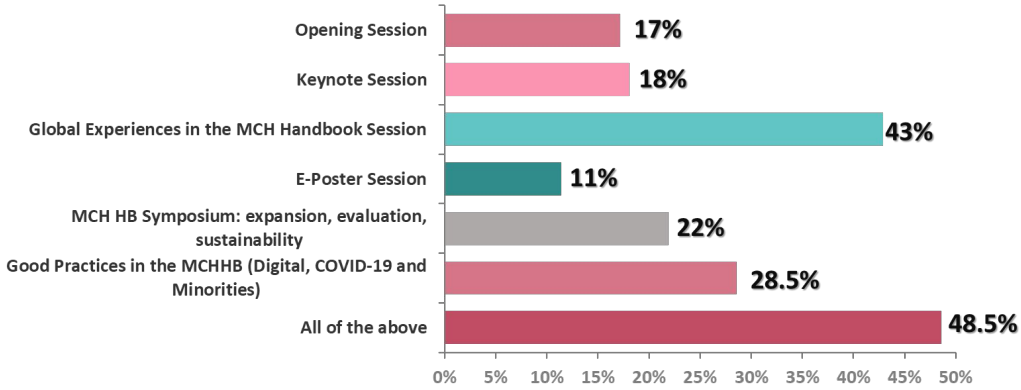
Post-Conference Survey Results

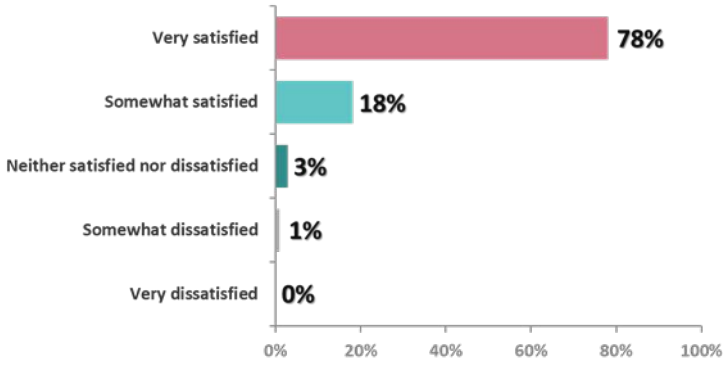


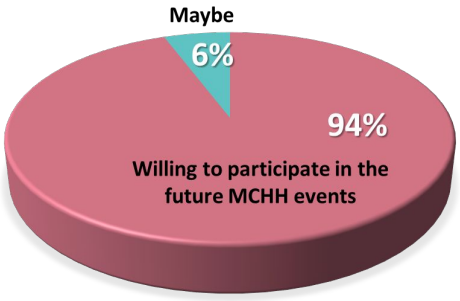
Satisfaction with the presented topics

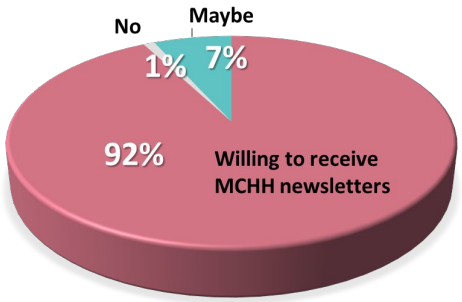
The most informative session

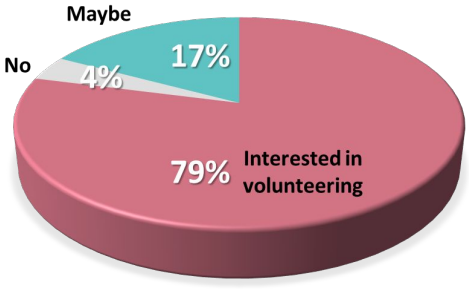


Virtual experience satisfaction









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705 participants from > 61 countries and territories

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