Strengthening Health Systems & Improving Nutrition in Nepal and Vietnam

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Acronyms

ANC…Antenatal Care
ARH…Adolescent Reproductive Health
CCGH…Canadian Conference on Global Health
CCIHP…Center for Creative Initiatives in Health and Population
CDC…Center for Disease Control
CHS…Commune Health Station
CSE…Comprehensive Sexuality Education
EBF…Exclusive Breastfeeding
EMM…Ethnic Minority Midwives
EONC Fund…Emergency Obstetric Neonatal Care Fund
FCHV…Female Community Health Volunteers
HRDF…Health Research Development Forum
HBV…HealthBridge Vietnam
HP…Health Post
HFOMC…Health Facility Management Operations Committees
IEC…Information, Communication, Education
IMR…Infant Mortality Rate
INF…International Nepal Fellowship
IYCF…Infant Young Child Feeding
MMR…Maternal Mortality Ratio
MNCH…Maternal, Newborn and Child Health
MNP…Micronutrient Powders
MOE…Ministry of Education
MOH…Ministry of Health
NMR…Neonatal Mortality Rate
PMF…Performance Measurement Framework
PHCC…Primary Healthcare Center
PNC…Postnatal Care
RHC…Reproductive Health Center
SBA…Skilled Birth Attendant
TOT…Train the Trainer

Executive Summary

The project 'Strengthening Health Systems and Improving Nutrition in Nepal and Vietnam' was implemented in two districts, Thuan Chau and Yan Chau, of Son La province, Vietnam and two Rural Municipalities, Raptisonari and Narainapur, of Banke District, Nepal. Many positive outcomes were reported at endline, and many important lessons were learned that can be applied in future projects in similar contexts.

The expected intermediate outcomes of this project were:
- Improved utilization of essential health services by mothers, pregnant women, newborns, and children under two.
- Increased consumption of nutritious foods and supplements by mothers, pregnant women, and children under two.
- Increased active involvement of the Canadian public, researchers, and practitioners in maternal, newborn and child health (MNCH) initiatives.

The projects key achievements include:

Vietnam:
- Husbands regularly accompanying their wives to antenatal care visits improved by 16%
- The proportion of births at a health facility increased by 25%
- The percentage of pregnant women who attended four antenatal care visits almost doubled
- The percentage of women able to list at least three danger signs during pregnancy increased by 59%
- Joint decision-making between partners about where to give birth increased by 18%
- The percentage of women who gave birth at home assisted by a trained birth attendant, including Ethnic Minority Midwives, improved 7-fold
- The percentage of newborns who received health checks within 24 hours of birth nearly tripled
- The proportion of mothers who reported exclusively breastfeeding their baby for six months nearly doubled
- The proportion of men who attended counselling during an antenatal care visit improved by 7%
- The proportion of adolescent participants who could identify at least four negative consequences of early pregnancy improved by 12%
- The proportion of households consuming beans and legumes, dark leafy vegetables, and yellow/orange fruits and vegetables increased by 19%, 10%, and 12% respectively
- Percentage of children aged 6 to 24 months who received a minimum acceptable diet increased by 16%
- Percentage of children aged 6 to 24 months receiving vitamin A supplements improved by 12%
- Percentage of newborns being breastfed within the first hour after birth improved by 25%

Nepal:
- The proportion of women who knew at least three danger signs during pregnancy increased by 14%
- Percentage of deliveries in a health facility with a skilled attendant improved by 8%
- The proportion of women and newborns who received postnatal care improved by 7%
- The percentage of women who prepared a birth kit during their last pregnancy improved by 16%
- Significant improvements in health facilities in terms of infrastructure, infection control, and equipment
- All health facilities in the project area now have 24/7 delivery care available
- The proportion of men and family members who knew three danger signs during pregnancy, the postpartum period and of childhood illness all nearly doubled

- Women reported that after attending the male engagement sessions, their husbands provided increased support during pregnancy and child birth
- The proportion of women who consumed iron supplements during pregnancy increased by 17%
- The proportion of mothers who knew about preparing super-flour nearly doubled
- 6,000+ households provided with vegetable seeds for kitchen gardens; 2,500 caregivers trained on kitchen gardening
- Super-flour was provided to the parents of nearly 3,000 acutely malnourished children

General conclusions and recommendations:

Vietnam: The project in Vietnam was very successful and met all of its targets. The team made a number of important recommendations that are valuable for future projects. For example, they recommend that the adolescent reproductive health intervention be expanded to a comprehensive sexuality education model. They made a few recommendations related to sustainability of results, including advocating for the continuation and formalization of the role of ethnic minority midwives in the health system. The Vietnam team has worked closely with local stakeholders to advocate for inclusion of adolescent reproductive health in schools and as a result the model is being scaled in other communes and villages. In future projects, the home gardening intervention should be scaled as it was highly successful and popular among community people. The participatory needs assessment approach used for the adolescent reproductive health component was highly effective and resulted in a community-derived program that met the local needs and was supported by adolescents and stakeholders alike.

Nepal: The endline study demonstrates a general trend of improvement in knowledge among community members, improvements in health facilities and service provision, and a positive perception of the project. Overall, there were improvements in all health facilities; however, there is variation and inequity between facilities on numerous indicators. The Health Posts improved in some areas and saw deterioration in others. This result underscores the need for targeted intervention in each working area, as the needs are divergent in the various communities. Women's empowerment and gender equality are persistent issues in the community and future interventions should again take a targeted approach to tackling these inequities. The Husband Groups were effective at reaching local men and this model should be considered in future projects. Additionally, the comprehensive approach to male engagement operated across multiple levels of the socioecological model including engaging with community and religious leaders – this approach should be considered in future projects. Through the qualitative assessment, we can see that community confidence in the local health systems is slowly being restored as health facilities, quality and availability of services improve. Future projects should continue to work closely with Health Facility Operations Management Committees (HFOMCs) to build local capacity for delivering quality health services, as well as advocating for improved supply of essential medications and equipment.

Project Context

The project 'Strengthening Health Systems and Improving Nutrition in Nepal and Vietnam' was implemented in two districts, Thuan Chau and Yan Chau, of Son La province, Vietnam and two Rural Municipalities, Raptisonari and Narainapur, of Banke District, Nepal. It was implemented from April 1, 2016 to November 30, 2020. In both countries, the project team worked in remote and hard-to-reach areas where there is a severe lack of quality health services and infrastructure, and utilization of health services by community people is poor. The local partners were HealthBridge Vietnam (HBV) and Centre for Creative Initiatives in Health and Population (CCIHP) in Vietnam, and International Nepal Fellowship (INF) in Nepal. The mid- and far-western regions of Nepal fall behind on most indicators of mortality and access to health care services. The project targeted marginalized groups, including religious minorities, in Banke District. In Vietnam, the highest rates of maternal mortality are in the northern mountainous areas, where Ethnic Minority groups generally live. Ethnic minority tend to experience poorer health outcomes, few opportunities for education and are more likely to experience poverty than their Kinh majority counterparts. The Ethnic Minority groups most reached by the project are Thai and H'Mong.

The project aimed to contribute to reducing maternal and child mortality in the targeted regions of Nepal and Vietnam. Research has identified that the first thousand days of a child's life are critical for intellectual and physical development and lifelong learning. For this reason, the project team worked in collaboration with local governments to make essential health services and interventions accessible to pregnant and post-partum women and children under-two years of age. The project aimed to strengthen the local health systems in both countries, contributing to sustainable improvements in health service delivery beyond the lifetime of the project. We worked with partners to improve health management capacity, improve delivery and access to quality health care and nutrition services, promote care-seeking and improve nutrition behaviours, and engaged with men and family members to reduce gender-related barriers to health for women and children. A complementary goal of the project was to increase awareness and engagement of the Canadian public, researchers, and practitioners in MNCH.

The Intermediate Outcomes were defined as:

- Improved utilization of essential health services by mothers, pregnant women, newborns and children under two.
- Increased consumption of nutritious foods and supplements by mothers, pregnant women, and children under two.
- Increased active involvement of the Canadian public, researchers, and practitioners in MNCH initiatives.

The most significant change to the context came in year four – the Covid-19 pandemic. As a direct result of the pandemic, many activities were immediately delayed or cancelled due to restrictions on travel in both Nepal and Vietnam. The project was in its final months at the time when the pandemic was declared so although it did not have significant impacts on the project as many activities were completed by this point, including the endline. Dissemination activities were interrupted by the pandemic and were delayed to the fall of 2020. The final joint meeting of the partners was held virtually over a three-week period. Dissemination workshops were held in both Vietnam and Nepal with local stakeholders. A rapid assessment of the impacts of Covid-19 was conducted in Vietnam, the results of which can be found here. Vietnam was able to control the spread of the virus, and the lockdown in Son La province lasted for only three weeks, and there were never any cases of Covid-19 during this time; therefore, the health system did not become overwhelmed and regular services were not interrupted. A longer lockdown and/or a significant number of Covid-19 infections could greatly impact essential health service provision as resources are diverted to deal with the pandemic. In Nepal, the situation is quite dire and travel is still severely restricted, even in late 2020. The impacts of the pandemic on maternal and child health cannot be overstated. As essential services and life-saving interventions are disrupted, mothers, newborns, and children are at risk of suffering or dying of treatable and preventable causes, as is already being witnessed around the world.

Other changes to the context include restructuring of the geopolitical and health systems in Nepal and Vietnam, respectively. These changes are described below. These changes didn't have a significant impact on the project but they are worth noting.

Outcomes Achieved

Immediate Outcome: 1110	**Increased capacity of government and local civil society partners to plan and monitor gender-sensitive health services.**
	Vietnam: Numerous trainings, meetings, and supportive supervision visits were undertaken to increase the capacity of government and local civil society partners to plan and monitor gender sensitive health services. 100% of trainees showed improved scores on post-testing of knowledge related to supportive supervision and gender training. Gender trainings covered topics such as factors influencing gender norms, including culture, difference between gender equity and equality, gender integration continuum, and how to avoid approaches that are gender-exploitive. Part of the strategy for improving local health system capacity involved the use of check-lists and supervision guides. The percentage of health centres effectively using the tools improved throughout the project, and was 100% of Commune Health Stations and 100% of Newborn Care Units at endline. These tools help to monitor quality of health services and provide information on when intervention is needed. Lastly, the project tracked the proportion of health workers who were applying their gender trainings during service delivery – this step is important as it makes the connection from knowledge to practice. The criteria include: health workers disaggregating data on forms, promotion of couples counselling for antenatal care (ANC), and encouraging men to attend deliveries. This indicator improved throughout the project and at endline, 100% of commune and district health workers were applying three elements of gender trainings in their service delivery.
	Nepal: Numerous trainings, capacity building activities, and supportive supervision visits were conducted across Banke District to help build the capacity within the local health system. Health system staff from the Rural Municipality level and Health Post level were trained on gender issues and how they impact MNCH in Banke. Refresher training was provided throughout the project to reinforce learnings and application of techniques. The project worked closely with Health Facility Operations Management Committees (HFOMCs) to build their capacity to operate Health Posts and delivery quality, consistent care. In consultation with local stakeholders, the project developed a tool to monitor birthing centres. Throughout the project, the team supported Health Post staff to monitor services using the tool and respond accordingly. Data collected was used to make adjustments and improvements to service provision. 100% of HFOMCs were consistently using the tools to monitor birthing centres at endline, compared to baseline where no practice was in place. The project also supported Health Posts to use a gender checklist to monitor the situation of gender issues at the local level. Gender inequality is a huge issue in Banke and much work is still required. Starting in 2018, Team Leaders and Health Posts were consistently using the gender checklists to monitor the local situation; however, we can see from looking at the data that many attitudes and practices require further work to change. Awareness of the issues is a first step, and project staff used the checklist as a tool for assessing the situation, identifying issues, and making recommendations to Health Post leadership. By endline, 100% of Health Posts were using the gender checklist. In Nepal, the team worked diligently to regularize the HFOMC meetings, to facilitate prioritization of issues, identify solutions, and support the planning of services. It is clear that capacity has been increased over the past four years.
Immediate Outcome 1120	**Increased access to quality health services along the continuum of care.**
	Vietnam: We will describe two different types of outcomes here – both those related to readiness of the health facilities and health service providers and the awareness and knowledge of local women. At baseline, 0/6 Commune Health Stations and ½ District Hospital newborn care units were 'properly' equipped to

	provide care in terms of essential medicines and equipment. By endline, all six Commune Health Stations (CHS) and both District Hospital Newborn Care Units were properly equipped to provide care according to the assessment tool used by project staff. Next, the project trained local women as Ethnic Minority Midwives (EMM) who can provide lifesaving pre-, peri-, and post-natal care to women in remote villages. At baseline, no villages had an EMM and at endline 100% or 102 villages had access to a trained EMM. EMM were trained to meet Ministry of Health standards as part of the project. The importance of EMM in remote villages cannot be overstated – without them; women may have little or no access to quality, culturally appropriate care during pregnancy, delivery and post-partum. Lastly, at baseline only 4/6 Commune Health Stations had a staff member trained in Active Management of the third stage of labour. The target was set at 5/6 and this target was achieved. One CHS is very close to the district hospital, and therefore is rarely used as a birthing centre because people go to the hospital instead. These data illustrate the immense improvements in access to quality health services at the Commune and Village level over the course of the project. Women's knowledge of important pregnancy-related topics increased significantly between baseline and endline. The percentage of women who knew three danger signs during pregnancy and the post-partum period increased from 11.9% to 71% and 11.5% to 65%, respectively. The percentage of women who prepared a birth plan increased from 93.3% to 98.5% at endline. Many other indicators of women's knowledge improved significantly throughout the project. The proportion of women who knew about the importance of at least four antenatal care visits spaced out throughout pregnancy increased from 11.9% at baseline to 43% at endline. All of these indicators demonstrate improvements in both the quality and availability of health services, as well as improved knowledge of the importance of care-seeking among local women.
	Nepal: We will describe two different types of outcomes here – both those related to readiness of the health facilities and health service providers to deliver quality, inclusive care and the awareness and knowledge of local women. In Nepal, the team engaged in significant construction and infrastructure projects to improve the local health facilities, called Health Posts (HP). Examples of this support include adding waiting rooms, bathrooms, solar-energy systems, as well as equipment and supplies. The dramatic improvements in the Health Posts is thoroughly documented in the Health Facility/Provider Assessment, and we encourage referencing the report for details. The Health Facility Provider Assessment results can be summarized by the following summary metrics which assessed the extent to which each Health post, the Primary Healthcare Centre (PHCC), and the Bheri Hospital were 'properly equipped' within the following categories: at baseline, Infrastructure (3/8 HP, 0/1 PHCC, 1/1 Hospital); Equipment (3/8 HP, 0/1 PHCC, 0/1 Hospital); Medicines (0/8 HP, 0/1 PHCC, 1/1 Hospital); Infection Control (3/8 HP, 1/1 PHCC, 1/1 Hospital). Vast improvements were seen between baseline and endline. At endline: Infrastructure (4/8 HP, 1/1 PHCC, 1/1 Hospital); Equipment (8/8 HP, 1/1 PHCC, 1/1 Hospital); Medicines (1/8 HP, 0/1 PHCC, 1/1 Hospital); and Infection Control (7/8 HP, 1/1 PHCC, 1/1 Hospital). The project contributed to significant improvements in health facilities. The project provided numerous equipment items to various health facilities and contributed to infrastructure improvements as well. The project did not provide medicines, hence the minimal improvement in this category. INF monitored equipment using a checklist on a regular basis. The project conducted training on infection prevention to select people from health facilities. Significant improvements are evident across health facilities, including in infrastructure, equipment and infection control.

	At baseline, only 5/8 Health Posts had a skilled birth attendant who had received training in the last twelve months. Availability of service was unreliable, and local people had lost confidence that a skilled-birth attendant (SBA) would be available 24 hours a day. At endline, 8/8 Health Posts, the Primary Healthcare Centre, and the Bheri Hospital had a skilled-birth attendant trained in the last twelve months. At endline, every health facility had 24/7 delivery care available and there were marked improvements in health facilities, especially in terms of equipment and infection control. The qualitative assessment revealed that trust in local services is slowly improving, and that community members are more comfortable accessing these health services. The indicators included for this outcome related to knowledge and practice of women include knowledge of danger signs during pregnancy, the postpartum period and of childhood illness, and the percentage who identified/prepared various elements of a birth plan. All but one of these indicators show improvements since baseline. The targets were set very high, and project staff are confident in the changes that are occurring in their communities, although the targets were not met. As an example, we know that for the indicator about preparing finances - the emergency obstetric neonatal care (EONC) fund has been invaluable to community women and families in supporting them getting to health facilities without a financial barrier. This finding was mentioned by many respondents during interviews. Additionally, it is clear that knowledge is improving, in part due to intensive awareness-raising activities conducted by the project.
Immediate Outcome 1130	**Increased engagement of men and family members in supporting the health of women and children along the continuum of care from pregnancy to age two.**
	Vietnam: The indicators for this outcome track the engagement of men and family members and their support for the health of their wives and children. These results were very positive in Vietnam. At baseline, 89.4% of women reported that their husband shared household work with them during pregnancy and by endline, this figure was 94.5%. Joint decision-making between partners about where to give birth improved from 75.9% to 93.5% at endline. The proportion of husbands attending antenatal care visits with their wives improved from 62.9% at baseline to 79.3% at endline. The percentage of men attending couples' counselling during antenatal care visits increased from 50% to 57%. Male engagement was an important strategy employed by the project, and there were improvements in male involvement in maternal and child health, including improved support for pregnant women accessing services by their husbands. The adolescent reproductive health (ARH) education program consisted of 35 awareness-raising events at schools and 68 events in the villages of the six project communes. Participation totaled 10,199 students in schools and 4,602 adolescents in the community (counted at the end of December 2019). Pre- and post-assessments on adolescents' reproductive health knowledge showed improvements in students' understanding of contraceptive methods with PIs ranging from 20% to 30%: (i) The percentage of students able to name at least three appropriate contraceptive methods for adolescents increased significantly from 44.1% as shown in the pre-test to 56.1% in the post-test (p-value=0.024, PI=21%); (ii) The percentage of students being able to state at least four negative impacts of early pregnancy (for example: negative impact on female adolescents' health, high probability of premature birth/underweight, baby born weak, loss of opportunities to pursue studying, financial burden on the family) increased considerably from 59.1% in the pre-test to 71.2% in the post-test (p-value= 0.015, PI=30%) (Table 14)

	Impact Story: https://healthbridge.ca/news/entry/an-enlightened-father-results-from-the-arh-events
	Nepal: The proportion of men (or other family members in the household) with knowledge of danger signs during pregnancy, the postpartum period, and childhood illness was quite low at baseline and during the course of the project approximately doubled, perhaps due to community education efforts targeted specifically at husbands and community men to encourage male engagement in women and children's health. Despite doubling, the awareness levels among men are still low and continued efforts in this area are needed. The changes between baseline and endline for indicators of knowledge (pregnancy, the postpartum period, and childhood illness) were statistically significant. Engaging men in MNCH and nutrition is essential because men, either husbands or fathers-in-law, are often the decision-makers within the household and may encourage or deny a woman seeking care for herself or her child. At endline, many respondents in the focus group discussions and interviews confirmed that these norms persist; however, there is evidence that men are more engaged and interested in MNCH than before the intervention. Most male respondents indicated that prior to this project; they had never had a chance to learn about maternal or child health. They reported that the Husbands Group meetings enabled them to learn about the services that are available at the local health facilities and the benefits of accessing care. This finding is substantiated by a near doubling of the proportion of men who knew three danger signs during pregnancy, the postpartum period, and childhood. Some of the women respondents added that after involving men in meetings, their behaviour with their wives changed. They became more conscious about the health of their wives and women were given permission to seek health services during the perinatal period, more than they had been previously. *"I participated in community men's group meeting organized by INF. The discussions were about improving the health of pregnant and lactating mothers. There were also discussions about infant and young child feeding practices which I found very useful."* - Muslim Man, Kalaphanta These results are encouraging and underscore the importance of continued efforts to engage men and sustain the improvements made during this project. Although there is strong evidence of improvements in male engagement in MNCH, it is clear that gender and social norms have only begun to change very slightly. Men are still the primary decision makers for their wives in most cases, although a few respondents commented on the changing context in relation to gender dynamics in the community. *"Many organizations came here and provided training to women. Lots of other things such as violence against women used to happen but due to the presence of different organizations such events are decreasing."* – HFOMC Member The indicators related to the behaviours of men supporting their wives did not change in a significantly positive direction (% of women getting money from her husband/family member during pregnancy; % of women who received help with housework; and % of men/family members involved in birth planning during the last pregnancy). The findings of the qualitative study indicated that gender norms are slowly beginning to change, as some women noted changes in their husbands

	support for their health and their children's health. We can see (above) that knowledge has improved and perhaps this change is only beginning to translate into behaviour changes. We must remember that ingrained norms take time to change; we are encouraged by the improvement in knowledge shown in the above indicators. The project experienced diverse challenges in the various working areas of the project. For example, it was noted by Team Leaders and other project staff that certain areas are home to people with varying religious beliefs that sometimes impede access to health services for women and children. Muslim and Hindu communities were noted as having unique challenges. Muslim communities at first were opposed to dissemination of family planning information and resources but leaders slowly became more amenable to the project's goals and messages. Family planning is still, however, a taboo topic in many communities. In Nepal, the project engaged religious leaders about MNCH but the process was challenging and required time to build relationships. The engagement was conducted via the local health facilities and transportation support was provided to reduce barriers to participation. Project staff reported that they slowly gained the support of religious leaders for most of the project's objectives; however, some religious groups did not approve of family planning activities and would not openly support them to the community. This is a key barrier that will need to be addressed in future projects. **Impact Story:** https://healthbridge.ca/news/entry/gaddu-a-community-health-champion
Immediate Outcome 1210	**Increased knowledge amongst women and men of good nutrition and feeding practices along the continuum of care from pregnancy to age two.**
	Vietnam: The percentage of mothers with an accurate understanding of breastfeeding increased dramatically from 11.7% at baseline to 53.1% at endline. The proportion of mothers with knowledge of proper handwashing increased from 27.2% at baseline to 36.5% at endline. Still, most mothers forget to wash their hands before feeding their children – this requires attention in future projects. According to monitoring data from 2019, the percentage of people consuming, sharing and/or selling their home-garden produce, as well as sharing seeds with other households all increased in comparison with those figures from 2018. The consumption rates of recommended food groups, including beans and legumes, dark leafy greens, and yellow/orange/red vegetables all improved significantly, from 63% to 82%, 81% to 91% and 77% to 89% respectively. More than 80% of households participating in the survey (in 2019) had increased their intake of vegetables and legumes in all seasons. Many households said that they were applying the knowledge that they learned from the communication sessions on preparing nutritious meals, as well as from the home gardening training sessions. Some households had actively distributed seeds and shared knowledge on gardening to other families in the village, with the proportions of seed varieties being distributed ranging from 21.5% to 37.5%. These results demonstrate the potential of sustaining this effective practice within the community after the project ends, which reflects the approach of the project "give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime."
	Nepal: The two indicators under this outcome for Nepal are: % of mothers who know how to prepare super-flour, and % of mothers with children under-2 with knowledge of proper hand hygiene. At endline, it is clear that nutrition is still an important health issue for mothers and children in Banke District. It is clear that knowledge levels are improving. For example, the proportion of women who knew how to make super-flour (all eight steps) doubled from 8% to 19% and the

	proportion who knew one step increased from 27% at baseline to 64% at endline. The proportion of mothers with knowledge of proper hand hygiene increased from 59% to 64% at endline. We came very close to reaching this target (67%). More and more women are engaged in Mothers' Groups meetings, where skills such as handwashing are reviewed. These groups are integrated into the local health system and will continue beyond the timeframe of the project. We expect this indicator will continue to improve over time as more women are exposed to the information. Despite these apparent improvements, awareness levels are still very low and have not translated into changes in behaviour yet. The health facilities have been improved for provision of nutrition services and supplements and community awareness is slowly improving; changes that we expect will lead to changes in behaviour and health outcomes.
Immediate Outcome 1220	**Increased access to micronutrient-rich foods and/or supplements for pregnant women and children under two.**
	Vietnam: At baseline, 50% of Commune Health Stations had availability of vitamin A supplements and at endline 100% had the supplement available. At baseline, only 33% of Commune Health Stations had iron folic acid and by endline it had increased to 100%. These improvements are encouraging and demonstrate a strengthening of the local system, as the project did not provide these supplements, rather worked with the system to strengthen availability for local people. The project monitors this annually and by the end of the project, all commune health stations had availability of iron folic acid and vitamin A. Accessibility and availability of supplements are prerequisites for mothers and children taking them. **Video Impact Story:** https://www.youtube.com/watch?v=mV3BeMH_zo8&t=19s
	Nepal: In Nepal, at baseline, 8/8 Health Posts, 1/1 PHCC, and 1/1 Bheri Hospital had both iron folic acid and vitamin A. These indicators were monitored throughout the project and by endline, the same results were found at the Health Posts. There was no deterioration in availability of these supplements at the local level, except at the PHCC and Bheri hospital, but the project did not work on this issue at these sites. The Mothers Group meetings led by FCHV focused a lot on nutrition, including education on breastfeeding, cooking complementary, and nutrient rich foods, such as super-flour, and FCHVs help to monitor the growth of young children and refer them to higher levels of care when they are showing signs of malnutrition. Additionally, the FCHV promoted home gardening and the project provided seeds to mothers' group members, with a focus on pregnant and lactating women and mothers of young children. Throughout the project, over 6,000 Mothers Group members (families) were provided with seeds to start their kitchen gardens, and almost 3,000 caregivers were trained on gardening. The results of the household survey indicate that the proportion of households with a kitchen garden established dropped from 75% at baseline to 65% at endline. Based on the level of outreach and number of seeds provided, the project team believes that the question must have been misunderstood or some other measurement error led to these results, especially as increase in kitchen gardening was observed across the project area. The Health Facility/ Provider Assessment clearly shows immense improvement in terms of nutrition promotion activities, especially in Health Posts where there were no negative changes over the period, only many positive changes. Only the PHCC scored negatively on three domains (vitamin A and deworming campaign and promotion of vitamin A-rich foods). Not all of these improvements can be attributed directly to the project; however, the project conducted numerous nutrition

	promotion activities that would have contributed to these outcomes including working to regularize outreach clinics, including growth monitoring, reintroducing hand-held records (road to health charts), nutrition counselling support of vitamin A, and deworming campaigns, and promotion of kitchen gardening. Project Community Facilitators assisted Health Post staff in conducting education sessions and nutrition counselling during outreach clinics. Most respondents in the focus group discussions and interviews were satisfied with the services provided by their health institutions, and some noted that the quality of services had improved since the project began. **Impact Stories:** https://healthbridge.ca/news/entry/the-importance-of-the-kitchen-garden
Intermediate Outcome 1100	**Improved utilization of essential health services by mothers, pregnant women, newborns and children under two.**
	Vietnam: In Vietnam, the project saw vast improvements in most indicators. The percentage of women who received 4+ antenatal care visits during their last pregnancy increased from 29.6% at baseline to 53.4% at endline. The proportion of women who received two doses of tetanus toxoid vaccination during their last pregnancy increased from 86.8% at baseline to 96.1% at endline. The proportion of women who had their blood pressure measured during ANC increased from 47.7% to 77% at endline. Further, institutional delivery improved markedly from 53.8% at baseline to 78.8% at endline. The percentage of women who gave birth at home but were attended by a skilled health worker improved from only 5.3% at baseline to 36.7% at endline. The percentage of mothers/newborns who received postnatal care within 24 hours of birth increased from 17% to 45.7% at endline. At endline, 87.3% of infants were put to breast within the first hour of birth, compared to only 61.7% at baseline. There was no statistically significant difference between the percentage of baby boys and girls. Almost 100% of newborns were wrapped after birth both at baseline and endline and the proportion of families who prepared a safe birthing kit nearly doubled from 27.8% to 50% at endline. **Impact Story**: https://healthbridge.ca/news/entry/ethnic-minority-midwife-emm-from-vietnam-grateful-for-her-experience
	Nepal: The results in Nepal were more variable, although there is evidence of improvements. At endline, the proportion of women who attended 4+ ANC visits had apparently declined from 69% at baseline to 68% at endline. Project staff are adamant that this cannot be accurate. The qualitative findings (health workers and community people) indicate that trust in local health services is much restored from pre-project levels and that women/men are more knowledgeable about ANC than before. We believe that the endline household survey study was flawed, and many questions were misunderstood between enumerators and respondents. Additionally, the health facilities are improved and intensive community education efforts were undertaken. We must consider all the evidence, not just the household survey to understand the outcomes from such a complex project. Similarly, the proportion of women who received two doses of tetanus toxoid vaccine during their last pregnancy apparently declined from 42% at baseline to 38% at endline. Tetanus toxoid vaccines were available in only four of 8 health posts at endline. Compared with baseline, availability was reduced in Katkuiya, Mataihiya Health Posts, and the PHCC. This reduction may account for few women being vaccinated. Supply of medications is the responsibility of the Rural Municipality and was a consistent challenge throughout the project. Targets were exceeded for the following indicators: % of women who had a birth kit during last pregnancy (baseline: 17%, endline: 33%); % of women who had their blood pressure measured at least once at an ANC visit (baseline: 87%,

	endline: 92%); and % of institutional delivery by a SBA (baseline: 65%, endline: 73%). There was an increase in the proportion of women and babies who received postnatal care from 25% at baseline to 32% at endline. Coverage for postnatal care is very low in Raptisonari and Narainapur Rural Municipalities and this issue requires significant attention in future work. Overall, the Health Facility/Provider Assessment revealed improvements in health facilities and service provision of postnatal care (PNC); however, there is marked variation between Health Posts and many gaps remain in terms of equipment, supplies, medicines, and training. **Impact Story:** https://healthbridge.ca/news/entry/the-value-of-mothers-groups-in-banke-district
Intermediate Outcome 1200	**Increased consumption of nutritious foods and supplements by mothers, pregnant women, newborns and children under two**
	Vietnam: This outcome focused specifically on improving nutrition for mothers, pregnant women, and children. In Vietnam, the percentage of women who consumed iron folic acid supplements for the recommended number of days during pregnancy increased from 53.9% at baseline to 62.4% at endline. The percentage of children under two who were exclusively breastfed for six months increased from 16.7% at baseline to 30% at endline, a near doubling of this indicator. The proportion of children aged 6-23 months who received vitamin A supplementation increased from 74.4% at baseline to 86.8% at endline. Finally, the percentage of children receiving a minimum acceptable diet improved from 43.6% at baseline to 60% at endline, 60.9% for boys and 58.7% for girls. **Video Impact Story:** https://www.youtube.com/watch?v=jdfheXV1OVk&t=9s
	Nepal: The intermediate outcomes related to nutrition in Nepal were not all positive; however, the proportion of women taking iron for the recommended amount of time during the last pregnancy was 52% at baseline and 69% at endline, exceeding the targets. Three indicators, percentage of children under-2 exclusively breastfed for six months, percentage of children aged 6-23 months who received vitamin A supplementation, and the percentage of children aged 6-23 months who received a minimum acceptable diet did not show improvement from baseline to endline. The change between baseline and endline was minimal and not statistically significant. Almost all children are reported to be breastfed at some time (98%) and most of those (99%) were still breastfeeding at the time of the surveys. However, exclusive breastfeeding rates are high for the first few months, but drop quickly between four and six months so that exclusive breastfeeding for six months is uncommon. At baseline, 90% reported exclusive breastfeeding for about four months, whereas about 90% reported exclusive breastfeeding for about five months at endline. Only 28% (baseline) and 26% (endline) report exclusive breastfeeding (EBF) for six months. While this does not meet the recommendations, the high rate of exclusive breastfeeding for five months is encouraging. Note that actual rates may be lower as it is common to give drinking water to breastfeeding infants without the mothers recognizing that this “counts” as food or drink other than breastmilk. The survey questions may not have captured the difference between true exclusive breastfeeding and “predominant breastfeeding”. While on-demand breastfeeding is reported to be common, some women reported not introducing solid foods until the child is more than nine months old at both baseline and endline. An important contextual note, the Tharu people of Nepal practice a ceremony called Pasni in which the baby is fed rice at six months of age. Vitamin A supplementation in the 6 to 23 month olds was 72% at baseline. Despite

	Vitamin A capsules being stocked in each of the health posts at baseline, suggesting an adequate supply. The number of children receiving the supplement did not change by endline. It is important to note that in Nepal, these supplements are provided twice per year as part of a campaign and not outside of these dates. This is an important learning for future programming. At the time of the endline assessment, vitamin A was available in all eight Health Posts but not at the PHCC and Bheri Hospital. Supply of medicines is the responsibility of the Rural Municipalities and the Government, and is an area that requires further strengthening. Only one-third of the children achieved minimally acceptable diets at baseline, which is consistent with the common practice of relying heavily on breastfeeding. While the children are given a relatively diverse diet, with most receiving at least four food groups, the meal frequency was too low at baseline and dropped by endline so that only 20% of children had a minimally acceptable diet. It is difficult to ascertain whether these changes represent true declines; more likely, this large decline is the result of measurement error. For example, it may have resulted from a misunderstanding of the question or miscommunication between enumerator and respondent. About three-quarters of houses reported having a home garden established and this decreased to about two-thirds at endline. The reason for the reported change is unclear, with the proportion of homes with established gardens highly variable by VDC and changing markedly from baseline to endline. This suggests a change in the understanding of what constitutes a “garden”, rather than half of the households abandoning their gardens, as appears to have happened in Katkuiya. Nutrition was and continues to be an important issue in Banke District. The Health Facility/Provider assessment at endline demonstrates improvements in equipment related to nutrition at all Health Posts, except Phattepur and improvements in the PHCC and Bheri Zonal Hospital related to nutrition. For example, essential equipment such as infant weighing scales and MUAC tapes are available in all health facilities. The detailed data provided in the Health Facility assessment enables the team to assess changes by health facility and target future interventions according to specific needs. At endline, the staff responsible for nutrition services were trained on nutrition and infant/young child feeding (IYCF) everywhere except at the PHCC. The findings from the baseline study showed that staff members from Phattepur Health Post and the PHCC were not trained in maternal nutrition and IYCF while staff in 4 health posts had received training on nutrition, hence there has been good improvement in nutrition training over the period. Supplements of vitamin A, iron, folic acid, vitamin B, and deworming medicine (Albendazole) were available in most of health facilities. Broadly, health posts have seen a lot of improvements in the availability of guidelines, information/education/communication (IEC) materials, and monitoring materials, especially in Phattepur Health Post. Availability of micronutrient powders (MNP) increased in all health posts. All health facilities maintained growth charts and provided health education on nutrition. All health facilities, except Laxmanpur PHCC and Bheri hospital, were involved in nutrition promotion activities like Vitamin A distribution, mass deworming distribution, iodised salt promotion campaigns, and breastfeeding week. Similarly, all health facilities have a referral process for severely malnourished children to the nutrition rehabilitation centre (which is at Bheri hospital).

	Over the course of the project, almost 3,000 packets of super flour were distributed to caregivers of malnourished children. These activities were highly appreciated by the community and were mentioned multiple times during focus group discussions and interviews. One FCHV noted the dissatisfaction of mothers of children who were not malnourished and did not receive the super-flour. *"The mother whose child is malnourished would get super-flour but the mother whose child is not malnourished would not get it. So, they complained about why another mother got it but they didn't. It would be better if it was provided to all"* - FCHV, Baijapur Most respondents agreed that awareness levels are improving in the community, but that nutrition, in particular, needs more attention. *"I think it would be better if we can raise awareness on nutrition, maybe by visiting door to door or conducting an awareness campaign."* - FCHV, Baijapur **Impact Story:** https://healthbridge.ca/news/entry/ajay-continues-his-recovery-in-banke-nepal
Ultimate Outcome 1000	**Contribute to the reduction of maternal and child mortality in targeted regions of Nepal and Vietnam**
	Vietnam: At endline, new estimates are available for Maternal Mortality Ratio (MMR), Neonatal Mortality Rate (NMR), and Infant Mortality Rate (IMR); however, the updated estimates show a decline of more than 50% in the MMR and IMR in Son La over the period. This improvement seems unlikely given the challenging context in Son La province; however, it is potentially a sign of improvements overall.
	Nepal: There are no updated estimates for the indicator MMR from the same source from 2019 or 2020. Additionally, project staff do not believe that the estimates are accurate given the situation that they know in Banke District. For example, in 2015, the MMR of Nepal nationally was estimated at 258 deaths per 100,000 live births. Given what we know about the situation in Banke, it is unlikely that Banke's MMR would be so much lower than the national average (at baseline it was estimated at 172 deaths per 100,000 live births). We do not have an updated figure for NMR from the same source for 2019 or 2020; however, this estimate is more reasonable and aligned with what we would expect in a rural area of Nepal. UNICEF estimated in 2015 that in rural areas of Nepal, the average NMR was 24 deaths per 1,000 live births. A four-year project is unlikely to cause changes at the ultimate level, although it is clear that significant improvements in the accessibility and quality of health services was achieved, as well as improvements in knowledge and health behaviour of local people.
Public Engagement Results	
Intermediate Outcome 1300	**Increased active involvement of Canadian public, researchers and practitioners in MNCH initiatives.**
	Canada: At project inception, the forming of three partnerships was set as a target and by the end; four new partnerships with HealthBridge were developed. One of the indicators chosen was the percentage change in the number of Canadians participating in engagement events. Project staff found this indicator to not be very useful as each year, varied events were planned and they could not be compared to each other objectively. That said, the project did record an overall increase in

	the number/percentage of Canadians engaging in events, approximately 105% increase from baseline.
Immediate Outcome 1310	**Increased awareness amongst general Canadian public about MNCH issues and project impact.**
	Canada: The project developed and implemented extensive public engagement activities, increasing each year. The number of people potentially reached by print and socially media increased each year, as more content was produced and shared including social media, videos, impact stories, and the final project brief. We estimate that approximately 550 people may have been reached by our print content and over 129,000 on social media over four years. We set target to engage 500 people in public engagement events; however, we only achieved approximately 380. We turned our attention to various forms of online engagement, as we had the potential to reach more people.
Immediate Outcome 1320	**Canada:** The target for number of people potentially reached by journal articles and reports was set at 2,500. We are preparing a manuscript for submission to a journal in late 2020 and the reach from this article will not be known until it is approved and published. Our reports are posted online and can be accessed by anyone; however, we don't know how many people access them. Our rapid assessment report was widely distributed and likely reached hundreds of readers across the globe. The project focused on engaging with researchers and practitioners through conference presentations and workshops. We conducted a webinar in early 2020 on the adolescent reproductive health intervention and it was well attended. In total, we estimate to have reached about 1,000 people through annual Canadian Conference on Global Health symposia, other conference presentations, and the webinar.

Changes to Initial and Final Theory of Change, Logic Model and Performance Measurement Framework

Final Logic Model (Appendix G); Performance Measurement Framework and Outcome Reporting Framework (Appendix I) are included as appendices.

Vietnam: In year one, during the first six months of the project, several changes were made to the Logic Model based on feedback received on the project implementation plan. The changes were mostly related to the wording of certain outputs and outcomes. Several changes were made to the performance measurement framework (PMF) following the baseline assessment and consultation with GAC and local partners. Changes to the PMF were always submitted to GAC for approval in mid-year and annual reports. In year two, the project in Vietnam underwent two major changes to the project plan, as approved by GAC. Firstly, the infant warmer component of the project was discontinued and replaced with bolstered nutrition programming including awareness raising and home gardening education. Secondly, the plan to develop an mHealth app to support monitoring and evaluation of the project was modified due to infeasibility. It was determined that the detailed information required for the MNCH data collection in the health sector would not fit adequately within the weak information systems currently used by the health sector in Son La. Such an intervention would have caused ample complications and problems. The mHealth component was replaced by three activities: (1) promoting breastfeeding at district hospitals; (2) providing refresher training to village health workers and commune health staff and (3) working with local schools on adolescent reproductive health education. A needs assessment on adolescent reproductive health was conducted in March 2018. An edu-entertainment intervention format was developed in consultation with community adolescents and implemented for the final 18 months of the project.

The midterm evaluation findings and input from field visits noted inadequate coverage of health education/communication, especially those with cooking demonstrations. Cooking demonstrations were very attractive to villagers; therefore, the team decided to combine group communication sessions for men and women, and include a nutrition component in each session. The project team also increased the number of supervision visits, with coaching provided in all 102 villages. These modifications were very helpful for improving the communication skills of health workers. A few villages received special visitors from HealthBridge Canada and other donor organizations, which was highly motivating for village staff.

Nepal: The project in Nepal did not experience the same changes to project design as the Vietnam team. As mentioned above, there were changes to the logic model and PMF following submission of the project implementation plan and the baseline assessment. There were no further changes to the logic model. Several indicators in the PMF were revised following the baseline needs assessment. A few output indicators were 'deleted' because they measured the same metric as another output. For example, indicator 1132 #1 is the same as indicator 1124 #2. In Nepal, in particular, there were significant learnings about developing the PMF to gather data that is meaningful to the project and can be useful for making adjustments. Some indicators were not well defined and the project team struggled to produce the same type of information with regular frequency. A lot of coaching from the Ottawa office was required to sort out these issues. In future projects, we will ensure that indicators are well-defined and collected consistently. For example, for an indicator that says "number of training groups" it wasn't always clear to partners if they should document the number of groups in existence or the number of groups conducted during a certain period. Indicator 1214 #1 was deleted because that training was conducted by another NGO. Two indicators were further modified 1110 #1 and #2. Indicator 1110 #1 was modified from 'percentage of participants that showed improved awareness of local gender issues and how they impact MNCH' to 'number of people trained.' This change was approved in the annual report; however, it was changed in error and captures more of an output indicator as opposed to an outcome indicator. The data should have been collected during pre/post-testing of participants at training. In future projects, this type of indicator will be especially monitored to ensure it captures the correct type of information. Indicator 1110 #2 was modified from '% of health workers who are applying gender trainings' to ' percentage of Health Posts using gender checklist to monitor health facilities & services.' This modification enabled project staff to track progress in each health facility across time and intervene where needs arose. It is more effective to monitor the entire health facility, including the practices and protocols used by staff, rather than just looking at individual staff members, especially considering the high rates of turnover.

The midterm evaluation in Nepal included a number of recommendations grouped into themes including: project management, working with stakeholders, and MNCH and nutrition education. An important finding noted that the working relationships with the newly formed Rural Municipalities needed to be strengthened. INF senior management staff were involved as per the recommendations, along with the project-level staff. This engagement helped to strengthen the project's integration in the local health system and garnered buy-in from local stakeholders. The project staff also modified their process and provided written feedback to health facilities to strengthen the implementation of their teachings and recommendations. Additionally, the mechanisms for conducting needs assessment and provision of equipment and supplies was strengthened to include extensive training, handover, and monitoring to ensure equipment was being used properly.

Reach

Beneficiaries: Nepal & Vietnam	Direct Beneficiaries	In-direct Beneficiaries
# of Adults (women aged 15-49)	**31,021**	**61,410**
Nepal	22,264	4,208
Vietnam	8,757	57,202
# of Adults: (men aged 15-49)	**30,686**	**63,076**
Nepal	21,346	4,675
Vietnam	8,500	58,401
# of Children under two (girls)	**2,398**	**16,205**
Nepal	1,853	11,821
Vietnam	545	4,384
# of Children under two (boys)	**2,450**	**17,600**
Nepal	1,938	12,250
Vietnam	602	5,350
# of Female teenagers (girls) Nepal	429	2,145
Vietnam	2,907	360
# of Male teenagers (boys) Nepal	533	2,665
Vietnam	3,200	360
Government Health Workers/Volunteers		
Nepal	231	
Vietnam	156	
Government Health/ Education Officials		
Nepal	110	
Vietnam	48	
Local partner organization staff members		
Nepal	16	
Vietnam	6	
Canadian public, researchers and practitioners	**9,200**	
Total	**83,391**	**163,8 21**

Lessons Learned and Actions Taken, Recommendations & Next Steps

Vietnam: The project in Vietnam was incredibly successful. HealthBridge Vietnam and Center for Creative Initiatives in Health and Population (CCIHP) are very well-respected and have strong partnerships and working relationships with government agencies and other NGOs. HealthBridge Vietnam hosted dissemination workshops at the Commune, District, Provincial, and National levels to share the results and lessons learned from the project and to advocate for key issues. There was a lot of interest from stakeholders and many fruitful discussions about sustaining key project activities. HealthBridge has leveraged its position to advocate for two important issues stemming from the project. First, HealthBridge continues to advocate for and support the essential work of Ethnic Minority Midwives. They provide basic maternal and child care where otherwise no care would be available. HealthBridge advocates for their institutionalization within the existing health system including fair and timely compensation, proper equipment and training/professional development and support from government. Second, as a result of HealthBridge and CCIHP's work on adolescent reproductive health education, the Ministry of Education in Son La is taking ownership of the intervention and introducing the models to other schools. A key next step for the adolescent reproductive health education intervention is to align the intervention with a comprehensive sexuality education model and scale up the reach, time and intensity of the intervention. Additionally, the team plans to expand the scope of future projects to include strengthening adolescent-responsive health services to go beyond education and awareness raising efforts.

In terms of lessons learned, the participatory needs assessment approach taken by the project was particularly effective and ensured that interventions were tailored to the unique needs of the target population. For example, the needs assessment with adolescents enabled the project team to develop the adolescent reproductive health education intervention to respond to the most pressing needs of young people. The home gardening intervention was particularly successful and of interest to the local community. The supportive supervision elements of the project enabled the local capacity to be built and strengthened over time, therefore leaving a more robust and functioning system even after the project has closed. Lastly, sensitizing community people and health workers to gender issues in the community was a key strategy of the project. Child marriage and early childbearing are both serious issues in Son La, and gender-transformative approaches can help to challenge and change the prevailing cultural and gender norms that perpetuate these practices.

The Vietnam team offered a number of recommendations stemming from this project including:

Health education and communication:

- To be more effective, village health workers and EMMs need tools to track and monitor attendance at nutrition/MNCH communication activities. Better managing participation would enable health workers to follow-up with and further engage pregnant women and mothers of children less than two years of age.
- The ARH intervention should develop further to align with a Comprehensive Sexuality Education (CSE) model to equip adolescents with the necessary knowledge, attitudes, and skills to empower them to grow into healthy young adults, develop respectful social and sexual relationships, practice communication and analytical skills, consider the consequences of their choices, and realize their full potential. Varied methods of engagement should be used to communicate messages. Additionally, parents and other community members should be engaged in CSE programming. This suggestion was made by students and teachers but is reflected in best practice evidence.

Sustainability:

- Continuation of capacity strengthening through supportive supervisions and refresher trainings for implementers, especially at commune and village levels.

Advocacy & dissemination of lessons learned:

- HealthBridge should collaborate with MOH to continue advocacy efforts for maintaining and developing the EMMs networks and counseling on exclusive breastfeeding in the hospitals

Nepal: The project in Nepal was implemented in a very challenging context but managed to achieve positive results. There are many lessons learned from this project that can inform future projects in Banke District and other projects across Nepal. The project was designed with sustainability in-mind from inception. The intervention intentionally worked within the existing government health structure, recruited local women as community facilitators, and worked closely with local government to build capacity and promote sustainability after the end of the project. Generally, local government officials took ownership of the project, and they have committed to supporting key project activities going forward, including supporting Mothers' Group meetings, conducting counselling services, and monitoring the EONC fund. The local health facilities have been improved through infrastructure work and additional equipment and supplies, all of which will remain in the community. The project undertook several activities to increase local ownership of the project including conducting exposure visits for Health Post staff and Rural Municipality stakeholders. The project trained Health Post staff and HFOMCs on their roles and responsibilities in running the health facility, and specifically on sustaining key elements of the intervention. The project collaborated with local government stakeholders throughout the project to ensure it was strengthening the existing health system and not working in parallel. Project staff and local stakeholders conducted a sustainability planning exercise and prepared a sustainability plan for key project activities. A final handover and dissemination meeting was held with project stakeholders from both rural municipalities in the fall of 2020.

The Nepal team offered a number of recommendations stemming from this project including:

Gender Equality, Women's Empowerment & Male Engagement:

- It was outside the scope of this project but it is clear that gender inequality and empowerment among women are of considerable concern in the project areas. Women cannot make decisions for themselves and their children, even regarding things like accessing health services. Future projects should design components to enhance equitable decision-making between women and promote women's empowerment.
- The implementation of Husbands' (men's) Groups was a novel intervention that appears to have been successful at engaging men on women and children's health issues. This is an important component of the intervention and should be supported moving forward and replicated in further projects.
- Engagement with religious leaders and traditional healers was a key strategy for reaching communities as these prominent people have influence within their groups. It took time to build trust and relationships with religious leaders. Removing barriers, such as supporting their travel to meeting was helpful.
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- Undertake further studies on the contribution of male involvement in utilization of MNCH services.
- Undertake further studies to better understand health service utilization and impact of the EONC fund.
- Future projects should actively involve and engage mothers-in-law. Mothers-in-law were involved in home visits and some Mothers' Group meetings; however, they are often the gatekeepers of food in the household when husbands are away and may be the only person available to take a woman to the health facility. Therefore, they are an essential ally for improving health of women and children.

Capacity Building of HFOMCs:

- Health facilities and quality of services appear to be improved since the start of the project; however, availability of medicines and poorly functioning supply chains between Rural Municipalities and the health facility are a persisting issue that should be addressed in future work. Supply of medicines is the responsibility of the Government of Nepal and the Rural Municipalities. Building the capacity of HFOMCs to advocate to the Rural Municipalities for improved support is recommended.
- Restructuring of the government health system and shifting responsibilities to the Rural Municipalities posed numerous challenges due to lack of experience, education and capacity of RM

staff; a future iteration of the project should include an extensive capacity building component for the Rural Municipality health units.

- For the sustainability of the project in a new phase, more responsibility needs to be given to local government regarding capacity building within the local health system for providing support to MNCH health services.
- Health worker transfers and the subsequent erosion of skills is a problem. Work with regional and municipal health directorates on health worker retention and reduction of staff transfers to try to ensure that skills and services remain in the remoter health facilities. Other potential solutions:
    - Provide top-up training to health facilities after health worker transfer takes place and make sure this is accounted for in project plans from the start.
    - Support a system of training skill transfer from previously trained health workers to new arrivals. This could serve as a refresher or follow-up training of those already trained as well as ensuring that new staff in the health facilities receive training
- Future projects should train and provide support to health facility staff and HFOMC to interpret and utilize data on health services disaggregated by caste, gender, etc. These data can be used to target outreach efforts to particularly marginalized groups such as Muslim communities, people with disabilities, and the very poor.
- In future projects, INF should be aware to not create a dependence on external support by having limited involvement in Health Post activities. In some instances, Health Posts were too reliant on INF's support in instances that are clearly the Health Post's responsibility. INF should be aware of this dynamic in the future. It is important to conduct a gradual handoff of activities to ensure local ownership and continuation of key activities.

Intervention Approach & Focus:

- Certain, very remote communities and health facilities require more time and focused attention. Gangapur, for example, was noted as an especially challenging context.
- Increased focus and varied approaches for nutrition interventions as poor nutrition is an important and persistent issue in the community.
- INF staff should provide written, formal feedback after health service supervision to reinforce learnings.
- Support more community outreach by health facilities generally so as to improve uptake of services.
- Improvements in health services that were associated with INF's training, support to the HFOMCs and infrastructure in rural areas were not matched by improvements in the district referral hospital, which did *not* receive similar support from INF. A future project could strengthen Bheri hospital, as well as rural facilities.
- Remobilizing Mothers' Groups within communities was a key strategy in this project. Mothers' Groups enabled us to reach the target demographic and are part of the government health structure (key point for sustainability). Participation in Mothers' Groups encouraged ownership of the project among community people.
- Mothers' Group meeting frequency and quality of implementation and attendance should be measured at baseline and endline in future projects.
- Baseline data should be validated by project staff; targets were set too high.

Outputs

We have organized the implementation section of the final report using a table that provides details on each output in the project for Vietnam and Nepal, as well as public engagement components.

Project Output	Description of Progress	Learnings/Strengths/Weaknesses	Explanation of Variance
Evaluation	**Vietnam:** The project was rigorously evaluated including a baseline study and needs assessment conducted in 2016 which identified key barriers and enablers of both access to and utilization of health services in Son La province. The baseline and endline studies included a quantitative household survey as well as qualitative research to contextualize findings. A midterm evaluation was conducted using qualitative methods to determine if the project was being implemented as originally intended. The midterm evaluation also included a needs assessment on adolescent reproductive health in Son La.	**Vietnam:** Centre for Creative Initiatives in Health and Population (CCIHP) led the evaluations efforts for the project, in collaboration with HealthBridge Vietnam. CCIHP is incredibly experienced in program evaluation and contributed immensely to these efforts. All targets for Vietnam were met, and the majority of outcomes were better than the targets set at baseline. A potential weakness to consider for next time is the lack of external evaluation which could potentially introduce bias, although the team took every effort to avoid biasing the results including working in consultation with HealthBridge's Nutrition Advisor and ensuring enumerators were well-trained and supervised.	**Vietnam:** Some indicators were modified/added in year 3 because new projects components were introduced (gardening and adolescent reproductive health). The original project design included introducing infant warmers and an mHealth component, which were not feasible.
	Nepal: In Nepal, a baseline, midterm and endline evaluation were completed as per the original plan. The baseline and endline consisted of a health facility/provider assessment, household survey and qualitative assessment. The midterm was an internal evaluation using qualitative methods and document review. Numerous recommendations emerged from the midterm evaluation that were operationalized for improving the project. The findings of the baseline enabled the team to tailor the intervention to meet the needs in the local context, for example, the health facility audit	**Nepal:** In Nepal, the baseline and endline were conducted by external consultants. The household survey was conducted by Health Research Development Forum (HRDF) using INF staff as enumerators. We encountered more issues in Nepal than Vietnam due to the use of external consultants and potential measurement error arising from miscommunication or misunderstanding between enumerators and respondents. INF project staff informed us that they felt, in hindsight, that the baseline data for many indicators was too high and could not possibly	**Nepal:** Evaluation activities were carried out as planned. There were some adjustments to targets and indicators following the baseline study. A few indicators were updated throughout the project if they were seen to be not

	underscored weaknesses in health facilities and staffing.	reflect the reality in the community. They expressed that as a result, many targets were set too high and were not attainable. This is a key lesson for us next time to validate the baseline data with staff to ensure everyone is in agreement that it makes sense. Another learning from the evaluation of the project is to ensure rigorous training of enumerators in both quantitative and qualitative data collection methods. For example, in the qualitative studies more probing would have been useful. Dr. Naomi Saville assisted with the baseline and endline and was a huge asset to our team, especially in the analysis, interpretation and presentation of results. In future projects, we could consider a quantitative midline to determine if we are on track to reach our targets and identify problem areas (example: LQAS).	feasible for staff to collect data on. They were approved with each submission of a midyear or annual report.
Administrative	**Vietnam:** Administrative tasks were completed as planned. For example, the project inception meeting was held in Hanoi in May 2016. The Son La People's Committee approved the project in June 2016 and local advisory committees were established in July 2016. Annual planning workshops integrated advocacy and were held in April of 2017, 2018 and 2019. Dissemination of project results were conducted at the commune, district and provincial levels in May 2020.	**Vietnam:** HBV and CCIHP reported a strong partnership between their organizations with a history of successful project implementation. This partnership bolstered their efforts which are reflected in their exemplary results. Team members from HBV and CCIHP reported feeling overburdened by the project – a lesson learned for next time. The major causes of this burden was the restructuring (unstable staffing) of the Reproductive Health System in Son La province which resulted in HBV and CCIHP taking on more responsibilities to compensate and manage activities directly. Staff turnover was also noted as a small issue within the project and difficulty filling positions with qualified candidates when staff were on maternity leave, etc. A strength of the implementation was the consistent and open communication between the team in Vietnam and the team at headquarters in Ottawa.	**Vietnam:** Due to Covid-19, the national level dissemination workshop was postponed until September 2020. Covid-19 added many tasks for staff – for example, conducting the rapid assessment and supporting provincial partners who turned their attention to the pandemic. Quite a significant modification to the project took place in years 2 and 3 – the modification of the

			infant warmers/mHealth component to home gardening and adolescent reproductive health. This modification resulted in extra work for staff in developing, implementing and evaluating these components.
	Nepal: Administrative tasks were completed as planned. For example, the project inception meeting, annual planning meetings and project advisory committee meetings were conducted as planned. Dissemination of project results was postponed due to Covid-19 but was conducted in November of 2020 with key stakeholders from the rural municipalities.	**Nepal:** INF worked well with local partners; however, they also experienced a huge restructuring of the administrative boundaries in the working area which resulted in wasted time and extra work for project staff. Project staff basically had to start over and engage with a new set of stakeholders from the newly formed Rural Municipalities. Meetings with local partners were conducted regularly and the project was implemented as intended. The construction work posed quite an administrative burden for INF and was quite delayed in getting started. INF felt supported by HealthBridge head office and GAC throughout the project – these relationships are really valued by the team.	**Nepal:** Due to Covid-19 and delays with endline results, the dissemination workshop for local authorities was postponed to November, 2020. The final meeting of all project partners from Ottawa, Vietnam and Nepal was cancelled due to Covid-19; however, the project manager conducted a series of online final joint meeting workshops including a very productive lessons learned session. The lessons from which will inform future projects and work in

			these communities.
Outputs 1111; 1121; 1131; 1221 (Key barriers and enablers – situational/needs assessment)	These outputs are presented together because they all pertain to the situational assessment conducted at the beginning of the project. **Vietnam:** Tools for the situational assessment were developed in August of 2016; the adolescent reproductive health needs assessment was conducted in March 2018. Data were collected (both quantitative and qualitative) and analyzed and recommendations were developed which informed the development of the project, based on the needs identified in the community. Findings were shared with local stakeholders. For detailed information on identified barriers and enablers please refer to the baseline report.	**Vietnam:** The baseline assessment informed the development of the intervention, for example the procurement of infant warmers was originally planned as part of the project but the survey data found that 98.9% of newborns were wrapped immediately after birth; therefore we shifted the resources to other areas of higher need (adolescent reproductive health). The baseline findings (quantitative and qualitative) were used to develop targeted messaging for communication materials and training. If possible, conducting the situational assessment even sooner would have been beneficial and would have prevented the need to re-plan resources.	**Vietnam:** The situational assessments were carried out as originally planned with the addition of the needs assessment on adolescent reproductive health which took place in 2018. The findings informed the project plans – another example being the discontinuation of the proposed mHealth component due to poor/lack of internet and technology infrastructure.
	Nepal: The baseline survey was carried out in consultation with Health Research and Development Forum. A household survey, qualitative study and health facility/provider assessment were carried out. Detailed information on the findings of these studies can be found in the baseline report. Results were disseminated to local stakeholders and other stakeholders (NGOs) and used to inform the project activities.	**Nepal:** The needs assessment was very comprehensive but also time-consuming. A learning for next time is to consider more carefully the questions asked to ensure they pertain more directly to the project activities. The detailed information enabled project team members to tailor the intervention to meet the needs of the local population. The qualitative findings from community members were of particular value in planning the intervention as they underscored the impact of harmful gender norms and the need to engage men in MNCH. The information collected was used to tailor health messages for the project – for example, the baseline revealed that local peoples' knowledge of danger signs during pregnancy,	**Nepal:** The activities associated with the situational assessment were carried out as intended and informed the development of the intervention. One important learning for next time is that in hindsight, project staff felt that the baseline household survey data was not

		labour, and childhood were very low.	reflective of the reality in the community (perhaps measurement error) and therefore targets were set too high and were unattainable.
Output 1112 – Local partners trained and mentored in designing and evaluating gender-sensitive MNCH interventions	**Vietnam:** This output captures capacity building activities for local partners (HBV and CCIHP) and local government staff, as well as developing training content and materials. In Vietnam during the baseline assessment, training needs were identified. The Vietnam team tracked the number of meetings and trainings, including annual planning meetings, with province, district and commune-level staff. In total 76 planning and other meetings were implemented during the project. 194 trainings were conducted for project staff and government partners, including 717 female attendees in total. These trainings include topics such as health communication, home gardening, annual project planning meetings, and monthly meetings at district health centres.	**Vietnam:** Strengths of this output included the regular meetings and supportive supervision and monitoring of provincial, district and commune partners by project staff. The baseline assessment and on-going consultation and close working relationships with local partners enabled project staff to tailor training to meet the needs. As mentioned before, the local partner restructuring posed some difficulty for project staff. The project team reported that multiple training and coaching methods were useful and helped to maximize the learnings of implementers.	**Vietnam:** The team achieved much more than the original target and met their annual targets. The original output targets are not aligned with the level of activity in the project and aren't very relevant for comparison as the results are much higher than the targets. For example, the original target for Vietnam was set at 10 meetings and they achieved 190 meetings.
	Nepal: In Nepal, the output refers to activities related to developing training materials, training of project staff on designing and evaluating gender-sensitive MNCH interventions and exposure visits for project staff to learn about new and innovative MNCH interventions. Numerous capacity building trainings were developed and implemented throughout the project including such topics as facilitation skills, gender and nutrition, gender	**Nepal:** This output was very successful and capacity was built within the local partner as well as MNCH Facilitators who are local women hired as volunteers to support the project. The baseline assessment enabled the project team to tailor trainings to meet the needs. Some staff turnover at INF posed difficulties; for example, a new project officer was brought on half way through the project. In the future, both HealthBridge and INF need to	**Nepal:** The targets for this output were far exceeded, as with Vietnam.

	mainstreaming, male engagement and knowledge management. Additionally, specialized staff were trained as needed for example on project management. Exposure visits were organized to strengthen the capacity of project staff. Exposure visits were implemented in years 2, 3 and 4. Project staff learned from other organizations and collected best practice examples. Details on the trainings and participants are found in the PMF.	work on strategies for reducing attrition, although overall the project did quite well and many of the original staff were still working on the project by the end. The capacity built within INF will remain and benefit future MNCH projects across Nepal. A learning from HealthBridge Ottawa's perspective is that local partners (in Vietnam and Nepal) need more specialized training in Results-Based Management. Despite the detailed PMF, data was often recorded in the wrong places or responded to slightly different indicators than in the PMF.	
Output 1113 – Government health staff trained and mentored on planning and monitoring gender-sensitive MNCH interventions	**Vietnam:** In Vietnam, this output relates to identifying training needs of partners, training of trainers (TOT) for provincial and district health partners and training for commune and village-level health partners. Numerous trainings and train-the-trainer sessions were conducted throughout the project. This output includes two train-the-trainer courses on MNCH and supportive supervisions for 18 commune health workers, 10 district health workers and 8 provincial staff. Details on all the trainings are found in the PMF.	**Vietnam:** The project team reported that the train-the-trainer model and refresher training built knowledge and skills of health workers at all levels. The Vietnam team noted that the provision of practical checklists and tools for implementation are key to building the capacity of health workers.	**Vietnam:** Targets for this output were exceeded. After the decision to adapt the project and forgo the mHealth component, breastfeeding counselling training was organized. An additional indicator was added to the PMF for this output. 171 staff (113 females) were trained.
	Nepal: This output relates to training activities for health management staff at various levels, as well as for MNCH Facilitators. It includes orientation and training for Health Facility Operations Management Committees (HFOMCs) – an important capacity building and sustainability strategy within the project. HFOMCs run the birthing centres (Health Posts) and are responsible for their operations and management. This output also includes engagements with	**Nepal:** Working with local stakeholders enabled project partners to build capacity at the local level. After the restructuring, Rural Municipality Health Coordinators took more responsibility for health services and worked more closely with the project. There were certainly challenges related to the restructuring of government in Nepal, for example, additional officials needed to be oriented to the project. Additionally, the membership of the HFOMCs was newly defined and it took some time for changes to be implemented.	**Nepal:** The Nepal team exceeded their target for this output.

	stakeholders from the Rural Municipalities and exposure visits for government staff. Exposure visits were conducted for HFOMCs, Rural Municipality stakeholders, health post staff and health office staff. These visits offered learning experiences for local health stakeholders, which they took and applied at their own facilities. In total, almost 700 ward-level staff were trained/oriented and 252 district level staff – note that participants are double counted. Regular project update and progress sharing meetings enabled project staff to gather feedback from local stakeholders and tailor the intervention to meet the needs of the community. This close working relationship fostered close collaboration with local stakeholders and promoted sustainability and ownership.	The partnership between the project staff, community leaders, and government health improved over the course of the project, but this is an issue that should be followed closely in a future project. Activities to garner community and government stakeholder buy-in and support should be prioritized. Project staff reported some difficulty dealing with various government stakeholders such as the Health Post In-Charge and Rural Municipality Leaders. However, these challenges were remedied by more senior INF staff engaging with these stakeholders.	
1114 Gender training provided to government female and male health & education staff.	**Vietnam:** In Vietnam, gender trainings were provided to government health staff throughout various other trainings during the project. The team felt that gender is a cross-cutting theme and is of the upmost importance, so rather than training people on gender as a one-off, it was integrated as an important theme throughout all the other trainings in the project. For example, gender equality and gender-based analysis are essential components of adolescent reproductive health education; therefore gender was integrated into trainings for teachers. Refresher training was provided throughout the project to help ensure concepts were well understood and could be applied to health and educational services.	**Vietnam:** The team monitored an indicator related to application of gender trainings " % of commune/district health workers who are applying gender trainings in service delivery" The application criteria included: health workers disaggregate data for boys/girls on monitoring forms, health worker conducts/promotes counseling of couples together at Commune Health Stations for ANC, and health workers encourages men to attend deliveries. The data indicates that 100% of commune and village-level workers are applying the learnings from the gender trainings based on these criteria. A learning to consider is related to respecting a woman's autonomy when promoting men to attend ANC and deliveries. The woman has the right to choose who accompanies her – there is a nuance between promoting male attendance and pressuring.	**Vietnam:** Targets were exceeded.
	Nepal: Gender sensitivity trainings were provided to government and project staff in years one and	**Nepal:** The team was frank in their description of the successes of these trainings. They underscored	**Nepal:** In total, 260 government staff at

	four of the project. A train-the-trainer model was used which enabled the project to train more staff than originally intended. The follow-up training in year four was essential as many of the Health Post staff had turned over by this time. Health facility staff include gender topics in their counselling visits including the importance of male involvement in pregnancy care and child care. As part of the year 4 training, participants developed a gender action plan for their Rural Municipality.	that although participants gained knowledge throughout the training and the project promoted application of gender-sensitive practices, changing behaviour and long-engrained cultural norms is difficult. However, gender considerations are understood and are discussed and tracked more than in previous years, this is evidence that slowly change is occurring. Gender check-lists were used in the Health Post to track progress related to gender-practices.	multiple levels were trained on gender. This number exceeds the target.
1115 Supportive supervision of health service strengthened.	**Vietnam:** Supportive supervision is an essential component of any health systems strengthening project. Supervision visits were carried out both by HealthBridge and CCIHP staff as well as government staff. In total, 286 visits were conducted by HBV/CCIHP and over 1,000 visits by government partners. Supervision occurred at the District Hospital Newborn Care Units and the Commune Health Stations, as well as by commune health staff to services at the village level.	**Vietnam:** The regular visits helped to strengthen skills and the relationships between implementers and supervisors. The participatory/participant-focused approach motivated and enhanced the capacity of supervisors/planners and leaders. This approach helped to build capacity at multiple levels and project staff witnessed improvements throughout the project. One learning is that after the project ends, the health system may not have enough resources to continue regular supervision visits in the hardest-to-reach areas, as they are very remote and challenging, time consuming and expensive to reach.	**Vietnam:** Targets were exceeded
	Nepal: The project engaged in a number of supportive supervision activities related to this output. These included supporting Female Community Health Volunteers to run ward clinics, monitoring HFOMCs to run birthing centres, joint monitoring with district government stakeholders, and monthly monitoring visits to ward clinics and birthing centres. Project staff supported HFOMC to help strengthen their work and re-establish important practices such as monitoring of health facilities and regular planning meetings. An important contribution of this work is the implementation of the “Health Facility Monitoring	**Nepal:** The context in Banke is very difficult, for example, at the beginning the HFOMC did not have a set date/time of their monthly meeting and therefore most didn’t happen and the committee was largely inactive. The Team Leaders remain committed to this work despite it taking some time to regularize the meeting and getting the committees to a satisfactory operational level. There were other setbacks during the project, for example, in Phattepur health post, ward clinics were not conducted for approximately six months because staff were not being paid. In the final months of the project a few visits were not	**Nepal:** Targets were exceeded

	Tool" which was developed and used by the project. Over the four years, 369 visits were conducted at birth centres (Health Posts) and almost 1,800 visits to ward/EPI clinics. The supportive supervision to birthing centres was particularly effective and helped to improve the quality of service provision. Supervision from District-level staff encouraged a good working relationship between project staff and government staff and enabled problems/needs (equipment, training, etc.) to be identified and dealt with in a timely and collaborative manner.	conducted due to covid-19. Lastly, a key challenge identified by the project staff was regular turn-over among government health staff. The MNCH Facilitators played an integral role in strengthening services and were highly appreciated by local people and health system stakeholders. Supervision by INF staff and government staff enables feedback to be given and timely corrective action to take place – project staff provided numerous examples of such corrections.	
1122 Clinical and community health workers/volunteers trained and equipped to provide gender-sensitive MNCH care	**Vietnam:** This output involved training of district, commune and village level workers (village health workers and ethnic minority midwives aka skilled birth attendants). A train-the-trainer model was used for training commune health workers, district health workers and provincial staff. 54 women were trained as ethnic minority midwives in a 6-month program and standardized to meet Ministry of Health standards. In total, five provincial, 21 district, 13 commune, 102 village-level workers and 54 ethnic minority midwives were trained.	**Vietnam:** Train-the trainer model was very helpful, as well a supportive supervision for sharpening skills and building capacity after trainings.	**Vietnam:** Targets were exceeded.
	Nepal: This output involved training basic health staff such as Female Community Health Volunteers (FCHV), skilled birth attendants and health facility staff. Additionally, it included providing logistical support to FCHV, and training of traditional healers. In total, 132 FCHV, 101 basic health staff and 22 skilled birth attendants were trained. Topics were diverse and based on the need identified by project staff and local stakeholders. For example, training was conducted on counselling, Helping Babies Breathe, and infection prevention, among other topics. Each birthing centre now offers reliable 24 delivery care which was not available before the	**Nepal:** Community trust in health services was very low before the project. Community would not seek services because they either weren't available or of very low quality. Now that each health facility has 24 hour delivery care, trust in the health system is improving and people are choosing to attend ANC visits and give birth at facilities. This is an important learning from the project, as is the understanding that it takes time to build trust after years of inconsistent and unreliable service provision. Logistical support to FCHV helps to strengthen the local system and encourage FCHVs to be more active in the community both in Mothers Groups	**Nepal:** Targets were achieved for FCHV and basic health staff training but not for skilled birth attendants. This is because the local health facilities did not request training in year 4 as they had sufficient staff coverage and did not require it.

	project, and as a result community trust in service provision was very low. Training of traditional healers was also very important as many community people go to them for health-related issues, especially in traditional communities. They were trained, for example, to refer mothers for antenatal care and delivery in a health facility. Over 500 traditional healers were oriented to maternal and child health through the project.	and household counselling. They are also better equipped to conduct their duties with the supplies provided.	
1123 Support provided to health facilities to improve infrastructure, protocols, equipment and supplies	**Vietnam:** This output includes activities related to improving the infrastructure, equipment, protocols and supplies at health facilities in the working area. At baseline, a rapid health facility assessment was conducted to identify the needs at district and commune health stations, as well as the District Hospitals. Based on the assessment and Ministry of Health's guidelines essential equipment and supplies were provided to the provincial health centre, two district hospitals, two district health centres, six commune health stations and to health workers at the village level. The use of equipment was supported through quarterly supervision visits.	**Vietnam:** The team reported that the needs-based provision of equipment and supplies, as well as the supportive supervision was a successful approach.	**Vietnam:** Target met.
	Nepal: The output includes activities related to supporting local health institutions to improve infrastructure, equipment and supplies, as well as improve the neonatal and maternity units at the Zonal Hospital. At baseline, a comprehensive health facility/provider assessment was conducted which revealed the areas of greatest need in the eight health posts, the primary care health centre and the Bheri Zonal Hospital. Based on the needs assessment and consultation with government stakeholders, construction and infrastructure projects and the provision of equipment and supplies were organized. Construction was planned in consultation with a construction technician and approved by Global Affairs Canada. We recommend reading the final construction report for	**Nepal:** This component was absolutely essential to the project as the equipment and supplies at health posts were so low at the beginning that health professionals did not want to work there and community trust in services was incredibly low. Project staff and community people noted the change in the health facilities and the quality of the service being offered, as a result of these improvements fewer community people are making the long trip to the Bheri Hospital and rather seeking care locally. Physical changes (construction work, supplies and equipment) was considered by many stakeholders as the best part of the project, as they appreciate the 'visible' outputs of the project	**Nepal:** Target met.

	details on structural construction work. Additionally, the endline Health Facility/Provider Assessment contains details of the changes in health facilities over the four years, as well as details of all equipment and supplies provided by the project to the various health facilities.		
1124 Gender-sensitive educational delivered to pregnant women and mothers to promote care-seeking	**Vietnam:** This output covers household visits and awareness raising activities for pregnant women and mothers to promote care-seeking. In total, seven video clips on MNCH were produced in three local languages and broadcasted on national television in 2017. 21 additional video clips were produced and used for village-level communication. Several events on breastfeeding were conducted and numerous infographic and informational documents were developed and produced. Over 1,300 village meetings were conducted and 123 mini-contests. Over 11,000 pregnant women and mothers attended the educational sessions. Over 9,000 household visits were conducted.	**Vietnam:** The awareness raising activities at village level were combined for men, women and community people starting in year 3. At first, they were separate and reported on separately but project staff found that men and women attended both types of sessions and that a nutrition/cooking demonstration was a great incentive to promote attendance and engagement at sessions. In the first two years, these events were reported on separately but combined in years 3 and 4.	**Vietnam:** Targets exceeded
	Nepal: This output includes numerous activities related to awareness raising of maternal and child health and nutrition topics including the importance of accessing care. Activities included developing information/education and communication materials, conducted street dramas, community healthy baby competitions, special day celebrations, distributing iodized salt as an incentive, supporting the EONC fund, and household counselling. Over 140 street dramas engaged community men, women and children about topics important to the project including gender equality, MNCH and nutrition. Over 26,000 people saw these events that are put together by community adolescents. Additionally, 21 hoarding boards and other communication products were	**Nepal:** Provision of iodized salt as an incentive for seeking care for highly effective in target communities; however, there is a risk of creating a dependency on project resources. The support to EONC fund in all 132 Mothers' Groups was very important to project success, as this revolving fund enables women and families to pay for safe transportation to health facilities for delivery and pay back the money over the coming months. It removes one of the barriers to accessing care. Household counselling by project staff and FCHV was very effective as it helped to reach women who might otherwise not be permitted to go to a health facility. Almost 50,000 women/families were counselled across the four years. Household counselling helps to raise awareness among	**Nepal:** Targets exceeded

	developed and displayed in the Rural Municipalities. Radio jingles and radio shows were conducted on MNCH and broadcast in target communities to raise awareness. The most important element of this output is the Mothers' Groups – which are led by Female Community Health Volunteers. They are monthly meetings of community women and mothers, where they learn about a variety of health topics, are encouraged to seek health services and can receive basic information and counselling provided by the FCHV.	families of the importance of seeking health services for moms and babies.	
1125 Linkages strengthened between health facilities and with the community	**Vietnam:** The activities under this output are all about strengthening the link between health facilities and the community. The indicators were updated to reflect the types of activities that took place under this output including ARH and meetings at district health centres and commune heath stations. In total, there were 35 events on ARH in schools and 68 in the community. In total, there were 76 monthly meeting at district health centres and over 220 at commune health stations. Feedback on MNCH services were reviewed during regular meetings so that modifications to project activities could be made in a timely manner.	**Vietnam:** Meetings are essential as they are an opportunity to collect feedback from beneficiaries via village and commune-level health workers, and allow health system stakeholders to develop a response to feedback and issues.	**Vietnam:** Targets for meetings were almost achieved; however, due to the Covid-19 pandemic some meetings could not happen in year 4 quarter 4 of the project.
	Nepal: The activities under this output are related to establishing and facilitating Mothers' Group meetings and strengthening the network of FCHV. At the beginning of the project, many Mothers' Groups were not operational and did not have any members. These meetings are an important component of the health system as they serve as the first link between community people and the health system. The project worked to re-establish all 132 Mothers' Groups throughout the project area. The MNCH Facilitators provided support during monthly meetings. The EONC fund is also administered through Mothers' Groups, this component of the project was identified by	**Nepal:** Mothers' Groups proved to be a significant source of support and empowerment for community women. Project staff and community people noted changes in women's behaviour and many social issues including child marriage are discussed and addressed during the meetings. The Sonari Mothers' Group decided to advocate for children and as a group oppose the practice of child marriage. Examples such as this illustrate the value of Mothers' Groups and the changing they can bring in empowering community women.	**Nepal:** Targets exceeded. Periodically a monthly meeting may not occur due to harvesting season, rainy season, a FCHV leaving her job and towards the end of the project Covid-19 impacted the implementation of Mothers' Groups.

	respondents at endline as being essential to improving care-seeking among mothers and families. In four years, over 4,500 meetings were conducted.		
1132 Gender-sensitive education delivered on the importance of essential health care for men and family members & 1133 Community groups conducted to engage women, men and family members in discussing and addressing relevant gender issues	**Vietnam:** These two outputs and their associated activities are related to engaging with men, family members and adolescents about MNCH and nutrition. Output 1132 is the same as output 1124, as the activities are related to developing IEC materials. For output 1133, in total 1,516 village meetings occurred with 7,000+ females and 1,400+ males in attendance. As mentioned above, starting in year 3, the team combined all types of village meetings into one, which explains the small discrepancies in output monitoring. 122 village competitions were held, a popular way of engaging the local audience.	**Vietnam:** After two years of implementation, the team decided to combine meetings of village women and men together and always include a nutrition component. The cooking demonstrations were very popular and attracted large numbers of villagers. Mini contests were also very popular among villagers. In year 3, the ARH component was added and recorded under this output. ARH was added following a comprehensive needs assessment. In future iterations of the intervention, we would like to move towards a comprehensive sexuality education model. The ARH intervention was embraced by the community and is being continued in local schools, integrated into the curriculum. In total, 35 events on ARH were conducted in schools for 579 teachers (293F, 286M) and 10,199 adolescents (4,931F, 5,268M) and 68 events on ARH in communities for 4,602 adolescents (2,391F, 2,211M) and 636 parents/villagers (348F, 288M).	**Vietnam:** Targets exceeded.
	Nepal: These two outputs and their associated activities are related to engaging with men, family members and adolescents about MNCH and nutrition. Output 1133 refers to development and implementation of education initiatives for husbands (through husband groups), school children at school and adolescents (through child and youth clubs and schools). The child and youth clubs are social groups for young people where they learn about and discuss issues such as gender equality, sexual health and joint decision-making between partners. These clubs also perform the street dramas that educate the public on MNCH and gender topics. The clubs really	**Nepal:** Teachers and stakeholders of Raptisonari Rural Municipality appreciated the school health program and thus have continued conducting the program through the rural municipality level, which is a great achievement for project sustainability. A learning for next time is the importance of a strong focus on adolescents and reaching both in-and-out of school adolescents. Moving forward, we would like to move towards a comprehensive sexuality education model, although this may be difficult in the context. Students enjoyed learning about sexual health and particularly the adolescent girls appreciated the information and resources on menstrual hygiene.	**Nepal:** Targets achieved

	flourished during this time and took on projects of their own to improve their communities. In total, over 1,000 youth and children were reached. Husband groups were established in parallel to Mothers' Groups to engage men about MNCH and gender. 132 groups were created, where almost 15,000 men were engaged over two years of implementation. The working area is very patriarchal and therefore engaging men about MNCH is essential, although a big challenge, to improving health outcomes for women and children. The school adolescent health program operating in 9 schools, operated by MNCH facilitators.	Husbands groups were a challenge because many men travel to India for work – to accommodate, the groups were held once a quarter and were quite well attended. Engaging with husbands and getting them to attend meetings was a challenge. Working with community religious leaders and traditional leaders helped to garner support from the general public as the leaders have influence within the community. The husband groups were not initiated until year 3 of the project, in future we recommend establishing them as early as possible within the project.	
1212 Gender-sensitive education delivered to care-givers on breast feeding, infant and young child feeding (IYCF), nutrition during pregnancy and hygiene & 1213 Care-givers trained on preparing nutrient dense foods, including complementary foods for young children	**Vietnam:** This output is related to nutrition education (breastfeeding, IYCF and nutrition during pregnancy) and education on preparing nutrient dense complementary foods. In Vietnam, almost 1,200 nutrition education/cooking demonstrations were done for village men and women. Over 7,000 consultations for mothers of newborns were conducted at district hospitals on breastfeeding.	**Vietnam:** The team noted that male engagement on these topics was most successful when sessions were combined with community women and included a nutrition/cooking component.	**Vietnam:** Targets achieved.
	Nepal: The objective of these outputs was to provide training to mothers and fathers on IYCF and preparing complementary foods. Mothers were trained on preparing super flour and kitchen gardening. Over 5,000 mothers were trained. MNCH Facilitators and FCHV visited post-natal mothers, almost 1,000 were visited after birth and provided health checks and information on nutrition and breastfeeding support.	**Nepal:** Due to cultural norms, many post-natal women aren't allowed to leave the house for days and some are made to stay in unclean buildings away from the main house – there is poor ventilation and a risk of snake bites. Post-natal care needs further attention in a future project, as knowledge of its importance is low and gender-norms prevail where men make decisions for women. The nutrition training to Mothers' Groups was well attended by women in the community. The kitchen gardening training in particular was a great success of the project.	**Nepal:** Targets achieved.
1214 Community	**Vietnam:** Training needs were identified through baseline assessment activities and monthly	**Vietnam:** Staff of Obstetric & Pediatric Wards from District Hospitals were trained on breastfeeding	**Vietnam:** Training for district hospital

health workers/volunteers trained in breastfeeding and appropriate IYCF	supervisions. Training on breastfeeding counselling was provided for 190 health staff. 21 training and refresher courses on nutrition were provided for 21 district health workers, 13 commune health workers, 102 village-level workers and 54 ethnic minority midwives.	and counselling and performed counselling to mother of children of these wards. Before this project, none of these staff had received specific training on breastfeeding/counselling. It's also important to note that District Hospitals are known to promote formula feeding; therefore these trainings are of the upmost importance to encourage breastfeeding and support new mothers.	workers was added to the project as one of the modifications from the original mHealth component of the project.
	Nepal: Nutrition training integrated into health worker training under 1122.	**Nepal:** N/A	**Nepal:** Targets achieved.
1222 Consumption of locally available micronutrient-rich foods promoted amongst care-givers	**Vietnam:** Promotion of local, nutritious foods was conducted at village meetings captured under output 1213. Supportive supervision visits from health and agriculture supervisors promoted locally available foods that are rich in micro-nutrients.	**Vietnam:** A home gardening component was added to the project in year 3 to replace the infant warmers activity. 26 trainings on home gardening were provided to villagers. Home gardening was a very popular component of the project and results are very positive in terms of increasing consumption of healthy, local foods.	**Vietnam:** Targets achieved
	Nepal: Mothers' Groups were trained on a number of nutrition-related projects, including kitchen gardening for which seeds were provided. Almost 6,500 families were provided with vegetable seeds – community people really appreciated the seeds and the fresh produce. It was common for families for share seeds and vegetables with neighbours and friends. Local people are very familiar with gardening and farming but appreciated the updated knowledge and high-quality seeds. The benefits of the kitchen gardening really expanded beyond the membership of the Mothers' Groups. Lastly, packages of super flour were distributed to caregivers of children showing signs of malnutrition, along with counselling on nutrition. Almost 3,000 caregivers of malnourished children were provided with packages of super flour and counselled.	**Nepal:** The super flour worked well as an incentive for mothers to bring their children into the clinic for growth monitoring and enables health workers to intervention when a child is showing signs of malnutrition.	**Nepal:** Targets achieved.
1223	**Vietnam:** This output sought to strengthen	**Vietnam:** The project was able to mobilize support	**Vietnam:** Targets

Strengthen government distribution of nutritional supplements for pregnant women and children under two	government distribution of nutritional supplements, such as vitamin A and iron and folic acid. In total, twenty advocacy meetings were held with various stakeholders from all levels of government.	from the national level in the context of decentralization of distribution of nutritional supplements. Project partners fostered excellent working relationships with government partners and met with them often. An issue throughout the project was that the Reproductive Health system at the provincial level (a key partner in the project) was not experienced in advocacy. This is a point where capacity can be built in the future.	exceeded.
	Nepal: This output sought to strengthen distribution of government-provided supplements. Rural Municipalities are responsible for supplement distribution; the project helped to support these activities but did not directly conduct distribution. We responded to requests from the government and they only requested assistance for 53 events, therefore we did not meet our target. Additionally, restructuring of the geographic organization of the area makes the original target meaningless, as "VDCs" are no longer used.	**Nepal:** Reliable supply of supplements is certainly an issue in Banke District. The project worked closely to build local capacity and there is evidence that supply and distribution are improving slowly. A lot of external barriers were noted including flooding and extreme weather which add to the challenge of procuring and distributing supplements.	**Nepal:** Target for number of events was not achieved for a number of reasons, mostly because the project responded to requests from the local system and the target was set very high. Additionally, restructuring contributed to the targets being too high, as the areas were amalgamated.
1311 Print/Social media materials distributed (Canada)	**Canada:** This output refers to activities related to developing and dissemination print materials, social media content and project videos. We created a 10 page graphic project brief to highlight the activities/outcomes of the project. Additionally, in total we created 8 videos, numerous infographics, and posted hundreds of social media posts.	**Canada:** The videos were very helpful for meeting the outcome objectives. Videos are interactive and great for social media and the website. We originally planned for 1 longer video but quickly realised that short, concise videos were much more effective for social media. We received a lot of positive feedback about the videos, as well as the project brief which we distributed widely to all stakeholders and partners.	**Canada:** Targets exceeded.
1312 Public engagement events to raise awareness of	**Canada:** In total we conducted 5 public engagement events including three years of 'Steps for Change' and a final year partner engagement event.	**Canada:** Partner engagement was conducted in numerous ways in the project. We found the most effective were digital platforms including webinars and social media.	**Canada:** Targets exceeded

MNCH and project impact			
1313 Stories of project impact contributed to relevant Canadian websites	**Canada:** We developed numerous stories of project impact and contributed to various newsletters and websites, including CanWaCH, HealthBridge, MHTF Blog, and our local paper in Ottawa.	**Canada:** Stories are a super effective way of reaching and connecting with the Canadian public. The stories of individuals help to bring the project's activities and impacts to life. Pictures are also very important as a part of stories.	**Canada:** Targets exceeded
1321 Reports and journal articles on project results and best practices for improving MNCH produced and disseminated	**Canada:** This output includes both production and dissemination of project results and the writing and submission of an academic article to a journal. We are currently writing a manuscript about the male engagement components of the project for submission to the Gender and Development journal in November 2020. We shared our midyear, midterm and annual reports on HealthBridge's website and with GAC.	**Canada:** The project reports (midyear and annual) do not make for ideal public engagement materials because of their long and detailed nature. We found that the midterm evaluation reports were better dissemination products and offered valuable recommendations to project stakeholders. The project final evaluation reports will also be shared with the public, as they are an excellent summary of project outcomes with a discussion.	**Canada:** Targets exceeded
1322 Project results and best practices for improving MNCH presented at workshops and conferences	**Canada:** We far exceeded our target for conferences and workshops. We presented each year at Canadian Conference on Global Health (CCGH) and other meetings/conferences. We also conducted a webinar on adolescent reproductive health, HealthBridge's first webinar. It was well attended with over 25 participants. **Vietnam**: The Vietnam team hosted a very successful national dissemination workshop. They presented on and discussed the results of the project with numerous stakeholders from government, the media and other NGOs. This event was an opportunity to advocate for Ethnic Minority Midwives and for wider application of the adolescent reproductive health model.	**Canada:** The CCGH is an excellent opportunity to share project results and future projects should attempt to present every year. In the future we plan to conduct more frequent webinars to engage Canadian academics and implementers on best practice examples and learnings from our projects.	**Canada:** Targets exceeded.

Project Governance & Project Risk Assessment

Vietnam: The project in Vietnam was very successful and achieved all of its targeted outcomes. The project encountered several management issues throughout the course of the project and learned valuable lessons that can be applied to future projects. Firstly, obtaining approval from the government to implement a program such as this one is a lengthy process in Vietnam. It is a small note that for next time, the sooner we can begin discussions with local government authorities, the better. However, this is not always possible given timelines and other restrictions. One of the most significant management issues and risks encountered by the Vietnam team was the restructuring in year three of the preventative medicine system at the provincial and district levels. These changes affected the management mechanisms of the provincial Reproductive Health Center (RHC) of Son La province and engagement with higher-level stakeholders. The RHC's role of management, coordination, and implementation of project activities was transferred to the Son La Center for Disease Control (CDC) as of October 2018. This change caused many delays and changes in financial management and reporting at the provincial level. In consultation with stakeholders, HBV agreed to take over the direct financial management at the implementation level during the transition period from September 2018 to March 2019. Taking on this responsibility is a testament to HealthBridge Vietnam's expertise and capacity. The team, along with local stakeholders, felt that in order to cause the least amount of disruption to the project, taking over these responsibilities was the best course of action. This change did not impact the project's outcomes and HBV dealt with this change very well. A key learning from this experience is to work closely with local stakeholders, monitor the situation for changes and challenges, and be prepared to offer this type of support, when needed.

An on-going issue and project risk in Vietnam is the inconsistent and inadequate payment of village-level health workers such as Ethnic Minority Midwives and village health workers. This situation is constantly evolving and most recently a decision was made to centralize health services from the village to commune level, a policy that further marginalizes far-away and hard-to-reach villages, creating a surplus of resource in certain communes. Low and inconsistent payment of village-level workers is a disincentive to holding these positions and leaves remote communities further marginalized without health services at the local level. HBV continues to work closely with local government stakeholders to advocate for Ethnic Minority Midwives and village health workers, including fair and timely pay, proper training and equipment and professional development opportunities.

The Covid-19 pandemic created issues for the project in early 2020. Fortunately, the project had already completed almost all activities at the community-level; however, a few activities were cancelled or postponed in the final quarter of the project. Son La province went into a lockdown for a little more than three weeks between April and May 2020. GAC approved an amendment and no cost extension to the project to the end of May and then the end of November 2020. Activities undertaken throughout the no cost extension included a rapid assessment of the impacts of the Covid-19 lockdown on mothers and children in Son La, dissemination, and knowledge translation activities. In May 2020, HBV and the project team took advantage of the end of the lockdown period and conducted a series of dissemination meetings at the commune, district, and provincial levels. A national dissemination meeting occurred in September 2020, which included advocacy for EMM and village health workers. The workshop provided an opportunity for all partners to celebrate the achievements of the project, such as the successes and best practices from the home gardening component and adolescent reproductive health (ARH) education model. In addition, attendees and presenters shared experiences from project implementation and plans for the sustainability of the project's interventions. For instance, the Department of Education delivered a presentation on the importance of sustaining ARH education activities in schools and the CDC Son La presented a plan for continuing maternal, newborn and child health and nutrition activities in communities. The continuation of ARH and nutrition activities by government partners signals local ownership of the intervention and is a key achievement for sustainability of the project's activities.

There were a few small human resources challenges throughout the project, but the staff dealt with them well and was able to deliver on all project objectives. Turnover in the Ottawa Project Manager position in

year one and year three were a challenge for the Vietnam staff as it takes time to build a working relationship with a new staff member and for the new team member to become properly acquainted with project activities and management structures. In the Vietnam office, there was turnover in the project manager and project officer roles, as well a maternity leave of the project officer, which at times created a heavy workload for other staff members. The collaborative nature of the team enabled the project to be implemented without issue.

Many of the risks identified in the risk management plan were encountered during project implementation. Being that the project is coherent with the priorities of the government health system, government support for the project was strong and capacity is strengthened at a local level. The risk management strategy was updated regularly and the strategies implemented and adjusted as needed. There were, of course, unforeseen risks such as the pandemic; however, the project staff is confident that they responded well, especially in their efforts to conduct the rapid assessment.

<u>Nepal:</u> In Nepal, the project did not meet all of its targets for intermediate outcomes; however, this is explained more deeply in the outcome section of this report. The project did experience a few management issues but the project staff do not believe there is a connection between managerial issues and project outcomes. The project was implemented as intended and project staff in Nepal worked tirelessly in challenging conditions to ensure quality of project outputs. The first management issue and risk identified in the risk register, is related to politics and government structure. A local level an election was held across Nepal in the second year of the project. The election itself caused a pause in project activities, as NGOs were asked to halt their activity during this event. This election resulted in a complete change to government and geographical structures in Nepal. New government health staff were hired at the municipal level and the health facility level, and there was a complete change over in the HFOMC membership. The project had to compensate for these changes by training the new HFOMC on their duties and responsibilities, and orienting and coordinating with new stakeholders. INF managed these issues well and through strong leadership and coordination were able to keep the project on track. There were other changes in job descriptions of certain health workers at health facilities, and INF compensated by reorienting and training these staff. As noted in the year two annual report, the Nepal team opened small field offices to support implementation after the restructuring of the government.

The INF staff struggled in the beginning to understand GAC's requirements for construction, both structural and non-structural. They hired a construction technician, a trained engineer, who helped them navigate the requirements and successfully plan, execute and monitor the construction activities.

As noted by the Vietnam team, staff attrition was an issue in Nepal as well. Staff left for personal reasons and did not indicate that it was the position itself that they didn't enjoy. Recruitment takes time and in some cases, caused unnecessary delays in implementation that were later compensated for. INF was able to hire the necessary staff to implement the project. A learning for next time for both INF and HealthBridge is to ensure thorough orientation and training for new staff. The project is large and complex and 'assumptions' can easily be made that lead to confusion. In future, Ottawa staff can better support INF and HealthBridge Vietnam when turnover happens to ensure nothing is missed or neglected.

The 2016 monsoon season saw heavy rainfall and resulted in widespread flooding across the project area. The local government requested logistical support from the project, which it provided in the immediate aftermath of the flooding. Risks such as flooding can be anticipated and planned for as they are an annual occurrence during monsoon season when the Rapti River spills its banks. The project leadership's first priority is, of course, the safety of staff and participants. Therefore, activities were postponed until it was safe to travel.

Covid-19 interrupted some final project activities in the last months of the project; however, the no cost extension enabled project staff to implement these activities at a later date. Some activities could not be implemented but most output targets had already been exceeded. Nepal has seen almost 200,000 cases of Covid-19 and access to basic health services has been severely impacted, as well as peoples' ability to travel freely. Widespread lockdowns were in place for months in Nepal and continue in some places. It

was out of the project's scope to respond to Covid-19 but INF as an organization continues to respond to the pandemic with various mitigation activities, including providing food aid and essential medical services to the most vulnerable.

The risk management strategy in Nepal was sufficient and identified mitigation strategies for most of the risks encountered throughout the project. As with Vietnam, some risks were unforeseen, for example, the pandemic. The INF team is experienced and skilled and overcame these challenges through collaboration and creative approaches. The project staff worked closely with local government health leaders, strengthening local capacity. This close working relationship is essential for mitigating the impacts of risks such as government restructuring.

All project team members met for a virtual joint meeting in the final months of the project where they discussed implementation and management issues encountered throughout the project. They documented the challenges they faced, their chosen strategies, and discussed lessons learned for future projects. A key learning from the joint meeting was the need to regularly review the PMF as a team to ensure the correct information is being collected for each indictor and that project staff understand the expectations. This issue can be connected to turnover of project managers in Ottawa. As staff members come and go, important information can be lost or mis/under communicated to stakeholders. In the future, this can be remedied with more consistent handover between staff to ensure important information is conveyed and understood.

Cross-cutting themes of Gender Equality, Environment, and Governance:

Gender Equality

Vietnam

Project activities have been planned to address gender barriers in the communities that were identified at baseline, by promoting men & boys' engagement in maternal, newborn, child health and reproductive health; integrating gender role messages into communication sessions in the villages; incorporating gender messages and roles into counselling during home visits; and communicating with men and boys at events on adolescent reproductive health in schools and communities. Gender programming took a transformative approach, seeking to challenge traditional gender and social norms and start a dialogue within communities. The project went beyond promoting 'male involvement' in MNCH and promoted engagement of men in all aspects of women and children's health, including important issues such as roles and responsibilities in the home, access to and control over resources and traditional beliefs and customs. A variety of modalities were used for gender sensitization including videos, community discussions, and posters/educational materials. Additionally, gender trainings were conducted for local partners, government officials and health workers, ensuring that locally relevant gender issues are understood and solutions are discussed.

Nepal

Gender inequality is a major concern of the project. The project focused on reducing maternal and child deaths by engaging men in supporting maternal health from an early age. Thus, through the MNCH project, we have been integrating gender messages through different interventions including forming 132 husband groups, training HFOMCs on their roles and responsibilities, supporting street dramas, discussing gender issues during household visits, educating young people and school children about gender equality, and using a gender checklist to monitor health facilities and identify gaps. We trained local partners, government stakeholders and health workers on gender considerations. Change of cultural norms takes time and although we see some improvements in men's knowledge of gender and women's health, there is still much work to do. Changes in knowledge will lead to changes in behaviour and contribute to more equality between men and women. Men in Banke are not generally involved in women and children's health and this change takes time and effort to implement. At first, men were reluctant to attend meetings either due to lack of interest or prior commitments. Engaging religious leaders and

traditional healers was an important strategy for garnering support from local men. Additionally, the project improved health facilities and trained health workers on principles of gender equality and engaging men in the health of the wives and children. Before the project, local men identified that Health Posts did not have any areas available for them to wait during an ANC visit or labour. This represents an environmental barrier to male engagement and was addressed by several construction activities within the project. The project sought to take a transformative approach to increasing gender equality and interventions were designed to work across the levels of the socioecological model.

Environment

Environmental considerations were integrated into the project results and explored at baseline so that identified risks could be mitigated. The nature of this project required local and international air travel to reach the project sites, which uses fuel and produces harmful emissions. We mitigated the negative impacts of air travel by using electronic communications such as e-mail, Skype, and online conferences, to minimize the need for air travel both within and between countries. For example, as a result of Covid-19, the entire final joint meeting of the partners was held in a virtual format on Zoom. Paper was reduced through use of electronic documents and avoidance of printing unless absolutely necessary. The use of computers for work is necessary for implementation, but was mitigated by attention to turning of computers, lights and other electronic equipment when not in use.

It is important to consider the impacts that climate change will have on access to care in remote and difficult-to-reach communities such as Son La province and Banke District. Strengthening health systems at the local level can mitigate the impacts of climate change as people cannot travel to clinics that are further away if roads become washed out or impassable. Quality, accessible and available health services at the local level can mitigate these risks and these considerations are paramount in both the Son La and Banke contexts. Our presentation at Canadian Conference on Global Health in 2020 focused on this issue.

A needs assessment was conducted in Nepal to identify the type of support and repairs required for health facility infrastructure improvements, and in both countries, the needs assessment paid specific attention to environmental considerations that were impacted through the provision of equipment/supplies.

Vietnam

There were no major concerns regarding the environmental effects of the project, as physical construction work was not a part of the project. The team provided training on and supported proper use of the provided equipment, according to the manufacturer's recommendations, so as to reduce unnecessary use of electricity and ensure safety. The team supported proper waste disposal, in terms of packaging, disposal of old equipment and future equipment, to minimize environmental degradation and exposure to potential environmental hazards. Waste management practices at health facilities were regularly monitored ensuring compliance with the National Guidelines. Key messages on keeping chemical waste away from agriculture activities was covered during home gardening training for health workers at commune and village levels. They were repeated in education sessions of MNCH, nutrition and home gardening in the community. Water and hygiene education were integrated in the community education sessions.

Nepal

The actual impact of the structural and non-structural construction work was mitigated by the hiring of an environmental specialist to conduct environmental assessments and identify risks and mitigation strategies prior to infrastructure work. The implementation of the work was then closely monitored by the construction technician, INF staff and local health system stakeholders, such as members of the HFOMC. Solar panel systems were installed in many health facilities, an environmentally friendly and sustainable method of generating electricity. Additionally, training was provided to local stakeholders on manufacturers' recommendations for proper use, installation and disposal of provided equipment to

ensure safety, protection of environment and reduce exposure to environmental hazards. The project encouraged the collection of plastic waste in one place for the proper disposal. The HFOMC were oriented on the causes and impact of climate change and environmental degradation, an issue of great important in Banke District as the region is already experiencing the effects of climate change including severe droughts in the dry season and extreme flooding during the rainy season. Additionally, the project trained Mother's Groups on establishing kitchen gardens at their homes. Beneficiaries were encouraged to use agro-ecological methods, which are by definition, environmentally positive. For example, using composting materials for fertilizer is a safe and beneficial way to dispose of kitchen waste.

Governance

The project aimed to address a lack of accountability within existing government health services and to improve the capacity to plan and monitor health service delivery. Training and mentoring for relevant government health officials was a key component of the intervention in both Vietnam and Nepal. Using the results of the needs assessment, project stakeholders were able to draw attention to the needs of vulnerable groups, such as Ethnic Minority people in Vietnam.

Vietnam

Capacity building for the health staff was the essential component of the project. Governmental staff from all levels were engaged with the project from the beginning. Governmental staff from a variety of sectors including health, education and agriculture were mobilized to support, implement and supervise project activities. Village, commune, and provincial health system staff were trained on designing and delivering gender-sensitive, quality health services. Supportive supervision was a key tool used for monitoring the quality of services and providing specific, written feedback for improving provision and monitoring of services. The strong project team was comprised of staff from HBV and CCIHP with diverse professional backgrounds including research, MNCH and nutrition, public health in general, IEC materials, supportive supervision, and programming.

The main issue pertaining to governance in Vietnam was the unexpected restructuring of the health system in Son La during the project. To mitigate the impacts of the restructuring, HealthBridge Vietnam assumed the responsibility for project management at the local level during a six-month period in years two and three. Due to the COVID-19 pandemic in early 2020, HBV again took over certain project management duties for the last quarter of year four, especially for the dissemination activities after social distancing ended.

Nepal

The project worked to strengthen the government health system and therefore, the project worked closely with government stakeholders from multiple levels. At the local level, the project coordinated with Health Post staff and HFOMC. Training of HFOMC focused on members' roles and responsibilities including delivering and monitoring gender-responsive health services and ensuring availability and distribution of micronutrient supplementation, among others. The project advisory committee meetings enabled the team to increase coordination among stakeholders and to share and discuss project objectives, activities, lessons learned, and on-going challenges. Supportive supervision provided by project staff helped to improve the quality of MNCH services and improved the capacity of local health facilities to deliver these services.

Banke District experienced a reorganization of geographical boundaries and a change in leadership and responsibilities among government stakeholders during the project. The change meant that a new group of stakeholders needed to be engaged about the project and a trusting partnership developed. INF, the implementing partner, is one of the longest serving national NGOs in Nepal and therefore was well positioned to handle such a restructuring part way through a project.

Risk Management Tools

Final Risk Register attached as Appendix H.

Address issues on construction, training, interns/volunteers mobilization and procurement

There are no issues to discuss pertaining to construction, training, interns/volunteers mobilization, and procurement. These activities were implemented according to the annual work plans. Procurement policies were followed as per the PIP.

Financial Report

The final financial report is attached as appendix J.

There are no significant variances to report. An official budget amendment was approved in 2017 and again in 2020. Due to Covid-19, an official budget change was approved in early 2020 which transferred funds from reimbursibles to remuneration. There are some small variances reported between categories in reimbursables, which is to be expected over the course of four years; however, none are more than 20% and the variances did not result in any changes to project performance or outcomes. In terms of activities and intermediate outcomes, there were no significant variances in spending as the project was largely implemented as originally intended except for a few strategic changes following the mid-term evaluation, as detailed above and previously discuss with GAC.

The construction total costs is equal to the budget; however, as approved in the annual work plans and as per the local need, we spent more on non-structural construction than planned.

Travel, including local (including movement of government workers) and international travel was extremely restricted during all of 2020, and therefore contributed to underspending in the travel and recipient country government employees categories.

Communications Annex

The Communications Annex is included as Appendix A.

List of Partners

The list of partners is attached as Appendix B.

List of Volunteers

Year 1: N/A

Year 2: Jacqueline Ma, MPH Practicum student, 3 months full time; Josiah Marquis, MPH Practicum student, 3 months full time.

Year 3: Jacqueline Ma, Intern, 5 months full time.

Year 4: Tasnim Abdi, Intern, 5 months full time; Christine Saleeb, MSc Global Health Practicum student, 3 months full time; Ariana Meehan, MPH Practicum student, 3 months full time.

List of all Project and Technical Reports

- Baseline Report and Needs Assessment Reports for Nepal and Vietnam
- Midyear and Annual Reports Years 1, 2, 3 & 4
- Midterm Evaluation – Nepal
- Midterm Evaluation – Vietnam
- Final Evaluation Report – Nepal

- Final Evaluation Report – Vietnam
- Qualitative Report at Endline – Nepal
- Health Facility Provider Assessment at Endline – Nepal
- Final Project Report to GAC

List of all Subcontractors

The list of subcontractors is attached as Appendix C.

Drug Donations Report

The drug donation report is attached as Appendix D.

Intellectual Property Rights

Not applicable to this project.

Distribution and Transfer of Project Assets

The approved Disposal of Assets plans are attached as Appendix E.

Completion of Structural Construction Work Report

The final completion report of structural construction is attached as Appendix F and approved by Global Affairs Canada.