

The Communication Initiative - Thinking - SAFER MOTHERHOOD 2000

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Strategic Thinking

SAFER MOTHERHOOD 2000

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Summary

This paper is intended as a tool to encourage dialogue and generate feedback from qualitative

researchers and communication program planners, who share the responsibility for design and implementation of effective safe motherhood research and communication interventions. It briefly reviews some recent literature that impacts the design of the communication component of country programs to reduce maternal deaths. The paper reemphasizes the need to utilize focused, innovative, participatory research and community development methodologies. Safe motherhood communication planners should "cast a wider net" to include review of models available from other technical areas.

A draft framework for a thematic approach that prioritizes behavior change interventions to focus on maternal mortality reduction is suggested, and several community-based tools and approaches are described. Collective action by the safe motherhood communication community is necessary to move beyond conventional approaches, to rapidly refine current techniques, and disseminate improved methods for collaborative research and participatory behavior change communication interventions.

The paper aims to bring several potentially useful new methodologies and approaches to the attention of safe motherhood communication planners, often too busy with implementation issues, to look outside of the safe motherhood technical area for additional tools, resources, and ideas. No firm conclusions are drawn. Several concepts, ideas, and models being used in countries that have already focused on maternal mortality reduction, and by other disciplines are briefly described. These could be collaboratively adapted to enhance our work in safe motherhood communication and maternal mortality reduction.

KEY ACTIONS TO ACCELERATE BEHAVIOR CHANGE TO REDUCE MATERNAL DEATHS

1. Redesign qualitative research to focus on maternal deaths
2. Reprioritize behaviors to emphasize behaviors with most mortality reduction potential
3. Refine key behaviors into sub-behaviors and increase support and resources provided for each sub-behavior
4. Promote design and use of birth preparedness card
5. Adapt and apply expanded ethnographic techniques to improve research output
6. Employ collaborative community research models
7. Explore and exploit hierarchy and networking patterns to increase improved practice among medical professionals and policymakers

I. SAFER MOTHERHOOD: AN INITIATIVE IN TRANSITION

The dawn of a new century has provided opportunity for a wide array of reviews and retrospectives, tallying achievements and accomplishments, and taking stock of things that remain undone. Perhaps an appropriate time, then, for an update on progress made and challenges ahead in one important aspect of the Safe Motherhood Initiative (SMI) - behavior change communication.

Much discussion about future directions for maternal health programs has already taken place, especially at the end of the first decade of the Safe Motherhood Initiative in 1997. Debate continues about the importance and effectiveness of each element of safe motherhood programs, the specific

content, and the broad goals of the initiative. Recently, both well-recognized and new authors from the safe motherhood community have published opinions on the state of the initiative.

Some, claiming a lack of support from donors, policymakers and senior medical professionals, ask whether safe motherhood has become an "orphan initiative" (47). Questions about program priorities and methodologies persist. Information and experience accumulated during the first decade of the initiative provides clear evidence for a new focus for safe motherhood interventions. An understanding of "precisely where to concentrate effort in each setting is the key" to achieving safe motherhood. Although there is now evidence that most maternal deaths occur during or very soon after childbirth, reprioritization of program resources to reflect this has not occurred, and "women are still not getting the right care when they need it" (1).

A recent infusion of financial resources has provided the opportunity to continue the search for definitive answers to these questions, and maternal mortality reduction has regained prominence among safe motherhood interventions (25). But changing long-standing organizational priorities, structures, strategies, and services requires not just resources and skills, but the development and application of a new set of tools (24). A strategic model that "focuses sharply on the interval between the obvious onset of a serious obstetric complication and the provision of emergency obstetric care" provides program guidelines based on well-delineated causal pathways (26). Attention is increasingly being placed on "evidence-based" interventions to refocus the clinical components of safe motherhood programs. Some countries on the forefront of maternal mortality reduction efforts have taken bold steps to reorganize programs and reallocate existing resources to reflect lessons learned (5).

The same attention however has not been given to reprioritizing and refocusing the communication component of programs. Less evidence on which to base the design of effective strategies is available for safe motherhood communication than for other program components. Although the essential role of behavior change and community mobilization in reducing maternal deaths is widely recognized, few models for collaborative behavior change interventions or community entry exist.

To find the answers to "what works" in behavior change communication to reduce maternal deaths, a dual approach is necessary - 1) to look more closely at what has been tried in safe motherhood that has been successful, or why it was not, and 2) to look outside of the boundaries of safe motherhood to see what others have done that we have not applied to safe motherhood, yet. Some successful models from other disciplines that can provide useful guidance are available. For example, perhaps because of the devastating speed and severity of the AIDS epidemic, much has been done, and done well, in HIV/AIDS behavior change communication.

Many activities related to safe motherhood communication are well underway. The first decade of literature on safe motherhood communication has been reviewed (27). An extensive review of the most recent safe motherhood communication, behavior change, and social mobilization literature is in progress (29). A workshop is planned to discuss and disseminate safe motherhood communication lessons learned to date from field experiences from the MotherCare project. A network has been created to promote collaborative efforts for safer motherhood among non-governmental organizations (NGOs). A "White Ribbon" Initiative is underway to raise social consciousness about the magnitude and impact of maternal deaths (38). The evidence generated from these efforts will provide a basis for formulation of new approaches. This paper suggests a thematic approach and draft framework for prioritizing behavior change interventions and proposes several community-based tools and methodologies that could also support maternal mortality reduction.

II. BEHAVIOR CHANGE TO REDUCE MATERNAL DEATHS

Evolving to Meet Changing Program Needs

New priorities among key behaviors

A review of safe motherhood communication literature from the first decade of the initiative suggested refocusing of communication strategies to reflect emerging priorities and the refocus of the initiative as a whole (27). It is not yet possible to conclude from available literature that these changes have been widely implemented. Conventional communication interventions continue to suffer from the same problems as other safe motherhood program components - too broad, too comprehensive, too diverse, and too all-inclusive. This "full menu" approach provides a set of general information on a wide range of safe motherhood topics - from conception to postpartum contraception - but often does not provide the specific detail on critical aspects of perinatal practice to effectively change behaviors most likely to reduce maternal deaths. To date, no comprehensive framework for evidence-based, strategic communication interventions focused on reducing maternal deaths has been put forward.

Revised tools and phased research protocols could allow deeper penetration into a smaller but more essential set of behaviors and practices. A more systematic application of the full range of behavior change theories and methodologies, but focused on the perinatal

period, may enhance the development of safe motherhood communication research tools and implementation strategies.

Despite the abundance of published literature detailing the evolution of the safe motherhood initiative, many national level safe motherhood programs may not yet have adopted these changes as part of their national programs. In countries that are moving toward restructuring safe motherhood programs, such as Egypt, the communication component must logically reflect these new directions. In countries that have not yet begun to implement such program changes, a state-of-the-art communication component can be the driving force toward broader program changes.

The key parts of an updated, evidence-based safe motherhood behavior change communication framework that focuses on reduction of maternal deaths are:

- reprioritization among key behaviors to focus on elements that can most contribute to reduction of maternal deaths
- detailed behavioral analysis including a breakdown of each behavior for each target audience into sub-behaviors
- a thematic approach reflecting new relative emphasis among behavioral priorities
- phased introduction of the six thematic areas, the second phase building on and delving deeper into the specific content of the general thematic presentation in first phase

Evidence-based reprioritization of behaviors and communication themes

The reprioritization of behaviors, and relative emphasis given to each theme, is based on similar criteria. These criteria include:

- consistency with overall programme objectives
- magnitude of deaths potentially averted through adoption of behavior
- prevalence of current practice
- current progress along "continuum of behavior change"
- amenability to change

A set of reprioritized behaviors for each key target audience - pregnant women and women of reproductive age, family and community influentials, home birth attendants (traditional or professional), and facility-based health professionals - with a detailed breakdown into sub-behaviors is provided in Appendix A. A simple but comprehensive evaluation framework that measures

exposure, knowledge, and action for each behavior called HEAR/KNOW/GO is provided in Appendix B. This tool can easily be modified for use directly by community members.

Six evidence-based priority themes, ranked according to existing evidence for the potential contribution of each theme to maternal mortality reduction, in order of relative emphasis are:

Theme One: Birth Preparedness/Planning for a Safer Birth

Theme Two: Early Postpartum Care for Mother and Newborn

Theme Three: The "Clean Chain" - Cleanliness, Asepsis, and Infection Control at Household and Facility Level

Theme Four: Reducing the "Three Delays" in Careseeking for Obstetric and Newborn Emergencies

Theme Five: Improved Patterns of Antenatal Care Use

Theme Six: Strengthening the Community Response and Social Support Networks

A brief description of the rationale for each theme follows.

Theme One: Birth Preparedness/Planning for a Safer Birth

Birth preparedness is a key component of globally accepted safe motherhood communication programme guidelines. Lack of awareness of the danger signs of obstetric emergencies, and lack of appreciation of the need for rapid and appropriate response when emergencies occur, are major contributing factors in many maternal and newborn deaths.

Almost all non-Western cultures perceive childbirth as a normal event, and advance household preparation for potential obstetric emergencies is not widespread. Even the concept of "planning" for anticipated normal birth is not common, although some form of preparation for the routine needs of new mothers and newborns traditionally take place.

There are several key elements of preparing a household plan for safer birth. These include:

- preferred birth location
- preferred birth attendant
- knowledge of location of closest appropriate care facility
- obtain funds for birth-related expenses
- identify companion to accompany to facility ("chaperone")
- arrange transport for facility-based birth or in case of obstetric emergency
- identify compatible blood donors in case of hemorrhage

A potential tool to assist households and communities to prepare for safer childbirth, a birth preparedness card, is described later in this paper.

Theme Two: Early Postpartum Care for Mother and Newborn

It has recently been proved by systematic global review of country maternal mortality data that an overwhelming majority of maternal and newborn deaths occur during the immediate and early postpartum period. This new information has helped support a shift in emphasis in programmes that aim to reduce maternal deaths to focus on this critical time period.

This theme will highlight the benefits of routine early postpartum care, recognition of danger signs of maternal and newborn postpartum emergencies, and the specific elements of care for mother and

newborn that can be lifesaving if initiated early.

Theme Three: The "Clean Chain" - Cleanliness, Asepsis, and Infection Control at Household and Facility Level

Sepsis is globally recognized as one of the five major causes of maternal mortality. Sepsis is also among the major causes of maternal and newborn deaths, regardless of whether birth occurred at home or in health facilities. Sepsis is one of the most avoidable causes of maternal death, through systematic prevention efforts. The "clean chain" analogy, much like the "cold chain" used in the Expanded Programme on Immunization, reinforces the need to maintain hygienic/aseptic practice at all levels - household, clinic, and hospital.

To cultivate a "culture of cleanliness" at all levels of care, the clean chain must be promoted not only to home birth attendants and families, but to health professionals as well. There is clear evidence that doctors and other facility-based maternal care providers often do not maintain hygienic practice during delivery, and that modern medical practice in health facilities can contribute significantly to maternal and newborn sepsis. For facility-based deliveries, the clean chain includes establishing and posting protocols for hand washing and disinfection; clean surfaces and practices; training for handwashing and aseptic technique; and use of "clean delivery" indicators on regular basis as part of supervision and monitoring.

Promotion of "clean chain" home birth practices for all birth attendants includes ensuring clean hands, clean delivery surface, clean cord cut, clean cord stump care, and clean birth canal/perineum. At household level, "clean chain" includes promotion of maternal personal hygiene during pregnancy, birth and postpartum; newborn hygiene, "clean feeding" (exclusive breastfeeding), and clean immediate environment for the newborn. Promotion of clean birth kits also reflects the clean chain theme.

Clean birth is a safe "lead-in" for promoting change in other elements of birth practice that are potentially harmful, but more likely to be controversial. These other harmful birth practices, which also occur at both facility-based and home births, include use of oxytocics, and prolonged and excessive obstetric manipulation.

Theme Four: Reducing the "Three Delays" in Care for Obstetric and Newborn Emergencies

It is globally acknowledged that programmes that aim to reduce maternal and newborn deaths must prioritize clinical and communication interventions that specifically address access to care for obstetric emergencies. The concept of delay is the cornerstone of the current framework for the "Pathways to Survival" model (30). Since the delay concept was first introduced (44), the overwhelming number of pregnancy-related deaths where delay was an important factor has been clearly documented in many countries.

Timely recognition and prompt treatment of obstetric and newborn complications can be lifesaving. Delay in recognition and treatment frequently results in death. A critical factor in maternal and newborn deaths is the unpredictable nature of most life-threatening obstetric complications, their extremely rapid onset, and the potential for rapid progression to fatal outcome. For example, hemorrhage cannot be reliably predicted or prevented, and can result in death within several hours of onset if prompt treatment is not available.

Three distinct phases of delay that contribute to both maternal and newborn death have been identified. The "three delays" are: 1) household level delay in deciding to seek care; 2) delay in reaching care due to transportation and referral system difficulties; and 3) delay in receiving care after arrival at a health facility.

Promotion of the three delays and their specific manifestations will increase awareness at the household and community level and among both health professionals and traditional birth attendants

(TBAs), and encourage the development of locally appropriate solutions.

A major focus of this theme is reinforcing the need for rapid recognition of the emergency condition, rapid on-site stabilization or treatment by a trained health professional, or rapid movement of women and newborns experiencing emergencies to the appropriate care facility for care by a trained health professional.

This theme ties into, and reinforces, the emergency readiness aspects of both the birth preparedness and postpartum care themes.

Theme Five: Improved Patterns of Antenatal Care Use

Two key contributing factors to antenatal care (ANC) use patterns that are common in most developing nations are 1) a dominant and often intractable belief that antenatal care is not required unless there is a problem, and 2) perceived poor quality of public care. ANC use is often initiated late in pregnancy, and commonly lowest among primiparas and grand multiparas over age thirty-five, women with highest potential risk of obstetric problems.

Along with the recent increase in global awareness of the potential importance of the early postpartum period in reduction of maternal and newborn deaths has come a new understanding of the role and effectiveness of antenatal care. Regular, good quality antenatal care undoubtedly contributes to improved maternal and newborn health. However, the long-standing belief in the relationship between ANC use and reduction of maternal death has been reassessed.

Antenatal care remains valued as an important "point of contact" with pregnant women, to screen for medical problems such as preeclampsia and maternal infection, provide TT immunization and iron folate supplementation, and to introduce and reinforce healthy behaviors, including birth preparedness.

The thematic approach to improve utilization of antenatal care will address all women, but with special focus on young primiparas and women over age thirty-five. The "silent" danger signs of pregnancy-related complications will be emphasized, as will improving the overall image of public antenatal care.

Theme Six: Strengthening the Community Response and Social Support Networks

A decade of maternal health communication experience has shown that communication interventions that target primarily women themselves are less successful. Informing and motivating family and community influentials is essential to effectively change behaviors to reduce maternal and newborn deaths.

Research has demonstrated that in some settings women do have autonomy for making decisions about healthcare seeking. This may vary in relation to use of antenatal care, but also to a great degree in selection of birth location and birth attendant. However, in the event of obstetric emergency, the capacity of women to make independent careseeking decisions is understandably compromised. At this critical juncture, the ability of family influentials and the birth attendant to make timely, informed emergency care decisions can be lifesaving.

Promoting dialogue in households and communities is the primary aim of Theme Six. This theme will reinforce the overarching theme of total community involvement for healthier mothers and newborns, as well as Theme One. Specific elements of recommended community responses and local methods to strengthen community support will be proposed, including the need for household and community involvement in advance preparation for birth (procuring funds and transport for maternal and newborn care, selection of birth attendant and location, identification of companion, and compatible blood donor).

A new tool for community action to reduce maternal deaths: the birth preparedness card

The recommended childbirth behavior for women was often "clean birth assisted by a trained attendant." This has now evolved to "seek skilled professional childbirth attendance". Both are certainly valid recommendations. It is perhaps not readily apparent in that simple statement, however, the many decisionmaking factors and supporting actions that are actually required if a woman is to achieve that behavior. A four-step "pathway to survival" that represents childbirth careseeking decisionmaking has been the dominant conceptual model for several years (30). Although some future modifications to this model have been proposed (31), it may not capture the potential complexity of that process in different country settings.

An example of the many factors that contribute to childbirth decisionmaking in one setting, among women in rural Upper Egypt, was compiled from the abundance of qualitative data available (28). (See Appendix C).

To better assist women, families, and communities to achieve behaviors most likely to reduce maternal deaths, more attention to detail is required. Each recommended behavior should be analyzed and broken down into a set of sub-behaviors. Although this type of behavioral analysis is a basic part of behavior change interventions, more attention to these details in safe motherhood could be beneficial. Assuring that women and families have the support and resources they need to complete every step in a given behavior may make a critical difference in change achieved. Most importantly, inquiry related to each sub-behavior should be systematically incorporated into research guides and protocols. The breakdown of behaviors into sub-behaviors in Appendix D lists the sub-behaviors for trained birth attendance and fourteen other priority behaviors to reduce maternal deaths.

One possible method to improve birth preparedness is the design, production, and distribution of a "birth preparedness card." Through this card, household dialogue and compliance with each sub-factor identified under the birth preparedness behavioral objective would be encouraged. The card would be designed to accommodate low-literate users and would have space for entry of the above information. It would also pictorially portray the danger signs of obstetric and newborn emergencies.

A birth preparedness card would be complementary to, not instead of, the conventional antenatal card used by most nations. The card could be distributed through existing health facility-based mechanisms. However, it could be particularly useful in settings where women do not conventionally utilize antenatal care, as it could also be distributed to women and families through alternative community-based channels. Demand for the card would be generated as part of the communication strategy for this objective. There is likely to be controversy surrounding the large-scale introduction of a birth preparedness card, centered around the potential confusion that a new card could generate. Such debate, however, could in and of itself be useful in focusing the attention of health policymakers and planners on the new thinking about the effectiveness of ANC in maternal mortality reduction, and could be beneficial overall.

The card could be a useful tool for evaluating aspects of the communication intervention. For example, measuring availability of the card in households would demonstrate the "reach" of programme activities. Family entries made on the card as described above could be useful to compare intended birth location/birth attendant and actual birth location and attendant.

The concept for use of this card was developed as part of the formulation of a national communication strategy for the Egyptian Healthy Mothers, Healthy Children Project (28). The design, distribution, and utility of a birth preparedness card are now being pilot-tested as part of that project (16). A birth preparedness card is also in use in Bangladesh (7).

Preparedness for blood donation

Hemorrhage has been found to be a major cause of maternal death in most developing country settings. An important element of birth preparedness is advance identification of a compatible blood

donor in the event that hemorrhage should occur. In some settings, because of widespread resistance to blood donation, even in emergencies, and of unavailability of equipment for blood transfusion and storage, these elements of the card would have to be reconsidered.

In other settings however, such as Egypt, widespread family and community willingness to donate blood when a woman experienced hemorrhage during childbirth has been demonstrated (42). Research demonstrated that there is already some degree of awareness of blood type and even Rh compatibility among Upper Egyptian women. This is extremely unusual and demonstrates the sophisticated level of antenatal care some Upper Egyptian women already receive. In addition, many potential household and community donors might already know their blood type, as this information is included on the Egyptian national identification card required for all adults.

Too often, in Upper Egypt, many of those who volunteered to donate blood did not "match" bloodtype, and needless deaths occurred, even in the presence of trained staff and adequate transfusion equipment. In these countries, advance identification of compatible blood donors for every pregnant woman could be lifesaving. A "donor identification card" could also be created to promote inclusion of those who volunteered to be tested for donor compatibility.

Expanding Existing Models

A closer look at key behaviors: "steps"

The factors influencing individual behavior, which must be addressed in order to change behavior, are often complex. This is particularly true during pregnancy, childbirth, and the postpartum period when many family influentials and cultural systems affect individual decisionmaking. The models we use to understand these behaviors have themselves become increasingly complex (35). Yet even in their complexity, existing models may not fully reflect the real choices and steps women and families must make to achieve recommended behaviors to make motherhood safer.

The difference is in the details. But despite more than a decade of careful attention to the design and implementation of qualitative research, significant gaps have been identified in the results produced in many field studies. These gaps and ambiguities in information collected often compromise the design of truly effective communication interventions. At times, problems with qualitative data have been severe enough to preclude meaningful analysis and prohibit definitive conclusions from being drawn (31).

Although numerous conceptual models and frameworks exist to guide safe motherhood qualitative research, these need to be reconceptualized to reflect recent changes. Closer adherence to reprioritized program models, closer attention to detailed behavioral breakdown, and development of a strategic, focused research guide can all contribute to a reduction in inexplicable information gaps. Triangulation of data, the use of a variety of data sources, methods, investigators, and interpretive perspectives to study a single program or problem has also been suggested to overcome deficiencies in conventional qualitative studies (46).

It's not the product that's different, it's the process

It is increasingly recognized that communication for behavior change must be conceptualized within an overall environment of communication for social change (13). Some have suggested that in order to truly change behaviors, individuals and communities must be more actively involved in all aspects of behavior change efforts.

Some communities have challenged the authority of "cultural outsiders" to predetermine and promote a set of behaviors without input from those targeted for behavior change. Collaborative research with participation of the proposed program beneficiaries in all aspects of local communication intervention design and implementation can address these concerns and improve sustainability and acceptability of behavior change activities.

Steps in participatory behavior change communication intervention design can include:

- Collaborative review of existing research results and development of new instruments to fill information gaps
- Target audiences reviewed and revised
- Negotiation of recommended behaviors to create a more acceptable core behavior set
- Prioritize and rank behaviors according to stated criteria
- Break down key behaviors into sub behaviors (behavioral analysis) and systematic validation of the step-by-step details of exactly what is required to carry out or achieve proposed behaviors
- Collaborative determination of potential barriers, motivators, needs and resource gaps from beneficiary perspective

Stages of change and stage-based encounters (SBEs): Adapting stages of change models to maternal mortality reduction

Perhaps one of the most successful behavior change theory models that has been applied to investigate other health topics such as HIV/AIDS is the stages of change model. The stages of change - precontemplation, contemplation, preparation, action and maintenance - are by now so well known that they do not require elaboration. A five-year, multi-site CDC behavior change intervention research effort applied the behavioral theory of Prochaska (stages of change), Bandura (social learning-based modeling), and Rogers (diffusion of innovations) to develop four intervention components - 1) a community mobilization framework; 2) organizational and individual (peer) networking, 3) community-tailored communication materials; and 4) stage-tailored outreach (43).

The research focused on the interaction between media messages and interpersonal communication in health promotion, and highlighted the importance of peers in development and distribution of "role model stories." These stories, developed from real-life experiences of women in study communities, formed the basis of innovative one-on-one stage-tailored outreach with a focus on customized individual risk-reduction strategies (35). The stages of the change model deserve a closer look by safe motherhood researchers to determine adaptability to maternal mortality reduction.

The program clearly identified stages of change for each intended behavior change and each target audience. The potential of applying the stages of change model to determine the specific parameters of change for each recommended behavior to reduce maternal deaths should be considered. The full participation of community members, the stages-of-change construct for research and intervention design, and a stage-of-change-based outcome assessment contributed to project success in achieving behavior changes. The authors of this study state that unless researchers and practitioners use stage-of-change theory to "refine and integrate intervention efforts to optimize behavior change, programs will achieve only limited success."

Another study provides an excellent example of the use of theoretical behavior change models to design stage-based interventions. They developed specific interventions geared toward individuals at precise stages of change for the target behavior (in this case, change in condom use). Because behavior change is such a complex process, "structuring the process over time by employing the stages of change paradigm may help to delineate which techniques may be most effective for intervention at each stage" (35). In relation to stages of change in condom use, self-efficacy, outcome expectancy, and cohabitation had more direct effects; attitudes and norms had a more indirect effect.

These findings have clear implications for the development of similar stage-based communication

interventions and stage-based encounters (SBEs) for maternal mortality reduction. To date, no guidelines for the development of SBEs or stage-based interventions and messages that would be specifically designed to target individuals at each specific stage of change have been produced for safe motherhood communication.

How can stage-based interventions make a difference?

One current theory about the role of behavior change communication in maternal mortality reduction is that there is little need for it (25). It is proposed that if upgraded facilities exist to provide quality emergency obstetric care, word will automatically spread in the community, resulting in increased, timely use of services. In one governorate in Egypt, use of emergency care after completion of upgraded facilities did increase from about 20% to about 40% (5), a noteworthy increase.

Substantially improved services alone no doubt will increase demand for and use of services. This increased use might have taken place, however, among a segment of the overall target population, known as spontaneous acceptors, most likely to use services anyway. In stage-of-change terminology, this group would have independently reached the fourth stage (action), and therefore would not require communication intervention to prompt use of available care.

However, for the majority of the target audience who remain in the precontemplation (denial) or contemplation stages of change, even available, accessible services might not result in spontaneous use of care. For example, in one periurban area of Pakistan, a majority of women who died from obstetric complications lived within 5-10 kilometers from the renovated facility (20). The author laments the sociocultural dynamics at work, citing the fact that almost half of the women who died did not come to a hospital promptly because their husbands were not at home to grant permission. He strongly supports education of the entire community to promote necessary social changes to support maternal mortality reduction.

Also, although utilization of facility-based care in obstetric emergencies is a critical element in reduction of maternal deaths, it is by no means the only element. Clean birth practice, wherever births occur and no matter who attends them, can reduce complications from sepsis and therefore maternal deaths. This and other recommended behaviors still require strategic and sustained behavior change communication efforts.

III. RETHINKING MODELS FOR COLLABORATIVE COMMUNITY ACTION TO REDUCE MATERNAL DEATHS

New models for comprehensive community advocacy

The importance of community involvement in local safer motherhood promotion and education activities is undisputed. A few successful safe motherhood-related models have been described, and some of the initial models have been replicated in other settings (18, 3).

Several more comprehensive approaches to increasing sustained community involvement in health promotion and development issues have been described - as diverse as migrant farm workers and pesticide risk education (2) and HIV risk reduction among IV drug abusers (43) - but these descriptions appear in literature published outside of the field of safe motherhood. Collaborative community research, not yet a well-established method among safe motherhood researchers, has been a pillar of some of these approaches. The possibilities of adapting and applying these models to maternal mortality reduction are exciting.

As with behavior change, many frameworks for, and case study results of, community development and empowerment have been described. Several of these were not available to be included in a previous paper calling for collaborative community research (27). The rationale for continued use of these models, despite the additional time and resources required, are eloquently stated (2). Defenders of collaborative community partnerships argue that the "brief interventions that emphasize individual decisionmaking are not the long-term solution to reducing risk behavior..." and that "the research establishment has missed the opportunity to learn from communities and people... what

interventions might serve them best and what approaches to research can produce the most useful information in the least intrusive ways" (40).

Too often, safe motherhood communication interventions continue to be designed and implemented from top down, and do not allow for any true community participation. The discrepancy between knowledge, risk awareness, and actual behavior is well recognized. That discrepancy needs to be continually addressed, particularly in behavior change communication focused on maternal mortality reduction. To reduce maternal deaths, not only medical risks must be considered, but social risks as well.

Even in this the second decade of the SMI, when many have unquestioningly accepted the time and resource requirements of upgrading emergency services as essential, the role of communication and collaborative community research in maternal mortality reduction remains underappreciated. The prevailing approach to communication - distribution of centrally developed posters and pamphlets through largely conventional channels - is easier, faster, and more familiar. Yet these have not had much appreciable effect in producing lasting change in service utilization or other behavior change in households and communities.

Some resistance appears to persist among safe motherhood communication programmers to exploring community education models that have been tried in other disciplines. Perhaps this is because, as has been suggested, neither university-based researchers nor health care providers have a great deal of community partnership experience (40). Yet the responsibility for community level intervention development continues to be placed in the hands of these same cadres of researchers.

Perhaps this resistance could be diminished if a simple, practical framework for comprehensive community entry specific to the needs of maternal mortality reduction research and intervention was elaborated. Clear description of innovative research methods such as shadowing and peer network research, and guidelines for use of expanded ethnographic tools and organizing community research partnerships (40) should be made more widely available to those developing community based safe motherhood research.

Models for Community Interaction: PACE, WIDP/CAPS and EMPOWER

A conceptual model called the community mobilization framework (CMF) was utilized by the WIDP project described earlier. That model served as a guide for identifying community partners, defined various types of potential project involvement, guided implementation of community-wide intervention components and provided structure for monitoring and evaluation. The CMF identified four types of potential project involvement - endorsement, support, participation/promotion, and coalition building (43).

A handful of researchers have "taken the next step" by arguing that community interventions can be developed indigenously, with only minimal initial input from external researchers. In the field of HIV/AIDS risk reduction, some communities and community organizations have already developed their own intervention models.

One comprehensive approach to enhanced participation described in the literature is based on a "multidomain, multimode" model that is built upon five modes of community interaction: 1) partnership with CBOs; 2) a project advisory committee; 3) community forums; 4) public presentations; and 5) collaborative formative research (2). Four essential elements of community participatory research are elaborated - participation of people being studied, use of personal experiences and perceptions of community members as data, a focus on empowerment, and a final product being action by the community to change the conditions causing that problem. While most of these elements have been included in some form as part of standard safe motherhood social marketing and qualitative research efforts, an honest appraisal might reveal that the research is not truly collaborative, and participation of households and community members constitutes secondary rather than primary participation.

A powerful meta-analysis of forty successful case studies of community development and empowerment model utilizes some interesting acronyms as part of its evaluation framework (21). The paper identifies common characteristics of effective women-led empowerment movements, despite cultural geographic political and socioeconomic differences, and integrates key findings into an empowerment model for social action and health promotion movements centered around "WAM" - Women And Mothers.

Some basic theoretical constructs of empowerment are discussed and a six-dimensional evaluation framework is utilized. The analysis identified seven empowerment methods most frequently used, with significant differences in frequency of use among successful programs. In descending order the interventions are enabling services, rights protection/promotion, public education, media use/advocacy, organizing associations/unions, empowerment education and work training, and microenterprise.

Interestingly, media and public education were used much more frequently by industrialized than non-industrialized societies (21).

This is particularly interesting in terms of the continuing debate surrounding the shift away from initial social empowerment goals prominent during the early safe motherhood initiative (47). Perhaps, based on forty successful case studies from other areas of women's empowerment, it is too soon to abandon completely the larger social change model originally proposed by the SMI.

A mechanism for developing "layers of participation," including participation of different community segments outside the sphere of influence of conventional safe motherhood community partners was an important factor in the success of the approach. This might help to overcome some of the persistent challenges to development of sustainable community action to reduce maternal deaths if extended to safe motherhood community efforts.

The EMPOWER model consists of five stages: 1) motivation for action; 2) empowerment support; 3) initial individual action; 4) empowerment program; and 5) institutionalization and replication. Although the article itself makes no mention of the stages of change behavioral model, obvious parallels and overlaps can be identified. The EMPOWER analysis categorizes the dimensions of support - CORE support and media support. CORE is another acronym for Community support, Organizational support from community based organizations, Resource support, and Empowerment support. The category of enabling services and assistance, though not described as such, falls within the parameters of social support defined previously for safe motherhood community interventions (27).

The author also discusses the use of media in empowerment, dividing media use into two complementary objectives: 1) media support or 2) media advocacy. A clear distinction is made between the role of media support for advocacy and program objectives and public education and participation, which is more face-to-face, at both interpersonal and community network levels.

IV. MOTIVATING CHANGE AMONG MATERNAL HEALTH PROFESSIONAL

Hierarchies and networks: Accelerating "diffusion of innovations" among health care providers

To date, safe motherhood communication has placed emphasis on documenting information sources and methods of information sharing among women themselves, as a precursor to behavior change interventions. Much less emphasis has been given to documenting information flow between and among clinicians.

The need to improve practices, change behaviors, and redirect attitudes among maternal health care professionals to reduce maternal deaths is increasingly acknowledged. Almost all national programs have extensive skills training programs for clinicians, and most address much-needed improvements

in clinician interpersonal counseling and communication skills (IPCC).

But it is also widely recognized that skills training alone is not likely to produce lasting changes in practice. This has been shown repeatedly in relation to traditional birth attendants, leading to a diminished role for TBA training in current safe motherhood programming. It is also true, though perhaps not as well documented, that skills training alone will not result in long-term improvements in practice for professional health workers either. Persistent reinforcement of recommended improved practice by credible information sources is also required.

Increased interest in how to best influence the behavior of clinicians has led to the study of the social networks of medical professionals. These networks have been seen as important in the process by which clinicians adopt (or fail to adopt) new innovations in clinical practice. The study is based on a decade old model called "diffusion of innovation" that has become a standard for measurement of the spread of new health technical information among both health professionals and the lay population.

Several parameters for study of health professional information networks have been proposed - network density, centrality and centralization, access to information, social influence, and the social control process (4). According to these parameters, some types of clinicians were found to be better adapted to information gathering and dissemination, while other cadres of health professionals were likely to be more potent instruments for changing practice, or resisting change in clinical behavior. The author concludes that professional socialization and "structural location" are important determinants of social networks, and recommends that these factors be considered in the design of strategies to inform and influence clinicians. As this study was done in a developed country setting, validation of networking patterns of health professionals in other settings would be useful.

The importance of understanding the perspective of both private and public health care providers to influence their behaviors is discussed in a study from India, where the gap between private and public in terms of technology availability, skills, services, and ability to deliver care has widened significantly (4). Although focusing on India alone, the conclusions drawn could be relevant to many developing countries. Household survey data in many settings has demonstrated that despite public policies promoting universal access to subsidized public services, many health care contacts were with private providers on a fee-for-service basis (17).

The India study notes that there has been considerable resistance from within the medical community to accept proposed health practice "improvement," and presents views on reasons for the continued prevalence of "undesirable" practices in the private medical sector, and low awareness of regulations prohibiting such practice. Lack of awareness of important and relevant national legislation raised serious questions about the implementation of these laws. This has many parallels to the gap between legislative changes supporting improved maternal health practice and actual changes in clinical practice in the field.

Both studies of health professionals support the need for further delineation of the social context within which public and private sector clinicians practice, and ways that improved understanding of medical hierarchies, cliques, and networks can be exploited to accelerate change in behavior and improved practice among maternal health professionals.

Because of the shift toward greater responsibility for maternal mortality reduction now being suggested for medical personnel within the SMI (47), it is imperative to further explore innovative ways to change health professional behaviors, and to develop more effective behavior change interventions specifically aimed at clinicians.

V. CONCLUSION

This brief paper was written to encourage dialogue and generate feedback from qualitative researchers and communication program planners who share the responsibility for design and

implementation of effective safe motherhood research and communication interventions. It briefly reviews some recent literature that impacts on the design of the communication component of country programs to reduce maternal deaths. The paper aims to bring several potentially useful new methodologies and approaches to the attention of safe motherhood communication planners, often too busy with implementation issues to look outside of the safe motherhood technical area for additional tools, resources, and ideas.

A draft framework for a thematic approach that prioritizes behavior change interventions to focus on maternal mortality reduction is suggested, and several community-based tools and approaches are described. The paper reemphasizes the need to utilize focused, innovative, participatory research and community development methodologies. Safe motherhood communication planners should "cast a wider net" to include review of models available from other technical areas.

No firm conclusions are drawn - several concepts, ideas, and models being used in countries that have already focused on maternal mortality reduction, and by other disciplines, are briefly described. These could be collaboratively adapted to enhance our work in safe motherhood communication and maternal mortality reduction. Collective action by the safe motherhood communication community is necessary to move beyond conventional approaches, to rapidly refine current techniques, and disseminate improved methods for collaborative research and participatory behavior change communication interventions.

The new millennium brings with it hope for renewed progress toward making pregnancy and childbirth safer for all women. Lack of measurable impact, despite more than a decade of effort toward this goal, requires a level of enthusiasm and faith that is difficult to sustain at times. Hopefully, for those of us who work in behavior change communication, the fact that doubts persist, and that the essential role of communication in reducing maternal death has not yet been proved, should not diminish either enthusiasm or faith. Better to utilize this opportunity to put the wide array of information available to us all about what has been done and what it is possible to do, to collectively demonstrate the unlimited possibilities of behavior change communication to reduce maternal deaths.

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