Prevention of Postpartum Hemorrhage Initiative (POPPHI) Project

Semi-annual Report

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1. Progress

Progress will be defined according to activities completed in the work plan.

1.1 Summary of Activities

Project activities continue at a brisk pace. Activities in the second two quarters of the Prevention of Postpartum Hemorrhage Initiative (POPPHI) Project focused on developing, conducting, and evaluating two regional workshops in Asia and Latin America and initiating the small grants program. POPPHI solicited and received proposals from four Asian countries and draft proposals from five Latin American countries. These proposals are currently undergoing review. Activities also included planning and development of a global survey on active management of the third stage of labor (AMTSL). Currently, there are plans to conduct it in East Africa, followed by Central America. The protocol and tools were developed and submitted for IRB approval at Johns Hopkins University (JHU). Additionally, the in-country survey coordinators in Ethiopia, Tanzania, and Zambia, will submit the protocol to ethical committees or Internal Review Boards (IRBs) in their respective countries. POPPHI is working very closely with the Regional Economic Development Services Office for East Africa (REDSO- East) in this effort.

A very useful and productive Postpartum Hemorrhage (PPH) Working Group and the Uterotonic Drugs and Devices (UDD) Task Force was held in February 2005. POPPHI initiated the creation of three additional task forces that will meet within the next few months: Community-based care, Training, and First level intervention. POPPHI also hosted a presentation of the results of Gynuity's Gambia study on misoprostol; presented at the mini-university for the CORE group of nongovernmental organizations (NGOs) at JHU; worked with the Private Sector Project (PSP) to include training on AMTSL in their midwifery workshops; participated, presented, and learned from international midwives at the International Confederation of Midwives (ICM) Triennial Congress; and presented at the Community-based Postpartum Care Network Meeting in Bangladesh. POPPHI held discussions with the World Health Organization (WHO) to host a technical meeting in Geneva during November 2005, for the purpose of creating a joint statement on AMSTL between WHO, United Nations Children's Fund (UNICEF), and United Nations Population Fund (UNFPA). There have been 797 condensed PPH Toolkits distributed; 335 reference toolkits; and 458 CD ROMs to 71 countries, 173 organizations, 5 ministries of health, and approximately 30+ NGOs during the last six months for a total of 971 condensed toolkits, 498 reference toolkits, and 458 CD ROMS. POPPHI has provided 19 midwifery associations and 14 ob/gyn associations with the Toolkits. Pan American Health Organization (PAHO) is translating the condensed Toolkit into Spanish and will print copies for distribution in September 2005. They will provide POPPHI with 50 of those copies. The website, www.pphprevention.org, is nearly complete. It is

currently under PATH's editorial review and it will be up and "live" by October 2005. The PPH Toolkit will be available for downloading on the POPPHI website. A list-serve for those interested in updates and sharing information on PPH is also under development.

POPPHI submitted a request and received approval to modify the language of the LOP Result for Task 3. Given that the research on the effectiveness of misoprostol is not yet available, the POPPHI project is promoting the need to gather more evidence before rolling it out at the community level. Therefore, the revised wording of the LOP Result for Task 3 reads: *Develop system of community-based distribution for appropriate uterotonic drugs in at least 3 countries as part of an integrated program to reduce mortality from postpartum hemorrhage and other causes of maternal health.*

POPPHI partners (RTI, PATH, and EngenderHealth), Implementing Partners (ACCESS, RPM plus, Health Tech) and our collaborating partners, ICM and the International Federation of Gynecology and Obstetrics (FIGO) identified two outcome indicators that will be the primary focus of our monitoring and evaluation efforts: 1) Percentage of districts in a country with sites where service delivery staff have been trained in AMTSL and uterotonics (oxytocin) are available and 2) Percentage of births in a specified time period in targeted facilities that receive AMTSL. The subcontracts with ICM and FIGO to assist POPPHI to expand and to improve the quality and availability of AMTSL through their member associations around the world are finalized. Three job aids are under development in collaboration with Engenderhealth: a poster, a fact sheet for providers and a fact sheet for policy makers. POPPHI is working with RTI on the cost analysis of uterotonics, injection equipment and devices, and cold chain storage of oxytocin. The Global Bureau has agreed to commit $300,000 (or approximately $100,000 per country) to POPPHI to provide technical assistance to three bilateral projects with strong maternal health components. The final countries chosen were Pakistan, Indonesia and Zambia. Pakistan is very interested and requested a large dissemination workshop in October 2005. Indonesia also indicated interest and POPPHI will hold additional discussions with them in the next period to determine POPPHI's scope of work. Zambia was chosen as possibly the third country program but no discussions were held with the bilateral staff to date.

Activities Completed

Project Start Up/Working Group

Under this category, all activities listed in this period are either ongoing or completed. They include:

- The subcontracts to FIGO and ICM to support the expansion of AMTSL are finalized. They were submitted to FIGO and ICM for signature in July 2005.

- PATH /RTI received approval from the United States Agency for International Development (USAID) to award grants (versus subcontracts) to the selected national associations participating in the small grants program.
- Maintain master calendar of events.
  - This is an ongoing activity with participation by all partners. Information has been received and used to facilitate information on postpartum hemorrhage (PPH) prevention, AMTSL and the POPPHI Project work. The master calendar of events will be available online when the website goes live. The following conferences, meetings, etc. have been attended:
    - Partnership for Safe Motherhood and Newborn Health, April 2005 - D. Armbruster and K. Krasovec attended the World Health Day event, "Make every mother and child count" on April 7, 2005 and the Partnership meeting that immediately followed in New Delhi, India on April 7 – 9, 2005
    - Community-based Postpartum Care Network Meeting, Bangladesh, April 2005 – R. Quiroga gave a presentation on the "Prevention of Postpartum Hemorrhage and the POPPHI Project"
    - The Latin American Federation of Ob/Gyn Societies (FLASOG) meeting, Dominican Republic, May 2005
    - Mini-University for Child Survival and Health Grants program, June 2005 – POPPHI staff provided information on AMTSL as part of a panel on maternal health
    - Met with PSP project to discuss collaboration. PSP will be working with private sector midwives and agreed to include a session on AMTSL in their workshop. POPPHI provided information on the ICM triennial congress in Brisbane and suggested it as a venue for them to access midwives. PSP established a relationship with ICM and funded a number of midwives to Brisbane and carried out a pre-congress workshop.
- Facilitate the exchange of information and coordinate with Implementing Partners (IPs).
  - Continued sharing of data and information. At the request of the Gynuity Project, POPPHI held a meeting on June 9, 2005, comprised of a select group of individuals from the PPH Working Group interested in the misoprostol research. At this meeting Gynuity gave a presentation on their Gambia study data.
- Develop master resource list of AMTSL and PPH management experts to assist small grant recipients.
  - FIGO provided lists of experts from most regions.
  - Continue to collect regional experts from JHPIEGO/ACCESS.

- Identify and track current and ongoing research and country implementation related to AMTSL.
  - Ongoing – POPPHI developed and/or updated the list of ongoing research on misoprostol for preventing PPH. (See Appendix A.) This information will be available on the POPPHI website.
- Convene a PPH Working Group Meeting.
  - This meeting was conducted on February 10, 2005. Thirty-five participants attended. (See Appendix B for Highlights.)
- Negotiated two summary outcome indicators for use by POPPHI and implementing partners. Indicators will be shared with other Cooperating Agencies, NGOs and projects to expand data collection of these important indicators. These are also included in the baseline survey for the small grants; therefore, this data will be collected by the 16 small grants countries. M&E plan finalized in April 2005 (includes the summary outcome indicators as well as small grants indicators) and approved by USAID.

Task 1: Expand AMTSL Through Non-training Approaches to Improve Provider Practice

Launch joint FIGO/ICM statement

- Coordinate with FIGO and ICM to choose up to four priority meetings; include regional diversity.
  - Launches occurred in Chile, Uganda, and Trinidad under the previous Population Health and Nutrition Information Project. POPPHI supported a launch in Benin at the African Society of Ob/Gyns (SAGO) meeting in December 2004.
  - POPPHI sponsored FIGO staff, BA Daviss and A Lalonde, to FLASOG to "launch" the joint statement and to assist in dissemination of the Toolkits and present on the POPPHI project.
  - Finalized plans to present at the Royal College of UK meeting in Cairo in September 2005. Work is in progress to identify midwives attending the meeting and arrange a meeting with them.
- Assist ICM and FIGO staff to facilitate dissemination of joint statement through their meetings.
  - POPPHI supported efforts to disseminate the Joint Statement at the ICM Triennial Congress. POPPHI uses numerous opportunities (see Project Start Up/Working Group section) to provide information and data on AMTSL to large groups of midwives from around the world. POPPHI provided all midwifery country delegates at the pre-Congress meeting with the Joint Statement and encouraged them to share it with their members. POPPHI presented a session on AMTSL at the pre-Congress workshop. This session included a demonstration and practicum of AMTSL using an anatomical

model. Additionally, POPPHI presented a demonstration with anatomical followed by discussion and a session at the Congress on the challenges and issues around using AMTSL

- Organize dissemination of technical materials, including PPH Toolkit, to associations. Create a distribution list.
  - Numerous PPH Toolkits have been distributed to date at conferences, meetings, and at the request of interested parties. During this period, 797 condensed PPH Toolkits have been distributed, 335 copies of the PPH Toolkit Reference Manuals and 458 CD ROMs in 71 countries. (See Appendix C.)
  - The numbers of Toolkits is getting low so POPPHI and ACCESS will need to be more selective until they can be reprinted. A review/revision is needed prior to reprinting. Suggestions have been made that training materials on AMTSL be included in the Toolkit.

Provide TA to associations for workshops on PPH within meetings

- Use AMTSL training materials and practicum appropriate for workshop settings, using models.
  - POPPHI uses the ACCESS/JHPIEGO training checklists from the "Basic Maternal and Newborn Care: Basic Childbirth, Postpartum, and Newborn Care", as part of the regional workshops. POPPHI purchased an anatomical childbirth model that is used for demonstration and return demonstration of AMTSL during workshops. As mentioned previously, POPPHI conducted a similar training session at the ICM Triennial Congress in July 2005. Additionally, PPH Toolkits were distributed to the participants of the two regional workshops in Asia and Latin America and the Caribbean (LAC).
- Identify and adapt non-training approaches to increasing provider skills on AMTSL.
  - POPPHI's website: *www.pphprevention.org* is moving through the PATH review process. It will be on-line during the next quarter.
  - POPPHI continued discussions with representatives of the Quality Assurance (QA) Project to determine how POPPHI can utilize the QA process to expand the use of AMTSL. After the Chief of Party meeting in May, Jim Heiby and Mary Ellen Stanton agreed to meet to discuss possible collaboration.
  - The development of a self-study module on AMTSL is on hold due to the focus on regional workshops during these two quarters.
  - PAHO volunteered to translate and print the condensed version of the PPH Toolkit. They will provide POPPHI with 50 copies of the Spanish edition.
- Identify and utilize representatives and experts from countries in each region with experience in AMTSL to take leading roles.

- Link with Regional Experts trained by the MNH program and with National Associations.
  - POPPHI used regional experts from the former Maternal and Neonatal Health (MNH) program to assist in the Asia and Latin American regional workshops on AMTSL for twelve national ob/gyn and midwifery associations. Dr. Kusum Thapa from Nepal and Dr. Luis Tavara of Peru participated, gave presentations, and gave demonstrations/ monitored return demonstrations of AMTSL on the anatomical childbirth model.
- Provide association leadership with evidence supporting the use of AMTSL to ensure commitment to AMTSL. Provide training as needed.
  - PPH Toolkits were provided to all FIGO presidents who attended FLASOG in May 2005, in the Dominican Republic.
  - PPH Toolkits are provided to all national ob/gyn and midwifery associations that attend the regional workshops. Each of the twenty-three associations (Brazilian ob/gyns were not in attendance at the LAC workshop) attending the regional workshops to date received the condensed and reference PPH Toolkit.
- Facilitate and assist associations to implement, evaluate, and follow-up workshops/practica, utilizing expertise from a master resource list and IPs.
  - Many of the Asia small grants proposals include training as a component of their small grant activities. POPPHI will provide its list of experts to each country receiving a small grant.

Develop small grants mechanism

- Meet with the Policy Project to discuss lessons learned from their small grants work with midwifery associations
  - Completed, January 11, 2005. Lessons learned, such as simplifying the application process and establishing a uniform monitoring and reporting system are being incorporated into the POPPHI small grants program.
- Jointly with ICM and FIGO, create format for Request for Applications including technical requirements and evaluation criteria for review by USAID.
  - There was a revision in the selected four regions to Latin America, West Africa, East Africa, and Asia, with six countries attending from each region. Although six countries attended the workshops, only four of the countries from each region will receive a grant under the small grants program (a total of 16 grants will be awarded by the end of Year 2). The countries included in the workshops are:
    - Latin America: Bolivia, Brazil, Dominican Republic, Ecuador, Paraguay, and Peru
    - East Africa: Ethiopia, Ghana, Malawi, Tanzania, Uganda, and Zambia

- West Africa: Benin, Burkina Faso, Cameroon, Mali, Mauritania, and, Senegal
- Asia: India, Indonesia, Nepal, Pakistan, Philippines, and Vietnam

Promote the publication of the FIGO/ICM joint statement in 25 association newsletters

- Together with FIGO and ICM, identify targeted associations
  - POPPHI provided support to FIGO and ICM to target associations, particularly through large forums such as international conferences. (See Launch joint FIGO/ICM statement section.)

Distribute PPH toolkit

- Distribute Toolkits through regional and national medical, midwifery, and nursing professional meetings, etc.
  - POPPHI continued distribution of PPH Toolkits through international, regional, and professional meetings. (See Appendix C for distribution list.).
- Discuss with the CTO financing of distribution of toolkit, including creative low cost alternatives.
  - Completed. ACCESS will be responsible for shipping requests for Toolkits and POPPHI will disseminate Toolkits at meetings attended and at the regional workshops.

Monitor activities of professional associations in promoting AMTSL

- Assist FIGO and ICM to track member association information dissemination activities to promote AMTSL policies and practices.
- *FIGO started development of a tracking system, in collaboration with ICM. POPPHI will review the tracking system to ensure that appropriate data is collected and provided to POPPHI.*

Task 2: Improve Quality and Availability of AMTSL at the Facility Level

Evaluate training and non-training approaches designed to improve provider skills in AMTSL

- Document and evaluate traditional and non-traditional skill-building approaches to measure their effectiveness in ensuring essential competencies related to AMTSL.
  - POPPHI planned the creation of a Training Task Force. This task force will assist in collection and evaluation of training materials on AMTSL. D. Beck from American College of Nurse Midwives/ACCESS has been asked to chair this task force. POPPHI will not be funding this position. The task force will be asked to review and assist with the revisions of the toolkit. Additionally,

they will provide guidance to POPPHI for the creation of training package and the evaluation report of training strategies.

  - POPPHI plans to create a training package that will be available upon request; in a revised PPH toolkit and on the web. Eventually, the self-study package will also be available.
  - POPPHI asked Intrah to share its training materials used in Mali, Benin, and Ethiopia. We await a response from Intrah.
  - ACCESS/JHPIEGO staff provided a set of checklists on active management and conducting a normal birth – which includes the steps for AMTSL. These were used and distributed in the Asia and Latin America regional workshops.

Develop monitoring plan and measure implementing partners' progress toward achieving benchmarks, and availability and coverage of AMTSL services

- Develop draft monitoring and evaluation (M&E) plan to monitor IP's programs progress toward achieving benchmarks, and availability and coverage of AMTSL services in five countries.
  - M&E plan finalized to monitor POPPHI and IP's progress toward achieving benchmarks, and availability and coverage of AMTSL services in five countries.
- Collaborate with IPs to develop consistent indicators and measurement methodologies (source of data, reporting procedures, etc.) to allow comparison across various projects and sites.
  - IPs agreed to report on two summary outcome indicators.
- Revise M&E plan as needed, based on input from USAID and IPs.
  - See above.
- Collect needed data on benchmarks and indicators and provide periodic progress reports to USAID and IPs.
  - See above.

Provide TA to Missions and Regional Bureaus upon request

The LAC Bureau has contributed funds to POPPHI ($250,000) and these activities were incorporated into the POPPHI project work plan. Additionally, POPPHI is working with REDSO-East to conduct the Global AMTSL survey in three countries in their region. In addition to POPPHI's contributions, REDSO-East is contributing approximately $50,000 (some through RCQHC) and $100,000 from the Africa Bureau via the SARA project.

While not a Mission or Regional Bureau, WHO, UNICEF, and UNFPA agreed to create a joint statement on AMTSL during a 3-day meeting in April 2005 in New Delhi, India. A meeting will be held in November 2005, in Geneva with a group of technical experts to create a joint statement by WHO, UNICEF, and UNFPA on AMTSL. Additionally, one day will be devoted to a review of the evidence on immediate cord clamping.

- Participate in the small grants program to support national ob/gyn and midwifery associations in Latin America
  - The LAC regional workshop for six midwifery and ob/gyn associations was held in Lima, Peru from June 27 – 30, 2005. Bolivia, Brazil, Dominican Republic, Ecuador, Paraguay, and Peru participated with teams of two midwives and two ob/gyns from each country. The ob/gyns from Brazil were unable to attend due to unanticipated problems; however, the midwives will return and work with them in country to finalize their proposal.
- POPPHI is developing a Global AMTSL survey to assess current practices regarding AMTSL and to identify major barriers to its use. This information is needed to permit the development of interventions to improve adoption and implementation of the practice. A secondary aim is to produce domain tools and a methodology which could be employed by others in the future to document change in the practice of AMTSL. The survey is being initiated in East Africa to be followed by a survey in Central America. Discussions continue with Douglas Jarquin of the Central America Ob/gyn Association to conduct the survey in El Salvador, Guatemala, Honduras, and Nicaragua.
  - POPPHI established a subcontract with Johns Hopkins University School of Public Health (JHUSPH) to conduct this survey. From March to July 2005, C. Stanton, JHUSPH, collected information and feedback for the development of the study protocol. Teleconference calls and electronic communication with A. Mutumbe of Research Center for Quality Health Care (RCQHC) and O. Achola of ECSA occurred. A meeting on the Global AMTSL survey was held in Washington, D.C. on May 17, 2005.
  - With support from REDSO East, the survey will be implemented in a sample of E. African countries (Ethiopia, Tanzania, and Zambia). POPPHI will support C. Stanton, principal investigator, to work with the E. Africa team. The SARA Project will support the Africa team members and the in-country survey data collection. A meeting was held July 20-23, 2005, in Nairobi, for joint planning and work plan development for the E. Africa survey.

Task 3: Improve the Quality and Availability of AMTSL at the Community Level

Additional POPPHI activities under Task 3 include working with the Community-Based Postpartum Care network and setting up a Task Force on community-based care for PPH with Joseph de Graaf-Johnson from ACCESS/JHPIEGO as the chair (this position will not be funded by POPPHI).

Develop monitoring plan and measure implementing partners' progress toward achieving benchmarks, and availability and coverage of AMTSL services

POPPHI received approval to change the Expected Life of Project (LOP) result for Task 3. The previous Expected LOP result was: *Develop system of community-based distribution for misoprostol in at least 3 countries as part of an integrated program to reduce mortality from postpartum hemorrhage and other causes of maternal death.* The new Expected LOP result which replaces the old EOP result is:

Develop system of community-based distribution for appropriate uterotonics in at least 3 countries as part of an integrated program to reduce mortality from postpartum hemorrhage and other causes of maternal death.

- Develop draft M&E plan.
  - Include a focus on tracking community-based distribution of misoprostol in at least three countries.
- Collaborate with IPs in indicators, sources of data, reporting procedures, etc.
  - Completed.
- Revise M&E plan as needed, based on input from USAID and IPs.
- Collect needed data on benchmarks and indicators and provide periodic progress reports to USAID and IPs.
  - Ongoing.

Provide TA to Missions and Regional Bureaus upon request

- POPPHI received funding from USAID/G during this reporting period which will be used to provide technical assistance (TA) to two to three maternal health bilateral projects. Pakistan agreed to the TA ($100,000) and there are plans for a dissemination workshop on AMTSL in October 2005. Indonesia indicated interest with discussions to follow. Depending on funding availability, an additional country (Zambia – if agrees) will be added.
- POPPHI's work with the LAC Bureau continues as reported above (section Provide TA to Missions and Regional Bureaus upon request).
- POPPHI received support from and began implementation of the AMSTL survey in Africa with the Africa Bureau and REDSO/East (see Provide TA to Missions and Regional Bureaus upon request section).
- In the next quarter, POPPHI will develop and begin implementation of a plan to more actively solicit FS from additional USAID missions to get additional support for the projects implemented by the national associations under the small grants. POPPHI will share information and make contact with Missions to determine their interest in providing FS for POPPHI activities, particularly with the national professional associations.

Task 4: Make Uterotonic Drugs and Devices Available at Low Cost to Countries

Additional POPPHI activities under Task 4 include setting up a Task Force on First level interventions to evaluate first aid/first treatment options for PPH with Andre Lalonde from SOGC/FIGO as the chair (this position will not be funded by POPPHI).

Convene the Uterotonic Drugs and Devices (UDD) Task Force (TF)

- A UDD Task Force meeting was held February 11, 2005. (See Appendix B for Highlights of PPH Working Group, which also includes UDD Task Force highlights.) Steve Brooke, PATH/HealthTech, will chair the UDD Task Force meeting in Year 2.

Map critical pathway to make uteronics available

- *Completed*. (See Appendix D.) The critical pathway to make uterotonics available consists of three stages that require time and are influenced by outside forces. The first stage requires clarifying the need, value, and demand for commercialization of uterotonics. This stage can take up to 10 months. The second stage consists of preparation for program introduction and scale up. This stage builds on the first and can take up to 16 months. The final stage involves the procurement of uterotonics and the launch of program introduction and scale up. This stage can take up to eight months for one country and several more months for additional countries.

Estimate and compare costs of uterotonics, injection equipment and devices, and cold chain for storage of oxytocin

- Develop Scope of Work for cost analysis.
  - Discussions were held with RTI on the cost analysis with important questions raised that need clarification. Additional information on results expected and budget will drive major decisions and must be addressed. Discussions were held with USAID team on results expected, etc. Decisions were made to focus on availability and cost of uterotonics for countries, with the creation of a simple tool to assist countries to collect this information themselves. Additionally, there is interest in determining the cost of uterotonics for those receiving services – women. Do women pay separately for uterotonics in addition to "normal delivery" charges and if so, how often, how much, and who do they pay (provider, pharmacist, someone else)? The possibility of collaborating with the bilateral project countries to collect data was discussed. The East Africa survey countries (Ethiopia, Tanzania, and Zambia) are also under consideration.
- Identification of and discussion with additional internal and external experts with experience introducing drugs into developing countries for lessons learned.

- Develop a policy brief, which UDD TF will lead, on cost-comparison of uterotonics, injection equipment and devices, and cold chain storage for storage of oxytocin.
  - This will follow the completion of the cost analysis exercise.

Provide TA and advocacy to get drugs/devices registered in at least 3 countries for use in AMTSL

This activity needs to be reviewed, changes made as needed, and an appropriate new timeline suggested for the POPPHI project. The activity was included to work on registration of misoprostol and oxytocin in Uniject™ prefill injection device. (Uniject is a trademark of BD.) With the outcomes of the ongoing research on misoprostol pending, registration of misoprostol for prevention of PPH may not be reasonable until the final year of POPPHI. In terms of oxytocin in Uniject, Health Tech is working with an Argentina company – Biol. Biol (with PATH support) will be able to complete a registration dossier for oxytocin in Uniject in Argentina by September 2006. Health Tech indicated that an initial supply of BIOL Oxytocin in Uniject for use in controlled field trials could be available by spring 2006. As POPPHI develops its Year 2 work plan, it will be important to identify potential countries for POPPHI to pursue registration of oxytocin in Uniject, e.g., India, Indonesia, and Vietnam. At that point, POPPHI will work with Health Tech to schedule country level work on drug/device registration.

- Work with ICM, FIGO and USAID to identify three countries.
- Utilize regional experts and consultants to provide TA and advocacy for drug registration.

1.2 Benchmarks Achieved (Labeled as Targets in M&E Plan)

- **Conference dissemination:** FIGO/ICM Joint Statement disseminated at two international conferences – FLASOG in the Dominican Republic in May 2005, and the ICM Triennial Congress in Australia in July 2005.
- **Small grants:** Four small grants will be awarded to India, Nepal, Pakistan, and Vietnam in September 2005. The Latin America final proposal submission is due August 19, 2005 and selected proposals will be awarded in the beginning of October 2005.
- **Joint statement distribution/dissemination:** FIGO distributed the Joint Statement to 29 associations.
- **Joint work plan and indicators:** Joint indicators identified and consensus achieved by IPs and USAID.
- **Annual work plan:** Completed. (December 2004)
- **Global AMTSL Survey:** Proposal and tools developed. IRB submitted to JHU and in-country for E. Africa. Discussions underway with Central America.
- **Critical pathway:** Completed and submitted (December 2004)

- **UDD Task Force:** Met in February 2005
- **Report on requirements for registering drugs and devices:** Gynuity's presentation (June 2005) and Health Tech's critical pathway (December 2004) provided this information. UDD task force meeting completed.
- **Number of countries with adequate cold chains and storage:** Information will be obtained through Global AMTSL survey.
- **Negotiation for field support:** Will collaborate with Pakistan and Indonesian bilateral projects with support from the Global Bureau at this time and discuss potential FS with the missions if appropriate after work is completed. TA for drug registration will be considered as POPPHI provides TA to these countries.

1.3 Performance Standards Completed

The majority of the Performance Standards are discussed and covered under the narrative description of activities. Here is the summarized Performance Monitoring Report.

By Task

Task No.	Performance Standard	Year 1 - Quarter 1	2	3	4	Actual; Date Completed	Target
0.1	Subcontracts with ICM and FIGO finalized				X	Yes; July 2005	Yes
0.2	PPH Working Group meets 1-2 x a year			X		WG meets once; Feb. 2005	WG meets 1-2x
1.1	Number of FIGO and ICM regional conferences where the Joint Statement on Prevention of PPH was disseminated	1			2	3 Conferences; Dec.2004 May 2005 July 2005	2 Conferences
1.2	Number of small grants to national professional associations for activities in support of increasing provider awareness and skills of AMTSL (See Develop small grants mechanism section.)				4	4 issued; July 2005 4 LAC grants guidelines in process; August 2005	4 issued; 4 LAC guidelines agreed
	Small grants effectively measure two or more of the agreed upon indicators					In process; September 2005	14 countries

Task No.	Performance Standard	Year 1 - Quarter 1	2	3	4	Actual; Date Completed	Target
1.3	Disseminate the FIGO/ICM joint statement in 25 assoc. newsletters or by other mechanisms				29 associations	29 statements disseminated; July 2005	15 newsletters or other mechanisms
1.4	1200 toolkits distributed to professional associations Provide distribution list to ACCESS				797c 335r 458cd	797c 335r 458cd and Recipient list developed; July 2005	Distribution Strategy Completed List of recipients developed
2.1	Evidence of joint work planning among implementing partners. Evidence in workplans of mutual agreements between the contractor and each of the implementing CA re: roles and required nature and scope of support services	X	X	X	X	First annual Workplan; Feb 2005 WG meets once; Feb. 2005 M&E plan finalized; April 2005	1st annual WP of POPPHI PPH WG meets 1-2x M&E Plan finalized
2.2	Evidence of mechanism of coordination and collaboration among implementing partners	X	X	X	X	See above 2.1	See above 2.1
2.3	Evaluation report of training strategies					In Process	Evaluation SOW complete
2.4	Evidence of functional monitoring system to measure progress of all implementing partners toward achieving benchmarks, and availability and coverage of AMTSL services		X	X	X	M&E plan finalized; April 2005	Finalized M&E plan with agreed upon indicators
	Percentage of Districts in a country with sites where service delivery staff have been trained in AMTSL and uterotonics (oxytocin) are available				X	See Figure 2 below	No targets agreed upon
	Percentage of births in a specified time period in targeted facilities who receive active management of the third stage of labor				X	In progress	No targets agreed upon
	Results of survey available and used to develop intervention to increase support and use of AMTSL in Central American countries				X	Survey tools developed and planning underway; Sept 2005	Completed survey and intervention initiated

Task No.	Performance Standard	Year 1 - Quarter 1	2	3	4	Actual; Date Completed	Target
3.1	Evidence of mechanism of coordination and collaboration among IPs		X	X	X	See above 2.1	See above 2.1
3.2	Evidence of functional monitoring system to measure progress of all IPs toward achieving benchmarks, and availability and coverage of AMTSL		X	X	X	Consensus on performance monitoring plan and indicators among IPs M&E plan finalized; April 2005	Finalized M&E plan with agreed upon indicators
3.3	Submit performance monitoring report				X	Annual Report; August 2005	Submit annual report
3.4	USAID receives information on progress of all IPs toward achieving benchmarks, and availability and coverage of AMTSL services				X	Annual Report; August 2005	Submit annual report
4.1	Critical pathway report completed			X		Yes; December 2004	Yes
4.2	UDD Task force meets 3x /year		X			UDD Task Force meets once; February 2005	Meets 3x/year
4.3	Number of countries where drugs/devices are registered (approved for use) for the indication of AMTSL in the correct dosage by government regulatory or policy-making bodies				X	See narrative, section 1.1.1.5.4	Report on work required to register drugs & devices
4.4	Number of countries with adequate cold chains established for storage of oxytoxics					In progress	Number of countries identified for year 1
4.5	Number of countries with adequate supplies of uterotonics in the drug procurement pipeline for routine use in all facility deliveries.					In progress	No targets agreed upon
4.6	Negotiation for field support or TA with at least 2 Missions				X	In progress	Negotiation for field support or TA with at least 2 Missions
4.7	Report on the cost-comparison of					In progress	No targets

Task No.	Performance Standard	Year 1 - Quarter 1	2	3	4	Actual; Date Completed	Target
	uterotonics choices						agreed upon

Figure 1 Performance Monitoring Report

Countries	% of Districts with Sites providing AMTSL FY'04	% of Districts with Sites providing AMTSL FY'05	% of Districts with Sites providing AMTSL FY'06 Target
Ethiopia[1] (11 regions)			
Zambia[2] (72 districts)	11% (8 districts)		
Benin[3] (33 districts)		30% (10 districts)	
Mali 8 regions and capital district			
Cameroon (155 districts)		0.01% (1 district)	
Mauritius (1 district)			
Pakistan (103 districts)			
Nepal (75 districts)			
India (28 states)			
Peru			
Dominican Republic (29 provinces and one national district)			
Bolivia			

[1] Initially, IntraHealth worked with 24 sites in 3 regions of Ethiopia (this would be 2003-2004). After this project ended in September 2004, AMTSL has continued to be integrated into our PMTCT intervention by training facilities on general SM approaches of which AMTSL is one component. From 2004-05, we have been working in 9 regions of Ethiopia covering 37 facilities.

[2] JHPIEGO

[3] Intrahealth

Countries	% of Districts with Sites providing AMTSL FY'04	% of Districts with Sites providing AMTSL FY'05	% of Districts with Sites providing AMTSL FY'06 Target
Paraguay			

Figure 2 Districts providing AMTSL

1.4 Problems—Solved or Still Outstanding

Misoprostol

- The research evidence available to allow "rolling out" misoprostol in USAID country programs is not available to date. Until better evidence is available, alternate community based strategies will need to be developed to address the need misoprostol was expected to fill.

February – July 2005

This continues to be an issue but the Gambia results are now published. Unfortunately, they do not provide definitive answers and we will continue to wait for the completion of the remaining research projects on misoprostol and prevention of PPH.

Work Plan – Task 4

- Ongoing or planned research and commercial efforts have already suggested some adjustments to specific tasks/activities envisioned under Task 4. Specific activities and benchmarks will be adjusted as needed through discussion with and by USAID.

February – July 2005

A new annual work plan will be developed and completed by September 30, 2005. The M&E plan will be reviewed and aligned with the work plan within 4-8 weeks of the work plan being updated. The issues and concerns raised above must be addressed as these documents are developed.

Dissemination of Joint Statement by FIGO and ICM

- FIGO and ICM have worked hard to disseminate the Joint Statement to the leadership of numerous associations. It is challenging to ensure that the Joint Statement is shared with the members of each association. Over the life of the project, they will work to ensure that the Joint Statement is shared with and used by members of these associations.

Staffing

- POPPHI has increased staff and is using consultants and part-time staff to assist in getting the work completed. The few delays POPPHI is experiencing in accomplishing tasks or activities should be alleviated with the increased staff.

Global AMTSL Survey

- The Global AMTSL survey has experienced a few delays due to the difficulties in international communication and the busy schedules of the persons involved. The complex IRB processes involved with multiple partners and countries has also contributed delays, but the partnerships are important to ensure that the results are scientifically sound and useful for policy makers.

Australia

- POPPHI staff participated in the ICM Triennial Congress. A number of issues were raised by international midwives, particularly from New Zealand about AMTSL. Midwives raised concerns that physiological or expectant management of the third stage of labor were no longer part of pre-service midwifery curricula. Their issue was that midwives without access to uterotonic drugs were following active management and forcefully removing the placenta. POPPHI agreed to consider this issue as it moves forward with its activities.

1.5 Proposed Solutions to Ongoing Problems

- See above

1.6 Compelling Success Stories

- The Director of the Nursing and Midwifery Council in Nepal (the legal authority for nurses and midwives) returned to Nepal after the Asia Regional Workshop and immediately held a workshop for her staff to share the new information and skills. As these are policymakers for nurses and midwives, they have moved forward to ensure that policies are in place to allow the use of AMTSL. Their plan is to have AMTSL in nursing and midwifery curriculum and practice in Nepal. This was done before they had any knowledge of whether Nepal would receive the small grant awards or not.

1.7 Documentation of Best Practices That Can Be Taken to Scale

Active management of the third stage of labor is a "best practice" and this project is about taking this best practice to scale.

Appendix A: Misoprostol and Postpartum Hemorrhage: Research In-progress, May 2005, V.2

I. PREVENTION

Institution / Principal Investigator	Study Title	Study Location	Study Design	No. of Subjects	Study Environs	Study Objective	Outcomes and Notes	Study Dates
University of Missouri and Jawaharlal Nehru Medical College Richard J Derman, M.D., and B.S. Kodkany. NICHD grant funded	A Randomized Placebo-Controlled Trial of Oral Misoprostol for Prevention of Postpartum Hemorrhage at Four Primary Health Centers of the Belgaum District, Karnataka India	Belgaum District, Karnataka India	Randomized, double-blind, placebo control	1600 women	Births at primary health centers	Misoprostol 600mcg oral, given in the late stage of labor by auxiliary nurse midwives	Incidence of PPH: blood loss = 500 ml within two hours of delivery. Secondary Outcomes: Incidence of delayed postpartum hemorrhage and secondary infection (lower abdominal pain, fever and foul discharge); Transport to higher-level medical facility; Use of uterotonic agents; Blood transfusion; Surgical intervention; Maternal mortality for 42 days	Ongoing; Sept 2002 thru March 2006; preliminary data show mean blood loss is <300ml.
UCSF Michael Varner, M.D. Dr. Suellen Miller, PhD, CNM	RCT of Zhi Byed 11 (ZB11) versus Misoprostol for the prevention of postpartum hemorrhage	Lhasa, Tibet, China	Random control trail		Maternity hospital	Comparison of misoprostol and Zhi Byed 11 (ZB11), a Tibetan medicine. Secondary objectives: determining the acceptability of giving Tibetan and Western medicine during third-stage labor to pregnant women delivering at Lhasa maternity hospitals; and determining if the active management of the third stage of labor reduces the incidence of other pregnancy complications.	Incidence of PPH > 500 ml.	Ongoing; Feasibility Study March 2003 - January 2004, no further study activity to date.
JHPEIGO/MNH	Safety,	Indonesia	Interventiona	Interventio	Home	Safety, acceptability and	Incidence of PPH, misoprostol	Study

Institution / Principal Investigator	Study Title	Study Location	Study Design	No. of Subjects	Study Environs	Study Objective	Outcomes and Notes	Study Dates
Harshad Sanghvi, MD USAID funded	Acceptability, Feasibility and Program Effectiveness (SAFE) Demonstration Project of Community-Based Distribution of Misoprostol for Prevention of Postpartum Hemorrhage in Rural Indonesia		I	n area: 1360 women, Comparis on area: 495 women.	births	feasibility of Misoprostol 600mcg oral after informed community-based distribution during antenatal period by trained community volunteers	use after birth, acceptability to families, and programmatic feasibility. Preliminary results: Women in intervention area were 24% less likely to perceive excessive bleeding, 31% less likely to need emergency referral, and 47% less likely to need emergency referral for PPH. available.	completed; final report pending.
Medical Research Council, UK and Population Council Gijs Walraven and Jennifer Blum		Gambia	Randomized , placebo control	1200 women	Home births	Misoprostol 600mcg oral or sub-lingual vs. placebo for prevention of PPH where injectable oxytocics not available		Study completed. To be published in BJOG September 2005.
Aga Khan Foundation		Pakistan	Randomized , placebo control	800 women	Home births	Misoprostol 600mcg oral vs placebo for prevention of PPH where injectable oxytocics not available		Ongoing
G Chanpong		India			Home births	Misoprostol		Ongoing
KEM Hospital K Coyaji		Pune, India				Misoprostol		Ongoing

II. TREATMENT

Principal Investigator / Institution	Study Title	Study Location	Study Design	No. of Subjects	Study Environs	Study Objective	Outcomes and Notes	Study Dates
WHO/Gynuity Health Projects Beverly Winkoff		Argentina, Egypt, South Africa, Thailand and Vietnam	Randomized, placebo control	1400 women	Health Center / Hospital	Misoprostol 600mcg sublingually vs. placebo as adjunct treatment in addition to routine treatment with oxytocin for PPH	Incidence of PPH: = 500ml measured blood loss at 60 minutes	Ongoing; May 2005 – November 2006
UC Berkeley Martha Campbell, Ndola Prata, Malcolm Potts								Ongoing

Appendix B: Highlights from PPH Working Group and Uterotonic Drugs and Devices Task Force (February 10 & 11, 2005)

Purpose of the Meeting

In the interest of reducing deaths from PPH and promoting the scale up of PPH prevention programs, the working group is a forum to share information, identify issues and ways to expand the use of AMTSL, other PPH prevention strategies and research. This will inform and assist POPPHI, USAID and other groups to set strategic priorities. Specifically this meeting will ask participants to:

- Identify priority research gaps, including programmatic research gaps, for future investment and moving forward on reducing deaths from PPH.
- Identify programmatic barriers, policy barriers and other issues for moving from research to practice and scaling up current programs
- Determine whether there are activities that could be done jointly to augment and build on what each of us is doing separately

Organizations represented (participant list attached in annex): Catholic Relief Services; Central American/El Salvador Ob/Gyn Association; Engenderhealth (NY and India); FIGO; Gates Foundation; Gynuity; JHPIEGO (ACCESS); ICM; MSH (RPM plus); Nepal District Hospital; NICHD/NIH; PAHO; PATH (Health Tech & POPPHI); RTI; Save the Children; University of Missouri; University of Witwatersraan/ University of Fort Hare (London Hospital Complex) – S.Africa; USAID

A. Brief synopsis of research and other presentations on uterotonics

Misoprostol

Preliminary evidence suggests that misoprostol is not as effective as expected in preventing PPH. Data could not be presented on Gynuity and NICHD studies since studies are still ongoing or soon to be published.

J. Hofmeyr (East London Hospital Complex, Univ. of Witwatersrand)

Conclusions from randomized trials:

- Data on use of oral misoprostol for prevention of PPH is disappointing – oral misoprostol is not as effective oxytocin 10 units in preventing PPH
- Possible synergism between misoprostol and oxytocin
- Planned multicentre randomized trial of sublingual misoprostol 400 micrograms vs placebo for preventing PPH (all women receive routine oxytocin)

States that it is important that treatment is not forgotten as will not prevent all PPH. In a systematic review of evidence relevant to dosage, route of administration and efficacy:

- In women with PPH, misoprostol at least 200 micrograms orally plus 400 micrograms sublingually reduces the incidence of persistent blood loss of 500 ml or more
- Results of use of sublingual misoprostol for treating PPH more promising
- Further research needed to determine the effect of misoprostol on substantive health outcomes, its safety and the optimal route and dosage in women with PPH
- Based on our systematic review, potential routes of administration include oral, sublingual, rectal, or a combination of these
- Dosage by the oral route should not exceed 600 mcg because of the risk of hyperpyrexia
- 400 micrograms sublingually or rectally would seem good options.

N. Moss for R. Derman/ A. Patel (NICHD/ Univ. of Missouri)

- Randomized placebo-controlled trial is being conducted in Karnataka State, India in partnership with Dr. B. Kodkany and Dr. S. Goudar of J N Medical College
- Funded by NICHD and bill and Melinda Gates Foundation
- Study population of 1600 women screened to eliminate risk factors such as severe anemia
- Expected to be completed in October 2005
- Auxiliary nurse-midwives (n=45) attached to 19 primary health centers conduct deliveries (70% in the home)
- Use a specially designed drape (cost of less than $1.00) to quantify blood loss
- Less PPH than anticipated, strong support for use of drape by ANM's so team is conducting a second study to validate quantification of blood in drape
- Preliminary data show that mean blood loss is less than 300 ml. Lower than expected blood loss may, in part, be due to misoprostol.
- Misoprostol may not be effective against other causes of PPH in the developing world such as laceration and retained placental tissue.

J. Blum / B. Winikoff (Gynuity)

- Why do they care…about misoprostol: cheap, easy to transport and store, easily administered, and safe
- Current research portfolio on misoprostol for PPH focuses on 3 areas: for prevention of PPH; for primary treatment of PPH; for adjunct treatment of PPH
- PPH Program includes:
  - Large-scale clinical trials of misoprostol for prevention and treatment of PPH

  - Preparation of regulatory files through work with small pharmaceutical entities
  - Facilitate marketing and distribution of misoprostol for PPH indications
  - Training, education, and dissemination
- Current research in Gambia and Pakistan (Chitral region): 600 mcg dose of oral misoprostol vs standard care (25 mg oral Ergometrine in Gambia and placebo in Pakistan) in home birth settings
  - Pakistan (Northwest Frontier Province, Chitral region) will be a double-blind, placebo-controlled, randomized, community-based study to examine the potential efficacy and safety of misoprostol for prevention of PPH during home delivery. These studies are in collaboration with other groups:
    - In Gambia: in collaboration with the Medical Research Council/UK and the Population Council
    - In Pakistan: in collaboration with the Aga Khan Foundation
  - Women randomized to either: 600 mcg oral misoprostol (n=800) or placebo resembling misoprostol (n=800)
  - Study questions include: Is there a clinically meaningful difference in PPH or mean blood loss? Will this intervention be related to lower rates of PP anemia? Are the side effects tolerable for women?
- Also recognize the importance of treatment and the potential role of misoprostol so have ongoing or research starting up on misoprostol as primary treatment and as adjunct treatment of PPH
- Gynuity is also working to make misoprostol available to health systems
  - Best circumstance for availability, accessibility and safe use of drug is when its registered for its indication, marketed and promoted for that indication and available through normal commercial and subsidized channels
  - Drug registration: authorization by a government for a particular company to market (sell) a particular formulation of a drug for a particular purpose.
  - Registered indication: The purpose for which the authorized drug may be marketed. An authorized marketer can add a new indication to its file if it produces scientific evidence validating the safety and efficacy of the new use to the satisfaction of the regulatory agency.

Oxytocin in Uniject: Two studies (Indonesia and Vietnam) show acceptability and feasibility of the product in both home and facility settings. Vietnam study quantified the effectiveness of AMTLS in a developing country setting. Showed cost or cost savings associated with AMTSL and oxytocin in Uniject, especially when PPH rates are above 5%.

Vivien Tsu, PATH

- Indonesia: unsafe re-use of syringes stopped; 98% preferred Uniject over standard syringe; midwives willing to pay reasonable amount for convenience
- Vietnam:
  - Acceptability: putting AMTSL into practice with ampoules and syringes can be difficult where midwives deliver on their own; 86% of midwives reported difficulties using oxytocin in ampoules; Uniject overcomes many of these barriers; midwives overwhelmingly preferred Uniject
  - Effectiveness: AMTLS was associated with 34% less PPH$\geq$ 500 ml; 80% lower likelihood of prolonged 3rd stage of labor $\geq$ 30 mins.; 40% lower likelihood of need for oxytocin treatment or bimanual compression for PPH due to atony.
  - Relative costs: if PPH were 5%, AMTSL with ampoules would save money; at 8% both ampoules and Uniject would save money; at lower end of price range, Uniject would cost same or less than current ampoules

Steve Brooke, PATH

The Commercialization and Supply Side of the Story

- Commercialization definition: process undertaken by the producer to evaluate, develop, register with appropriate national Drug Regulatory Authorities (DRAs), and then sell either drug or vaccine in Uniject
- Oxytocin-Uniject will be considered "commercialized" or "commercially available" in a country when that country's DRA grants the pharmaceutical producer permission (e.g. registration) to sell and promote oxytocin in Uniject
- Oxytocin is not yet commercialized by a pharmaceutical company and there is limited availability for non-commercial use
- Requires significant commitment and investment by pharmaceutical producer; takes time (2-3 years) to complete commercialization
- Likely to need to provide upfront investment support and/or provide downstream assured purchases at prices that work… for all. Some combination of both likely required
- Estimated best pricing of oxytocin in Uniject in rage of $.40-.60 per dose
- Related note – a more heat stable oxytociin may be available now: Biol in Argentina; product labeled with expiration date of 24 months at controlled room temperature (25 C)
- The standard of care used as a comparison to uterotonics tested in these studies was no care (no uterotonic or AMSTL) for home births and oxytocin delivered by syringe for facility births.

B. Unexpected findings

- There was a consistently lower incidence of PPH than expected in the study countries (12.1% in Gambia; 10% in South Africa; 4.3% Vietnam).
- There is a great difference in measured and estimated blood loss. Estimated blood loss was consistently greater than measured blood loss (confirm with authors).
- S.Africa data indicate a relationship between quality of care and PPH; poorer regions with poor services or poor access to services have more MM and more PPH (from national confidential inquiry In maternal deaths in S.A.).
- In India, it appears that a lower percentage of PPH was uterine atony than anticipated (and a higher percentage of PPH was due to lacerations and tissue). In Vietnam, this was not the case.
- Cost and cost-effectiveness: the current unit cost of oxytocin in uniject is around $.40-.50 and oral miso $.60 - 3.00 (for three 200 mg pills). Don't know cost-effectiveness at this point.

C. Discussion and questions arising from research and findings

- The cultural context and site of birth may affect the incidence of PPH.
- The accuracy of using no care as standard of care for home births was validated. Participants felt that oxytocin in syringes was the appropriate standard of care (or gold standard) to use in facility settings, although there was strong recognition that uterotonics are not always consistently used in facility births in developing countries.
- Oral misoprostol has a shorter half life than rectal or sublingual but was chosen for the studies due to cultural acceptability and regulatory issue (ease with which oral misoprostol could be adopted into the regulations).
- Currently, misoprostol is available as a three 200 mg regimen. Participants were in favor of a three tablet 200 mg formulation versus advocating for a 600 mg tablet due to possible overdosing or misuse with a larger dose in a single pill.
- For policy and government regulatory bodies (international and national) and the commercial sector, not all data we want or need is available.
- Oxytocin is the drug of choice to prevent PPH and for use in AMTSL. The availability of an oxytocin that is stable at room temperature and effective alternatives to potentially reusable syringes, make oxytocin an option that should be supported more actively. While there has been a great deal of focus on misoprostol, more effort needs to be placed on making oxytocin available and to look at:
  - Who can give it (SBA in community, CHW, woman)
  - How they can give it (syringe, autodisposable syringe, uniject)
  - Where they can give it (hospital, peripheral facility, home)

- There are currently a number of useful and valid uterotonic options available for use in AMTSL or possibly alone. We need to decide the "who, what, where and when" of use and determine the trade offs necessary to make uterotonics available to the women who need them.

D. Summary of Research Priorities

Priority research gaps need to be addressed to guide the future development of programs aimed at reducing deaths from postpartum hemorrhage. Participants identified the following eight research questions as priorities for future donor investment to advance efforts in reducing maternal deaths attributable to postpartum hemorrhage:

1. What is the current situation with regard to use of active management of the third stage of labor (AMTSL), the availability and use of uterotonics for AMTSL, and health systems issues that affect practices (e.g., which drugs are registered in countries for this indication and on essential drug lists, storage conditions, types of providers are authorized to administer uterotonics, levels of facilities that stock uterotonics, and availability and price of uterotonics in the marketplace)?
2. What is the cost-effectiveness of uterotonics and devices for delivery of uterotonics, e.g., oxytocin bundled with an autodisable syringe, oxytocin in uniject, and misoprostol compared to the current standard of care in facilities (oxytocin in syringes) or in home births (no care)?
3. Given that AMTSL is a package of interventions that require a person with midwifery skills to deliver, and recognizing that nearly half of all deliveries worldwide occur without a skilled birth attendant, what would be the relative effectiveness of a simplified version of AMTSL (e.g., using only a uterotonic drug)? Would the use of a uterotonic alone have sufficient public health impact to warrant scaling it up worldwide?
4. The Gambia, Pakistan and India studies use oral misoprostol. A review of the research (Hofmeyr) indicates that sublingual and rectal routes may be more effective in preventing PPH and for treating PPH.
5. There is no evidence base for the definition of PPH (blood loss > 500cc). What amount of blood loss following delivery is truly within normal limits? What amount of blood loss following delivery is clinically significant and should trigger immediate action on the part of skilled birth attendants to treat and/or refer for treatment? What percent of PPH is due to uterine atony?
6. How do we improve the quality of skilled birth attendant practices, e.g., in routine use of AMTSL, recognizing hemorrhage, initiating appropriate treatment and/or referral when indicated?
7. What are the safety, feasibility and acceptability of uterotonics used in community settings either by skilled birth attendants or by women themselves?
8. What would be a feasible and effective package of obstetric first aid interventions for combating PPH for low resource settings Research on the anti-shock garment

is showing promising results and further research on the "tamponade" is ongoing. Additionally, the use of other doses and routes for misoprostol are underway (or funding is being sought).

E. Information from "the field"

- National confidential inquiries is a good mechanism for understanding maternal mortality and its causes. Data can be used to inform and create programs to address the causes. S.A. has developed educational materials and programs to address the findings of the national confidential inquiries.
- Studies are ongoing in the Global Network (Uruguay and Argentina) on changing behaviors of midwives and physicians through peer role modeling and mentoring.
- Introduction of AMTSL into a country program (Mali) began with authorization from MOH (pilot) and then invited to the MOH meetings to review and ultimately change MOH policy
- Nepal: provider behaviors and practices are difficult to change. When there was evidence of decreased PPH and decreased retained placenta, then providers changed their practice
- Need to strengthen peripheral facilities. There has been much focus on the higher level hospitals and TBAs/ community based providers but this level of facility is neglected.
- Go to the women, don't expect them to come to us.
- In Indonesian Safe Study, women safely took misoprostol after birth
- In two studies where tested (Vietnam and Indonesia), midwives preferred effectively used oxytocin in uniject in both facility-based and home births

F. Where do we go from here?

1. Standardize and/or share data collection instruments; indicators; methodology for accurately measuring blood loss (drape and WHO bed pan).
2. Create mechanisms to share information and learn from each other:
   - list serve/ web site to communicate about different instruments, share data, etc.
   - Website: **pphprevention.org** will be the POPPHI website and should be functional by the end of March
   - Periodic meetings to share information, strategize and identify actions to move forward. Identify ways to make convenient and time-saving such as meetings at Global Health conference, APHA or regional meetings
3. Share teaching tools and educational material (videos, job aid, e-learning)
4. Create task forces on strategic areas to move AMTSL forward and decrease barriers:
   - Community-based care

- Low tech, feasible treatment approaches
- Non-training and training approaches

5. Need to create a roadmap of where we are going
   - See appendix

Annex I

Critical Issues, Barriers and How Do We Move Forward?

(* gray shading indicates the POPPHI project's selection of priority areas for action)

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
Health providers and current practice of AMTSL	Do they know AMTSL is an effective intervention?	Lack of knowledge	Disseminate the Joint Statement; Advocacy and PR; ---Share cost effectiveness info and other benefits of AMTSL	
	Does the MOH have this information? National professional associations?	" " "	Identify countries where AMTSL is not known or used. --Find different venues to share info on AMTSL --Need regional adaptation of global evidence	
	Do providers have the necessary skills to provide AMTSL?	1.Skills training or non-training approaches (mentoring, self-study, QA approaches) 2. Lack of available simplified curriculum for countries to use	Collect training curriculum and put on web. Have small working group to create/revise simple curriculum, mentoring syllabus, etc. Cont. review of QA methods and liaise with experts	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Many providers say they practice AMTSL but… 1. what components do they include in AMTSL 2. Are they using all components of AMTSL… all the time? And within the time frame required? 3. Do they practice it on every woman?	1. Providers may not know all the steps of AMTSL 2. May not have drugs available – may "hoard" for emergencies 3. May not understand or value the public health importance of AMTSL; lack of leadership in facility to role model, set example or demand that protocol be followed 4. No protocol or follow-up on whether AMTSL practiced routinely 5. No documentation in patient records or delivery log of AMTSL use.	1.Disseminate Joint Statement and evidence. 2. Get public support from UNICEF, UNFPA, WHO 3. Hold technical meeting on cord clamping in collaboration with UNICEF, BASICs, SNL to publicize evidence 4. Ensure adequate supply of oxytocin and injection device in facilities	
	Are the people actually doing the births trained in AMTSL? (matrones in W. Africa; auxiliary nurses in El Salvador)	In too many countries, the physicians, midwives and even nurses are not doing the births. They allow and may encourage others, less qualified than themselves to do the deliveries.	1. Do a reality check in each country. 2. Work with MOH to determine the reason for unskilled personnel providing services. Address causes 3. Work to get AMTSL training for persons doing deliveries	
	Can the midwives, obstetric nurses give oxytocin?	Many countries have legal and regulatory restrictions that prohibit midwives and nurses from giving oxytocin or from giving oxytocin without an MD order	Advocacy to change these rules and regulations. Work with national ob/gyn associations	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Are providers not using AMTSL, even though there are standards in place and they have the knowledge and skills?	Provider attitudes and behavior can be a barrier.	1. Results from the Uruguay and Argentina studies may help. 2. QA methodology has shown some results but issues of sustainability remain	
Location of Births	50% of births occur in the home…what is the most effective intervention in this setting?	Miso : awaiting the evidence Oxytocin: legal and regulatory issues about who can give injections; safety issues on re-use of syringes; oxytocin in uniject not commercially available No evaluation of AMTSL at home by SBA	Question assumptions: --use miso under research protocols/ close M&E --allow CHWs to give oxytocin -- encourage SBA to use AMTSL for domiciliary births -- should more than 1 relatively inexpensive option be available to policy makers and practitioners?	
	Peripheral facilities are underutilized	Poorly staffed, equipped and supplied. Staff receive infrequent in-service training and frequent stock-out of small # of drugs available	There should be a focus (possibly a priority) to increase capability of these facilities to manage PPH: skills and drugs	
Uterotonic/ Drug security	Are the appropriate drugs listed in the National Standards, Treatments and Guidelines; in the Essential Drug List; and registered.	Evidence-based data is slow to reach many policy-makers and developing country health providers. Providers with knowledge may not be linked with those making decisions	Bring provider leaders, pharm's and drug managers together to share data and change STGs	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Are drugs available; in sufficient quantities; stored to keep them effective?	Drug management system may not stock sufficient oxytocin for every birth plus supply for tx.; Info on storage may be lacking or not shared with field; Refrigerators may not be avail.	1.Survey of country STGs to see which drugs used 2. Disseminate data on drugs (WHO recommend.), particularly to MOH 3. Advocacy	
Misoprostol	Evidence suggests that not as effective for preventing PPH as expected (though might be considered effective enough)	3 pills vs 1 pill	Wait for evidence; use miso at home births within research or pilot framework	
	Availability	Not available in Africa and Central Asia	Gynuity working on it	
	Registration	Not registered anywhere for PPH prevention	Gynuity working on it	
	Route of delivery: Oral vs sublingual or rectal	Oral used for cultural and regulatory issues.	Research on sublingual is needed	
	Cost: $.60-3.00	Somewhat more expensive than expected	Work on pooled procurement	
	Ease of use	Need 3 pills which makes it more difficult than single pill. Prepackaging simplifies use, but adds to cost.	Work on prepackaging of 3 pills for PPH.	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Facility vs community: Can be used in both settings though discussion centered on use of oxytocin in facilities, misoprostol was for home births	Legal and regulatory issues on who can give prescription drugs.	Research or pilots on CHWs and SBAs at home births giving miso Policy work with MOH/ profess. Associations on who can give prescription drugs or just this one (for this indication).	
	Who? Women, CHW or provider	Legal, regulatory and cultural norms are barriers to allowing distribution of pharmaceuticals by non-providers	See above	
	Storage: Stored at room temp			
	National standards	None but countries with high home birth interested	Need research and WHO in concurrence	
Oxytocin	Drug of choice—most effective	WHO data not widely available	Disseminate WHO findings	
	Availability: Widely available	Drug may not be provided to facilities in sufficient quantity for all births and treatment, when necessary • may use 5 IU of oxytocin vs more effective 10 IU • may procure 5IU vials of oxytocin when 10IU vials available and affordable	1. Promote use of oxytocin as public good (like vaccines) 2. Focus on reducing barriers to getting to field in adequate supplies • -procurement procedures • - use of vaccine cold chain	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Registration	• -Universal and on WHO essential drug list • -Oxytocin in uniject being considered for WHO essential drug list once additional research completed	Oxytocin in uniject not on all countries' essential drug lists—get needed studies done	
	Route of delivery: Injectable Suggested to re-think sublingual	Currently, limits availability of drug to facilities. Research on sublingual **for preventing PPH** might be useful	Community based workers give depo – can CHWs give oxytocin? Uniject – solves some safely issues and may be more acceptable to MOH to allow oxytocin use outside facilities (being considered in at least 2 countries)	
	Cost: $.10 -.21 for 10 IU ampoule oxytocin & standard syringe; $.15-.25 for 10 IU oxytocin amp. Plus AD syringe $. for oxytocin & AD syringe: $ 40-.60 for oxytocin in prefilled Uniject	Syringes: safety concern related to re-use AD syringes: not widely available Uniject: unit cost is more than syringes, but net incremental costs (NIC) might be similar (were found to be similar in Vietnam)	Comparable to miso or less expensive, even uniject	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	Facility vs community: Norm is facility. Some trained providers do give injections in home. Some trained providers and less trained providers use uniject for specific purposes (e.g. tetanus toxoid in Mali)	Safety: reuse of syringes. Legal and regulatory issues on who can give injections. Uniject likely to get around these constraints since it's a different device than a syringe. With uniject, legal and regulatory issues related to introducing a new device.	Research or pilots on CHWs and SBAs at home births giving oxytocin Policy work with MOH/ profess. associations on who can give injections; or who can give uniject (these will be different)	
	Who? Health providers	Legal, regulatory and cultural norm barriers to allowing injections by non-providers. Uniject may get around at least some of these constraints	See above	
	Storage: Refrigerated or very cool place	Often difficult to keep cool Often not allowed to use vaccine cold chain	Use formulation from Argentina or similar since the oxytocin is stable at room temp (25 C) for 24 months. Determine if 25 degrees C is good enough. How thermostable will be good enough? Consider using vaccine cold chain	
	National standards: Fairly universal though may not be first choice	Many national standards do not list oxytocin as #1 drug of choice in many countries	Review STGs; disseminate info on Oxytocin being drug of choice	
Ergometrine	Frequently Used drug: effective but with more side	Do not want it to be choice (WHO) but is available, norm in many countries	Share evidence on problems with ergo. Get	

Topic AMTSL	Issues	Barriers	How do we move forward?	How will we know when we get there?
	effects		statement from WHO; revisions in IMPACT manual	
	Availability: Widely available			
	Registration: Fairly universal			
	Route of delivery: Injectable and oral	Limits availability to facilities, currently		
	Cost: ?? not expensive			
	Facility vs community: Norm is facility. Trained providers do give injections in home. Oral tabs were given to TBAs in a number of countries	Limited use in communities Oral tabs ineffective – per WHO.		
	Who? Health providers; TBAs give oral tabs in some countries			
	Storage: refrigerate and keep in dark place	Very heat and light sensitive. Destroyed easily	If used, teach how to check effectiveness (cloudy liquid) and importance of cold storage	
	National standards: Fairly universal	Norms and standards are difficult to change.	Significant dissemination of evidence is required—and to policy makers and those who can affect change.	

Appendix C: Dissemination List for PPH Toolkit

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
2/1/2005	Peg Marshall		LAC Sota	USAID	30	2		
2/11/2005	Suzanne Thomas	RPM+	Sthomas/AWARE workshop	RPM+/AWARE	30	10		Ghana
2/11/2005			Vicky Camacho	PAHO	1	1		
2/11/2005			Douglas Jarquin	COMIN-FECASOG	1	1		El Salvador
2/11/2005			Winnie Mwebesa	Save	1	1		
2/11/2005			Joseph Ruminjo	EH	1	1		
2/11/2005			Richard Dermann	Univ. of MO	1	1		
2/11/2005			Boniface Sebikali	Intrahealth	1	1		
2/11/2005			Kusum Thapa		1	1		Nepal
2/11/2005			Jyoti Vajpayee	EH	1	1		India
2/11/2005	Suzanne Thomas	RPM+	Sthomas/AWARE workshop	RPM+/AWARE	30	10		
2/11/2005			Vicky Camacho	PAHO	1	1		
2/11/2005			Douglas Jarquin	COMIN-FECASOG	1	1		
2/11/2005			Winnie Mwebesa	Save	1	1		
2/11/2005			Joseph Ruminjo	EH	1	1		
2/11/2005			Richard Dermann	Univ. of MO	1	1		
2/11/2005			Boniface Sebikali	Intrahealth	1	1		
2/11/2005			Kusum Thapa		1	1		
2/11/2005			Jyoti Vajpayee	EngenderHealth	1	1		
2/15/2005	Steve Harvey	QA Project	Steve Harvey	QA	1	1		
2/15/2005	D Armbruster		Indira Narayanan	PATH/BASICS	1	1		
2/15/2005	Steve Harvey	QA Project	Steve Harvey	QA	1	1		
2/15/2005	D Armbruster		Indira Narayanan	PATH/BASICS	1	1		
2/17/2005			Tess Aldrich	Gynuity		1		
2/17/2005			Tess Aldrich	Gynuity		1		
2/23/2005	D Armbruster		Ruth Berg	PSP1 (pvt sector)	1	1		

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
				Project				
3/1/2005	Deb Armbruster/Vietnam		Barbara Bale		1		1	Vietnam
3/1/2005	Deb Armbruster/Vietnam		Nguyen Hoa Hoi	Provincial Health Services	1		1	Vietnam
3/1/2005	Deb Armbruster/Vietnam		Bmte Lain Doi	Maternal & Child Health/FP Center	1		1	Vietnam
3/1/2005	Deb Armbruster/Vietnam		Phan Thuy Nguyen Hong		1		1	Vietnam
3/1/2005	Deb Armbruster/Vietnam		Huynh Thi Thu Thuy		1		1	Vietnam
3/1/2005	Deb Armbruster/India		Dr. Prakasamma	Academy for Nursing Studies	1	1	1	India
3/1/2005	Deb Armbruster/India		Dr. K. Fwareiya Lahsnouei	OGSH	1		1	India
3/1/2005	Deb Armbruster/India		Vinay Kumar	PATH/India		1	1	India
3/1/2005	Deb Armbruster/India		Massess Bateman	USAID/India	1		1	India
4/7/2005			World Health Day/India		100	25	30	
4/11/2005	India Workshop		Dr. Mrs. A.V. Raman	Indian Society of Midwives	1	1	1	India
4/11/2005	India Workshop		Dr. C.N. Purandere	India	1			India
4/11/2005	India Workshop		Dr. Shyam Desai	India	1			India
4/11/2005	India Workshop		Dr. Jyoti Vajpayee	India	1			India
4/11/2005	India Workshop		Dr. M. Prakasamma	India	1			India
4/11/2005	India Workshop		Dr. P.K. Shah	Federation of Ob/Gyn Society of India	1			India
4/11/2005	India Workshop		Suryono S. I. Santoso	Indonesian Soceity of Ob/Gyns	1	1	1	Indonesia
4/11/2005	India Workshop		Dr. Soerjo Hadijono	Indonesia	1			Indonesia
4/11/2005	India Workshop		Ms. Ruslidjah Siahaan	Indonesia Midwives Association	1	1	1	Indonesia
4/11/2005	India Workshop		Ms. Laurensia Lawintono	Indonesia	1			Indonesia

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
4/11/2005	India Workshop		Dr. Saraswati M. Padhye	Nepal Ob/gyn Society	1	1	1	Nepal
4/11/2005	India Workshop		Ms. Tara Pokharel	Nepal Nursing Society	1	1	1	Nepal
4/11/2005	India Workshop		Ms. Chandra Rai	Nepal	1			Nepal
4/11/2005	India Workshop		Ms. Meena Sharma	Nepal	1			Nepal
4/11/2005	India Workshop		Dr. Kusum Thapa	Nepal	1			Nepal
4/11/2005	India Workshop		Sadiqua N. Jafarey	Pakistan ob/gyn society	1	1	1	Pakistan
4/11/2005	India Workshop		Ms. Imtiaz Kamal	Pakistan Midwifery Association	1	1	1	Pakistan
4/11/2005	India Workshop		Ms. Leela Butta Mall	Pakistan	1			Pakistan
4/11/2005	India Workshop		Ms. Lolita Itliong Dicang	Philippines	1			Philippines
4/11/2005	India Workshop		Ms. Gomez Patricia Mines	Integrated Midwives Association of the Philippines	1	1	1	Philippines
4/11/2005	India Workshop		Dr. Jennifer T. Go	Philipinnes Ob/Gyn Society	1	1	1	Philippines
4/11/2005	India Workshop		Dr. Rosendo Roque	Philipinnes	1			Philippines
4/11/2005	India Workshop		Dr. Ho Sy Hung	VINAFOFPA	1	1	1	Vietnam
4/11/2005	India Workshop		Dr. Vu Ba Quyet	Vietnam	1			Vietnam
4/11/2005	India Workshop		Ms. Tran Thi Thu Nga	Vietnam ICM	1	1	1	Vietnam
4/11/2005	India Workshop		Nguyen Thi Kieu Tu	Vietnam	1			Vietnam
4/21/2005			PPC Network Meeting		25	25		
5/14/2005			Dr. Jorge Gori		1		1	Argentina
5/14/2005			Carlos Fuchtner		1		1	Bolivia
5/14/2005			Raul Hevia		1		1	Bolivia
5/14/2005			Dr. Geraldez Tomaz		1		1	Brazil
5/14/2005			Eugenio Suarez Pacheco		1		1	Chile

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
5/14/2005			Dr. Jose William Leon		1		1	Colombia
5/14/2005			Carlos Castro Echeverri		1		1	Costa Rica
5/14/2005			Milton Cordero		1		1	Dominicana
5/14/2005			Andres Calle		1		1	Ecuador
5/14/2005			Mercedes Abrego Aguilar		1		1	El Salvador
5/14/2005			Jorge Excobedo		1		1	Guatemala
5/14/2005			Dr. Reynold Grand'Pierre		1		1	Haiti
5/14/2005			Jesus Vallecillo		1		1	Honduras
5/14/2005			Dr. Javier Santos Gonzles		1		1	Mexico
5/14/2005			Efrain Torouno Solis		1		1	Nicaragua
5/14/2005			Sara Campana		1		1	Panama
5/14/2005			Dr. Hugo Arellanos		1		1	Paraguay
5/14/2005			Miguel Gutierrez		1		1	Peru
5/14/2005			Justo Alonso		1		1	Uruguay
5/17/2005			Jorge Tolosa	Oregon Health & Sciences University		1	1	US
5/27/2005			Jim Litch			1	1	US
5/31/2005			USAID-COP	USAID COP Meeting	100		100	
6/7/2005	Rebeca Quiroga	POPPHI	JHU Mini-University		50	20		
6/10/2005	Meghan Greely	POPPHI	Gary Downey	Hospital Albert Schweitzer	1		1	Haiti
6/10/2005	Meghan Greely	POPPHI	Walter Lam	Alliance for African Assistance	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Chantelle Allen	ADRA/Nepal	1	1	1	Nepal
6/10/2005	Meghan Greely	POPPHI	Saadi Tzaxov	URC/Tajikistan	1		1	Tajikistan
6/10/2005	Meghan Greely	POPPHI	Kati Moseley	Mercy Corps	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Houleye Dialla	Save the Children	1	1	1	Mali
6/10/2005	Meghan Greely	POPPHI	Judy Camhunt	USAID	1	1	1	USA

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
6/10/2005	Meghan Greely	POPPHI	Jennifer Wenborg	Health Partners	1		1	Uganda
6/10/2005	Meghan Greely	POPPHI	Erin Anastasi	ADRA	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Debbie Herold	ADRA	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Rachel Hower	World Relief Corp	4	4	4	USA
6/10/2005	Meghan Greely	POPPHI	Yolanda Melamed	Global Health Action	1		1	USA
6/10/2005	Meghan Greely	POPPHI	Nihar Sarkar	CRWRC	1	1	1	Bangladesh
6/10/2005	Meghan Greely	POPPHI	Bernice Pele	PCI	1	1	1	Bolivia
6/10/2005	Meghan Greely	POPPHI	Robert Nicholas	African Methodist Episcopal Service and Development	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Nazo Kureshy	Hopkins Health and Child Survival Fellowship	1		1	USA
6/10/2005	Meghan Greely	POPPHI	Sivan Oun	World Relief Corp	1	1	1	Cambodia
6/10/2005	Meghan Greely	POPPHI	Jean Elliot	GHA	1	1	1	Haiti
6/10/2005	Meghan Greely	POPPHI	Elysee Thilishif	GHA	1	1	1	Haiti
6/10/2005	Meghan Greely	POPPHI	Philip Masaalo	MOH	1		1	Kenya
6/10/2005	Meghan Greely	POPPHI	Janet Meyers	CSTST/ORC Macro	1		1	USA
6/10/2005	Meghan Greely	POPPHI	Jean Capps	Independent Consultant	1		1	USA
6/10/2005	Meghan Greely	POPPHI	Ousmane Nassivou	HKI	1	1	1	Niger
6/10/2005	Meghan Greely	POPPHI	B. Gebrian	HHF		1	1	Haiti
6/10/2005	Meghan Greely	POPPHI	J.Lewis	HHF	1		1	Haiti
6/10/2005	Meghan Greely	POPPHI	David Owuar	PLAN International	1	1	1	Kenya
6/10/2005	Meghan Greely	POPPHI	Clise Gassiom	Save the Children	1	1	1	Mali
6/10/2005	Meghan Greely	POPPHI	Susan Otchere	Save the Children	1	1	1	USA
6/10/2005	Meghan Greely	POPPHI	Lynda Lattre	Global Health Action		1	1	Haiti
6/10/2005	Meghan Greely	POPPHI	Debra Scherit	CRWRC/LAMB		1	1	Bangladesh
6/10/2005	Meghan Greely	POPPHI	Joanne Baily	University of Michigan	2	1	1	
6/10/2005	Meghan Greely	POPPHI	Michelle Pino	Women's Spec. of NM	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Maureen McCarthy		1	1	1	
6/10/2005	Meghan Greely	POPPHI	Theresa Okoro	NM QuickCare	1	1	1	

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
				Medical Group				
6/10/2005	Meghan Greely	POPPHI	Denise Fryzelke	University of Kansas	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Patrice White		1	1	1	
6/10/2005	Meghan Greely	POPPHI	Kristi Rowe Miller	Providence Hospital	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Anne Grove	CARE	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Lisa Kavelow	University of Michigan	1		1	
6/10/2005	Meghan Greely	POPPHI	Annie Rizkalla	UMD NJ	1		1	
6/10/2005	Meghan Greely	POPPHI	Carrie Copeland	Catawba Valley NM	1		1	
6/10/2005	Meghan Greely	POPPHI	Linda Cole	Lisa Ross Birth Center	1		1	
6/10/2005	Meghan Greely	POPPHI	Amy Bositis	University of Maryland	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Anita Barbey	Anita Barbey and Associates Co	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Carlene Nelson	TTU HSC NW Service		1	1	
6/10/2005	Meghan Greely	POPPHI	Rima Jolivet			1	1	
6/10/2005	Meghan Greely	POPPHI	Waltona Cummings		1		1	
6/10/2005	Meghan Greely	POPPHI	Yuen Liu	George Mason University		1	1	
6/10/2005	Meghan Greely	POPPHI	Rebecca Schwindler	Columbia Univeristy	1	1	1	
6/10/2005	Meghan Greely	POPPHI	Donna Lofton		1		1	
6/10/2005	Meghan Greely	POPPHI	Judy Maines-Lamarre	TCRHCC	1		1	
6/10/2005	Meghan Greely	POPPHI	Paula Hammond		1	1	1	
6/10/2005	Meghan Greely	POPPHI	Suzanne Grady		1		1	
6/10/2005	Meghan Greely	POPPHI	Margaret Naylor	ACNM	1		1	
6/10/2005	Meghan Greely	POPPHI	Julia Chachere			1	1	
6/10/2005	Meghan Greely	POPPHI	Rosemary Janofsky	ACNM		1	1	
6/10/2005	Meghan Greely	POPPHI	Jessica Linzmeier		1		1	
6/10/2005	Meghan Greely	POPPHI	Bridget Buck		1		1	
6/10/2005	Meghan Greely	POPPHI	Nancy Villa		1		1	
6/10/2005	Meghan Greely	POPPHI	Wendy McQueen		2	2	2	
6/10/2005	Meghan Greely	POPPHI	Deborah Nulman		1		1	

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
6/10/2005	Meghan Greely	POPPHI	Hilary Prager		1		1	
6/10/2005	Meghan Greely	POPPHI	Robbie Prepas			1	1	
6/10/2005	Meghan Greely	POPPHI	Diana Beck	ACNM		1	1	
6/12/2005			Rosemary Janofsly	ACNM	1		1	
6/12/2005			Yuen C Lin	George Mason University	1		1	
6/12/2005			Rebecca Schundler	Columbia University	1		1	
6/12/2005			Maria Valentine-Welch	ACNM	1		1	
6/24/2005			Lucy Lopez	USAID/Peru	1	1	1	Peru
6/24/2005			Pilar Mazzetti, Minister of Health	Peru, MOH	1	1	1	Peru
6/24/2005			Luis Zarate	Sociedad Boliviana de Obstetricia y Ginecología	1	1	1	Bolivia
6/24/2005			Emiliana Pallares	Sociedad Científica de Enfermería Materno Infantil, Bolivia	1	1	1	Bolivia
6/24/2005			Jose Villalba	Federación Ecuatoriana de Sociedades de Ginecología y Obstetricia	1	1	1	Ecuador
6/24/2005			Alida Silva	Federacion Nacional de Obstetrices y Obstetras del Ecuador	1	1	1	Ecuador
6/24/2005			Carmen Tejada	Hospital San Vicente de Paul, DR	1	1	1	DR
6/24/2005			Hilda Baca	Facultad de Obstetricia y Enfermería, Universidad de San Martín de Porres	1	1	1	Peru
6/24/2005			Rosangela da Silva Santos	ABENFO	1	1	1	Brazil
6/24/2005			Irene Cuba	Asociacion de Obstetras del	1	1	1	Paraguay

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
				Paraguay				
6/24/2005			Andres Gines	Sociedad Paraguayo de Ginecologos/Obstetras	1	1	1	Paraguay
6/24/2005			Rosa Elena Lara	Nacional Colegio de Obstetrices del Perú	1		1	Peru
6/24/2005			Milton Cordero	Sociedad Dominicana de Obstetricia y Genecologia	1		1	DR
6/24/2005			Miguel Gutierrez	Sociedad Peruana de Obstetricia y Ginecologia	1		1	Peru
6/24/2005			Luis Tavarra	Sociedad Peruana de Obstetricia y Ginecologia	1		1	Peru
6/24/2005			Lucy del Carpio	MOH, Peru	1		1	Peru
6/24/2005			Vicente Bataglia	Sociedad Paraguayo de Ginecologos/Obstetras	1		1	Paraguay
6/24/2005			Eduardo Maradiegue	Sociedad Peruana de Obstetricia y Ginecologia	1		1	Peru
6/24/2005			Nancy Calvimontes	Universidad Mayor Real y Pontificia de San Franciso, Bolivia	1		1	Bolivia
6/24/2005			Regina Morales	Federacion Nacional de Obstetrices de Ecuador	1		1	Ecuador
6/28/2005			ACCESS Technical Update Workshop		50	50	50	Tanzania, Kenya, Malawi, Zambia, Ethiopia
7/11/2005			ICM	ICM	5	5	50	
7/14/2005			Cindy Stanton	JHU	1		1	USA
7/18/2005			ICM Triennial Congress	ICM	100	8	8	Global

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/25/2005			ICM	Japanese Nursing Association	1			Japan
7/25/2005			ICM	Midwifery Society	1			UK
7/25/2005			ICM	Liverpool Hospital	1			Australia
7/25/2005			ICM	Canterbury Hospital	1			Australia
7/25/2005			ICM	Liverpool Hospital	1			Australia
7/25/2005			Kate Christie	ICM PSP		1	1	South Africa
7/25/2005			ICM	Torres Straus Health Service	1			Australia
7/25/2005			ICM	Midwives Coroy BRNA	1			Barbados
7/25/2005			ICM	Blacktown Hospital	1			Australia
7/1/2505			ICM	Department of Health	1			Australia
7/25/2005			ICM		1			Germany
7/25/2005			ICM		1			Australia
7/25/2005			ICM		1			Australia
7/25/2005			ICM	Townsville Hospital	1			Australia
7/25/2005			ICM	Musmellbrook Hospital	1			Australia
7/25/2005			ICM			1	1	Cambodia
7/25/2005			ICM		1			Australia
7/25/2005			ICM	hospital	1			Hong Kong
7/25/2005			ICM		1			Sweden
7/25/2005			ICM	health service	1			Australia
7/25/2005			ICM		1			Botswana
7/25/2005			ICM		1			US/China
7/25/2005			ICM	Azadi The End of Golgashi	1			Iran
7/25/2005			ICM		1			Lebanon
7/25/2005			ICM	Kungwah Hospital	1			Hong Kong
7/25/2005			ICM	Midwives Association of Taiwan	1			Taiwan
7/25/2005			ICM	Tuenmun Hospital	1			Hong Kong
7/25/2005			ICM	Pre Congress Workshop		1	1	Italy
7/25/2005			ICM	midwife	1			Argentina

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/25/2005			ICM	Midwives of Philippines	1			Philippines
7/25/2005			ICM	Midwives of Philippines	1			Philippines
7/25/2005			ICM	Midwivs of Philippines	1			Philippines
7/25/2005			ICM	Midwives Association of China	1			Taiwan
7/25/2005			ICM	Nagoya University	1			Japan
7/25/2005			ICM	Regroupement Les Sages Femmes du Quebec	1			Quebec, Canada
7/25/2005			ICM	Townsville Hospital	1			Australia
7/25/2005			ICM	NCRMA	1			Philippines
7/25/2005			ICM	NCRMA	1			Philippines
7/25/2005			ICM	Department of Health	1			Australia
7/25/2005			ICM	North Coast Area Health Services	1			Australia
7/25/2005			ICM	Mater Mother's Hospital	1			Australia
7/25/2005			ICM	N. East Health	1			Australia
7/25/2005			ICM	Nambour Hospital	1			Australia
7/25/2005			ICM	Townsville Hospital	1			Australia
7/25/2005			ICM	Latrobe Regional Hospital	1			Australia
7/25/2005			ICM	Victoria University Wellington	1			New Zealand
7/25/2005			ICM	King Edward Memorial Hospital	1			Australia
7/25/2005			Emerald William	ICM PCW		1	1	Trinidad
7/25/2005			Yale Muork	ICM PCW		1	1	Ethiopia
7/25/2005			ICM	Christdom Polytechnical Institute	1			New Zealand
7/25/2005			ICM		2			
7/25/2005			ICM	Iran University of Medical Services	1			Iran
7/25/2005			ICM	Iran University of Medical Services	1			Iran

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/25/2005			ICM	Australian Midwives Association	1			Australia
7/25/2005			ICM	Sunshine Hospital Victoria	1			Australia
7/25/2005			ICM	Norwegian Association of Midwives	1			Norway
7/25/2005			ICM	University of Ballarar	1			Australia
7/25/2005			ICM	Joordalig Health Center	1			Australia
7/25/2005			ICM	Royal Women Hospital	1			Australia
7/25/2005			ICM	Kamazu Central Hospital	1			Malawi
7/25/2005			Evelyn Zimba	ICM PCW		1	1	Malawi
7/25/2005			Kathleen Gapimngo	ICM PCW		1	1	Solomon Islands
7/25/2005			Relmah Harrington	ICM PCW		1	1	Solomon Islands
7/25/2005			ICM	Roayl Women's Hospital	1			Australia
7/25/2005			Robinah Matorn	ICM PSP	1	1	1	Uganda
7/1/2505			Edna Beguia	ICM PCW		1	1	Philippines
7/25/2005			ICM	IMAP	1			Philippines
7/25/2005			ICM	Cooma Hospital	1			Australia
7/25/2005			ICM	Grecher South Area Health Services	1			Australia
7/25/2005			ICM	Westmead Hospital	1			Australia
7/25/2005			ICM		1			Australia/Rwanda
7/25/2005			ICM		1			Australia
7/25/2005			ICM	Founders Medical Center-teaching hopsital	1			Australia
7/25/2005			ICM	University E. Anglia	1			UK
7/25/2005			ICM	Hosptial	1			Australia
7/25/2005			ICM	Hospital	1			Australia

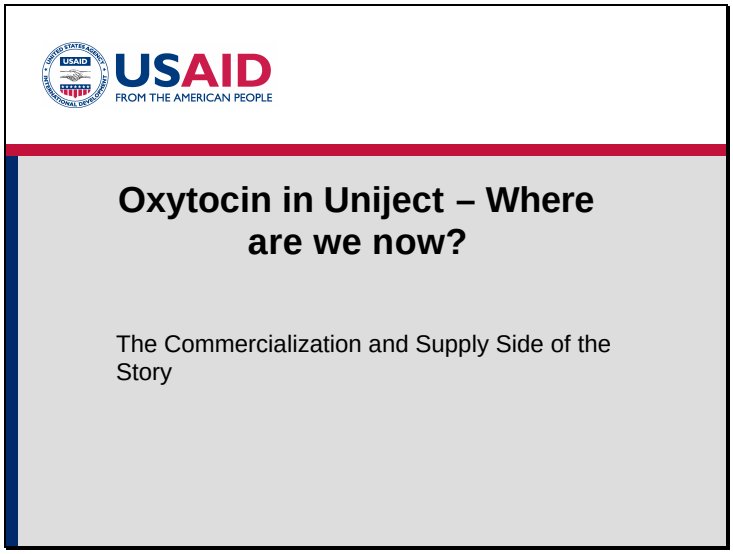
Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/25/2005			ICM	West Middlesex NHS Trust	1			UK
7/25/2005			ICM	Leon Gatha Men Hospital	1			Australia
7/25/2005			ICM	Alpine Health	1			Australia
7/25/2005			ICM	Dr. Buyin	1			
7/25/2005			Dr. Buion	UNFPA	1	1	1	
7/25/2005			ICM	ACMI	1			Australia
7/25/2005			ICM	Latrobe University	1			Australia
7/25/2005			ICM	Queensland Health	1			Australia
7/25/2005			ICM	Hobart Private Hospital	1			Australia
7/25/2005			ICM	Blacktown Hospital	1			Australia
7/25/2005			ICM	Wesley Hospital	1			Australia
7/25/2005			ICM	PMI Conseil Generale	1			Guadeloupe
7/25/2005			Diana Du Plessis	ICM PCW		1	1	South Africa
7/25/2005			Fatima Ghanen	ICM PCW		1	1	UAE
7/25/2005			ICM	Liaquat Univeristy Medical Health Services	1			UK
7/25/2005			Mary Angela Yanuatu	UNFPA		1	1	
7/25/2005			Judith Seke	ICM PCW		1	1	Solomon Islands
7/25/2005			Vaine Kuma	ICM PCW		1	1	Solomon Islands
7/25/2005			Than Thi	ICM PCW		1	1	Vietnam
7/25/2005			Ana Taukaph	ICM PCW		1	1	Tonga
7/25/2005			Alaita Taulina	ICM PCW		1	1	Tuvah
7/25/2005			Upoko Takan	ICM PCW		1	1	Cook Island
7/26/2005			Patricia Gomez	ICM PCW		1	1	Philippines
7/26/2005			Sikhonjiwe	ICM PCW		1	1	South Africa
7/26/2005			Patrick Kiwani	ICM PCW		1	1	Kenya
7/26/2005			Maoto Metai	ICM PCW		1	1	Kiribati
7/26/2005			Susane	ICM PCW		1	1	Germany

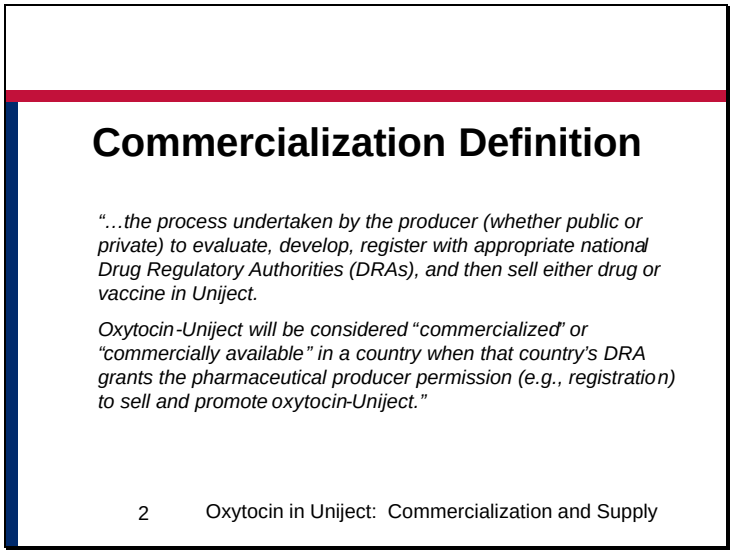
Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/27/2005			Silina Waga	ICM PCW		1	1	Fiji
7/27/2005			Neven Abd Rab El Nabi	ICM PCW		1	1	Egypt
7/27/2005			Toorpekay Nawab	ICM POPPHI workshop		1	1	Afghanistan
7/27/2005			Pashtoon Azfar	ICM POPPHI workshop		1	1	Afghanistan
7/27/2005				ICM POPPHI workshop		1	1	Ghana
7/27/2005				ICM POPPHI workshop		1	1	Australia
7/27/2005				ICM POPPHI workshop		2	2	Afghanistan
7/27/2005				ICM POPPHI workshop		2	2	China
7/27/2005				ICM POPPHI workshop		6	6	Australia
7/27/2005				ICM POPPHI workshop		2	2	Denmark
7/27/2005				ICM POPPHI workshop		1	1	Philippines
7/27/2005				ICM POPPHI workshop		2	2	Indonesia
7/27/2005				ICM POPPHI workshop		1	1	China
7/27/2005				ICM POPPHI workshop		1	1	Germany
7/27/2005				ICM POPPHI workshop		1	1	Kenya
7/27/2005				ICM POPPHI workshop		1	1	UK/Pakistan
7/27/2005			ICM	Midwives Alliance of North America	1	1	1	US
7/27/2005			ICM	Australian Queensland Health	1	1	1	Australia
7/27/2005			ICM	Royal Prince Alfred Hospital	1	1	1	Australia
7/27/2005			ICM	Ipswich Hospital	1	1	1	Australia
7/27/2005			ICM	Aiiku Hospital	1			Japan

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
7/27/2005			ICM	Liverpool Hospital	1			Australia
7/27/2005			ICM	Women's Hospital Brisbane	1	1	1	Australia
7/27/2005			ICM	Goulburn Valley Health	1			Australia
7/27/2005			ICM	St. Luke's College of Nursing	1			Japan
7/27/2005			ICM	ACM	1			Australia
7/27/2005			ICM	Tuen Mun Hospital	4			Hong Kong
7/27/2005			ICM	Hong Kong Midwives Association	1			China
7/27/2005			ICM	Moree Hospital	1			Australia
7/27/2005			ICM	Mullumbimby Hospital	1			Australia
7/27/2005			ICM	Bendigo Health Care Group	1			Australia
7/27/2005			ICM	University College of London		1	1	UK
7/27/2005			ICM	Westmead Hospital		2	2	Australia
7/27/2005			ICM		1			Australia
7/27/2005			ICM	Sunnybank Hosptial		1	1	Australia
7/27/2005			ICM	TweedHead Hosptial		1	1	Australia
7/27/2005			ICM	Central Queensland Hospital		1	1	Australia
7/27/2005			ICM			1	1	Cambodia
7/27/2005			ICM	University of E. Anglia		1	1	UK
7/27/2005			ICM	Darwin Private Hospital		1	1	Australia
7/27/2005			ICM			1	1	Papua New Guina
7/27/2005			Debrah Lewis	ICM PCW		1	1	Trinidad
7/27/2005			Rose Malay	ICM PCW		1	1	Tanzania
4/7-9/2005			Mrs. P.K. Bamll	Dr. R.M.L. Hospital School of Nursing	1	1	1	
4/7-9/2005			Grace Paul	Jamira Hamdara	1	1	1	
4/7-9/2005			Anu Dhindaw	Italian Development Cooperation	1	1	1	

Date	Requested by	Organization	Sent to	Organization	# of condensed	# of reference/ library	# CD ROMS	Country/ countries
4/7-9/2005			Dr. Testarsh Belun	MOH FHD	1	1	1	
4/7-9/2005			Dr. Catherine Sanya	MOH FHD	1	1	1	
4/7-9/2005			Lynn Sibley	Emory University	1	1	1	
4/7-9/2005			Linda Wright	NICHA	1	1	1	
4/7-9/2005			Dr. Sudha Salhan	S.J. Hospital and VM Med College	1	1	1	
4/7-9/2005			Dr. Dileep Maralanker	IIM	1	1	1	
4/7-9/2005			Mr. Abdull Lannsold	MOH Ethiopia	1	1	1	Ethiopia
4/7-9/2005			Mrs. Megha	SJH	1	1	1	
4/7-9/2005			A. Lurner	PGB	1	1	1	
4/7-9/2005			Stmathan	UNFPA CST	1	1	1	
4/7-9/2005			Dr. Ardi	WHO-SEARO	1	1	1	
4/7-9/2005			Dr. Dorothy Shaw	FIGO	1	1	1	
4/7-9/2005			Monir Islam	WHO-Geneva	1	1	1	
4/7-9/2005			Ms Sushuita, Ms. Pooja	TNAF	1	1	1	
4/7-9/2005			Dr. Farah Bmani	UNFPA CST	1	1	1	
4/7-9/2005			Karnua Bishawi	UNICEF	1	1	1	
				TOTALS	**797**	**335**	**458**	

Appendix D: Critical Pathway Presentation





Commercialization Status

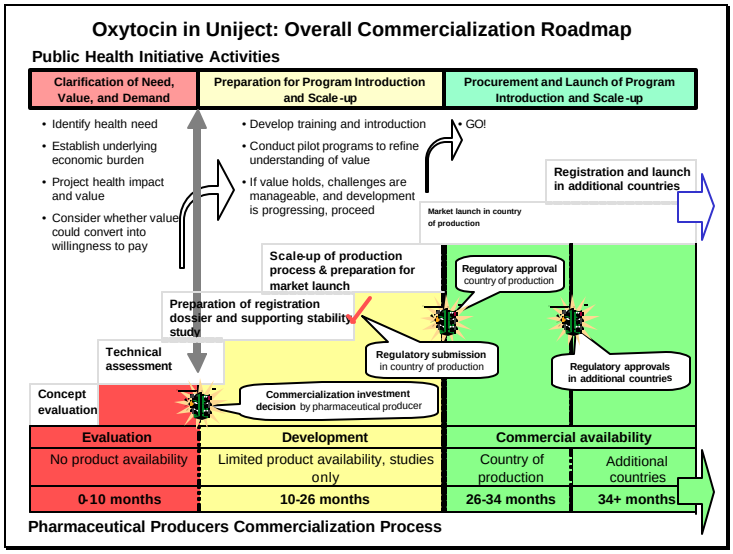
- Not yet commercialized by a pharmaceutical company
- Limited availability for non-commercial use

3 Oxytocin in Uniject: Commercialization and Supply

Commercialization Process

- Requires significant commitment and investment by pharmaceutical producer
- Requires time and is influenced by outside forces

4 Oxytocin in Uniject: Commercialization and Supply



How to Clarify Need, Value, and Demand?

- Depends on scope and context of use of oxytocin for AMTSL globally
  - POPPHI could coordinate context of use survey of all UDD
- Depends on global producer situation for oxytocin
  - PATH/Healthtec could coordinate global producer situation update
- Results would lead to more informed sense of potential demand

6 Oxytocin in Uniject: Commercialization and Supply

How to Stimulate Pharma Producer to Commercialize?

Push and Pull Strategies to Reduce Risk

- Provide upfront investment support
- Provide downstream assured purchases at prices that work…for all

Some combination of both likely required

7 Oxytocin in Uniject: Commercialization and Supply

Further Challenges for Oxytocin Uniject

- Oxytocin is often labeled for storage in cold chain, Uniject adds storage volume
- Estimated best pricing of oxytocin in Uniject in range of $.40 to $.60 per dose

8 Oxytocin in Uniject: Commercialization and Supply

More heat stable product may be available now

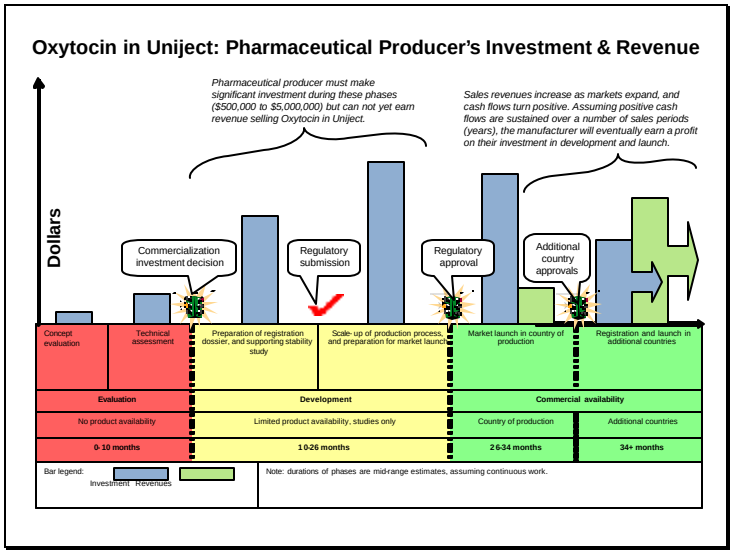
Collaborate with Instituto Biologico Argentino (Biol) in Buenos Aires

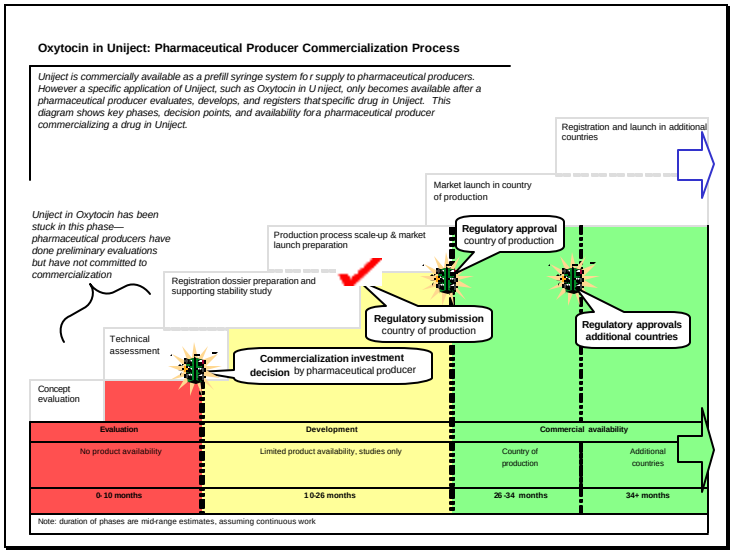
- Biol has oxytocin product with expiration date of 24 months at Room Temperature
- Possible source of oxytocin ampoules for POPPHI projects?

9 Oxytocin in Uniject: Commercialization and Supply

Steve Brooke
Commercialization Advisor
Uniject Applications Teams Leader
sbrooke@path.org
206.285.3500

10 Oxytocin in Uniject: Commercialization and Supply


Oxytocin in Uniject: Pharmaceutical Producer's Investment & Revenue
Pharmaceutical producer must make significant investment during these phases ($500,000 to $5,000,000) but can not yet earn revenue selling Oxytocin in Uniject.
Sales revenues increase as markets expand, and cash flows turn positive. Assuming positive cash flows are sustained over a number of sales periods (years), the manufacturer will eventually earn a profit on their investment in development and launch.
Dollars
Commercialization investment decision
Regulatory submission
Regulatory approval
Additional country approvals
Concept evaluation
Technical assessment
Preparation of registration dossier, and supporting stability study
Scale- up of production process, and preparation for market launch
Market launch in country of production
Registration and launch in additional countries
Evaluation
Development
Commercial availability
No product availability
Limited product availability, studies only
Country of production
Additional countries
0-10 months
10-26 months
26-34 months
34+ months
Bar legend:
Investment
Revenues
Note: durations of phases are mid-range estimates, assuming continuous work.


Oxytocin in Uniject: Pharmaceutical Producer Commercialization Process
Uniject is commercially available as a prefill syringe system for supply to pharmaceutical producers. However a specific application of Uniject, such as Oxytocin in Uniject, only becomes available after a pharmaceutical producer evaluates, develops, and registers that specific drug in Uniject. This diagram shows key phases, decision points, and availability for a pharmaceutical producer commercializing a drug in Uniject.
Registration and launch in additional countries
Market launch in country of production
Uniject in Oxytocin has been stuck in this phase— pharmaceutical producers have done preliminary evaluations but have not committed to commercialization
Production process scale-up & market launch preparation
Regulatory approval country of production
Registration dossier preparation and supporting stability study
Regulatory submission country of production
Regulatory approvals additional countries
Technical assessment
Commercialization investment decision by pharmaceutical producer
Concept evaluation
Evaluation
Development
Commercial availability
No product availability
Limited product availability, studies only
Country of production
Additional countries
0-10 months
10-26 months
26-34 months
34+ months
Note: duration of phases are mid-range estimates, assuming continuous work