



# FROM D&C TO VACUUM ASPIRATION AND MISOPROSTOL

## Ensuring Quality and Appropriate Use of Technology for Postabortion Care in Myanmar

### INTRODUCTION

Unsafe abortion continues to be one of the leading causes of maternal mortality in Myanmar. Despite considerable progress over the last few decades, the maternal mortality ratio in Myanmar remains high at 282 deaths for every 100,000 live births.<sup>1</sup> Abortion in Myanmar is highly restricted—permissible only to save the life of the woman—and abortion-related causes contribute to approximately 10 percent of maternal deaths.<sup>2</sup> While postabortion care (PAC) treatment is offered in public sector facilities, both the quality of and access to PAC services remain a challenge. Many women either do not seek or are not aware of PAC services in the public sector.<sup>3</sup>

In response, Ipas is partnering with the Myanmar Department of Public Health and the Ministry of Health and Sports to improve community awareness and the quality of PAC in public facilities. An integral component of improving quality is ensuring that providers use appropriate technology for uterine evacuation when a woman presents for PAC. Currently, the most common uterine evacuation method in Myanmar is

dilatation and curettage (D&C), which has long been considered obsolete by the World Health Organization (WHO). WHO and the International Federation of Gynecology and Obstetrics strongly recommend that D&C be completely replaced by vacuum aspiration and/or medical methods, based on evidence around safety, acceptability and cost.

### INTERVENTION

Beginning in 2013, Ipas worked with the Myanmar Department of Public Health to review and update its national Postabortion Care Guidelines to reflect WHO recommendations regarding uterine evacuation technologies. The guidelines covered vacuum aspiration in detail and, for the first time, PAC using medical methods (misoprostol) was included. The guidelines were approved in 2014 and paved the way for finalizing a set of PAC training manuals in collaboration with the Department of Public Health. With the guidelines, these manuals introduced a comprehensive PAC model to Myanmar, providing the foundation for improved quality in PAC training and support in the country. The model emphasizes the essential elements of woman-centered postabortion care, including, but not limited to: unbiased, nonjudgmental counseling to obtain informed consent and

1 2014 Myanmar Population and Housing Census, Department of Population, Ministry of Immigration and Population.  
2 Ministry of Health & UNICEF, 2006. Nationwide cause specific maternal mortality survey 2004–2005. MOH, UNICEF, Yangon, 2006.  
3 Grace Sheehy, Yadanar Aung, Angel M. Foster. "We can lose our life for the abortion": exploring the dynamics shaping abortion care in peri-urban Yangon, Myanmar, *Contraception*, Volume 92, Issue 5, November 2015, Pages 475–481.

identify and respond to women's physical and emotional needs; treatment of incomplete and unsafe abortion and complications, with an emphasis on vacuum aspiration and misoprostol for PAC; and contraceptive counseling and services to help women prevent an unwanted pregnancy or practice birth spacing as desired.

In 2014, Ipas and the Myanmar Department of Public Health began training providers from teaching, township and station hospitals in Yangon, Magway and Mandalay Regions. Ipas used a "cascade" training approach, with teaching hospital ob-gyn specialists being trained first. Ipas then trained a subset of these specialists as trainers. To date, 24 trainers have been trained. These trainers assume training responsibility for other providers in their teaching hospitals as well as at select district hospitals, township hospitals and station hospitals in their respective regions. The five-day PAC training currently takes place in Yangon Central Women's Hospital, Mandalay Central Women's Hospital and Magway Teaching Hospital.

The training topics include but are not limited to: manual vacuum aspiration (MVA) and misoprostol for PAC; PAC counseling; informed consent; infection prevention including instrument processing; pain management; postabortion contraceptive counseling and services; and monitoring. The participatory trainings are geared toward both knowledge and skills acquisition. They begin with interactive theory sessions then move into simulated practice with coaching and feedback in the training room and, finally, a hands-on practicum. For ongoing quality assurance, the trainers provide post-training follow-up support to the providers through regional networking meetings and one-on-one support as needed, though individualized support is limited for providers who are not posted at the same site as the trainer.

In collaboration with District/Township Medical Officers, Ipas staff also provide programmatic support to all intervention sites after trainings. This support includes basic site upgrades for PAC services, provider motivation, links to clinical support as needed, and direct provision of MVA supplies (aspirators and cannulae). In 2015-2016, the Department of Public Health partnered with the United Nations Population Fund (UNFPA) to procure MVAs for facilities with trained providers. Once procurement via UNFPA becomes routine and/or a local MVA distributor is established in

Myanmar, Ipas will phase out providing MVAs to facilities. Support on ordering, storing, monitoring and calculating resupply of MVAs will continue until sites no longer need the support. Regarding misoprostol, District/Township Medical Officers and providers report that misoprostol has always been available at sites, as it has broader treatment indications such as postpartum hemorrhage.

Program data is routinely collected before, during and after the trainings from service registers and progress reports. Service data is used for program improvements and regularly reviewed with the Ministry of Health and Sports and Department of Public Health during meetings, as well as District/Township Medical Officers and providers during follow-up support visits.

## RESULTS

### *Provider trainings*

From March 2014 to June 2016, Ipas supported 13 PAC trainings for 161 providers from 47 facilities in the three project regions. The cadre of providers trained are limited to ob-gyn specialists, medical officers, assistant surgeons and post-graduates at teaching hospitals. Midlevel providers can only support, not provide, PAC services in Myanmar. During the trainings, nurses were asked to attend the session on how to process MVA instruments. To supplement the training, wall charts and a video with clear instructions on how to process MVA instruments properly were developed and distributed to project sites in 2015.

Training participants took pre- and post-training written tests to assess knowledge acquisition during the training. Scores from 12 trainings that took place during the first two full program years—July 2014 to June 2016—averaged 68 percent for the pre-test and 96 percent for the post-test, showing a marked improvement among training participants. Trainers also evaluated competency at the end of each training. Overall, 82 percent of the training participants in the 12 trainings performed at least one practicum case and achieved competency by the end of the training, as demonstrated in the training practicum. Those who did not achieve competency, or did not have an opportunity to perform at least one procedure during the practicum due to low caseload during the



training week, were asked to continue the hands-on training with trained senior providers once they returned to their sites.

Of the 161 providers trained, 46 providers (29 percent) have been transferred to other facilities to date. Of these, 17 percent were transferred to states where Ipas does not conduct project activities nor follow up on providers. To mitigate the impact of frequent provider transfers, and to expand the number of trained providers, experienced providers provide informal, on-the-job PAC training to their on-site colleagues individually. As group training frequency and space is limited—and in smaller sites providers cannot be away for five days—on-the-job PAC training is allowed and encouraged in Myanmar, and considered an efficient way to diffuse new medical technologies. However, we found that this informal training tends to happen inconsistently and often focuses primarily on observing and performing the vacuum aspiration procedure. Smaller sites also may not have experienced providers available to perform on-the-job training. In 2016, Ipas developed guidance for on-the-job training, detailing a recommended strategy and emphasizing comprehensive PAC skills. Ipas is currently monitoring how this guidance is being implemented.

### Women reached

Data from the first two full program years (July 2014 to June 2016) show that a total of 11,290 women received PAC services in the three regions. Eighty-two percent of those who

received PAC services received a contraceptive method. Women primarily chose short-acting methods (79 percent).

### MVA and misoprostol use compared to D&C/E&C for PAC

Almost all providers participating in this intervention have been previously trained in D&C (or E&C<sup>4</sup>) in pre-service training and have performed D&C/E&C procedures in PAC cases. Some providers were trained on MVA many years before the Ipas intervention; however, the lack of MVA instruments and extremely limited country-based training opportunities hampered progress on integrating quality PAC using MVA into the health system.

Data collected from logbooks from July 2014 to June 2015 (program year 1) and July 2015 to June 2016 (program year 2) show that among all providers at project facilities, MVA use in PAC cases was 51 percent, misoprostol was 2 percent and D&C/E&C was 46 percent. Since Ipas uses a site-support model in this project, we examine data for all providers at the facility. The goal is to capture both guided and spontaneous diffusion of appropriate technology via provider trainings and on-the-job training or informal skills transfer. As expected, for providers who were trained at Ipas-sponsored PAC trainings (hereafter referred to as “trained providers”), appropriate technology use in PAC cases during this time period is higher at 71 percent for MVA use, 3 percent for misoprostol use, and 25 percent for D&C/E&C. Comparing the two program years, we see an increase in MVA and misoprostol and a decrease in D&C/E&C use among trained providers from year 1 to year 2. Among all providers, MVA use increased and D&C/E&C use decreased as well, though misoprostol use stayed the same across the two program years. Figure 1 provides additional data.

Technology use varies across the different types of facilities. Project **district hospitals** show the highest rates of MVA use for PAC cases, at 57 percent for all providers and 84 percent for trained providers. D&C/E&C rates are 40 percent for all providers and 14 percent for trained providers. However, misoprostol use remains low at 2 percent for all providers and for trained providers. The rates of appropriate technology use at district hospitals notably exceed the rates at project **teaching hospitals** where the trainings

4 Evacuation and curettage (E&C) – sharp curettage without dilation



**Figure 1.** 1st-trimester PAC services provided at project sites (all providers vs. Ipas-trained providers)

	July 2014-June 2015				July 2015-June 2016			
	All providers		Ipas-trained providers		All providers		Ipas-trained providers	
	N	%	N	%	N	%	N	%
Total Caseload	3421		581		5858		1111	
Appropriate Technology Use	N	%	N	%	N	%	N	%
MVA	1531	45%	391	67%	3211	55%	809	73%
Misoprostol	60	2%	20	3%	89	2%	32	3%
D&C,E&C	1778	52%	156	27%	2535	43%	262	24%
Others	52	2%	14	2%	23	0%	8	1%

take place. There the rate is 52 percent MVA use among all providers and 71 percent among trained providers, one percent misoprostol use among all providers and trained providers, and 46 percent D&C/E&C use among all providers and 26 percent among trained providers. It was expected that the diffusion of appropriate PAC technology use at teaching hospitals would be greater since the trainers are based there. Figure 2 provides more details regarding technology use among the different site types, including the smaller **township and station hospitals**. Those hospitals have similar rates of MVA and misoprostol adoption among trained providers though station hospitals show higher rates of MVA use among all providers.

### *MVA and misoprostol use compared to D&C/E&C for complicated PAC cases*

During the project, we heard from many providers and trainers that they use D&C/E&C when PAC clients present with complications (e.g., organ injury, pelvic abscess, sepsis, severe bleeding, shock and uterine perforation), despite Ipas recommendations to make sharp curettage obsolete regardless of presenting conditions. Some facilities even have explicit protocols about only using D&C/E&C when clients present with complications. The data bears this out, as MVA use in PAC cases presenting with complications for all providers is 30 percent, misoprostol is one percent, and D&C/E&C use is 66 percent. The appropriate technology data for trained providers is considerably higher, with MVA use for 56 percent of cases, misoprostol slightly higher at two percent, and D&C/E&C at 39 percent.

When examining the data across facility types, the **district hospitals** continue to have higher rates of MVA adoption for PAC clients presenting with complications as well: 48 percent and 73 percent for all providers and trained providers, respectively. **Teaching hospitals**, on the other hand, have very low rates of MVA use when women present with complications: MVA use is 26 percent for all providers and 24 percent for trained providers for complicated PAC cases, whereas D&C/E&C use is at 68 percent for all providers and 66 percent for trained providers, suggesting that facility protocols at these sites may have a stronger influence on providers. Figure 3 provides additional information by site type.

### *Supplies*

In addition to logbooks, Ipas collects quarterly data using Site Progress Reports, which include information on the availability of MVA and misoprostol supplies at a project site. While supply stockouts certainly contribute to low rates of appropriate technology use, during the two project years no project sites reported stockouts of MVA or misoprostol, though one site had missing data regarding misoprostol stock on one Site Progress Report.

## LESSONS

Program experience and data provide insight to a number of facilitating factors and barriers to the successful uptake of modern PAC technologies in Myanmar.

**Figure 2.** 1st-trimester PAC services provided at project sites (by site type, all providers vs. Ipas-trained providers), July 2014-June 2016

	District Hospital				Station Hospital				Teaching Hospital				Township Hospital			
	All providers		Ipas-trained providers		All providers		Ipas-trained providers		All providers		Ipas-trained providers		All providers		Ipas-trained providers	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total Caseload	1368		562		280		239		6503		420		1128		471	
Appropriate Technology Use	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	785	57%	470	84%	177	63%	151	63%	3356	52%	300	71%	424	38%	279	59%
Misoprostol	27	2%	14	2%	10	4%	10	4%	75	*1%	5	1%	37	3%	23	5%
D&C,E&C	551	40%	76	14%	86	31%	71	30%	3020	46%	110	26%	656	58%	161	34%
Others	5	0%	2	0%	7	3%	7	3%	52	1%	5	1%	11	1%	8	2%

**Figure 3.** 1st-trimester UE tech for cases with presenting complication by site type (all providers vs. Ipas trained providers), July 2014-June 2016

	District Hospital				Station Hospital				Teaching Hospital				Township Hospital			
	All providers		Ipas-trained providers		All providers		Ipas-trained providers		All providers		Ipas-trained providers		All providers		Ipas-trained providers	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total Caseload	126		75		49		45		415		38		86		54	
Appropriate Technology Use	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MVA	62	49%	55	73%	26	53%	26	58%	106	26%	9	24%	36	42%	29	54%
Misoprostol	1	1%	0	0%	3	6%	3	7%	1	0%	0	0%	1	1%	1	2%
D&C,E&C	62	49%	19	25%	19	39%	15	33%	283	68%	25	66%	49	57%	24	44%
Others	1	1%	1	1%	1	2%	1	2%	25	6%	4	11%	0	0%	0	0%

### Facilitators

**National guidelines:** The approval of the new national PAC guidelines marked a turning point for Myanmar’s PAC program. As in many countries, clear, supportive guidelines need to be in place for new evidence-based practices to begin to take root.

**Supplies:** Continuous supply of MVA and misoprostol to sites, funded by local resources and distributed through public sector channels, is essential for the availability and future sustainability of quality PAC services in Myanmar. For MVA use, training nurses on instrument processing to ensure MVAs are readily available in the procedure room helps increase the likelihood that providers will use this method instead of D&C/E&C.

**Training:** The data show that providers who participate in Ipas-supported group trainings have higher rates of MVA use. The challenge is that group training opportunities tend to be limited because of trainer availability. To be sure, on-the-job training has the potential to diffuse new PAC technologies rapidly and efficiently. As mentioned above, however, additional attention must be given to ensuring that providers cover the training content comprehensively.

**Supportive supervision and leadership:** One of the most important facilitating factors for adoption of appropriate UE technology, in addition to other elements of quality PAC, is supportive facility leadership. In larger hospitals, it is critical to have the support and ongoing monitoring by the heads of department and

other senior providers. At the township and station hospitals, the township medical officers' early participation in the PAC trainings and subsequent ongoing support to newly trained providers are essential. In sites where the abovementioned facilitating factors are all present—providers know the guidelines, are trained and competent, and have adequate supplies—the use of appropriate technology continues to be low when senior staff are not supportive of the change.

### Barriers

**Provider transfers:** Providers in Myanmar are transferred every two years on average, some even more frequently. For larger facilities, providers are often transferred out of units that provide PAC services. Newly assigned providers either are trained on the job, or wait for the next group training. For smaller sites that have very few providers, on-the-job training opportunities are extremely limited and attending group training is often difficult because of the limited clinical coverage at their site. Unless they are transferred from an Ipas project site, newly assigned providers typically come in with skills and experience in PAC using D&C/E&C only, which affects consistent use of appropriate technology at facilities.

**Training practicum caseload:** During program site visits, several trainers and trainees reported that approximately 5-10 cases are necessary for providers to feel confident in MVA (even for those previously trained in D&C/E&C). Program information shows that while the majority of

trainees are declared competent at the end of the training, most trainees are only getting 1-2 cases maximum during those trainings. Indeed, providers who are based at teaching hospitals can continue to have hands-on practice with the trainers on-site, but for most trainees at the lower-level hospitals, there are few opportunities for further supervised practice and coaching after the training. While Ipas is looking into strengthening post-training clinical support, a higher client caseload-to-participant ratio during the practicum would help increase provider competence and confidence after a training.

**Facility protocols:** Despite WHO guidance to phase out sharp curettage, many facilities have protocols—either written or unwritten—that require D&C/E&C use for women who present for PAC with complications. As abortion is severely restricted in Myanmar, facilities often see a high rate of complicated cases, which result in lower rates of appropriate technology use in project sites. Facilities also have extended waiting period protocols for MVA (mandatory 24-hour stay) and misoprostol (facility use only and then post-expulsion monitoring for 1-3 days). The extended stay for misoprostol use is likely the most critical barrier to providers offering and women choosing misoprostol in facilities where it is systematically offered, and may explain the low rates of misoprostol use at the project sites.

**Ongoing sensitivities regarding misoprostol use:** While widely available, the use of misoprostol as a PAC uterine evacuation method continues to be controversial, which affects leadership support for widespread use of this method.







## CONCLUSIONS/ RECOMMENDATIONS

Widespread and persistent use of unsafe and outdated uterine evacuation technology is one of the largest barriers to quality PAC services in Myanmar. Overall, while the appropriate use of technology is still limited among all providers (trained and untrained) at project facilities, the health system has certainly made substantial progress in a short period of time. Going forward, sustaining these gains and further improving the use of appropriate PAC technology will require a multipronged strategy:

*Training* – Develop a broader training strategy that can cover more sites and providers and continue to strengthen on-the-job training efforts. Work with teaching hospitals to devise strategies to improve client caseload-to-participant ratios during the training practicum.

*Pre-service training* – Work with relevant stakeholders to integrate quality PAC into pre-service and postgraduate training and begin to phase out D&C/E&C training and supplies once MVA and misoprostol are widely available.

*Supply* – Establish a strong, locally-funded supply chain of MVA and misoprostol, and register misoprostol for PAC, which may help improve the acceptability of misoprostol for PAC.

*Supervision and leadership* – Require all township medical officers to attend a PAC training with their colleagues at the township and station hospitals which they oversee. Ipas and other partners supporting PAC should continue orientation and advocacy with the leadership of teaching and district hospitals to ensure they can monitor and support the transition from D&C/E&C to vacuum aspiration and misoprostol.

*Protocols* – The Ministry of Health and Sports and the Department of Public Health should encourage facilities to amend facility protocols to optimize the benefits of appropriate technology. For example, reduce the mandatory 24-hour stay for MVA and extensive post-expulsion monitoring for misoprostol for PAC, and develop SOPs that clearly state new technologies can be used instead of D&C/E&C regardless of presenting conditions.

*Advocacy* – Continued advocacy is needed to make D&C/E&C obsolete, particularly through the teaching hospital heads of departments, the Obgyn Society, the Myanmar Medical Association and other influential groups and individuals.

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