



Life  
Saving  
Commodities  
Improving access,  
saving lives

**Demand Generation for Reproductive, Maternal,  
Newborn and Child Health Commodities**

# AN ADAPTABLE COMMUNICATION STRATEGY FOR MAGNESIUM SULFATE

JULY 2014



**USAID**  
FROM THE AMERICAN PEOPLE



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## Acronyms

<b>ANC</b>	Antenatal care
<b>BP</b>	Blood pressure
<b>CBO</b>	Community-based organization
<b>CCP</b>	Johns Hopkins Center for Communication Programs
<b>CHW</b>	Community health worker
<b>DHS</b>	Demographic and Health Surveys
<b>EML</b>	Essential medicine list
<b>EWEC</b>	Every Woman Every Child
<b>HC3</b>	Health Communication Capacity Collaborative
<b>HMIS</b>	Health Management Information System
<b>ICT</b>	Information and communication technology
<b>IPC</b>	Interpersonal communication
<b>M&amp;E</b>	Monitoring and evaluation
<b>MDG</b>	Millennium Development Goal
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>NGO</b>	Non-governmental organization
<b>PE/E</b>	Pre-eclampsia/eclampsia
<b>PPP</b>	Public-private partnership
<b>RMNCH</b>	Reproductive, maternal, newborn and child health
<b>SBCC</b>	Social and behavior change communication
<b>SM</b>	Social marketing
<b>SMS</b>	Short message service
<b>UN</b>	United Nations
<b>UNCoLSC</b>	United Nations Commission on Lifesaving Commodities for Women's and Children's Health
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	U.S. Agency for International Development
<b>WHO</b>	World Health Organization

## Introduction



## Aim

To provide step-by-step guidance and illustrative content in creating a communication strategy to generate demand for **magnesium sulfate**.

## Intended User

This Adaptable Communication Strategy (the Strategy) is designed to be useful to multiple audiences, including staff from ministries of health, non-governmental organizations (NGOs) and community-based organizations (CBOs). The Strategy can support the efforts of communication professionals working directly on behavior change communication programs, as well as other professionals working in reproductive, maternal, newborn and child health (RMNCH) who need to create a demand generation component to support program activities.

## What is a Communication Strategy?

A communication strategy provides a “road map” for local action targeted at behavior change and creates a consistent voice for the messages, materials and activities developed. It also ensures that activities and products work together to achieve the program goal and objectives. The final communication strategy should be used to guide content development of program materials, such as advocacy briefs, client leaflets, and job aides and tools for health providers, thereby ensuring consistent positioning and messaging across all activities.

The communication strategy, however, is not a static product. It must be responsive to an ever-changing environment. Adaptations may be necessary in order to respond to new research findings and data, unexpected events, changing priorities or unforeseen results. Communication strategies are essential in addressing priority or emergent health issues and allow for harmonization of priorities, approaches and messages among all the relevant organizations and stakeholders.

## How to Use this Adaptable Communication Strategy

This Strategy forms part of a comprehensive

Demand Generation Implementation Kit for Underutilized, Lifesaving Commodities (I-Kit) (<http://sbccimplementationkits.org/demandrmnch>). The I-Kit includes commodity-specific communication strategies designed to be easily adapted across multiple country contexts and integrated into existing RMNCH plans. The I-Kit also includes resources on four core cross-cutting demand generation areas: addressing the role of gender, a theory-based framework for media selection, utilizing information and communication technologies (ICTs) and new media, and leveraging public-private partnerships (PPPs).

**This Strategy is not intended to serve as a “one-size-fits-all” model.** It is designed as a quick-start foundation based on available evidence to provide guidance in answering the following questions:

- Where are we now?
- What is our vision?
- How are we going to achieve our vision?
- How do we know we achieved our vision?

Ideally, country-level teams would then integrate commodity-specific content tailored to the country context into existing or new RMNCH communication strategies for demand generation.

It is important to note that the strategy focuses on communication—typically, the product promotion component of a social marketing (SM) approach. If desired, the strategy can be integrated and expanded into a broader SM framework, addressing product, price and place.

## Thirteen Lifesaving Commodities for Women and Children

In 2010, the United Nations (UN) Secretary-General’s *Global Strategy for Women’s and Children’s Health* (the Global Strategy) highlighted the impact that a lack of access to lifesaving commodities has on the health of women and children around the world. The Global Strategy called on the global community to save 16 million lives by 2015 by increasing access to and appropriate use of essential medicines, medical devices and health supplies that effectively address the leading avoidable causes of death during pregnancy, childbirth and

childhood. Under the Every Woman Every Child (EWEC) movement, and in support of the Global Strategy and the Millennium Development Goals (MDGs) 4 and 5, the United Nations Commission on Life Saving Commodities (UNCoLSC) for Women and Children (the Commission) was formed in 2012 to catalyze and accelerate reduction in mortality rates of both women and children. The Commission

identified 13 overlooked lifesaving commodities across the RMNCH “Continuum of Care” that, if more widely accessed and properly used, could save the lives of more than six million<sup>1</sup> women and children. For additional background information on the Commission, please refer to <http://www.everywomaneverychild.org/resources/un-commission-on-life-saving-commodities>.

<sup>1</sup>For assumptions used to estimate lives saved see UNCoLSC Commissioner’s report (annex) ([http://www.everywomaneverychild.org/images/UN\\_Commission\\_Report\\_September\\_2012\\_Final.pdf](http://www.everywomaneverychild.org/images/UN_Commission_Report_September_2012_Final.pdf))

Figure 1: 13 Lifesaving Commodities

Reproductive Health			
			
<b>Female Condoms</b>	<b>Contraceptive Implants</b>	<b>Emergency Contraception</b>	
<b>Prevent HIV and unintended pregnancy:</b> A female condom (FC) is a plastic pouch made of polyurethane that covers the cervix, vagina and part of the external genitals. FCs provide dual protection by preventing STI, including HIV, and unintended pregnancies.	<b>Prevent unintended pregnancy:</b> Contraceptive implants are small, thin, flexible plastic rods inserted into a woman's arm that release a progestin hormone into the body. These safe, highly effective, and quickly reversible contraceptives prevent pregnancy for three to five years.	<b>Prevent unintended pregnancy:</b> The emergency contraceptive pill is the most widely available emergency contraceptive in developing countries. It is optimally taken in one dose of 1.5mg as soon as possible after sexual activity. An alternative product of 0.75mg is also widely available.	
Maternal Health			
			
<b>Oxytocin</b>	<b>Misoprostol</b>	<b>Magnesium Sulfate</b>	
<b>Post-partum hemorrhage:</b> WHO recommends oxytocin as the uterotonic of choice for prevention and management of postpartum hemorrhage.	<b>Post-partum hemorrhage:</b> In settings where skilled birth attendants are not present and oxytocin is unavailable, misoprostol (600 micrograms orally) is recommended.	<b>Eclampsia and severe pre-eclampsia:</b> WHO recommends MgSO <sub>4</sub> as the most effective treatment for women with eclampsia and severe pre-eclampsia.	
Child Health			
			
<b>Amoxicillin</b>	<b>Oral Rehydration Salts</b>	<b>Zinc</b>	
<b>Pneumonia:</b> Amoxicillin is an antibiotic that is used to treat pneumonia in children under five. Amoxicillin is prepared in 250mg scored, dispersible tablet (DT) in a blister pack of 10 DTs.	<b>Diarrhea:</b> Oral rehydration salts (ORS) is a glucose-electrolyte solution given orally to prevent dehydration from diarrhea. ORS is packaged in sachets of powder to be diluted in 200 ml, 500 ml or 1 liter of fluid, prepared to an appropriate flavor.	<b>Diarrhea:</b> Replenishment with zinc can reduce the duration and severity of diarrheal episodes. Zinc is prepared either in 20mg scored, taste masked, dispersible tablets or oral solutions at concentration of 10mg/5ml.	
Newborn Health			
			
<b>Injectable Antibiotics</b>	<b>Antenatal Corticosteroids</b>	<b>Chlorhexidine</b>	<b>Resuscitation Device</b>
<b>Prevent newborn sepsis:</b> WHO recommends benzylpenicillin and gentamicin, in separate injections, as first-line therapy for presumptive treatment in newborns at risk of bacterial infection.	<b>Prevent pre-term RDS:</b> Antenatal corticosteroids are given to pregnant women who are at risk of preterm delivery to prevent respiratory distress syndrome in babies born in pre-term labor.	<b>Prevent umbilical cord infection:</b> Chlorhexidine digluconate is a low-cost antiseptic for care of the umbilical cord stump that is effective against neonatal infections.	<b>Treat asphyxia:</b> Birth asphyxia, or the failure of a newborn to start breathing after birth, can be treated with resuscitation devices.

## Demand Generation: An Overview



## What is Demand Generation?

Demand generation increases awareness of and demand for health products or services among an intended audience through social and behavior change communication (SBCC) and SM techniques. Demand generation can occur in three ways:

- **Creating new users**—convincing members of the intended audience to adopt new behaviors, products or services.
- **Increasing demand among existing users**—convincing current users to increase or sustain the practice of the promoted behavior and/or to increase or sustain the use of promoted products or services.
- **Taking market share from competing behaviors** (e.g., convincing caregivers to seek health care immediately, instead of not seeking care until their health situation has severely deteriorated or has been compromised) and products or services (e.g., convincing caregivers to use oral rehydration salts (ORS) and zinc instead of other anti-diarrheal medicines).

When well designed and implemented, demand generation programs can help countries reach the goal of increased utilization of the commodities by:

- Creating informed and voluntary demand for health commodities and services.
- Helping health care providers and clients interact with each other in an effective manner.

- Shifting social and cultural norms that can influence individual and collective behavior related to commodity uptake.
- Encouraging correct and appropriate use of commodities by individuals and service providers alike.

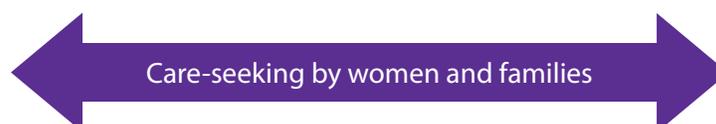
In order to be most effective, demand generation efforts should be matched with efforts to improve logistics and expand services, increase access to commodities, and train and equip providers, in order to meet increased demand for products and/or services. Without these simultaneous improvements, the intended audience may become discouraged and demand could then decrease. Therefore, it is highly advisable to coordinate and collaborate with appropriate partners when forming demand generation communication strategies and programs.

## Who are the Audiences of Demand Generation Programs for the 13 Lifesaving Commodities?

Reducing maternal and child morbidity and mortality through increased demand for and use of RMNCH commodities depends on the collaboration of households, communities and societies, including mothers, fathers and other family members, community- and facility-based health workers, leaders and policy makers. Some of the commodities are more provider-focused in terms of demand and utilization, but all depend on the care-seeking behaviors of women and families.

Figure 2: Audiences of Demand Generation

Provider-focused	Provider and End-user
<input type="checkbox"/> Oxytocin	<input type="checkbox"/> Female condoms
<input type="checkbox"/> Magnesium sulfate	<input type="checkbox"/> Implants
<input type="checkbox"/> Injectable antibiotics	<input type="checkbox"/> Emergency contraception
<input type="checkbox"/> Antenatal corticosteroids	<input type="checkbox"/> Misoprostol
<input type="checkbox"/> Resuscitation equipment	<input type="checkbox"/> Chlorhexidine
<input type="checkbox"/> Amoxicillin	<input type="checkbox"/> ORS
	<input type="checkbox"/> Zinc



## Key Concepts and Definitions in Demand Generation

**Social and Behavior Change Communication (SBCC).** SBCC promotes and facilitates behavior change and supports broader social change for the purpose of improving health outcomes. SBCC is guided by a comprehensive ecological theory that incorporates both individual-level change and change at the family, community, environmental and structural levels. A strategic SBCC approach follows a systematic process to analyze a problem in order to define key barriers and motivators to change, and then design and implement a comprehensive set of interventions to support and encourage positive behaviors. A communication strategy provides the guiding design for SBCC campaigns and interventions, ensuring communication objectives are set, intended audiences are identified, and consistent messages are determined for all materials and activities.

**Social Marketing (SM).** SM seeks to develop and integrate marketing concepts (product, price, place and promotion) with other approaches to influence behaviors that benefit individuals and communities for the greater social good. ([http://socialmarketingblogs.com/r\\_craig\\_lefebvres\\_social/2013/10/a-consensus-definition-of-social-marketing.html](http://socialmarketingblogs.com/r_craig_lefebvres_social/2013/10/a-consensus-definition-of-social-marketing.html))

### Channels and Approaches

**Advocacy.** Advocacy processes operate at the political, social and individual levels and work to mobilize resources and political and social commitment for social and/or policy change. Advocacy aims to create an enabling environment to encourage equitable resource allocation and to remove barriers to policy implementation.

**Community Mobilization.** Community mobilization is a capacity building process through which individuals, groups or organizations design, conduct and evaluate activities on a participatory and sustained basis. Successful community mobilization works to solve problems at the community level by increasing the ability of communities to successfully identify and address their needs.

**Entertainment Education.** Entertainment education is a research-based communication process or strategy of deliberately designing and implementing entertaining educational programs that capture audience attention in order to increase knowledge about a social issue, create favorable attitudes, shift social norms and change behavior.

**Information and Communication Technologies (ICTs).** ICTs refer to electronic and digital technologies that enable communication and promote the interactive exchange of information. ICTs are a type of media, which include mobile and smart phones, short message service (SMS) and social media, such as Facebook and Twitter.

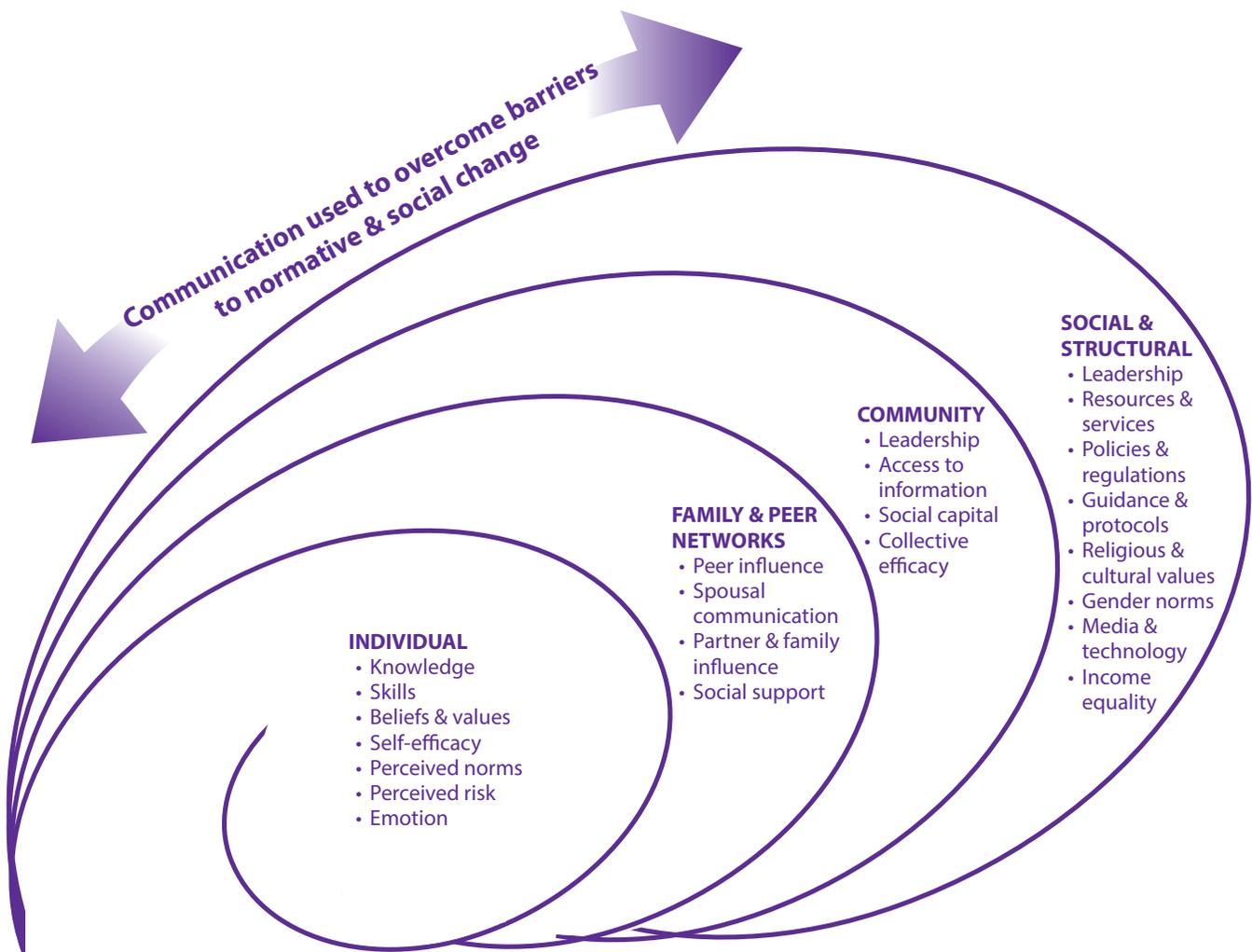
**Interpersonal Communication (IPC).** IPC is based on one-to-one communication, including, for example, parent-child communication, peer-to-peer communication, counselor-client communication, or communication with a community or religious leader.

**Mass and Traditional Media.** Mass media reaches audiences through radio, television and newspaper formats. Traditional media is usually implemented within community settings and includes drama, puppet shows, music and dance. Media campaigns that follow the principles of effective campaign design and are well executed can have a significant effect on health knowledge, beliefs, attitudes and behaviors.

## Conceptual Framework

This Strategy uses the social ecological framework to guide its strategic design. This model recognizes that behaviors related to demand for care and treatment take place within a complex web of social and cultural influences and views individuals as nested within a system of socio-cultural relationships—families, social networks, communities, nations—that are influenced by and have influence on their physical environments (Bronfenbrenner, 1979; Kincaid, Figueroa, Storey,

& Underwood, 2007). Within this framework, individuals’ decisions and behaviors, relating to an increase in demand and utilization, are understood to depend on their own characteristics, as well as the social and environmental contexts within which they live. Applying this model in each stage of the communication strategy development helps to ensure that all determinants of behavior are considered and addressed.



## **Adaptable Communication Strategy: Structure and Guidance**



This strategy presents a six-step process to guide country-level adaptation based on local situation analysis and formative research:



Explanations of each step begin below. Illustrative content for each step is provided in the following section.

### **Who Should Be Involved in Strategy Development?**

Developing a communication strategy typically involves convening a group of stakeholders—ideally including representatives of the government, health area experts, marketing or communication specialists, and members of intended audiences—to review existing data, identify key audiences, and develop messaging and appropriate communication channels. Other potential partners may include private sector representatives for the formation of PPPs, which can be used to strengthen a demand generation program, based on the needs and opportunities within an individual country context.

### **Step 1: Analyze the Situation**

#### **What is a situation analysis?**

The situation analysis focuses on gaining a deeper understanding of the challenges and barriers to address within a specific context that influence the current demand and utilization of a priority RMNCH commodity, including those affected and their perceived needs, social and cultural norms, potential

constraints on and facilitators for individual and collective change, and media access and use by the intended audiences. It also examines the status of the lifesaving commodity, including relevant policies, regulations, manufacturing, prices, supply chains, availability, level of knowledge (provider and end user) and level of use (provider and end user). In short, the situation analysis answers the question: “Where are we now?”

The situation analysis should also examine the attitudes, values, interests, aspirations and lifestyle of the intended audiences. This information, called psychographics, allows for a better understanding of what motivates and what hinders the intended audiences’ decisions and actions. Psychographics provide character sketches of the intended audiences that go beyond demographic information (sex, age, education, parity, etc.) and help to build a fuller picture of the audiences as individuals and how they may be nested within and influenced by their community.

#### **Why conduct a situation analysis?**

A comprehensive situation analysis is essential as it provides a detailed picture of the current state of the commodity, needs and barriers, which will direct the design and implementation decisions of the strategy

and ultimately affect the level of success in generating demand and use.

### How to conduct a situation analysis

As noted above, conducting a situation analysis typically involves convening a group of stakeholders and reviewing existing data in order to identify key information. A global synthesis of evidence conducted for each of the 13 underutilized commodities can provide a global view of available information and lessons learned from other country contexts (available at <http://sbccimplementationkits.org/demandrmnch/evidence-synthesis>). Additional sources of country-specific secondary data may include Demographic and Health Surveys (DHS) (<http://www.measuredhs.com/>), Multiple Indicator Cluster Surveys (MICS) ([http://www.unicef.org/statistics/index\\_24302.html](http://www.unicef.org/statistics/index_24302.html)), quantitative and qualitative research conducted by NGOs, or private sector market research, where available, such as Nielsen (<http://www.nielsen.com/us/en.html>). RMNCH policies and guidelines also may assist in analyzing the situation.

If existing data, particularly on social and behavioral drivers and psychographics, is not sufficient, outdated or does not provide enough insight into priority audiences, it may be necessary to conduct additional primary formative research in the form of focus groups, interviews or informal visits to communities and homes. For all provider audiences, it may be especially important to conduct formative research around provider attitudes and other drivers to provider behavior. Similarly, for all audiences (providers and end users), it may be especially important to conduct formative research to develop realistic psychographics.

### What are the key questions?

The situation analysis has two main sections:

- Health and Commodity Context
- Audience and Communication Analysis

#### Health and Commodity Context

Below is an example of a set of questions to consider when analyzing the health and commodity-specific context relevant to magnesium sulfate:

- What are the maternal and neonatal mortality rates in the country?
- What is the maternal mortality rate due to pre-eclampsia/eclampsia (PE/E)?

- What is the incidence rate of PE/E?
- In what areas of the country does PE/E occur, or occur frequently?
- How many births are attended by people who are not skilled birth attendants?
- How is PE/E currently prevented or treated in urban, rural and peri-urban settings?
- What commodities are on the national essential medicine list (EML) for PE/E (magnesium sulphate, antihypertensives, calcium gluconate)?
- Is magnesium sulfate registered in country? If registered, what brands? If not registered, what is the registration process—e.g., time, requirements?
- What regulations or policies govern supply, distribution and availability? How may these affect demand of magnesium sulfate?
- What is the price of magnesium sulfate in the private and public sector?
- How is magnesium sulfate procurement funded?
- What is the availability of magnesium sulfate by region/district?
- Are there local or regional manufacturers of magnesium sulfate?
- What are the stock levels in health facilities?
- What are the distribution channels and how effective are they at ensuring the product's availability and use?
- In what format/packaging/dose is it available? (Injectable only? What dose or formulation? What is the quantity per package?)
- What is the first-line treatment? What other treatments are available and used? Where, how often and in what circumstances?
- What patterns exist in uptake of magnesium sulfate over the past 5–10 years (increased, declined, remained static)?
- What level of provider (doctor, nurse, midwife, etc.) is permitted to administer/dispense magnesium sulfate?

#### Audience and Communication Analysis

Below is an example of a set of questions to consider when conducting audience and communication analysis:

##### Knowledge and Attitudes

- What do local communities, pregnant women and their families know about PE/E and the related danger signs?

- What proportion of providers, pregnant women and other audiences is aware of magnesium sulfate?
- What proportion of providers, pregnant women and other audiences has accurate knowledge about magnesium sulfate?
- What are the perceived benefits of using magnesium sulfate by providers, pregnant women and other audiences?
- What are the perceived barriers to accessing and using magnesium sulfate for providers, pregnant women and other audiences?
- What are typical concerns of providers about the use of magnesium sulfate?
- Are there common misconceptions or misinformation about magnesium sulfate?

#### *Normative and Structural Considerations*

- What are the current policy documents and service delivery guidelines related to PE/E? How aligned are they with international standards?
- What is the content of the curriculum material related to screening and treatment of PE/E for in-service and pre-service provider training (for all levels of providers)?
- Do women seek antenatal care (ANC)? If so, when do they initiate and how often do they return?
- How does the level of income affect use of magnesium sulfate? Do poorer women and couples have access to both information and product?
- Who are the stakeholders, key players and gatekeepers who impact or influence demand and utilization of magnesium sulfate?

#### *Service Provision*

- How much attention is given to PE/E during ANC?
- What PE/E screening and treatment supplies and equipment are available at each level of the health system?
- How are (all levels of) providers trained on PE/E and how often?
- What community-based programs focus on pregnancy complications? Are referral systems in place between non-clinical and clinical settings?
- Do providers have adequate skills to counsel, prescribe and/or administer magnesium sulfate?
- What are the current practices for screening and treatment of PE/E? What supplies are used for screening of PE/E (blood pressure machines, urine tests)?

- How is a decision made for treatment of PE/E?
- What are the challenges for providers associated with screening and treating PE/E?
- What tools can providers access to ensure accurate knowledge and proper treatment of PE/E?
- Are ANC services integrated with other services?

#### *Media and Communication*

- Through what channels—including media and interpersonal—do providers, women and families prefer to receive health-related information?
- What channels can support the level of communication needed to increase knowledge of PPH and demand for magnesium sulfate?
- What communication materials and programs already exist related to magnesium sulfate?
- What is the technical and organizational capacity of media partners?

#### *Psychographics*

- What do providers, women and families value? What are their core beliefs?
- Who and what influences providers, women and families' decisions and behaviors?
- What dreams do providers, women and families have? What do they aspire to in life?
- What are providers, women and families' biggest worries? What fears keep them up at night?
- How do providers, women and families spend their days? Where do they go? What do they do? What are their hobbies and habits?
- How do providers, women and families perceive themselves? How do they want to be perceived by others?

#### **How to use the situation analysis**

After conducting a situation analysis, program managers should be able to identify the key implications or challenges from the data. What are the reasons that magnesium sulfate is not being utilized? What do potential users—end user, health care providers and health educators—believe about the commodity? Finally, select only a few key factors that the demand generation strategy will address. While it is tempting to address all factors, communications programs will be more successful if they focus on the top few factors that will have the biggest impact given available resources.

It can be helpful to organize the collected

information—in order to distill the most important information—using a simple table organized by intended audience, such as the one below.

	Current Behaviors	Primary Barriers to Desired Behavior	Primary Benefits of Desired Behavior
End user/ community members (e.g. women, men, caregivers)			
Providers (including public and private, clinic- and community-based)			

In order to maintain an actionable focus throughout the strategy design, it is also helpful to synthesize the implications of this information. Population Services International’s Global Social Marketing Department offers the following series of questions to guide the development of a situation analysis and the selection of strategic priorities to be addressed by the demand generation strategy:

What?	So What?	Now What?
<b>Data Collection:</b> Key facts collected during the situation analysis.	<b>Data Analysis:</b> Possible implications that the facts may have on the demand generation strategies.	<b>Strategic Priorities:</b> Identify which implications to address in the demand generation strategy. Limit to three to five strategic priorities in order to focus the plan.
<i>Example from Benin:</i>		
The risk of dying of PE/E is approximately 300 times higher for women in developing countries due to a lack of access to quality, affordable care and lifesaving supplies.	When detected early (typically during ANC visits) and at a mild stage, pre-eclampsia can be treated, and the morbidity and mortality linked to eclampsia can be lowered. This requires effective detection of PE/E, availability of screening and treatment supplies, and health care providers who know how to provide related services.	Teaching pregnant women and their families how to detect PE/E warning signs is important, as is encouraging pregnant women to attend ANC clinic visits.  Training providers how to quickly and effectively screen for, diagnose and treat PE/E with magnesium sulfate as a first-line treatment is crucial.

Source: Population Services International, n.d. The DELTA companion: Marketing planning made easy. ([http://www.psi.org/sites/default/files/publication\\_files/DELTA%20Companion.pdf](http://www.psi.org/sites/default/files/publication_files/DELTA%20Companion.pdf))

## Step 2: Define a Vision

The vision anchors a communication strategy by stating what the program hopes to achieve. A vision statement sets forth the direction the strategy should follow and defines clearly and succinctly how the demand generation activities will affect the broader commodity and health environment. The vision should paint a mental picture of a desired scenario in the future.

The vision should be agreed upon by the stakeholders involved in the strategy design process and will thus, be “shared” by all. This shared vision is a short statement that articulates what is important, illustrates what is desired in the future for the commodity once the demand generation strategy is successfully implemented and clarifies the goal of the demand generation strategy. The shared vision ensures that all stakeholders are working toward the same goal and guides the strategy design and development process.

In addition, a true vision should be realistic, concrete and attainable given the resources available. The vision should also be inspirational, provide direction, communicate enthusiasm, be inspirational, and foster commitment and dedication from stakeholders toward the shared goal.

Some organizations call the vision the “Goal” or the “Primary Objective.”

An example of a vision statement for magnesium sulfate may be:

*Ensure systematic detection of PE/E during ANC and make sure that all women who have symptoms of severe PE/E are treated with the appropriate regimen of magnesium sulfate.*

## Step 3: Choose the Intended Audiences

### Segment the Audiences

Segmentation is the process of identifying unique groups of people, within larger populations, which share similar interests and needs relative to the commodity. If the group shares common attributes, then the members are more likely to respond

similarly to a given demand generation strategy. Segmenting allows for targeted use of limited resources to those populations that would most affect increased demand. It ensures that the activities developed and implemented are the most effective and appropriate for specific audiences and are focused on customized messages and materials.

While using key findings collected from the situation analysis, the first step in audience segmentation is to answer the question, “Whose behavior must change in order to increase demand and appropriate use of the commodity?” Initial segmentation is often based on demographics, such as age, sex, marital status, education level, socio-economic status, employment and residence (urban/rural). Audiences can be further segmented by psychographics—people’s personalities, values, attitudes, interests and lifestyles.

**Primary audiences** are the key people to reach with messages. These may be the people who are directly affected and who would directly benefit from the use of the commodity. Or they may be the people who can make decisions on behalf of those who would benefit from the commodity. Primary audiences may be further segmented into sub-audiences. For example, identifying specific segments of women of reproductive age who may share common attributes, such as young unmarried, married or high-parity women.

**Influencing audiences** are people who can impact or guide knowledge and behaviors of the primary audience, either directly or indirectly. Influencing audiences can include family members and people in the community, such as community leaders, but can also include people who shape social norms, influence policies or affect how people think about the commodity. Prioritizing key influencing audiences by an estimated power of influence related to increasing demand and uptake of the commodity is crucial. For example, male partners are a likely key influencing audience, but the level of influence (low, moderate, strong) may depend on country context and/or commodity and should be discussed among stakeholders. In order to prioritize influencing audiences, a table like the one on the next page can be helpful.

	Primary Audience Influenced	Estimated Power of Influence (Low, Moderate, Strong)	Attitude Toward Use of Magnesium Sulfate or Similar Commodities
Influencing Audience 1			
Influencing Audience 2			

Primary or influencing audiences for demand generation may also include national-, sub-national- or community-level decision makers, such as legislators and religious leaders, as they can be instrumental in removing or creating access barriers or spreading misguided beliefs about the product.

Involving decision makers and influencers from the political and media realm—and carefully considering the legal and policy environment—is important to ensure demand generation efforts are not hindered by political or social barriers. *Scaling Up Lifesaving Commodities for Women, Children and Newborns: An Advocacy Toolkit* (<http://www.path.org/publications/detail.php?i=2381>) provides advocacy resources to raise awareness and engage stakeholders in addressing commodity-related gaps in policy. Therefore, advocacy audiences are not included in this communication strategy.

**Develop Audience Profiles**

Audience profiles are the cornerstone of a communication strategy. They first help bring to life and personify each audience segment, which subsequently guide communication messaging and activity planning. The profile should embody the characteristics of the specific audience, with a focus on telling the story of an imagined individual within the group who can neutrally represent the intended audience. Basing decisions on a representative, personalized example from a specific audience segment, rather than a collection of statistics or a mass of anonymous people, allows for more intimate knowledge of that audience segment and better defined and focused communication strategies. Therefore, the profile is important to ensure the messages are tailored to members of this selected

group, resonate with them and motivate them to take action.

Audience profiles for each audience segment are developed using the information collected in the situation analysis. The profile consists of a paragraph that should include details on psychographics, such as current behaviors, motivation, emotions, values and attitudes, preferred sources of information and access to communication channels, as well as socio-demographic information, such as age, income level, religion, sex and place of residence. The profile should exemplify the primary barriers to the desired behavior relative to the audience segment. The profile may include the name of this individual or a photo that represents this person to help visualize who this person is and tell his or her story. It is important to keep in mind that:

1. No two audience profiles look the same as the same data will not always be available for each audience segment.
2. The best profiles use qualitative research as a source.
3. Profiles are to be living documents and regularly updated when new information becomes available.

If the information gathered in the situation analysis lacks detail on a particular audience segment, additional research may need to be conducted to address the identified gaps. For example, for all provider audiences, it may be especially important to conduct formative research around provider attitudes and other drivers to provider behavior that could be used to better inform the audience profile and strategic design.

## Step 4: Design Message Strategy (Objectives, Positioning, Key Messages)

The message strategy is one of the most important elements of a communication strategy. It drives the rest of the program and ensures synergy, consistency and coordination for the purposes of shared objectives and clear, harmonized messaging among all stakeholders and partners. A message strategy is designed for each primary and influencing audience and includes: (a) communication objectives, (b) positioning and (c) key messages. As previously mentioned, audience profiles are used to determine whether or not the objectives, positioning and key messages are appropriate for that individual.

### (a) Objectives

Communication objectives are measurable statements that clearly and concisely state what the target audience should know (think), what they should believe (feel) and what they should do (behave), as well as the timeframe required for the change. “SMART” objectives are Specific, Measurable, Attainable, Relevant and Time-bound. Communication objectives should be derived from available evidence on the factors that drive or inhibit adoption by target users, as well as influencing audiences.

### (b) Positioning

Positioning is the heart of the demand generation strategy and identifies the most compelling and unique benefit that the product offers the target audience. Positioning is often the emotional “hook” upon which the demand generation strategy hinges. Effective positioning moves beyond the functional benefits of the commodity and appeals to the target audience with emotional benefits.

Positioning presents the desired behavior in a way that is both persuasive and appealing to the intended audience. It provides direction for developing a memorable identity, shapes the development of messages and helps determine the communication channels to be used. Positioning ensures that messages have a consistent voice and that all planned activities reinforce each other for a cumulative effect.

As part of the positioning, a **key promise** is identified that highlights the main benefit associated with the proposed change. Changes in behavior, policies and social norms are made only because there is a perceived benefit to those changes. The benefit must outweigh the personal cost of the change.

An accompanying **support statement**, also called a “reason to believe” in marketing, describes why the audience should believe the promise. This could be based on data, peer testimonials, a statement from a reliable source or a demonstration. The key promise and support statement should include a balance of emotion and reason.

### (c) Key Messages

Key messages outline the core information that will be conveyed to audiences in all materials and activities. Messages cut across all channels and must reinforce each other across these channels. When all approaches communicate iterative and harmonized key messages, effectiveness increases. Well-designed messages are specific to the audience of interest and clearly reflect both a specific behavioral determinant and positioning. They also clearly describe the desired behavior, which must be “doable” for the audience. Key messages are not the text that appears in print materials (taglines) or the words that are used to define a campaign (slogans). Creative professionals are often hired to translate key messages into a creative brief, which is a document for creative agencies or internal teams that guides the development of communication materials or media products, including taglines and slogans.

It is important that key messages are always:

- Developed on the basis of country-specific formative research.
- Derived from context-specific, strategic choices regarding segmentation, targeting and positioning.
- Addressed to known drivers of and barriers to behavior change in the country context.
- Pre-tested with the target audience and refined based on audience engagement.

## Step 5: Determine Activities and Interventions

Activities and interventions allow for communication of key messages through a variety of communication approaches and channels. Messaging and media selection (i.e. channels) are best considered and selected in cooperation in order to effectively transmit information to the intended audiences. Activities should be carefully selected based upon type of messaging, ability to reach the intended audience through a variety of media/channels, timeline, cost and available resources.

It is helpful to refer to findings from the situation analysis to guide selection of activities and interventions. *A Theory-based Framework for Media Selection in Demand Generation Programs* (<http://sbccimplementationkits.org/demandrmnch/media-selection>) is a helpful guide to inform media selection decisions based on communications theory. Table 1 is an overview of the types of strategic approaches that can be used. Any demand generation program should include activities across a range of different intervention areas and communication channels, which communicate mutually reinforcing messages.

It also is important to consider linkages with other new or existing programs and systems, both those directly related to demand and those less closely connected, but that have an impact on demand or

could be utilized to improve efficiency. The following are examples of potential areas for linkages when designing a demand generation program for magnesium sulfate:

- Other maternal health programs that do not currently include magnesium sulfate as a commodity.
- Quality of care improvement initiatives for service providers/clinics.
- Pre-service education and existing continuing education or in-service refresher training initiatives for clinical and non-clinical providers.
- Supply chain management and market shaping.
- Private sector approaches [For a guide to PPPs in demand generation, see *The Guide to Public-Private Partnerships in Increasing the Demand for RMNCH Commodities* (available at <http://sbccimplementationkits.org/demandrmnch/public-private-partnerships>); for supply chain management, see the *Private Sector Engagement Toolkit* (available at [http://www.everywomaneverychild.org/images/content/life-saving-commodities/Private\\_sector\\_engagement\\_A\\_%20toolkit\\_for\\_Supply\\_Chains\\_in\\_the\\_Modern\\_Context.pdf](http://www.everywomaneverychild.org/images/content/life-saving-commodities/Private_sector_engagement_A_%20toolkit_for_Supply_Chains_in_the_Modern_Context.pdf))].
- Non-maternal health programs, such as immunization, family planning, etc.—e.g., to provide counseling, disseminate materials—at both the clinic and community levels.
- Cross-sectoral programs—e.g., education, economic empowerment, transport.

**Table 1: Overview of Strategic Approaches that Can Be Used in Demand Generation**

**Advocacy:** Advocacy operates at the political, social and individual levels, and works to mobilize resources and political and social commitment for social change and/or policy change. Advocacy aims to create an enabling environment at any level, including the community level—e.g., traditional government or local religious endorsement—to ask for greater resources, encourage allocating resources equitably and to remove barriers to policy implementation. *Scaling Up Lifesaving Commodities for Women, Children and Newborns: An Advocacy Toolkit* provides advocacy resources for utilizing the Commission platform to raise awareness and engage stakeholders in addressing commodity-related gaps in policy. See <http://www.path.org/publications/detail.php?i=2381>.

**Community-Based Media:** Community-based media reach communities through locally established outlets. Such outlets include local radio stations and community newsletters/newspapers, as well as activities, such as rallies, public meetings, folk dramas and sporting events.

**Community Mobilization:** Community mobilization is a capacity building process through which community individuals, groups or organizations plan, carry out and evaluate activities on a participatory and sustained basis to improve their lives, either on their own initiative or stimulated by others. A successful community mobilization effort not only works to solve problems, but also aims to increase the capacity of a community to successfully identify and address its own needs. For guidance on community mobilization see *How to Mobilize Communities for Health and Social Change* (Howard-Grabman & Snetro, 2003), available at [http://www.jhuccp.org/resource\\_center/publications/field\\_guides\\_tools/how-mobilize-communities-health-and-social-change-20](http://www.jhuccp.org/resource_center/publications/field_guides_tools/how-mobilize-communities-health-and-social-change-20).

**Counseling:** Counseling is based on one-to-one communication and is often done with a trusted and influential communicator, such as a counselor, teacher or health provider. Counseling tools or job aids are usually also produced to help clients and counselors improve their interactions, with service providers trained to use the tools and aids.

**Distance Learning:** Distance learning provides a learning platform that does not require attendance at a specific location. Rather, the students access the course content either through a radio or via the Internet and interact with their teacher and fellow classmates through letters, telephone calls, SMS texts, chat rooms or Internet sites. Distance learning courses can focus on training communication specialists, community mobilizers, health educators and service providers. Additional information on eLearning can be found at Global Health eLearning Center and PEPFAR eLearning Initiative.

**Information and Communication Technologies (ICTs):** ICTs are fast growing and evolving platforms for electronic and digital technologies, including computing and telecommunications technologies, which enable communication and promote the interactive exchange of information. ICTs also include mobile and smart phones, the use of SMS and social media, such as Facebook, Twitter, LinkedIn, blogs, e-Forums and chat rooms. This approach also includes websites, e-mails, listservs, eLearning, eToolkits and message boards. Digital media can disseminate tailored messages to the intended audience on a large scale while also receiving audience feedback and encouraging real-time conversations, combining mass communication and interpersonal interaction. *A Theory-based Framework for Media Selection in Demand Generation Programs* (<http://sbccimplementationkits.org/demandrmnch/media-selection>) and *Utilizing ICT in Demand Generation for Reproductive, Maternal, Newborn and Child Health: Three Case Studies and Recommendations for Future Programming* (<http://sbccimplementationkits.org/demandrmnch/ict-case-studies>) are useful resources for program managers looking to utilize ICT in demand generation activities.

**Interpersonal Communication (IPC)/Peer Communication:** Interpersonal and peer communication are based on one-to-one communication. This could be peer-to-peer communication or communication with a community health worker (CHW), community leader or religious leader.

**Mass Media:** Mass media can reach large audiences cost-effectively through the formats of radio, television and newspapers. According to a review of mass media campaigns, mass media campaigns that follow the principles of effective campaign design and are well executed can have small to moderate effect size not only on health knowledge, beliefs and attitudes, but also on behavior (Noar, 2006). Given the potential to reach thousands of people, a small to moderate effect size will have a greater impact on public health than would an approach that has a large effect size, but only reaches a small number of people.

**Social Mobilization:** Social mobilization brings relevant sectors, such as organizations, policy makers, networks and communities, together to raise awareness, empower individuals and groups for action, and work toward creating an enabling environment and effecting positive behavior and/or social change.

**Support Media/Mid-Media:** Mid-media's reach is less than that of mass media and includes posters, brochures and billboards.

## Step 6: Plan for Monitoring and Evaluation

Monitoring and evaluation (M&E) is a critical piece of any program activity because it provides data on the program's progress toward achieving set goals and objectives.

Although planning for M&E should be included in the communication strategy, avoid developing a complete monitoring plan at the time of strategy development—e.g., indicators, sample, tools, who will monitor, frequency of data collection. At the time of strategy development, focus on the indicators that should be incorporated into the program's plan. M&E indicators should be developed based on formative research and should indicate whether the key messages and strategies are having the desired effect on the intended audience.

A full M&E plan should then be developed as a separate program document. Developing an M&E plan should outline what indicators to track, how

and when data will be collected, and what will happen to the data once they have been analyzed. A variety of data sources can be used to collect M&E data. It is important to assess the scope and context of the program to choose the most applicable methodology, as M&E activities vary in cost, staff and technology requirements. While some lower-cost M&E options will allow for identification of trends in demand for services, they may not be able to provide additional insight into the causal effects of activities and the function of the program. To measure cause and effect, larger program-specific data collection activities geared toward evaluation are needed. See Table 2 below for examples of low- and high-cost options.

While the collection of M&E data tends to receive the most attention, it is also critical to have a process for analysis and review of the collected data. M&E data should be used to inform program changes and new program development. It is best to build these M&E review processes into existing program management activities to allow for regular dissemination of M&E indicators.

**Table 2: Examples of Low- and High-Cost Options of M&E for Demand Generation**

*Low-cost option:* A low-cost option makes use of existing data sources and opportunities to gain insight into the program and its associations with changes in demand or uptake. However, it will only allow for the identification of trends and will not allow for the attribution of change to a given program or to program activities.

Illustrative data sources for a low-cost option include:

- Service statistics (information from clinics and providers, such as maternal deaths audits and attendance sheets; Health Management Information System (HMIS) data related to PE/E and ANC).
- Service provision assessment (tracking PE/E quality of care, supplies availability, ANC visits, percentage getting blood pressure (BP) taken, percentage getting urine tested at each ANC visit, number of referrals from CHWs to clinical facilities).
- Communication channel statistics (information from television or radio stations on listenership of mass media activities).
- Omnibus surveys (addition of questions related to program exposure and impact to omnibus surveys).
- Provider self-reported data (small-scale surveys among providers about services rendered and challenges encountered).
- Qualitative data (focus group discussions, in-depth interviews).
- DHS (trends in maternal deaths and service use).

*High-cost option:* A high-cost option makes use of representative program-specific surveys and other data collection methods to gain considerable insight into the effects of the program and the way in which it worked.

Illustrative data sources for a high-cost option include:

- Service statistics (information from clinics and providers, such as maternal deaths audits and attendance sheets; HMIS data related to PE/E and ANC).
- Communication channel statistics (information from television or radio stations on listenership of mass media activities).
- Provider self-reported data (surveys among providers about services rendered).
- Large, nationally representative program-specific surveys (focus on issues related to knowledge, perceptions, acceptability and use of magnesium sulfate).
- Qualitative data (focus group discussions, in-depth interviews, photo narrative, observation visits).
- Client exit interviews (exit interviews will assess user satisfaction with services delivered including their perceptions, experience and intentions).

## Indicators

M&E indicators should include process, output, outcome and impact indicators.

Process Indicators	Program Output Indicators	Behavioral Outcome Indicators	Health Impact Indicators
Measure the extent to which demand creation activities were implemented as planned.	Measure changes in audiences' opportunity, ability and motivation to use magnesium sulfate, and the extent to which these changes correlate with program exposure.	Measure changes in audiences' behavior and the extent to which these changes correlate with program exposure.	Measure changes in health outcomes.
Example: Number of IPC sessions conducted on PE/P with pregnant women.	Example: Proportion of women and their families who can identify at least three danger signs of PE/E.	Example: Proportion of providers who report using magnesium sulfate as the first line treatment for PE/E.	Example: Reduction in mortality from PE/E in women of reproductive age.

Key issues to consider when developing indicators include:

**Disaggregation:** To increase the utility of M&E data, indicators should be disaggregated to facilitate more in-depth analysis of program performance. It is recommended that indicators are, at minimum, disaggregated by:

- *Gender*—Disaggregating M&E data by gender can illustrate the different impact of programs on men and women, such as attitudes toward acceptability of the commodity.
- *Age*—At minimum, programs should be able to report data separately for beneficiaries ages 15–19, 20–24 and 25–49 years old, which are the standard DHS age groups to capture major differences in these populations. Based on audience segmentation at country level, programs may wish to disaggregate the 25–49 year age group further, in order to determine the extent to which interventions are reaching those for whom they were designed.

Other factors for disaggregation may include geographic location, marital status, etc.

**Bias:** Common biases that programmers should be aware of when designing, implementing and interpreting M&E include:

- *Self-selection bias*—for example, a caregiver who has previously sought out and received treatment for pneumonia in a child may be more interested and willing to answer a survey about childhood pneumonia compared to someone who has had no exposure.
- *Social desirability bias*—following exposure to health promotion initiatives, intended audiences may feel pressured to give “right answers” to survey questions—e.g., to report positive attitudes toward a commodity even though they do not really feel that way. As demand generation interventions are successful at shaping positive social norms, social desirability bias may become more of a challenge in M&E.

## **An Illustrative Communication Strategy for Magnesium Sulfate**



## Step 1: Analyze the Situation

Refer to page 15 for supporting guidance on this step, as well as “Step 1” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step1/>) for further resources.

### Health and Commodity Context

*\*The majority of the information in this section is a global-level analysis for purposes of illustration. The country-specific situation analysis should be focused on the local context.*

#### Health Context

Each year approximately 287,000 women die from pregnancy and childbirth-related complications, 99 percent of whom live in developing countries. PE/E—the dangerous elevation of BP during pregnancy—is attributed to 22 percent of all maternal deaths, affecting an estimated 63,000 women worldwide each year (UN, 2012; WHO, 2011b). PE/E are detected during pregnancy through elevated BP and/or the presence of protein in urine. If left untreated, PE/E can lead to seizures, kidney and liver damage, and death. It can also lead to newborn complications, including slow growth, low birth weight and pre-term birth, which can lead to further complications for the newborn. The risk of dying of PE/E is approximately 300 times higher for women in developing countries than for women in developed countries (UN, 2012; WHO, 2011b), due to a lack of access to quality, affordable care and supplies that could save their lives.

When detected early (typically during ANC visits) and in a mild stage, pre-eclampsia can be treated and the morbidity and mortality linked to eclampsia can be lowered. There is no cure for eclampsia other than delivering the fetus; however, there are ways to minimize the health consequences of severe pre-eclampsia and eclampsia.

#### Commodity Context

As early as 1925, magnesium sulfate ( $MgSO_4$ ) became the standard treatment for PE/E in the United States. Until recently, there was widespread use of other, less effective anticonvulsants in the rest of the world. However, large clinical trials conducted between 1995 and 2002 found magnesium sulfate to be the most effective when compared with other treatments, including diazepam and phenytoin (Altman et al., 2002). These trials have found magnesium sulfate to reduce the occurrence of eclampsia by more than 50 percent and maternal deaths by 46 percent. Women treated with magnesium sulfate had a 52 percent and 67 percent lower recurrence of convulsions (eclampsia) than those treated with diazepam and phenytoin, respectively. Magnesium sulfate has since been placed on the World Health Organization (WHO) EML and is recommended as the most effective, safe and affordable treatment for severe PE/E (WHO, 2011a).

Magnesium sulfate costs approximately U.S. \$0.10 per ml (supplier median price), or U.S. \$1 per dose, and is produced by a number of global and local manufacturers worldwide. Magnesium sulfate is available in a variety of formulations, including a 50 percent solution of 500 mg/ml in a 2 ml ampoule, and a 20 percent solution of 500 mg/ml in a 10 ml ampoule (Every Woman Every Child, 2013). A treatment may require up to nine vials. Magnesium sulfate is administered by injection into the woman’s vein or muscle. Calcium gluconate—a mineral supplement—is an antidote available in the rare event of magnesium sulfate side effects or toxicity, including flushed appearance, headaches, slurred speech, nausea, loss of reflexes, respiratory paralysis and abnormal heart rates or cardiac arrest.

About 35 manufacturers of generic magnesium sulfate solutions have been identified worldwide, but there are likely to be other manufacturers around the world, especially in Asia and Latin America. Products are

available in sealed glass ampoules or vials sealed with a rubber or latex stopper or a cap. The product is very stable at ambient temperatures and is unlikely to undergo any significant degradation as a result of heat if it is properly manufactured, packaged, sterilized and sealed. Recent consultations among experts have led to the recommendation of one particular dosing: 5g in 10ml.

## Audience and Communication Analysis

Common barriers to uptake of magnesium sulfate across multiple country contexts include a lack of political will, lack of country specific clinical guidelines for administration, low availability of the medication and related supplies, lack of confidence among health care providers to use magnesium sulfate, poor knowledge and understanding of the symptoms of PE/E at the community level, inaccuracies about dosage calculation and administration, and lack of provider and community knowledge about magnesium sulfate, including concern about side effects for the mother and fetus (HC3, 2013; Maternal Health Technical Resource Team, n.d.). Even when health care providers understand the severity of PE/E, they often fail to treat due to lack of clinical guidelines and standards, lack of knowledge about appropriate treatment, and lack of skills to administer magnesium sulfate (EngenderHealth, 2007).

**Lack of Political Will and Structural Barriers:** Although the effectiveness of magnesium sulfate has long been established and many countries have magnesium sulfate in their EMLs, increased political will is necessary to ensure that magnesium sulfate is available and that international clinical guidelines are translated into local clinical practice. Country experiences in Nigeria, South Africa, Zimbabwe and Mozambique highlight the need to combine advocacy efforts with collaborative protocol development and health care provider training to obtain positive results in the use of magnesium sulfate (Daniels, Lewin, & The Practice Policy Group, 2008; Okereke, Ahonsi, Tukur, Ishaku, & Oginni, 2012; Woelk et al., 2009). Regulatory hurdles can also restrict use of magnesium sulfate. For example, in many countries, lower level providers, such as midwives in the Democratic Republic of Congo, are not authorized to administer magnesium sulfate and therefore cannot stabilize a patient before referral, if needed.

**Lack of Appropriate Clinical Guidelines:** In some countries, drugs, such as diazepam, are listed as first-line treatment for severe PE/E, even when the evidence shows that magnesium sulfate is more effective. In other countries, national treatment guidelines for magnesium sulfate are unavailable and health providers may lack knowledge about proper use (Wilson et al., 2012). For some countries, such as Kenya, recent guidelines have been adopted reflecting WHO recommendations, but still need to be disseminated to the facility level.

**Registration/Procurement Issues:** In several countries, poor procurement and distribution systems are responsible for low availability of the drug. In Pakistan, a study found that a fragmented system for registration, procurement and distribution was at the source of the low use of magnesium sulfate, even though policies were all aligned with international standards (Bigdeli, Zafar, Assad, & Ghaffar, 2013). Similarly, in Mozambique and Zimbabwe—where the procurement system is complex and cumbersome and the market for magnesium sulfate is relatively small—magnesium sulfate is typically ordered by central medical stores only in response to requests from local physicians or specialists (Sevene et al., 2005). As a consequence, it may not be readily available or available in sufficient quantities when needed. A recent study of 37 countries across Africa, Asia and Latin America found that more countries (86 percent) reported regular availability of magnesium sulfate at Ministry of Health stores than at facilities (76 percent), reflecting a supply chain and distribution problem (Smith, Currie, Perrie, Bluestone, & Cannon, 2012).

**Availability of Supplies:** A limited supply of magnesium sulfate at the health care facility is a barrier to use, as

are the high costs of some related supplies, including the antidote drug calcium gluconate. The unavailability of calcium gluconate in health facilities where magnesium sulfate treatment is expected to be administered is a deterrent for providers to use magnesium sulfate. Similarly, supplies required for testing protein in urine to detect pre-eclampsia may be difficult to access, may not be available at the point of use, or are expensive and are thus used sparingly (VSI & Jhpiego, 2013).

**Provider Awareness, Knowledge and Confidence:** Provider awareness of severe pre-eclampsia and the need to treat it with magnesium sulfate varies across countries. Pre-eclampsia is best detected during ANC visits through systematic testing and analysis of urine specimens. However, DHS data from various countries show that fewer than 40 percent of pregnant women get their urine tested regularly. This is due to a combination of factors. In many countries, there is a lack of emphasis on PE/E during ANC due to a stronger focus on HIV/AIDS in recent years. ANC providers in many countries are trained to detect PE/E using urine tests or a range of known danger signs; however, BP is still the most commonly used indicator of pre-eclampsia during ANC visits, even though BP machines are sometimes unreliable and/or difficult to read. Additionally, ANC providers seldom ask about the typical danger signs of PE/E, such as edema (swelling due to fluid, particularly in the feet, ankles, legs or face), epigastric pain (pain experienced in the upper abdomen, below the ribs) and blurred vision (Sanghvi, 2011).

Knowledge and skills in treatment protocols are also lacking in many countries. For example, in Pakistan, most providers are aware of magnesium sulfate as the first-line treatment for eclampsia, but many are not aware of its use for severe pre-eclampsia (Bigdeli et al., 2013). In Kenya, providers often decide on treatment when observing “impending eclampsia,” which does not align with most recent protocols that state that all cases of severe pre-eclampsia be treated with magnesium sulfate (and a hypertensive), with no consideration given to whether eclampsia is impending or not (VSI & Jhpiego, 2013). Even with adequate supplies and diagnosis, providers may be reluctant to use magnesium sulfate to treat severe PE/E due to a fear of adverse effects and complexity of administration. Incorrect knowledge regarding potential side effects to mother and unborn child also can lead to reluctance in timely administration of magnesium sulfate.

**Preparation and Administration of Magnesium Sulfate:** An important barrier at the facility level is the preparation and administration of magnesium sulfate. Providers in Pakistan reported that dosage preparation is one of the biggest barriers for them to use magnesium sulfate, as they must recall, calculate and prepare the dosage themselves (Bigdeli et al., 2013). In Mexico, providers report that the time it takes to find and prepare magnesium sulfate can be a disincentive to its use, preferring instead a more readily accessible and less time-intensive drug, such as diazepam (van Dijk et al., 2013a, 2013b). In Kenya, the product was found to be available at the point of use in various concentrations and presentations, leading to confusion among providers about which product to use and how to calculate the right dosage (VSI & Jhpiego, 2013).

**Lack of Awareness Among Pregnant Women and at Community Level:** Typical danger signs of PE/E are not well known among pregnant women (Sanghvi, 2011). In countries with trained CHWs, the content of training regarding the danger signs in pregnancy may not include all the known danger signs for pre-eclampsia. In many cases, CHWs may be aware of danger signs and symptoms, but not understand the seriousness of the condition that they were witnessing. This can easily lead to missed opportunities for referral and urgent care.

*Example of Table to Organize Key Information*

	<b>Current Behaviors</b>	<b>Primary Barriers to Desired Behavior</b>	<b>Primary Benefits of Desired Behavior</b>
<b>End user/ community members (e.g., women, their families)</b>	Poor treatment seeking when experiencing common danger signs of PE/E.	Very limited awareness of PE/E danger signs, its serious consequences and availability of treatment by pregnant women and CHWs.	Most effective PE/E treatment method.  Rare occurrence of side effects.
<b>Providers (public and private, clinic- and community-based)</b>	Lack of or irregular PE/E screening during ANC.  Low levels of promotion and use of magnesium sulfate.	Magnesium sulfate availability issues.  Lack of commodity awareness (as front-line treatment) and country-specific guidelines for use.  Confusion over dosage and fear of adverse effects and incorrect administration.  High cost or unavailability of related supplies, such as antidote drug calcium gluconate and urine test equipment.	Most effective treatment for PE/E.

## Step 2: Define a Vision

Refer to page 19 for supporting guidance on this step, as well as “Step 2” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step2/>) for further resources.

### Illustrative Vision

Ensure systematic detection of PE/E during ANC and make sure that all women who have symptoms of severe PE/E are treated with the appropriate regimen of magnesium sulfate.

## Step 3: Choose the Intended Audiences

Refer to page 19 for supporting guidance on this step, as well as “Step 3” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step3/>) for further resources.

### Primary and Secondary Audience Segments *(with rationale for segment selection)*

#### PRIMARY AUDIENCES

*Primary audience 1: Pregnant women and their families*—Pregnant women, their male partners and other influencing family members play a crucial role in detecting warning signs of PE/E in pregnancy. Accordingly, this group needs to be well informed about and seek out ANC. This includes learning about PE/E warning signs and symptoms, the severity of PE/E for mothers and their baby, where and when to seek care, and what care options are available.

*Primary audience 2: Facility-based clinical providers (public and private) dealing with screening and treatment of PE/E*—OB/GYN specialists, clinical officers, nurse midwives, skilled birth attendants, ANC nurses, etc. Facility-based providers are the primary users of magnesium sulfate to treat PE/E. They need accurate knowledge and skills to detect PE/E, to feel confident in using magnesium sulfate and have access to necessary supplies.

#### INFLUENCING AUDIENCES

*Influencing audience 1: District and local health officials (Ministry and local authorities, as well as facility management)*—Health officials play a key role in ensuring that guidelines for treatment of PE/E are up-to-date and in line with the latest evidence and that providers are trained in their implementation.

*Influencing audience 2: Community health workers (public and private)*—CHWs play a critical role in supporting women and their families to address early identification of maternal complications, such as PE/E—in particular, the decision to seek care and the ability to secure transportation to the nearest health facility.

## Audience Profiles

### Primary Audience 1: Pregnant Women and their Families



#### **Nelly, 20, expectant mother outside Nairobi, Kenya**

Nelly is married and four months pregnant with her first child. She completed primary school, then worked as house help and on the family farm until she married. Nelly now runs a small bar and breakfast nook from her new home with her husband in a rural area outside of Nairobi. Her closest health center is 15 km away. She has never visited the health center because it is too far and would take her away from her housework and tending the café. She plans to deliver at home, as her mother did, with the help of a local midwife. She has heard about other women in her community dying from pregnancy-related causes, but is not sure what signs she should be looking for.



#### **Adrivas, 32, father of two living in Nampula, Mozambique**

Adrivas is a carpenter and a father of two, with his wife expecting another baby. His wife was pregnant last year, but something went wrong during the labor. Adrivas is not sure what the problem was, but his wife had a difficult time with the pregnancy and the baby did not survive. For this pregnancy, his wife has been suggesting they go to the clinic before the baby is born to make sure the baby is doing well. He wants the best for his wife and family, but he hears of women losing babies all the time and is not sure this outcome is always preventable. Adrivas is hesitant to spend the money to travel to the clinic and is afraid of what additional costs will be when they get there. Instead, he has heard the local traditional healer has medicine that can be affordable or paid for with goods or services, meaning he will not have to pull from the family's already small income to get care for his wife. Adrivas also likes that the healer can come to their home if needed, so he will not have to worry about his wife traveling, in case of an emergency.



#### **Gloire, 61, mother-in-law living in North Kivu, DRC**

Gloire is a mother of five and is happy her daughter-in-law is now pregnant with her first child. Gloire remembers her first pregnancy was difficult and has learned the local health clinic is now encouraging pregnant women to go for ANC services. She is eager to ensure her daughter-in-law gets these services and has talked to her daughter-in-law already about this, but knows her son will object. He is a strong believer that God gives and takes away life, and that intervening by going to the clinic shows a lack of faith. She is unsure how to talk to him about this or what to say to convince him of the benefits of ANC.

### Primary Audience 2: Facility-based Clinical Providers



#### **Dr. Yasamin, 37, OB/GYN specialist in Meknès, Morocco**

Dr. Yasamin works at a referral hospital in a district and supervises the various services related to maternity (ANC, delivery, postpartum care), as well as other OB/GYN issues. She often works alone—when the hospital actually needs three or four OB/GYN specialists—and thus, struggles with the workload. Her level of knowledge of PE/E is typically based on the country's latest guidelines, which are outdated. Patients at risk of PE/E who are coming to the hospital for regular ANC visits are usually identified during ANC and referred for treatment immediately. Other patients may show up at the hospital already convulsing. At this late stage, Dr. Yasamin's ability to save their lives is greatly reduced. She is dedicated to taking good care of all patients at her hospital and wishes that pre-eclamptic patients would be screened more systematically to ensure early detection and prevention of seizures.



**Dr. Tilahun, 31, health officer at a local health facility in Debre Berhan, Ethiopia**

Dr. Tilahun works at a local health facility (not a referral hospital) and is usually supported by a few other staff. He is trying to do his best to ensure that all women who come to the facility are treated or referred as appropriate. Pregnant women come to his clinic for ANC and sometimes for delivery, sometimes due to complications. When a woman arrives at the clinic with signs of PE/E, Dr. Tilahun does not always feel comfortable treating it and at times chooses to refer the pregnant woman to the referral center. In some cases where the woman is already experiencing convulsions, he uses diazepam as treatment. He has heard about magnesium sulfate and knows that it can be used to treat PE/E, but he is not clear about the protocol, dosage and regimen, or how to handle possible side effects. He is also unclear about the possible effects of the drug on the mother and the fetus.



**Anna, 53, trained birth attendant working at a health facility in Gulu, Uganda**

Anna likes her work and generally has good social status and recognition in her community. She has limited equipment and supplies to work with. Because of this, she is worried that she might not be able to properly treat all women under her care. She prefers to refer a woman rather than try to treat her if something happens. She is not very well informed on the signs of PE/E or the way to diagnose it (although she is very familiar with convulsions), and she would not know how to use magnesium sulfate even if it were available. She believes that magnesium sulfate should only be used at higher level hospitals and by a higher cadre of provider.



**Sadia, 27, ANC nurse in Chittagong, Bangladesh**

Sadia works at a local health center and provides screening to all pregnant women in the community. She is often overwhelmed by the number of women she has to see on a daily basis and knows that people complain about long lines and waiting all day. As a result, she sometimes takes shortcuts to get her work done more quickly, including recording patient information rapidly without sufficient consideration for what the numbers may indicate and how referral and treatment should follow accordingly. Typically, she recommends a urine test during the first ANC visit, but does not offer it systematically for repeat visits. At her health facility, providers typically prescribe a urine test only if BP levels are elevated. However, the accuracy of BP machines is questionable and sometimes she does not entirely trust the results. When a pregnant woman has signs of elevated BP, she recommends an antihypertensive drug, but has no guarantee that the woman will come back for further monitoring and rarely has time to counsel clients on all the danger signs. She also knows that although she is meant to see mothers four times during their pregnancy, they may: 1) delay the first visit, 2) receive ANC care from multiple care settings or 3) skip visits in between. As a result, she is unsure of the next time she will see a woman, as it is unlikely that she will provide all ANC screening visits. As a result, this makes it difficult for her to consistently follow up on issues identified during previous ANC visits or to ensure that the woman followed through on recommendations or referrals.

### Influencing Audience 1: District and Local Health Officials



**Dr. Abena, 43, district level health official near Accra, Ghana**

Dr. Abena is the health officer in charge of one district. He is responsible for ensuring all the public and private sector facilities in his district follow government guidelines for all health protocols. He is also involved in budgeting health needs for the district, identifying sources of funds for commodities and equipment, organizing refresher training updates for the various government facilities and monitoring the quality of services in all district centers. He is ultimately responsible for his district's health indicators and often feels overwhelmed by the range of issues to address. Under-staffed, he does not feel like he has enough time and resources for the required quality of services and supply availability. He would like to serve the needs of his local population better and is motivated by the idea of being helpful and getting positive appraisals from his supervisors and local politicians.



**Dr. Cume, 39, district hospital manager in Nampula, Mozambique**

Dr. Cume is the doctor in charge of a district hospital. He is a public sector appointee and provides human, financial and operational management for the hospital. He works with both a limited budget and a limited number of staff. He knows that maternal deaths during delivery are a major problem and an area of increased attention for his supervisors and national-level officials. However, he does not feel he has enough time and resources to ensure the required quality of services and supply availability in the hospital. He would like to serve the needs of his patients better and is motivated by the idea of being helpful and getting positive appraisals from his supervisors.

### Influencing Audience 2: Community Health Workers (CHWs)



**Kanta, 43, community health worker in Bangladesh**

Kanta is a middle-aged woman with three children. She has been trained to become a CHW by the government. Her training focused on identifying key diseases and health concerns for various age groups, as well as to identify pregnant women in her community and encourage them to attend ANC regularly. Kanta is also trained to identify danger signs associated with pregnancy. While she is not completely clear about all the danger signs associated with pregnancy, she knows about medical issues like heavy bleeding and convulsions during pregnancy. Through her CHW role, she has gained status and prestige within the community (they call her "doctor") and she gets a stipend that allows her to improve her financial situation. She would like to know more about the various problems that can arise during pregnancy and childhood. In addition, she would like to have more job aides on PE/E so that she can better explain the importance of seeking treatment for PE/E to her community.

## Step 4: Design Message Strategy

Refer to page 21 for supporting guidance on this step, as well as “Step 4” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step4/>) for further resources.

### Primary Audience 1: Pregnant Women and their Families

#### Objectives

By 2015, increase the percentage of pregnant women and their families who:

1. Can identify and understand the signs of PE/E.
2. Know what to do and where to seek care should they experience PE/E symptoms.
3. Understand the value and benefits of ANC visits and know where to access services.
4. Attend at least four ANC visits during the course of the pregnancy.
5. Talk to her partner or family member about pregnancy care regimens and attended or facility deliveries.
6. Recommend ANC to friends.

#### Positioning

Knowing key danger signs during pregnancy means you are better prepared to protect your/your wife's/your family member's health and that of the baby.

#### Key Promise

Attending ANC regularly gives mothers and babies the best chance at a healthy pregnancy.

#### Support Statement

Early detection and treatment of pregnancy complications helps guarantee a safer delivery for mom, and good development and delivery for the baby.

#### Key Messages

Key messages for pregnant women and their families should focus on the benefits of ANC care, identifying danger signs of PE/E and seeking prompt care. Illustrative examples include:

- ANC visits are an important part of any pregnancy. These visits help you/your wife/your family members learn about protecting your/the mother's and baby's health, and how to prepare for the delivery.
- Just four ANC visits during your/your wife's/your family member's pregnancy will help protect the health of the mother and the strong development of the baby.
- Ask for a urine test and BP measurements at each ANC visit. Ask your health care provider about your/the mother's risk for PE/E.
- Have a birth plan. Talk to your ANC provider or CHW about what to do in case of a concern or emergency during pregnancy or delivery, and to help you decide where and with whom you/the mother will deliver.
- PE/E is dangerous for the mother and the baby, but there are warning signs you can learn about that will help you know when to seek treatment.
- Dizziness, blurred vision, headaches, swelling legs or feet, and pain in the upper abdomen may be signs of PE/E. If you/the mother experience(s) one or more of these symptoms during pregnancy, go to a CHW or health center immediately.
- Too many women die of PE/E before or during childbirth. You can help make sure you/your partner/your family member is not one of them.
- Magnesium sulfate is the best treatment for PE/E. It is very safe and rarely has side effects. Even if side effects occur, they can be easily treated.
- Talk to your partner and family about the importance of ANC.
- For male partners/family members: Be the foundation your family needs and make the right decision. Support your partner/family member in attending ANC visits, know the warning signs of PE/E, and know what to do and where to go if something goes wrong during the pregnancy or birth.

## Primary Audience 2: Facility-based Clinical Providers

### Objectives

By the year 2015, increase the percentage of clinical providers who:

1. Know how to diagnose PE/E, especially during ANC.
2. Know that magnesium sulfate is the recommended drug for treatment of PE/E.
3. Know how to administer magnesium sulfate (correct dosage, route and regimen).
4. Feel confident they can administer magnesium sulfate for the treatment of PE/E.
5. Feel confident they can monitor patients for magnesium toxicity and administer calcium gluconate, if required.
6. Have access to all necessary supplies around PE/E diagnosis and treatment.

### Positioning

Lifesaving steps you can take: severe PE/E can be treated, and the lives of mothers and babies saved, by taking a few simple steps: implement an early detection protocol for pre-eclampsia and treat patients using the best available drug—magnesium sulfate.

### Key Promise

Clients and superiors will praise your work and you will be rewarded for your diligence. You will gain in reputation/prestige in your community and more people will trust you.

### Support Statement

By knowing how to systematically diagnose and treat PE/E, you will help pregnant women and their growing babies avoid serious issues and this, in turn, will contribute to reducing mortality and morbidity in your community.

### Key Messages

Key messages should seek to develop well-informed providers who know and use the most up-to-date guidelines to treat common maternal health issues.

Illustrative examples include:

- You can easily diagnose pre-eclampsia using a combination of BP measurement, protein levels in urine and other associated danger signs, such as blurred vision, headaches, edema and epigastric pain.
- You can provide treatment for pre-eclampsia and obtain excellent results in health outcomes with minimal complications.
- Magnesium sulfate is easy to administer at any health facility level.
- Magnesium sulfate, when used appropriately, does not cause any harm to mother or fetus.
- Medical trials demonstrate a decrease in case fatality rate when magnesium sulfate is used instead of diazepam to treat PE/E.
- Toxicity risks associated with magnesium sulfate are very low and the easiest way to treat non-severe side effects is to withhold the next dose. In case of severe side effects, the antidote calcium gluconate is inexpensive and easy to procure, and easy to administer.
- With the WHO-recommended formulation of 50 percent concentration for magnesium sulfate, you can easily dilute and administer at the point of care to treat PE/E.

## Influencing Audience 1: District and Local Health Officials

### Objectives

By 2015, health officials will have taken steps to:

#### District Level:

1. Ensure that updated guidelines and procurement information on PE/E are disseminated to local health facilities.
2. Disseminate PE/E screening and treatment job aids and checklists for use at facility level.
3. Develop and implement a plan to train lower level facilities and lower cadre (nurses) on PE/E.
4. Prioritize magnesium sulfate in annual budgets.

#### Facility Level:

1. Ensure that updated guidelines and procurement information relative to PE/E and magnesium sulfate are disseminated to all relevant staff.
2. Orient staff on new job aids and checklists for PE/E screening and treatment.
3. Ensure that lower level facilities and lower cadre (nurses) are trained on PE/E.
4. Prioritize magnesium sulfate in annual budgets.

### Positioning

Lifesaving steps you can take: public health officials have to ensure that all health facilities in the country/ district are equipped to improve early detection, treatment and management of severe PE/E. By developing the right tools and integrating them into your health system as part of a holistic maternal health intervention, you are making sure medical staff on the ground are equipped to respond to potential PE/E cases.

### Key Promise

You will contribute to reducing maternal deaths due to PE/E in your country and help your country meet its MDG targets. Doing so will help you gain prestige among your peers and superiors and enhance your job satisfaction.

### Support Statement

It has been demonstrated that a stronger focus on detection of pre-eclampsia, combined with a better access to supplies, such as magnesium sulfate for treatment and management, results in improved health outcomes for pregnant women. Treatment of PE/E with magnesium sulfate is a low-cost, simple intervention with high health impact that you can implement (in your district/facility).

### Key Messages

Key messages should focus on how responsible, committed health officials can implement steps at district and facility levels that will result in significant improvements of health outcomes at the point of care. Essential messages on the product should also be covered.

Illustrative examples include:

- WHO recommends magnesium sulfate as the most effective treatment of PE/E.
- WHO guidelines for treatment of PE/E clearly state the appropriate dosage, regimen and route of administration.
- WHO guidelines are adequate for low-resource settings and allow lower cadre of providers to administer magnesium sulfate at the facility level.
- Several countries have already implemented training of health providers on the use of magnesium sulfate to prevent or treat eclampsia and have obtained excellent results on mortality and morbidity cases linked to PE/E.

### Key Messages (continued)

- Magnesium sulfate is straightforward to use and toxicity risks are very low when administered following WHO guidelines.
- Diazepam is not recommended for treatment of convulsions in case of eclampsia. It should be removed from national and/or local guidelines.
- Guidelines at all levels (pre-service, in-service and clinical care) need to be aligned and consistent to avoid confusion among providers.
- Registration, procurement and distribution officers need to be updated on the product specifications and ensure availability at all authorized levels.
- Providers at primary care centers can be trained to detect PE/E and procure and administer magnesium sulfate before referral to higher level centers.
- ANC providers need refresher trainings and better tools to ensure systematic detection of pre-eclampsia. Blood pressure tools, urine tests, danger signs list, decision-making algorithm and job aids at the point of care help ANC providers improve detection.

## Influencing Audience 2: Community Health Workers (CHWs)

### Objectives

By 2015, increase the percentage of CHWs who:

1. Correctly list all danger signs related to pre-eclampsia (blurred vision, dizziness, headaches, edema, epigastric pain).
2. Know the link between pregnancy danger signs and associated severe complications, such as maternal seizures and potential loss of baby.
3. Know when to refer a pregnant woman for treatment of pre-eclampsia.
4. Feel confident in explaining to pregnant women and the broader community about pre-eclampsia danger signs and why it is important for pregnant women experiencing these danger signs to get prompt care at a health facility.
5. Can inform pregnant women in communities about the type of tests they should expect and ask for at each ANC visit (blood pressure and urine tests for PE/E screening).

### Positioning

Lifesaving steps you can take: because of your close proximity to pregnant women in your community and the relationship that you have created with them and their families, you are first in line when it comes to detecting PE/E and can save the lives of mothers and babies in your community.

### Key Promise

By knowing how to systematically identify PE/E danger signs and referring women for proper care, you will become the most reliable source of information at community level. You will gain reputation in your community and more people will trust you, value your work and show support.

### Support Statement

For the community to know that there is a person among them who can help identify warning signs and encourage healthier behaviors is extremely valuable. Community members value and respect people who are trained in health issues because they are impressed by their knowledge.

### Key Messages

Key messages for CHWs should focus on knowing and watching/probing for warning signs in pregnant women, as well as encouraging healthy behaviors such as going to ANC visits and delivering at health facilities. Basic messages about PE/E should also be covered.

Illustrative examples include:

- Dizziness, blurred vision, headaches, swelling legs or feet, and pain in upper abdomen may be signs of PE/E in pregnant women.
- As a CHW, you can identify danger signs as they arise and explain the need to seek immediate care at a health facility.
- The community trusts you to give them information that they can use to improve their health related to pregnancy and delivery, including treating PE/E.
- You are the key link between the community and the health facility. It is your role to facilitate referrals to health facilities and, as a result, you will ensure improved health outcomes for your community.
- You can encourage pregnant women to go for the full course of ANC visits, and to make sure they request to their providers at each visit to test them for elevated blood pressure and protein in urine, as well as check them for other PE danger signs.

## Step 5: Determine Activities and Interventions

Refer to page 22 for supporting guidance on this step, as well as “Step 5” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step5/>) for further resources.

Suggested approaches and activities and illustrative examples are presented here as appropriate choices for communicating to primary and influencing audiences about magnesium sulfate. These suggestions are a starting point, and close collaboration with communication and creative professionals can help ensure that design and execution are innovative and compelling.

### Mass Media

Intervention Area	Illustrative Activities	Purpose	Intended Audience
Short-form mass media	Develop radio or TV spots on PE/E (e.g., about recognizing danger signs and seeking ANC).	To increase awareness and knowledge of benefits of ANC.	Pregnant women and their families Secondarily: Health providers (facility- and community-level)
Long-form mass media	<ul style="list-style-type: none"> <li>Integrate PE/E into multi-episode radio or TV drama serial.</li> <li>Produce radio call-in shows that include PE/E as a topic.</li> </ul>	<p>To stimulate social dialogue.</p> <p>To shift social norms around ANC and assisted childbirth.</p>	Pregnant women and their families
Print media	Develop/adapt take-home brochures/leaflets and posters on PE/E, and stickers to remind women about warning signs of PE/E.	To increase knowledge of PE/E and where to find quality services and when to seek help (reminders).	Pregnant women and their families
Digital media and mHealth	<ul style="list-style-type: none"> <li>Integrate PE/E into existing maternal health SMS service, including reminders of when to seek care.</li> <li>Host maternal health hotline (phone and/or SMS-based).</li> </ul>	<p>To increase awareness and knowledge.</p> <p>To stimulate social dialogue.</p>	Pregnant women and their families Community-based providers

**Clinic-Based Services**

<b>Intervention Area</b>	<b>Illustrative Activities</b>	<b>Purpose</b>	<b>Intended Audience</b>
Clinic services	<ul style="list-style-type: none"> <li>• Develop and disseminate quality guidelines via professional peer networks or associations.</li> <li>• Train health providers in prevention, screening and management of PE/E (including magnesium sulfate).</li> <li>• Develop algorithm for detection and treatment of PE/E.</li> <li>• Develop a job aid showing overall treatment protocol (including hypertension management).</li> </ul>	<p>To increase correct knowledge.</p> <p>To ensure correct use.</p> <p>To facilitate decision-making.</p> <p>To increase early detection and correct treatment.</p>	Facility-based providers
Digital/distance learning	<ul style="list-style-type: none"> <li>• Develop and train on electronic job aids, such as smart phone- and tablet-based apps.</li> <li>• Disseminate YouTube videos on how to detect PE/E and administer magnesium sulfate via smart phones or tablets.</li> </ul>	<p>To increase knowledge and skills.</p> <p>To facilitate use by various cadres of providers.</p>	Facility-based providers CHWs
Supportive supervision	Conduct on-the-job supervision using checklists and give feedback to provider to encourage improved quality of care.	To increase skills and motivation.	Health officials/ managers
Reminders/incentives	Develop reminders to test for PE/E and administer appropriate treatment and disseminate at regular and frequent checkpoints (e.g., during supervision checks; refresher training).	<p>To increase knowledge.</p> <p>To increase skills.</p>	Health officials/ managers Facility-based providers CHWs

### Community-Based Services, Outreach and Community Approaches

Intervention Area	Illustrative Activities	Purpose	Intended Audience
CHW outreach	<ul style="list-style-type: none"> <li>• Develop low-literacy flipcharts with PE/E danger signs.</li> <li>• Develop badges or other items with key messages on PE/E and ANC visits.</li> <li>• Develop influencing/negotiating skills to ensure proper care is given.</li> <li>• Develop systematic and supportive referral systems.</li> </ul>	<p>To ensure early detection of PE/E.</p> <p>To ensure timely care for PE/E women.</p>	CHWs Pregnant women and their families
Community approaches	Develop community dialogue around regular ANC visits and appropriate care of pregnant women—including danger signs.	<p>To increase knowledge of PE/E.</p> <p>To encourage prompt care seeking.</p>	CHWs Pregnant women and their families
Champions	Identify “everyday heroes”—men in the community who support ANC and know about PE/E for their partners and are helping to ensure the health of their families—and celebrate them at community events and through community and mass media.	<p>To encourage social dialogue.</p> <p>To increase social support for ANC.</p>	Pregnant women and their families

**Structural**

<b>Intervention Area</b>	<b>Illustrative Activities</b>	<b>Purpose</b>	<b>Intended Audience</b>
Policy and guidelines	<ul style="list-style-type: none"> <li>Engage professional associations in evidence sharing activities related to use of magnesium sulfate.</li> <li>Develop advocacy brief for district-level policy makers to promote importance of supplies and training related to PE/E.</li> <li>Share research showing cost savings obtained from early detection and treatment with magnesium sulfate.</li> </ul> <p><i>Scaling Up Lifesaving Commodities for Women, Children and Newborns: An Advocacy Toolkit</i> provides advocacy resources for utilizing the Commission platform to raise awareness and engage stakeholders in addressing commodity-related gaps in policy. See: <a href="http://www.path.org/publications/detail.php?i=2381">http://www.path.org/publications/detail.php?i=2381</a></p>	To influence policies and guidelines.	Health officials/managers
Technical working groups	<ul style="list-style-type: none"> <li>Develop/update guidelines on PE/E detection and treatment.</li> <li>Update training materials on correct PE/E detection and treatment (pre-service and in-service).</li> <li>Assess task-shifting opportunities and need for guidelines on its use in PE/E detection and treatment.</li> </ul>	<p>To ensure correct knowledge.</p> <p>To ensure correct supplies.</p> <p>To obtain consensus for task shifting.</p>	Facility-based providers Health officials/managers
Incentives	<ul style="list-style-type: none"> <li>Set up an incentive scheme to reward women who go to four ANC visits and deliver at a health facility.</li> <li>Reward health facilities for the number of ANC visits and deliveries conducted.</li> </ul>	To increase ANC attendance and health facility delivery.	Pregnant women and their families CHWs Facility-based providers
Pre-service training	Integrate PE/E and magnesium sulfate into pre-service training for all providers, including doctors, nurses, midwives, CHWs, etc.	To increase awareness and proper use of magnesium sulfate.	Facility-based providers CHWs

## Step 6: Plan for Monitoring and Evaluation (M&E)

Refer to page 24 for supporting guidance on this step, as well as “Step 6” on the Demand Generation Implementation Kit (<http://sbccimplementationkits.org/demandrmnch/ch-step6/>) for further resources.

The following indicators, including potential data sources, are used for measuring program inputs, outputs, outcomes and impact.

### General statistics

- Number of pre-eclampsia cases identified and their severity (mild/severe).
- Number of pre-eclampsia cases treated with magnesium sulfate.
- Number of eclampsia cases seen/treated with magnesium sulfate.
- Number of deaths linked to eclampsia.

### Pregnant women and their families:

- Proportion of women and their families who report that they know where to access ANC.
- Proportion of women attending four or more ANC visits.
- Proportion of women getting blood pressure, urine and danger signs checked at each ANC visit.
- Proportion of women and their families who can identify at least three danger signs of PE/E.
- Proportion of women and their families who know that PE/E is dangerous, but preventable.

### Providers:

- Number and level of providers trained in detection of PE/E and treatment with magnesium sulfate in past three years.
- Proportion of providers/CHWs who report they know at least three danger signs for PE/E.
- Proportion of providers/CHWs with access to job aids on PE/E detection and treatment.
- Proportion of facilities with access to all supplies necessary for detection and treatment of PE/E.
- Proportion of providers/CHWs reporting they are able to identify PE/E.
- Proportion of providers who report magnesium sulfate as the first line treatment for PE/E.
- Proportion of providers who report they feel confident in treating PE/E with magnesium sulfate.
- Proportion of providers who report they are able to identify toxicity signs and take relevant action.
- Number of referrals for PE/E or ANC visits made by non-clinical providers.

### District or local health offices:

- Proportion of district/local health guidelines updated to facilitate procurement of magnesium sulfate and PE/E screening and treatment equipment.
- Proportion of relevant district/local staff that received copies of updated guidelines for procurement of magnesium sulfate and PE/E screening and treatment equipment.
- Proportion of local health commodity budgets that include magnesium sulfate.
- Quantity of magnesium sulfate procurements by district/region.

## References



- Altman, D., Carroli, G., Duley, L., Farrell, B., Moodley, J., Neilson, J., et al. (2002). Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Maggie Trial: A randomised placebo-controlled trial. *The Lancet*, 359(9321), 1877-1890.
- Assad, H. A., & Shamsa, R. (n.d.). Barriers to the use of magnesium sulphate in Pakistan: A study to develop informed policy. Pakistan: Ministry of Health. Retrieved from [http://www.who.int/alliance-hpsr/projects/alliancehpsr\\_magnesiumsulfate\\_pakistan.pdf](http://www.who.int/alliance-hpsr/projects/alliancehpsr_magnesiumsulfate_pakistan.pdf)
- Bigdeli, M., Zafar, S., Assad, H., & Ghaffar, A. (2013). Health system barriers to access and use of magnesium sulfate for women with severe pre-eclampsia and eclampsia in Pakistan: Evidence for policy and practice. *PLoS ONE*, 8(3), e59158. doi: 10.1371/journal.pone.0059158.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Daniels, K., Lewin, S., & The Practice Policy Group. (2008). Translating research into maternal health care policy: A qualitative case study of the use of evidence in policies for the treatment of eclampsia and pre-eclampsia in South Africa. *Health Research Policy and Systems*, 6, 12. doi: 10.1186/1476-4505-6-12.
- EngenderHealth. (2007). *Balancing the scales: Expanding treatment for pregnant women with life-threatening hypertensive conditions in developing countries. A report on barriers and solutions to treat pre-eclampsia and eclampsia*. New York: EngenderHealth.
- Every Woman Every Child. (2013). Magnesium sulfate (MgSO<sub>4</sub>): Product profile. Retrieved from <http://www.everywomaneverychild.org/component/content/article/1-about/304-magnesium-sulfate-mgso4--product-profile>
- Health Communication Capacity Collaborative (HC3). (2013). *Demand generation for 13 life-saving commodities: A synthesis of the evidence*. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health Center for Communication Programs.
- Jhpiego. (2009). *Evidence base for PE/E strategy* (unpublished). Baltimore, MD: Jhpiego.
- Kincaid, D. L., Figueroa, M. E., Storey, D. & Underwood, C. (2007). *A social ecology model of communication, behavior change, and behavior maintenance* (working paper). Baltimore, MD: Johns Hopkins Bloomberg School of Public Health Center for Communication Programs.
- Maternal and Child Health Integrated Program (MCHIP). (2009). *Report of second technical working group meeting on pre-eclampsia/eclampsia*. Washington, DC: USAID/MCHIP.
- Maternal Health Technical Resource Team, Magnesium Sulfate Subgroup. (n.d.). *Barriers to use of magnesium sulfate for pre-eclampsia and eclampsia management in low- and middle-income countries, A brief review of the literature*.
- McIntosh, J. J., & Washington, S. (2010, November-December). A pre-eclamptic patient in Kenya. *OB/GYN Special Delivery*, 1.
- Nigeria Federal Ministry of Health (FMoH), Population Council, & MacArthur Foundation. (2009). *Training manual [Trainee version] on the use of magnesium sulphate in the management of severe pre-eclampsia and eclampsia*. Abuja, Nigeria: Nigeria FMoH.
- Noar, S. M. (2006). A 10-year retrospective of research in health mass media campaigns: Where do we go from here? *Journal of Health Communication*, 11(1), 21-42.
- Okereke, E., Ahonsi, B., Tukur, J., Ishaku, S. M., & Oginni, A. B. (2012). Benefits of using magnesium sulphate (MgSO<sub>4</sub>) for eclampsia management and maternal mortality reduction: Lessons from Kano State in Northern Nigeria. *BMC Research Notes*, 5(1), 421-426. doi: 10.1186/1756-0500-5-421.
- Osungbade, K. O., & Ige, O. K. (2011). Public health perspectives of preeclampsia in developing countries: Implication for health system strengthening. *Journal of Pregnancy*, 2011, 481095. doi: 10.1155/2011/481095.
- Population Council Nigeria. (2013). *Pre-service training on use of magnesium sulphate for management of pre-eclampsia and eclampsia for departments, schools, and colleges of nursing and midwifery in Nigeria. Evidence for Action: News from the Population Council in Nigeria*, 3, 1-2. Retrieved from [http://www.popcouncil.org/pdfs/2013\\_NigeriaEvidenceForAction3.pdf](http://www.popcouncil.org/pdfs/2013_NigeriaEvidenceForAction3.pdf)
- Sanghvi, H. (2011). *Screening and early detection of preeclampsia (presentation). Interventions for impact in EONC meeting*, Addis Ababa. Baltimore, MD: Jhpiego.
- Sevene, E., Lewin, S., Mariano, A., Woelk, G., Oxman, A. D., Matinhure, S., et al. (2005). System and market failures: The unavailability of magnesium sulphate for the treatment of eclampsia and pre-eclampsia in Mozambique and Zimbabwe. *BMJ*, 331(7519), 765-769.
- Smith, J. M., Currie, S. M., Perrie, J., Bluestone, J., & Cannon, T. (2013). *National programs for the prevention and management of postpartum hemorrhage and pre-eclampsia/eclampsia: A global survey, 2012*. Washington, DC: USAID/MCHIP.
- Smith, J. M., Lowe, R. F., Fullerton, J., Curry, S. M., Harris, L., & Felker-Kantor, E. (2013). An integrative review of the side effects related to the use of magnesium sulfate for pre-eclampsia and eclampsia management. *BMC Pregnancy and Childbirth*, 13, 34. doi: 10.1186/1471-2393-13-34.

Thein, T. T., Myint, T., Lwin, S., Mint Oo, W., Kyaw Kyaw, A., Kyaw Myint, M., et al. (2012). Promoting antenatal care services for early detection of pre-eclampsia. *WHO South-East Asia Journal of Public Health*, 1(3), 290-298. Retrieved from <http://www.searo.who.int/publications/journals/seajph/whoseajphv1i3p290.pdf>

UN Commission on Life-Saving Commodities (UNCoLSC) for Women's and Children's Health. (2012). Commissioner's report. Retrieved from [http://www.everywomaneverychild.org/images/UN\\_Commission\\_Report\\_September\\_2012\\_Final.pdf](http://www.everywomaneverychild.org/images/UN_Commission_Report_September_2012_Final.pdf)

van Dijk, M. G., Díaz, C., Zuniga Uribe, P., Luna Gordillo, R., Reyes Gutierrez, M. E., & Garcia, S. G. (2013a). Use of magnesium sulfate for treatment of pre-eclampsia and eclampsia in Mexico. *International Journal of Gynecology and Obstetrics*, 121(2), 110-114.

van Dijk, M., Garcia Rojas, M., Contreras, X., Krumholz, A., Garcia, S., & Diaz Olavarrieta, C. (2013b). Treating patients with severe preeclampsia and eclampsia in Oaxaca, Mexico: Three complementary studies (unpublished manuscript). New York: Population Council.

Venture Strategies Innovations (VSI), & Jhpiego. (2013). Assessment of the availability and use of preeclampsia and eclampsia-related commodities in Kenya and Nepal (publication under review).

Warren, C., & Liambila, W. (2004). Safe motherhood demonstration project Western Province. Approaches to providing quality maternal care in Kenya (final report). Nairobi, Kenya: Republic of Kenya Ministry of Health, University of Nairobi, and Population Council.

Wilson, R., Kade, K., Weaver, A., De Lorenzi, A., Yeager, B., Patel, S., et al. (2012). Medicines for maternal health: Key data and findings. Prepared for the United Nations Commission on Commodities for Women's and Children's Health. New York and Washington, DC: PATH, UNFPA, and USAID.

Woelk, G., Daniels, K., Cliff, J., Lewin, S., Sevens, E., Fernandes, B., et al. (2009). Translating research into policy: Lessons learned from eclampsia treatment and malaria control in three southern African countries. *Health Research Policy and Systems*, 7, 31. doi: 10.1186/1478-4505-7-31.

World Health Organization (WHO). (2011a). WHO Model list of essential medicines (17th list). Retrieved from [http://apps.who.int/iris/bitstream/10665/70640/1/a95053\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/70640/1/a95053_eng.pdf)World Health Organization (WHO). (2011b). WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia. Geneva, Switzerland: WHO.

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