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CHALLENGES OF MATERNAL HEALTH IN SOUTHWEST ETHIOPIA:

THE VILLAGE HEALTH PARTNERSHIP

PETER VAN ARSDALE

ABSTRACT

The challenges of providing quality maternal health care in developing countries remain substantial. As of 2023, over 700 women worldwide were dying daily from preventable causes associated with pregnancy and childbirth. In remote southwest Ethiopia resources are modest; hospitals, health clinics, doctors and registered nurses are few. The Village Health Partnership, an NGO based in Denver, Colorado, has been tackling these issues since 2013. Its mission is preventing maternal and neonatal death in childbirth, and treating and preventing gynecologic complications of childbirth. This article features the organization's accomplishments, as well as institutional and resource constraints, at ten locations, while placing these in a broader intercultural and medical context. Innovations, including those associated with WASH (water, sanitation, hygiene) and programmatic recommendations are noted.

KEY WORDS: Southwest Ethiopia, maternal health care, program development, institutional constraints, accomplishments and innovations

The Issues

Maternal, neonatal, and childhood health issues have appropriately gained increased prominence worldwide in the 21st century. Innovations and programs of care have improved in many areas. As the World Health Organization (WHO 2025a) noted, the maternal mortality ratio has fortunately dropped dramatically as the century has unfolded. Attention to service inequities and socioeconomic circumstances has improved. Monitoring and surveillance initiatives have gained ground. Technological enhancements, such as digitized health records, have been instituted. Yet, as of 2023, over 700 women worldwide were dying daily from preventable causes associated with pregnancy and childbirth. Neonates in developing countries remained at high risk, even those in clinical settings. Resource issues (read: medical supplies, infrastructure, equipment, transport) remained paramount.

Sub-Saharan Africa accounted for about 70% of the world's maternal deaths in 2023 (WHO 2025a). In rural Ethiopia, it was estimated that 89% of women deliver at home, that one in ten die in childbirth, and that one in two experience severe gynecological complications. According to WHO (2025b), the country's overall maternal mortality ratio as of 2023 was estimated at 195 per 100,000 live births, with a neonatal mortality rate of 28 per 1000 live births. (For the U.S., the figures for 2023 were 19 and 4, respectively.) For Ethiopia, both statistics represent favorable trends. As of that date, the country's population was 128 million.

This article focuses on maternal health, based primarily on survey data collected in southwestern Ethiopia in 2024, but also on data collected earlier. In this region, maternal deaths have historically been high, but programs of care have gradually been improving. The work of the non-profit Village Health Partnership (VHP), with whom the author works as a pro bono board member and researcher, is featured. Specific emphasis in this ethnographic study is placed on qualitative data gained through interviews with third trimester pregnant women and clinical service providers in 2024, supplemented by demographic and service data obtained through field visits to 10 clinics and hospitals.[1]

At issue: Attitudes, options, challenges, and accomplishments regarding the health care system, including clinical providers, patients, resources, community support networks, and certain corollary topics such as food security. Of equal importance is an overview of the setting and services.

The Setting and Services

Since its founding in 2013 under the leadership of Dr. Margaret "Migs" Muldrow (who grew up in Ethiopia) and now extending into a third development phase, the Village Health Partnership's overall vision is safer motherhood for rural Ethiopian women already at high risk. Based in Denver, Colorado, its mission is preventing maternal and neonatal death in childbirth, and treating and preventing gynecologic complications of childbirth (e.g., obstetric fistula) in remote areas. It operates strategically with an engaged five-person board whose expertise spans medicine, social science, law, finance, and administration. Standard best practices are studied and implemented. Corollary work includes partnership development, training and mentoring, systems installation, circuit riding, and data analysis. In June, 2025, food security was formally adopted by the board as its latest objective (building in part on a report authored by Lauren Ott, 2024, and on principles long established for Africa [Shipton 1990]). Since VHP is a non-profit organization, fundraising activities are vital and ongoing.

VHP works in the Southwest Ethiopia People's Region, primarily in the West Omo and Bench Sheko zones and primarily with members of six ethnic groups: Me'en, Bench, Amhara, Kafa, Oromo, and Dizi. Because of sub-regional tensions, work with the Suri has been curtailed. (VHP also works in western Ethiopia, but that is not being reported here.) In the southwestern part of the country, not far from the Omo River valley and not far from the South Sudan border,2 services are modest and transportation constrained. Malaria is a major problem, with more than 30 maternal deaths in the Mizan

area in the 12 months prior to the team's arrival (Bowman, 2024). Women need safer places to deliver. Trained personnel must be available, but often too few are. VHP works on multiple fronts, in a comprehensive manner under an integrated model, and thus, among the key objectives are co-facilitating the government's health care efforts under the Federal Minister of Health and, indirectly, the Ethiopian Public Health Institute. VHP strategically partners with communities to develop focused interventions (most of which are in existing hospital/health center settings), and promotes on-site training of practitioners, including nurse midwives (NMWs). WASH (water, sanitation, hygiene) initiatives are key. Infrastructural components, such as maternal waiting areas (MWAs), burn pits and incinerators, fencing, and WASH facilities (including wells and storage tanks), are built. Data are collected regularly by Ethiopian colleagues and during annual on-site visits by members of the U.S.- and Ethiopian-based team. The overall service/catchment area includes approximately 2.6 million people.

A village in southwest Ethiopia, Van Arsdale 2024

During the most recent on-site visit, in October 2024, these objectives were emphasized or reiterated: 1) Access to an adequate, year-round supply of water, 2) adequate solar power to illuminate labor and delivery areas and refrigerate necessary medications, 3) measures for sanitation and hygiene including hand washing stations, clean concrete pit latrines and fenced biohazard areas, 4) infrastructure for maternal health such as maternal waiting areas, medications, laboratory tests and the equipment necessary to facilitate safe delivery, 5) infection prevention controls (IPC) to eliminate the risk of life-threatening infections such as sepsis, and 6) medical providers who have been trained in obstetric care and neonatal resuscitation (Bowman 2024). In addition, the circuit riding program is being strengthened; trained Ethiopian personnel visit VHP's sites on a regular, rotating basis to address equipment and facility repair issues.

The environment within which the Village Health Partnership and its Ethiopian colleagues work can be described as intercultural maternal health (cf. Pesantes et al., 2025), i.e., bridging ethnic and cultural boundaries, both in communities served and health professionals engaged, with careful attention to Indigenous beliefs and preferences.

Integrated Literature Review

An increasingly impressive literature has developed over the past decade on issues involving maternal and child health in Ethiopia, with a sizable number featuring field studies from the southern section of the country. Equally impressive is the fact that a majority have been researched and written by Ethiopian academics, government officials, and health professionals. These have been driven by a number of factors: A supportive federal government, culturally attuned partner organizations (primarily NGOs), interested academics, and – to a lesser extent – parties in certain countries in the Americas, Europe, and South Asia. Broadly, this is occurring under the umbrella of U.N. Sustainable Development Goal # 3 (Good Health and Well Being), which includes associated targets aiming to reduce the global maternal mortality ratio and end preventable deaths of infants and children. In addition, in the context of the research reported here, Sustainable Development Goal # 6 (Clean Water and Sanitation) with associated targets for equitable water/sanitation access and sustainable supplies is essential.

Shimeta Ezezew Kassa, a key colleague, Van Arsdale 2024

The literature reviewed here, all recent, is generally supportive of what VHP has discovered and is addressing. Pregnant women, particularly those at moderate to high risk, are of primary concern, as previously noted. Virtually all women are married, a few in polygamous arrangements. Severe maternal health outcomes in southern Ethiopia are reported by Beyene, et al. (2022). This prospective study of three hospitals in 2018 found, of 2880 live births, that 315 had potentially life-threatening conditions and 108 had severe maternal outcomes. While VHP did not track such data, anecdotal reports from the Mizan Tepi University and Teaching Hospital – central to our network – suggest similar ratios.

Not surprisingly, reducing in-hospital delays, improving referrals, and effectively using the ICU are likely to improve antenatal and post-delivery outcomes, as our team and those studied by Beyene, et al. (2022) found. Again not surprisingly, adverse conditions which cannot readily be controlled, such as the COVID – 19 pandemic, adversely affect antenatal outcomes, as was discovered in southwest Ethiopia by Kassie, et al. (2021). In a study in central Ethiopia by Debela, et al. (2021), patient satisfaction was associated (among other factors) with the availability of maternal waiting areas, clean clinical facilities, and health workers' respectful/compassionate care, all found in VHP's research as well.

Other health related research has been conducted recently at the Mizan Tepi University and Teaching Hospital. For example, Alemayehu Sayih Belay and Aychew Kassie (2021) investigated nursing students working in the obstetric and gynecological arena, and found that emotional intelligence affects clinical performance. VHP's anecdotal information on nursing students suggests they are receiving adequate supervision.

Maternal health delays like delay in deciding to seek care, reaching a health facility, and receiving appropriate/immediate care were identified by Wanaka, et al. (2020) as the main contributing factors for maternal mortality and morbidity in many developing countries including Ethiopia. Delays were noted by a number of patients and staff members interviewed by the VHP team, with delays in receiving blood also noted. With conditions similar to those found in the present study area, a husband's decision making regarding a hospital or clinic visit – "go, no go" – was found to be essential in the research of Yarinbab (2024). Women in the VHP study area receive a high level of support from their husbands. Some fathers also are involved.

Mental health services lag behind other maternal and perinatal services in this region. In one study of service access and psychiatric charting, significant gaps were uncovered. Gender rights were seen as constrained (Chemali, et al., 2013). In another study (Feyissa, et al. 2025), barriers and facilitators of maternal and child mental health services were investigated. A limited professional focus on this issue, combined with constraining cultural perceptions, proved critical. Yet, the authors find promise in improving perinatal mental health services within the existing Ethiopian health care system.

Education regarding health care, in this part of Ethiopia as elsewhere, occurs in three contexts: Academic training, in-hospital/in-clinic professional training, and in-community/in-clinic patient education. The Village Health Partnership has engaged in, or supported in conjunction with its partners, all three. Couple-based health education in Ethiopia was analyzed by Yarinbab (2024), who found that it improved maternal health outcomes. The importance of volunteer community health workers in Ethiopia, including the region where VHP works, in concert with the government's Women's Development Group strategy, has been studied by Ashebir, et al. (2020). A large number of the volunteers were illiterate, with modest training and relatively low levels of knowledge of maternal and child health practices, but through action groups worked with professional community health leaders and extension workers, and were helpful in maternal outreach. Extension workers, paid by the government and willing to travel to homes in the most remote locales, are essential to what VHP has observed.

Partner organizations, including those that assist with services, engineering and infrastructure installation, and financing are essential to the work of the Village Health Partnership. Primary are Water Engineers for the Americas and Africa (WEFTA), Afro Ethiopia Integrated Development (AEID), and the Mizan Hospital. Another example is Rotary International, which has contributed financially through several of its clubs, particularly those located in Colorado. Two of Rotary's seven focal areas worldwide are maternal and child health, and WASH (water, sanitation, hygiene), and as noted by Schoberg (2024) Rotary's community-based approach to tackling issues of maternal death in Africa has been promising.

Research Findings

The analyses and findings reported here primarily span the period from early 2020 through early 2025, with the patient and staff interviews being conducted in 2024. Although the situation has generally been peaceful, with no interruptions to VHP's work through conflict or violence, violence has occurred in the Southwest Ethiopia People's Region. Deaths were reported in several instances (e.g., near Tepi town in 2021) and the kidnapping of one of VHP's colleagues occurred in 2025.

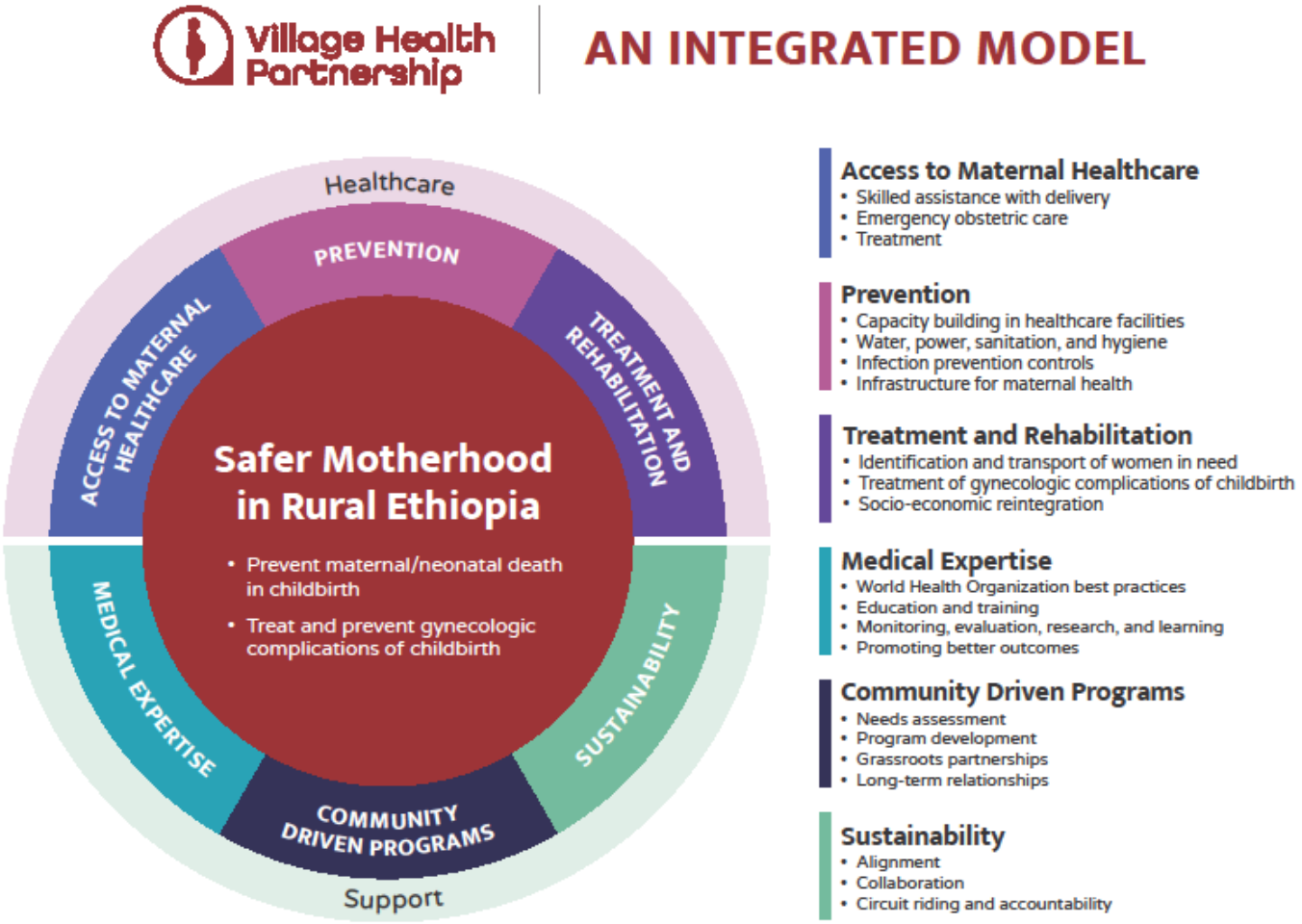
The regional government, as well as local governing bodies, has been uniformly supportive of the work VHP and its partners have engaged. The annual site-visits made by the American and Ethiopian team to each community have proven essential to the maintenance of cordial relations. The personnel in charge of the facilities assume key liaison roles on each occasion. Respect for potentially sensitive intercultural relations is paramount. All issues are discussed over tea, coffee, and injera. A strategic approach, tied to resources available, resources and funding needed, and staff members' skills and training needs, is utilized. Several communities have contributed funds to assist with infrastructural additions (e.g., water distribution systems).

An integrated model which illustrates all of the services and initiatives which VHP and its partners – notably the Mizan Hospital, WEFTA, and AEID – engage has recently been created. As the accompanying diagram on the next page illustrates, these services and initiatives encompass five categories: Access to Maternal Care, Prevention, Treatment and Rehabilitation, Medical Expertise, Community Driven Programs, and Sustainability.

Patient Interviews

The following analyses are based on 20 in-depth interviews (i.e., oral surveys) with pregnant women conducted by the author and his colleagues Laury Bowman and Teklemariam Ergat Yarinbab in October, 2024. Those interviewed all were in their third trimester. The interviews were conducted at hospitals and clinics (i.e., health centers) throughout the West Omo and Bench Sheko zones. Each person signed or initialed a consent form. Ten open-ended questions were asked in the appropriate Indigenous language about attitudes, perceptions, accomplishments, challenges, and recommendations regarding health services, community and family support networks, available resources (including food and water), and transportation:

- The women interviewed represented these ethnic/tribal groups: Me'en, Bench, Amhara, Kafa, Oromo, and Dizi. Me'en (50%) were the most numerous, followed by Bench (20%). Their educational levels ranged from no education to that of a high school teacher.
- All but one of the women interviewed said that they would use this health facility again, for their next pregnancy, and would promote its use to others. The importance of the antenatal services, the maternal waiting areas (MWAs), and other services were explicitly noted by some respondents in this regard. The number of pregnancies for these women ranged from one to seven.



- All the women were healthy, although a few (15%) had recently experienced complications which were being dealt with professionally. A large number (70%) noted that, by coming to the facility, they would be able to avoid potential complications and protect the life of their newborn.
- The valuable roles played by health extension workers, many of whom had visited the homes of the respondents, were noted by 65% of the women. Additionally, the valuable role of "health festivals" were noted in two communities.
- In general, health extension workers and nurse midwives are the skilled professionals most widely engaged. However, there is a high rate of turnover and the pay is low.
- According to custom, all the women had consulted their husbands as to whether to engage the nearest clinic or hospital's services for this pregnancy; 85% had received their husband's support.
- A number of women (35%) commented on the lack of diversity in the food served at the facility, including the MWA. Maize porridge and cabbage are usually the primary foods served. A smaller number (30%) commented, negatively and in general, on the food served. However, it should be stressed that all but one said that their food (type, quantity) and/or nutritional status was adequate, when food eaten at home also was included. The idea of gardens, developed at MWAs and tended by the women there, was well received.
- A wide variety of crops are grown in this region, with maize being the most prominent. Others include teff (used to make injera), cabbage, taro, beans, bananas, sugar cane, oranges, papayas, avocados, and coffee. A general understanding of the "good food – good health" link by residents is apparent.
- No specific question in the protocol asked about MWAs. Among those women (40%) who independently chose to comment on the

MWAs, it can be inferred that all saw them as important. However, depending on the facility, a number of these respondents noted a need for more beds, more blankets, more mattresses, more space, more food, more nursing clothing, and warmer floors. (At one location, the MWA was not in use. At another location, it was being improperly used.)

- In various ways, and through a number of different comments, 90% of the women spoke favorably about one or more of the health services they were receiving. These included general antenatal care, food, ultrasound, MWAs, facility accessibility, caring staff members, and health education. The latter emphasizes wellness, i.e., personal care and hygiene, infant care, and "best practices" for engaging health services.

Women visiting a Maternal Waiting Area, Van Arsdale 2024

- When asked about facility/service improvements they thought would be useful, a large number (80%) had suggestions. In addition to those regarding food and MWAs (noted above), these included more medical supplies (including soap and sanitary items), functional ambulances, better trained kitchen staff, better timed services, incentives for women to come, consistent availability of ultrasound, consistent availability of electricity and light, and entertainment options in the MWAs.
- Seemingly counterintuitively, only three women mentioned a concern over water supply or quality, despite its essential role. It can be inferred that water systems, while needing substantial upgrades or installations in most places, are nonetheless minimally serving residents' needs.
- When asked what might constrain a woman/neighbor from visiting a clinic or hospital for delivery, a large number (80%) again had suggestions. These included lack of transportation/distance, lack of family or husband's support, lack of awareness, child care concerns, conflicting agricultural responsibilities, and cultural barriers (e.g., it being best to deliver at home where traditional methods are well understood; fear of being sterilized; privacy protection).
- Additional details, derived from a rank-order analysis, are provided in Appendix 1. The top five in rank order are 1) affirmation of facility use and its promotion; 2) adequate food security; 3) husband's support; 4) suggestions for facility improvement; and 5) no difficulty with facility access.

Health Care Professional Interviews

In-depth interviews were conducted in the appropriate Indigenous language, usually Amharic, with 10 health care professionals stationed at eight of the facilities. (These were complemented by a number of informal discussions with other hospital, clinic, government, and agency professionals.) Using an open-ended six question oral survey, incentives, constraints, problems, best practices, opportunities, and recommendations were addressed:

- The educational levels of those interviewed ranged from elementary school complemented by certification (e.g., as a nurse midwife) to an MPH degree. All indicated that they had received some type of ongoing education or training, usually sponsored by the government health system.
- Nurse midwives (NMWs) are central to the delivery of services, particularly in the smaller rural clinics and health centers. (Doctors and registered nurses often are not available.) At the largest facility, the Mizan Hospital, as of the survey date there were 228 NMWs and nurses. Approximately 5,700 babies were delivered during the 12 months prior to the VHP team's arrival. At the smaller Bachuma, Siz, and Maji hospitals, there were about 8 to 10 NMWs each. At the rural clinics, such as Chebera, there were as few as three NMWs. At these rural clinics, an average of about 25 to 40 babies are delivered monthly.
- Recent service and care improvements, such as the ability to handle more patients or the securing of additional essential supplies, were noted by 60% of the respondents. Community support also was mentioned by 60%, although this varies widely and is modest at best.
- The Mizan Hospital plays a key role in supporting 15 other facilities, including all those in the two zones that the Village Health Partnership (VHP) works with. Its service, training (including university), and outreach functions are essential. Its work with victims of gender-based violence also is significant.
- Skills training and assessment are offered on a regular basis in these facilities, with that for NMWs sponsored by the Village Health Partnership being on-site and on a regular basis. That for other health professionals, also sponsored by VHP, is offered at the Mizan Hospital.
- Those interviewed had served in their current positions from seven months to seven years, with the mode being three years. The turnover rate for personnel is high. Consistency in "training and skills

follow through" is difficult to maintain. There have been periods as long as six months where professionals were not paid. Most recently within the West Omo Zone, certain personnel had not been paid for three months owing to a broader government funding shortfall. Salaries derive from the government.

- Health extension workers, health educators, and NMWs usually work in concert. Some use the phrase "integration of services." In some locales, community leaders and religious leaders help "spread the word." "Health festivals" targeting women are currently being held in two locations. Most of the respondents believe that effective (especially antenatal) information benefiting pregnant women is being shared, both in their communities and in the health facilities.
- Transportation is challenging, both for patients and personnel. There is intermittent bus service in parts of the West Omo Zone and Bench Sheko Zone. Almost no one has regular access to an automobile. Many purchase rides for 30 to 60 birr (25 to 50 cents U.S.) in small three-wheeled bajaj "taxis." Some "hitch a ride" on a motorcycle or truck. A majority of patients and personnel walk. Ambulance service is severely limited, with several vehicles being dysfunctional and lacking funds for repairs. Cell phone service is intermittent and unreliable.
- Those interviewed gave a number of reasons why pregnant women, even those well into the third trimester, might be constrained from visiting a health facility. The most common reasons were distance and/or lack of transportation, transportation costs, husband hesitancy, lack of awareness, safety and survival concerns, family constraints (including those associated with cultural beliefs, child care, and agricultural responsibilities), lack of privacy, lack of prompt service, and inadequate availability of beds, blankets, and other basic necessities such as soap and medical supplies in the facilities.
- The types and quantities of medical equipment and supplies vary widely among the facilities. In terms of major equipment, most often noted as absent or inadequate are autoclaves, fetoscopes, microscopes, and ultrasound devices. In some cases patients have had to purchase, outside the facility before arrival, the medical gloves their providers needed to wear.
- A blood bank is not within easy access for most of the facilities. The distance from the Mizan Hospital to the nearest bank is 120 km. For some other facilities it is further.
- Surprisingly, despite water and sanitation being essential to hospital and clinic operations, these were rarely mentioned positively or negatively by the staff who were interviewed.

Additional details, provided through a rank-order analysis, are provided in Appendix 2. Structured as sets of variables, the top three referencing positive/proactive attributes or accomplishments are 1) integrating health centers and community efforts; 2) best practices in support services; and 3) best practices in antenatal services. The top three referencing challenges are 1) issues constraining service; 2) uptake of pregnant women; and 3) technical/infrastructural difficulties.

Nurse Midwife Skills

A wide range of skills are required to be an effective nurse midwife (NMW). Over a three-year period, our program tested across 14 modules, eight covering obstetrics (e.g., manual removal of placenta, breech delivery) and six covering neonatal (e.g., Helping Baby Breath knowledge, Helping Baby Breath bag and mask skill). Not all NMWs were tested. In 2021, at baseline, of those NMWs tested in the West Omo Zone, all failed their obstetric and neonatal skill checks. With implementation of a training and mentoring program, scores improved over time. Repeat testers show improvement and average scores increased. Unfortunately, approximately 2/3 of the NMWs continued to test poorly as of 2024. There is a high turnover rate and little opportunity for professional advancement. The results of testing indicate that VHP and its partners have made progress but that more work remains. Regular testing and training continues.

Testing has revealed areas of both clinical strength and weakness. There is also wide variability in NMW scores depending on where they work, and, for any single person across the 14 modules. In general, those NMWs who work in the hospitals tend to score better than those who work in the small rural health centers. Health centers are located in remote areas where staff turnover is high and providers have little support.

Meron Girmeye, a senior nurse/nurse midwife supervisor, Van Arsdale 2024

Training Initiatives

In addition to the training of NMWs, doctors and nurses also are being trained by VHP specialists in Essential Newborn Care. A critical need involves high-risk neonates. In the 12 months prior to the team's arrival in October, 2024, 460 of 1400 babies (33%) admitted to the Mizan Hospital's neonatal intensive care unit did not survive. However,

one of the most successful training initiatives in the service catchment has involved infection prevention (Bowman, 2024).

Maternal Waiting Areas

During the past decade, as noted previously, a primary emphasis of VHP has been the construction of, and support for, maternal waiting areas (i.e., maternity waiting homes). Afro Ethiopia Integrated Development (AEID), contracted by VHP, has played the primary construction role. MWAs have been developed at all of the facilities in the southwest which the organization works with. They have a high rate of usage. (One MWA is currently non-functional.) The World Health Organization has stressed their importance to reduce maternal mortality rates and enhance the psycho-social dimensions of care. However, as Yarinbab (2024) notes, despite the Ethiopian government's support of the MWA concept, usage and support vary widely in remote regions. Access largely depends on women's male partners' decisions.

Conclusions, Recommendations and Innovations

Conclusions

In summary, this ethnographic study illustrates a resilience and determination – often under difficult circumstances – which clearly defines both the women interviewed and the service providers interviewed. Other data and observations also have been included. Intercultural health initiatives, as defined by Pesantes, et al. (2025), circumscribe the services offered. Programs of care generally have been improving. Services are relatively well integrated. VHP and its partners are making a measurable difference in maternal health.

This is among the first qualitative research studies completed in southwest Ethiopia to examine patient attitudes and service provider attitudes, in conjunction, in the context of maternal and child health. At the broadest level, the findings complement and reinforce those of the other studies cited herein in terms of individual incentives and constraints, service successes and obstacles, and institutional successes and obstacles. As examples, the decisive role of the husband in a wife's health seeking behavior (cf. Yarinbab 2024) has been corroborated. The challenges of transport and distance to access care, especially immediate antenatal care (cf. Wanaka, et al. 2020) are clear. The need to reduce in-hospital delays and improve referrals (cf. Beyene, et al. 2022) is evident. The vital roles of health extension workers and volunteers (cf. Ashebir, et al. 2020) also is evident. Patient satisfaction with the availability of maternal waiting areas (cf. Debela, et al. 2021), among other factors, is important.

In one sense, many of the respondents and their families are impoverished. Few have sustained incomes. Most live in remote, difficult-to-access villages. Yet, almost all the respondents – both patients and service providers – were healthy, and, almost all stated that they had adequate food, both at home and in the facility. (The numbers of less healthy pregnant women, often unable to reach a facility, are unknown.) For the patients interviewed, educational attainment ranged from no education to high school teacher, but almost all were meaningfully able to discuss health issues in the context of services available. Almost all indicated or implied that they lived in viable communities with viable support networks. Many of the respondents were eager to be informal health advocates in their villages. That the landscape is relatively lush, with frequent seasonal rains, is beneficial; agricultural output is usually adequate. Local government officials, for the most part, are seen as lacking substantive resources but helpful. The same can be said for officials at the Mizan Hospital.

Yet nuanced interpretations, not found in certain other studies, also stand out. A range of motivations and motivators have been captured. For example, the role of community health fairs in spreading the word about clinical services available for pregnant women was found. The enthusiasm of women to share the benefits of services received (especially antenatal) with other women who might otherwise be reluctant was evident. The willingness, without complaint, of some women to walk from two to four hours – or more – to reach a hospital was remarkable. Long distances and transportation challenges have rarely stopped a woman's service access. The challenges of an extended stay at a hospital or clinic were stressed by several respondents; other children must be cared for and agricultural responsibilities are significant. Basic medical supplies are so limited at some locations that patients must purchase such things as the surgical gloves their providers will wear. Food services (e.g., regarding the lack of food diversity) were often noted. Yet the desire by patients to "spread the word" about the overall value of hospital and clinical services is strong. (They are not expected to tout specific services when they return to their communities, but some choose to.)

A number of respondents commented on the comforting and easy-to-understand information they received in the hospitals. With few registered nurses and doctors available in village clinic settings, once in the hospital information came primarily from nurses and nurse midwives, less so doctors. The information provided by health extension workers in villages was uniformly deemed helpful. Surprisingly, few patients commented (pro or con) on the roles of doctors and registered nurses.

Staff who were interviewed proved to be highly dedicated, despite dramatically delayed receipt of monthly government payments in several instances.4 Provider interactions with patients proved, with few exceptions, to be substantial. While occurring less in the maternal waiting areas, such interactions were found to be ongoing and regularized in community outreach, antenatal, and post-natal settings. A majority of those interviewed stated that they believed, despite limited equipment (e.g., vacuum extractor, ultrasound, X-ray) and medical supplies, that care was generally improving over time. The patient tracking and referral network was viewed as becoming more reliable. A number of examples were provided of communication enhancement (although computer availability and reliability were often constraining). Wellness education in the four hospitals was viewed as solid.

Staff turnover makes consistency of service difficult at times. The limited skills of many nurse midwives makes critical care in clinics difficult. A majority of respondents noted difficulties in uptake processing of new arrivals, often tied to staffing shortages. Technical and infrastructural problems are common, from broken pipes to electrical outages to solar power deficits. Yet maintenance technicians are skilled and creative.

Recommendations

Derived from these interviews, complemented by the team's on-site observations and discussions with local leaders, recommendations include further enhancing the on-site wellness education that patients receive; expanding the VHP nurse midwife training/skills program to more health professional participants; further individualized tutoring for those nurse midwives who are most skill-deficient; expanding "health festivals" to more communities; assuring adequate beds, blankets, nutritious food, and other essentials at all maternal waiting areas; providing incentives to service providers who excel; strengthening Mizan Hospital – local government health reporting to and from communities; continuing data monitoring efforts with key indicators and the use of two new computerized apps (noted below). Throughout, a sensitivity to cultural values and customs must continue to be emphasized by all participants and partner organizations.

Innovations

Complementing the standard best practices and "log frame" (i.e., logistical framework3) being used, VHP and its partners are innovating along the following fronts:

- An integrated model, discussed earlier, which provides a viable "conceptual and working umbrella."
- Development and use of two computerized apps, one for tracking WASH (water, sanitation, and hygiene) data and one for tracking CASH (comprehensive assessment of symptoms and history) data. Hand-held devices allow rapid data entry onto a "dashboard," with preliminary analyses readily available. Partnering through WEFTA and its executive director, Tim Wellman, enabled these innovations.
- Maternal waiting areas (i.e., maternity waiting homes), built adjacent to the hospitals and clinics, such that women about to deliver have places to rest, socialize with other women, and recover as needed. Simple beds, bedding, sanitary supplies, food, and clothing are provided, but sometimes irregularly. Such resources must be systematically prioritized.
- Food security, with small gardens at several of the maternal waiting areas. These afford women meaningful activity while waiting to deliver. For some individuals, it is intended that their entrepreneurial and marketing skills will be enhanced, with possible income generating possibilities.
- Solar power, with equipment (installed by Ethiopian technicians) that benefits hospital and clinic services, communications, and WASH initiatives.
- A variety of other infrastructural activities, from burn pits and incinerators to tap stands to latrines to wells and water storage/distribution systems. The involvement of skilled Ethiopian professionals in planning, installation, and maintenance is a priority.
- Regular nurse midwife and hospital staff training, with standardized training modules (e.g., BEMONC5) and skill-specific targets (e.g., obstetric care) tied to needs/gaps identified through regular on-site staff assessments. Mentoring of nurse midwives remains essential.
- Multidimensional field teams (with both American and Ethiopian members), which – at various times – have comprised medical and training specialists, engineers, hydrologists, social science researchers, legal and administrative specialists, and maintenance personnel (the latter often serving as circuit riders). A Regis University of Colorado student intern also has been actively involved.

Certain other innovations also could be considered, such as centralized chlorine production and its networked distribution. Building on the government-sponsored Women's Development Group strategy could be helpful. Strengthening the equipment and medical supply chain, along with cleaning protocols, would prove beneficial. An on-site mentoring program for Ethiopian students interested in the intersection of socio-economic development and health care, sponsored by Mizan Tepi University, could be instituted at little cost. Expansion of the circuit riding program to include more riders and more expertise, beyond maintenance and repair, would be beneficial.

Grand Strategies

Building on the latest suggestions developed by Rotary International (2025) for the WASH sector but broadly relevant for programs of this type:

- Move from infrastructure-focused interventions to programs that strengthen local leadership, financing, governance, technical skills, Indigenous knowledge, and behaviors long-term.
- Provide equitable access for citizens to information bridging the health, education, environmental, economic, and peace sectors.
- Local governments, service providers, and civil society agencies must partner systematically. "One-off" projects are not preferable. These organizations must "burden share" as capacity building continues. They must "scale up" when something is found to work well.
- Citizen/villager input is not an "add-on," should time permit. It is essential, from the start, as felt needs are assessed and later, as programs are developed. Advocacy activities should be integrated into program design.
- MERL (monitoring, evaluation, reflection, learning) must be on-going and prioritized. Findings from one program must be compared with those from similar programs elsewhere. "Communities of practice" (COPs) can encourage learning exchanges and joint monitoring activities.
- Investigate possibilities recently confirmed by the Gates Foundation, which announced a US$2.5 billion commitment through 2030 focusing on research and development exclusively for women's health in low- and middle-income countries.
- Relevant targets within the U.N.'s Sustainable Development Goals must not only be discussed, but made actionable at local levels.

NOTES

[1] The 10 facilities are Mizan Tepi University and Teaching Hospital (i.e., Mizan Hospital), at the nexus, and also Bachuma Hospital, Maji Hospital, Siz Hospital, Jomu Health Center, Kuju Health Center, Chiruharoot Health Center, Chebera Health Center, Siz Health Center, and Tum Health Center. Health centers also are referred to as clinics. Other facilities VHP serves, which are not discussed here, are in western Ethiopia in the Oromia Region, within the Kellem Wollega and Western Wollega zones.

[2] This region of Ethiopia is home to some of the earliest modern humans ever identified paleoanthropologically. As Trinkaus (2005) notes, the Omo – Kibish finds can be dated to more than 150,000 years old.

[3] The logistical framework being used by VHP, built on the theory of change and the principles of planning, participation, and evaluation, incorporates these elements in tabular form: Objectives, Indicators (measures of status), Verification, Risks, Activities, Outputs, and Outcomes. Complementary information and site reports can be found on the agency's website: villagehealthpartnership.org.

[4] After these data were gathered, many of the country's doctors, who had seen their salaries plummet by as much as two-thirds over the previous six years, staged a month-long, nation-wide strike (The Economist, 2025).

[5] The BEMONC model, Basic Emergency Obstetric and Newborn Care, by definition "covers the necessary skills and professional behaviors for handling common obstetric emergencies at multiple levels of care." The content is based on evidence from the World Health Organization (WHO) and the Inter-Agency Working Group (IAWG) on Reproductive Health in Crises.

APPENDICES

Appendix 1

A rank-order analysis was conducted on the variables associated with the answers provided by the 20 women who were interviewed. The top 10 are listed in descending order, by the number of "yes" (and in one case "no") responses. All questions were open-ended, and additional comments were welcomed. Selected, paraphrased comments follow the list.

Rank Order Responses

General, Positive/Affirmative Trends (top 10)

1) Would you use this facility again, if needed, and promote it?
Yes 19 No 1

2) Is overall food security, including that at home, adequate?
Yes 19 No 1

3) Was your husband supportive of your visit to this facility?
Yes 17 No 2

4) Do you have suggestions for improvements of this facility?
Yes 16 No 4

5) Did you have difficulties accessing this facility/services?
Yes 6 No 14

6) Is the antenatal care you received valuable? *
Yes 12

7) Did health extension workers visit your home/community? *
Yes 11

8) Did you experience a caring staff, welcoming your comfort? *
Yes 8

9) Was health/wellness education received at the facility? *
Yes 7

10) Did you have immediate access to antenatal care? *
Yes 7

All 20 respondents, in one form or another, and through answers to one or more questions, were able to describe – and in a number of cases comment on – one or more of the services offered at the facility. Antenatal and food services were most frequently mentioned.

The above represent summations of questions asked orally of the respondents. For example, there was a question that explicitly asked "would you use this facility again," but there was no question that explicitly asked "did you experience a caring staff;" this favorable response was received when the question about "perceived facility benefits" was asked. As all questions were open-ended, many chose to expand upon their responses. For those questions where a (*) appears, the absence of "no" indicates no comment was made, pro or con, by the remaining respondents. Selected comments (three each), matched to the rank order above, appear below.

Selected Positive Comments (paraphrased)

1) "I will return, for antenatal and delivery, and will promote it, too."
"Yes, I will return, and even if I'm not pregnant, I'll come for birth control."
"I'll use it again because of the health professionals and the immediate care."

2) "I have adequate food at home, and even if it's not diverse, I eat what I can find."
"I eat anything available. Here, injera is 'the food'. Cabbage and other food are next."
"The food schedule varies here, two or three times daily. The quantity is adequate."

3) "This was a family decision, including my father and husband."
"I made the decision with my husband, who accompanied me on my antenatal visits."
"My husband is happy with this. This facility will provide safety for me and my newborn."

4) "A more diverse diet, with more beds and blankets in the maternal waiting area (MWA)."
"There should be incentives for women to come, like offering clothing."
"Ultrasound is needed, as is a paved road to the facility."

5) "No problems in getting here, by foot when muddy and by motorbike when roads are dry."
"No difficulties. I hitched an 8-hour ride on a truck."
"I had bleeding with my last pregnancy, so I had to get here."

6) "The antenatal care benefits me, my child, and my family."
"It's comfortable here, I like the bed. The health education is good."
"Here I get better treatment for my newborn and me, and the services and food are free."

7) "The health extension worker came to my home, and also mentioned the MWA."
"There are trained health extension workers, well equipped and with easy access."
"Health extension workers came to my home. During a check-up, I received information."

8) "I'm happy that blood donations saved my life. The staff are caring."
"I can get antenatal follow-up care, this is my fifth visit."
"It's a welcoming environment, with friendly professionals who are very committed."

9) "I received health education, although no information on proper foods."

"The health education is good. I received information on labor and delivery."

"Health information, including what to do after delivery, was provided."

10) "There are benefits of immediate assistance, vaccinations, and a referral if necessary."

"There was an antenatal check-up promptly upon my arrival, then a meal service."

"I received an antenatal examination upon my arrival, and twice daily since then."

Intriguing Comments

"If I'd stayed home, I might have died. By coming here, my newborn may eventually become the leader of the country."

"The health professionals are welcoming. They respect us and we thank God for that."

"I learned about this facility through my high school biology class."

"Outside, I must buy the syringes and gloves for the health professionals who help me, once I'm inside."

"By coming here, I can serve as a role model for other women."

"My first delivery, at home, was difficult because it was also the harvest season. Here, there is adequate support."

"My husband is the beer distributor in the village, and therefore he's well regarded!"

Appendix 2

A rank-order analysis – structured differently from that employed with the women's data – was conducted on the variable sets associated with the answers provided by the 10 service providers who were interviewed. The top three that indicated positive/pro-active information, followed by the top three that indicated constraining/challenging issues, are indicated below.

Top-Three Ranked Interview Answer Sets, Positive/Pro-Active

1) Integrating health centers and community efforts:

All 10 respondents provided favorable answers, with details. These included visits to the community and people's homes, the roles of Nurse Midwives (NMWs) and other professionals (including health extension workers), the importance of maternal waiting areas (MWAs), the importance of community "health festivals," and the importance of ad hoc meetings involving patients. "Education is the key to integration," one respondent stressed.

2) What works well/best practices in support services:

Spanning the responses to several questions, all 10 respondents noted positives – and usually favorable outcomes – as support services are engaged. These include delivery coaches (although limited), health center – hospital cross-checking and communication, patient tracking (pre- and post-delivery), referral networks, professional training, professional incentives (although limited), and health committees (although limited). "Capacity" and "access" capture these best.

3) What works well/best practices in antenatal services:

While aspects of the actual delivery and post-delivery procedures were not often noted, antenatal services often were. Spanning the responses to several questions, all 10 respondents – on behalf of their patients – noted positives which included wellness education, MWA support, health extension worker contact and follow-up, on-site NMW support, food (including in the MWAs), and abortion care. It was noted that some women who come for antenatal care don't come for delivery. At the Mizan Hospital there are now seven gynecologists.

Top-Three Ranked Interview Answer Sets, Challenges

1) Issues constraining service:

All 10 respondents commented on challenges, constraints, or difficulties involving service access and delivery. Most frequently mentioned (60%) were the long-distances, often accompanied by transport constraints, facing women. Yet the women arrived. Also most frequently mentioned (60%) were constraints regarding health center/hospital medical equipment (including automation), medical supplies, and medications. Food issues for patients were mentioned by 50% of the respondents. High staff turnover was mentioned by 20%.

2) Uptake of pregnant women:

All 10 respondents commented on uptake processes and procedures for pregnant women. Some women come on referral, others on their own. From the Mizan Hospital, wellness educators sponsored by the health department and woreda have increasingly been sent out, which has aided the uptake process. While smooth processing (aided by awareness) was noted by 30% of the respondents, 60% noted difficulties in processing, such as staffing shortages and women's desire to stay home (including for privacy).

3) Technical/infrastructural difficulties:

All 10 respondents commented on one or more technical or infrastructural difficulties, which varied widely from facility to facility. The lack of essential, major medical and lab equipment was mentioned by 50% of those interviewed. Solar and electrical power problems were reported by 30%. Smaller numbers reported broken drains and gutters, lack of funds for generator fuel, restricted space and cold floors in MWAs, lack of computers, lack of blood bank, muddy access roads, inadequate ambulance service, and lack of consistent bus service.

Peter Van Arsdale, Ph.D., earned his doctorate in cultural and applied anthropology from the University of Colorado. A founding member of the High Plains Society for Applied Anthropology, he currently serves as Editor-in-Chief of its journal. Having worked worldwide, his most recent emphasis has been East Africa. His latest book is Encounters: 50 Fascinating Strangers from My Life on the Road. *He can be reached at petervanarsdale1@gmail.com.*

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