

QUALITY

ASSURANCE

PROJECT



# Cost-Effectiveness of Self-Assessment and Peer Review in Improving Family Planning Provider-Client Communication in Indonesia

May 2002



Center for Human Services • 7200 Wisconsin Avenue, Suite 600 • Bethesda, MD 20814-4811 • USA



QUALITY  
ASSURANCE  
PROJECT

TEL (301) 654-8338

FAX (301) 941-8427

[www.qaproject.org](http://www.qaproject.org)



The Quality Assurance (QA) Project is funded by the U.S. Agency for International Development (USAID), under Contract Number HRN-C-00-96-90013. The QA Project serves countries eligible for USAID assistance, USAID Missions and Bureaus, and other agencies and nongovernmental organizations that cooperate with USAID. The QA Project team consists of prime contractor Center for Human Services; Joint Commission Resources, Inc.; and Johns Hopkins University (including the School of Hygiene and Public Health [JHSPH], the Center for Communication Programs [CCP], and the Johns Hopkins Program for International Education in Reproductive Health [JHPIEGO]). The QA Project provides comprehensive, leading-edge technical expertise in the design, management, and implementation of quality assurance programs in developing countries. Center for Human Services, the nonprofit affiliate of University Research Co., LLC, provides technical assistance and research for the design, management, improvement, and monitoring of health systems and service delivery in over 30 countries.



## About this series

**The Case Study series** presents real applications of Quality Assurance (QA) methods in developing countries at various health system levels, from national to community. The series focuses on QA applications in child survival, maternal and reproductive health, and infectious diseases. Each case study focuses on a major QA activity area, such as quality design, quality improvement, the development and communication of standards, cost and quality, or quality assessment. In some cases, more than one QA activity is presented.

**Analyzing cost and quality** seeks to shed light on the costs and cost savings that are associated with implementing quality improvement and other quality assurance interventions. Cost and quality analyses are used to examine the cost-effectiveness of alternative quality improvement interventions, quantify the costs of quality failures and inefficiency, project cost savings that may be derived from improving healthcare quality, and/or estimate the costs of either individual interventions or comprehensive quality assurance programs.

**This case study** illustrates how an analysis of cost-effectiveness and marginal costs and benefits demonstrated the desirability and affordability of investing in reinforcement interventions to enhance providers' skills following training.

## Acknowledgements

The National Family Planning Board (BKKBN) of Indonesia implemented the interpersonal communication/counseling skills training course and training reinforcement interventions described in this case study. Hany Abdallah wrote the case study, drawing on a QA Project *Operations Research Results* paper written by Young Mi Kim, Fitri Putjuk, Adrienne Kols, and Endang Basuki. Young Mi Kim, Diana Silimperi, and Bart Burkhalter provided technical review, and Lani Marquez and Beth Goodrich proffered editorial assistance.

## Recommended citation

Abdallah H. 2002. Cost-Effectiveness of Self-Assessment and Peer Review in Improving Family Planning Provider-Client Communication in Indonesia. *Quality Assurance Project Case Study*. Published for the U.S. Agency for International Development (USAID) by the Quality Assurance Project: Bethesda, Maryland, U.S.A.





## Cost-Effectiveness of Self-Assessment and Peer Review in Improving Family Planning Provider-Client Communication in Indonesia



### Background

In the late 1990s, reductions in government and donor funding for health services in Indonesia led to growing pressures on the government to test creative, low-cost approaches for enhancing quality of care in family planning programs.

One area of particular concern in the delivery of family planning services was the quality of patient counseling. Formative research conducted by the Johns Hopkins University Center for Communication Programs (JHU/CCP) in Central and West Java had documented multiple weaknesses in the interactions between providers and clients. In order to improve providers' counseling performance and promote greater dialogue between providers and clients, the State Ministry of Population/National Family Planning Coordinating Board (BKKBN) developed, in collaboration with JHU/CCP, a national curriculum in interpersonal communication and counseling (IPC/C) for field and clinic-based workers.

Refresher-training courses in IPC/C were implemented in 1997 and 1998 for family planning service providers in the

---

public sector, with support from the U.S. Agency for International Development (USAID) and the United Nations Fund for Population Activities (UNFPA). Providers receiving the training were primarily midwives based in health centers (facilities known as *puskusmas*). The IPC/C training covered client-centered counseling skills, such as establishing rapport with clients, encouraging dialogue, and helping clients make decisions. (Though the training focused on family planning counseling, the IPC/C training was expected to benefit other health services delivered by the same providers.)

While the IPC/C training was expected to substantially improve providers' communication skills and practices, BKKBN was aware of research showing that providers need reinforcement after training if they are to incorporate new skills in their daily routine. The Board decided that a pilot study of training-reinforcement interventions would provide information about the sustainability of the effects of the IPC/C training.

The Board and JHU/CCP explored low-cost, sustainable reinforcement interventions to ensure that providers who attended the IPC/C training used their new skills after returning to work. Published research from developed countries suggests that self-assessment and peer review have the potential to improve providers' communication skills.<sup>1</sup> Both strategies use continuous self-learning to help providers analyze their behavior, set personal goals for behavior change, try out the new behaviors, and assess

---

<sup>1</sup> Discussion and full citations for studies on the effects of self-assessment and peer review on the performance of medical students may be found in: (a) Y.M. Kim, F. Putjuk, A. Kols, and E. Basuki. 2000. Improving provider-client communication: Reinforcing IPC/C training in Indonesia with self-assessment and peer review. *Operations Research Results* 1(6). Bethesda, MD: Published for the United States Agency for International Development (USAID) by the Quality Assurance Project, and (b) Bose, S., E. Oliveras, and W.N. Edson. 2001. How can self-assessment improve the quality of healthcare? *Operations Research Issue Paper* 2(4). Published for the U.S. Agency for International Development (USAID) by the Quality Assurance (QA) Project, Bethesda, MD and JHPIEGO Corporation, Baltimore, MD. Both may be downloaded from <[www.qaproject.org](http://www.qaproject.org)> or requested from the mailing address on the cover of this publication or from (email) <[qapdissem@urc-chs.org](mailto:qapdissem@urc-chs.org)>.

---

the outcomes of their efforts. A prior study in Indonesia had found that peer feedback enhanced the performance of counseling and clinical tasks by midwives.<sup>2</sup> The Board believed that both self-assessment and peer review would be affordable and feasible interventions at the *puskesmas* level in Indonesia and decided to pilot test them and compare their effectiveness and cost-effectiveness.

The Quality Assurance (QA) Project was asked to conduct the study, both pilot testing the interventions and analyzing their relative costs and effectiveness. The pilot test took place in East Java and Lampung provinces as a collaborative effort of QA Project partner JHU/CCP and BKKBN. The study had three main parts: (a) designing the analysis, (b) collecting cost and quality data, and (c) analyzing and interpreting cost and quality data.

## Designing the Analysis

**Defining the objectives of the cost and quality analysis.** The first step of the study was to define the objective of the analysis. BKKBN program managers were interested in comparing and selecting among three possible strategies for improving the impact of IPC/C training. One strategy was to do nothing other than training, i.e., providers would receive only IPC/C training. The second strategy implemented an intervention having providers assess their own IPC/C performance following the training, using structured self-assessment forms to guide them. The third added a peer review component to the intervention whereby providers would both use the self-assessment forms and meet in small groups to discuss their performance. The analysis aimed to determine: (a) whether these last two strategies justified their costs by achieving greater results in terms of provider performance of IPC/C skills, and (b) which of these two interventions had more impact relative to its cost.

---

<sup>2</sup> P. MacDonald. 1995. *The Peer Review Program of the Indonesian Midwives Association*. Jakarta: University Research Corporation and Indonesian Midwives Association.

---

**Defining the scope of the analysis.** The next step was to define the nature and composition of the interventions and to identify which elements of the providers' work could be expected to change as a result of implementing the interventions. This step would guide decisions about what effects and costs would be important to measure and which were beyond the scope of the stated objective. The QA Project was interested in analyzing the cost and effectiveness of the training reinforcement interventions at the level of *local* training organizations, the providers, and the health facility where they work. This meant that the costs involved in performing the study did not need to be considered in the cost analysis.

To determine what to measure, the study team had to define the elements of each strategy. While this was relatively straightforward for the first strategy (training in IPC/C only), the other two interventions needed to be further defined:

**Self-assessment intervention.** The self-assessment intervention was a series of eight forms to be completed independently by each provider, without direct supervision or other external motivation. Participating providers completed one of the eight forms every week over a period of 16 weeks (i.e., each form would be completed twice during the study period). Each form addressed specific interpersonal communication skills, with the aim of prompting providers to be aware of their own and their clients' communication behavior, analyze their interactions, and take action to improve their IPC/C skills (see sample form in Figure 1). On average, the self-assessment forms required 15 to 20 minutes to complete.

**Peer review intervention.** Short peer review meetings (30 to 60 minutes) were intended to supplement the self-assessment exercise. The aim of these weekly meetings was to improve providers' IPC/C skills by bringing groups of three or four together to discuss their practice and give each other feedback. At each session, participants discussed a specific issue that had either been raised by a participant or was the topic of the self-assessment form for that week. General discussion guides to structure the



**Figure 1. Provider Self-Assessment Form:  
Being Responsive to Clients**

**Part A. Checklist**

Think about the interaction you just had with your client. How well did you do with each of the following communication behaviors? Check the appropriate column. Then complete the client section.

<b>Provider Behaviors</b>	<b>I did OK</b>	<b>I did not do OK</b>	<b>N.A.</b>
1. Responded to client's questions and statements If you did, what/how you did you say it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Gave full attention to client's fears and anxieties If you did, how/what did you do?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Gave a full answer to the client's questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reassured client about safety of contraceptive If you did, what did you say?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Respected client's opinions If you did, what did you do? Give examples!	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Considered client's complaints as important If you did, how you did show it to the clients?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Gave full attention to anything the client said	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. When client brought up a rumor, responded with accurate information rather than scolding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Client Behaviors**

**Yes**

**No**

1. Client asked for clarification If yes, what kind of clarification did you give?	<input type="checkbox"/>	<input type="checkbox"/>
2. Client seemed relaxed If client seemed upset or disappointed, what did you do?	<input type="checkbox"/>	<input type="checkbox"/>

**Part B. Reflection**

Do you think the client was satisfied with the attention you gave her/him when she/he raised an issued or concern?

What other questions or concerns might the client have had? What else could you have said?

**Part C. Planning for Behavior Change**

List two specific behaviors that you would like to change this week to improve your listening skills. You might want to do something more often, stop doing something, or try a new way of talking to your clients.

Current Behaviors of Concern

1. \_\_\_\_\_
2. \_\_\_\_\_

---

meetings were developed by the research team. The meetings would require providers to travel some distance.

**Additional training in the use of the reinforcement interventions.** For the pilot test, the BKKBN decided to add a half-day training on self-assessment and peer review techniques to the national five-day course on IPC/C. The half-day training taught providers how to judge their own performance in areas that were raised by the self-assessment forms. Providers in both intervention groups received all the forms necessary for the self-assessment and peer review activities at the end of the training.

**Setting up the study.** To assess the training reinforcement interventions, the study tested them among providers serving family planning clients in three districts in each of two provinces, East Java and Lampung. Within each district, roughly 30 clinics were randomly selected for participation in the study. In the selected facilities, the clinic provider responsible for family planning services was assigned to participate in the IPC/C training; in larger clinics, two providers were asked to participate.<sup>3</sup> One district from each province was assigned to participate in one of the following study groups, each group consisting of roughly the same number of providers:

- *Training (T only):* These providers received only IPC/C training and served as the control for the training reinforcement interventions
- *Training + Self-Assessment (T + SA):* These providers received the same IPC/C training plus a half-day of orientation in self-assessment techniques and the use of the self-assessment forms
- *Training + Self-Assessment + Peer Review (T +SA + PR):* These providers received the IPC/C training, a half-day of orientation in self-assessment and the use of the self-assessment forms, and group discussion guides

---

<sup>3</sup> See Kim et al. 2000 (Footnote 1) for more detail on the study's research design and data collection and analysis methods.

---

For each of the three study groups, data on provider IPC/C performance were collected three times: (a) once prior to the IPC/C training, (b) immediately after the training, and (c) sixteen weeks after the training.

**Defining what to measure.** The aim of this step in designing the analysis was to design an approach for measuring both the effectiveness and the cost of each strategy. The selected measures needed to be relevant to the objective of the analysis and also reflect the effects that were expected to vary depending on the strategy. This meant finding a measure of effectiveness that was common to both interventions but that would vary from one to the other.

**Measuring effectiveness.** Research has shown that effective patient counseling and client-provider interaction can lead to positive family planning outcomes, such as improved contraceptive continuation rates, client compliance with contraceptive use, and improved health.<sup>4</sup> However, when changes in these outcomes occur, it is often difficult to attribute these changes solely to effective patient counseling (unless the analysis is performed under controlled circumstances, which are for practical purposes very difficult to achieve). This study did not track family planning outcomes but relied on that research (linking effective communication and positive health outcomes) and measured the quality of communication in family planning consultations. Specifically, the study measured providers' skills in "facilitative communication" (i.e., ability to foster dialogue, rapport, and client participation) and the provider's communication of "medically informative" advice on family planning and other medical matters.<sup>5</sup> Both

---

<sup>4</sup> N. Clark, M. Gong, M. Schork, D. Evand, D. Roloff, M. Hurwitz, L. Mairman, and R. Mellins. 1998. Impact of education for physicians on patient outcomes. *Pediatrics* 101:831–36; L. Ong, J. De Haes, A. Hoos, and F. Lammes. 1995. Doctor-patient communication: A review of the literature. *Social Science and Medicine* 7:903–18; S. Pariani, D.M. Heer, J. Van Arsdol, and D. Maurice. 1991. Does choice make a difference to contraceptive use? Evidence from East Java. *Studies in Family Planning* 22:384–90; M. Stewart. 1996. Effective physician-patient communication and health outcomes: A review. *Canadian Medical Association Journal* 152:1423–33.

facilitative and informative communications are important: the latter gives clients the information they need to pursue better health, and the former fosters dialogue, rapport, and client participation so that provider and client partner in that pursuit. For this study, communication was measured by the number and character of utterances. An utterance was defined as a complete thought, usually a phrase or sentence. The number of each type of utterance was considered a valid measure of the quality of the provider-patient interaction because of the above-cited research. These types of communication are illustrated in Table 1.

**Measuring cost.** Two scenarios were used to estimate the costs of implementing the IPC/C training and the two training reinforcement interventions: (a) the **direct costs** of

**Table 1. Criteria for Each Type of Provider Communication**

<b>Facilitative Communication</b>	
<b>Description</b>	<b>Examples</b>
Asks lifestyle and psychosocial questions	"It doesn't suit you; how doesn't it suit you?"
Gives information and counsels on lifestyle and psychosocial issues	
Builds partnership with clients (self-disclosure, checks for understanding, asks for opinion, states opinion)	
Expresses positive emotion (approval, empathy, concern, reassurance)	"Uh, huh."
Shows agreement or understanding	
Makes personal or social remarks	
<b>Medically Informative Communication</b>	
<b>Description</b>	<b>Examples</b>
Gives information on medical and family planning issues	"Norplant® is a better choice if you think you will forget to take pills."
Counsels on medical and family planning issues	"Condoms prevent both conception and infection."

<sup>5</sup> For more information on other measures used in the pilot test to assess the provider-patient interaction, see Kim et al. 2000, cited above in Footnote 1.

the IPC/C training and reinforcement activities, such as forms and other materials, per diems for training, and travel to peer review sessions, but excluding provider and trainer salaries, and (b) the **full costs** of the training and reinforcement activities, including salaries. Table 2 shows the main types of costs involved in the IPC/C training and the training reinforcement.

**Table 2. Elements of Cost Measurement**

Type of Cost	IPC/C Training	Training Reinforcement Interventions
Direct costs	<ul style="list-style-type: none"> <li>■ Materials for training</li> <li>■ Supplies</li> <li>■ Per diems</li> <li>■ Transportation</li> </ul>	<ul style="list-style-type: none"> <li>■ Photocopies of forms</li> <li>■ Transportation (for peer review meetings only)</li> </ul>
Salary costs	<ul style="list-style-type: none"> <li>■ Time of trainers</li> <li>■ Time of providers</li> </ul>	<ul style="list-style-type: none"> <li>■ Time of providers</li> </ul>

**Relating costs and effectiveness.** To relate the effectiveness and cost measures, the study examined the *cost-effectiveness* of each alternative, i.e., the percentage gain in effectiveness scores for every dollar spent on each intervention (T only; T + SA; and T + SA + PR). For each group, the percentage gain in effectiveness was divided by the full cost of the intervention, including the cost of provider time.<sup>6</sup>

The study also examined the *marginal benefit* of investments in self-assessment and peer review, apart from the IPC/C training. The incremental gain in effectiveness achieved using each intervention was divided by the incremental cost of each reinforcement intervention, yielding the percentage point gain achieved for each

<sup>6</sup> For example, if the average number of utterances per consultation increased from 5 before training to 11 after training and SA reinforcement, and if training and SA cost \$3 per provider, then the average percentage gain would be 120 percent:  $[(11-5) \div 5]$ , and the average gain per dollar spent would be:  $120\% \div 3 = 40$  percentage points per dollar.

---

additional dollar spent on a given reinforcement intervention, including the cost of provider time.<sup>7</sup>

## Collecting Cost and Quality Data

**Collection of effectiveness data.** The IPC/C skills of providers were measured by audio-taping two randomly selected client-counseling sessions for each provider. Every recorded utterance of the provider and client was then coded according to the criteria in Table 1 to determine the frequency of each type of communication in each consultation. The two main measures of IPC/C performance were calculated for each provider: the average number of facilitative utterances and the average number of medically informative utterances per consultation.

**Collection of cost data.** Information was obtained on direct monetary costs associated with implementing the interventions and on the opportunity costs associated with the time spent by providers in training and in implementing the self-assessment and peer review interventions. Direct monetary expenses were obtained primarily from the pilot test expenditure records. Provider time spent in training and implementation was estimated based on interviews with providers participating in the study.

## Analyzing and Interpreting Cost and Quality Data

In looking at the data, it is important to bear three aspects of the study in mind. First, the study did not

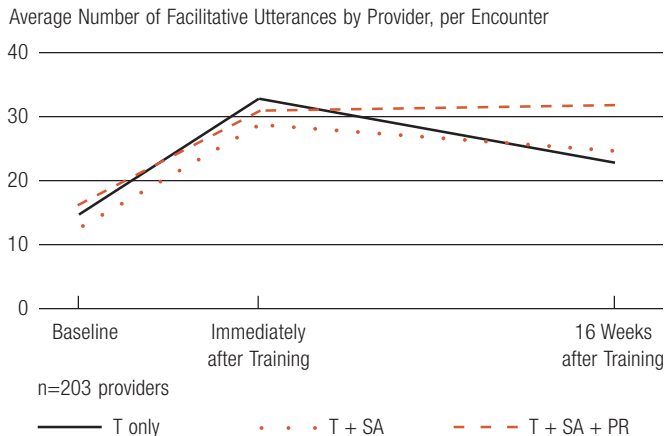
---

<sup>7</sup> For example, if the average number of utterances per consultation increased from 5 before training to 8 after training for the T only group, but increased from 5 before training to 11 after training and SA reinforcement in the T + SA group and if training cost \$2.25 per provider and SA cost \$0.75 per provider, then the *marginal* percentage gain of the SA intervention over training only would be 60 percent:  $[(11 - 8) \div 5 = 60\%]$ , and the marginal gain per dollar spent would be  $60\% \div 0.75 = 80$  percentage points per dollar.

measure actual health outcomes (e.g., increased use of contraception): it measured instead the quality of IPC/C skills during family planning consultations. Research shows that these skills influence health outcomes. Second, the self-assessment forms (used in both SA and SA + PR) emphasized facilitative but not informative communication. Third, the findings examined only the 16-week period of the study. Results for both effectiveness and cost might be different over a longer period: effectiveness could continue to decline for all three groups, and while the training costs would not change, the costs of the reinforcement interventions would continue (tripling, for example, if implemented for a year).

**Effect of training and reinforcement interventions on provider IPC/C performance.** Figures 2 and 3 show the average number of facilitative and informative utterances by providers in the three study groups prior to, immediately after, and 16 weeks after the IPC/C training. These results show that the training reinforcement techniques, particularly the combination of T + SA + PR, improved the facilitative communication performance of providers beyond that achieved through IPC/C training alone. At 16 weeks following the training, performance had begun to decline for both the T only and SA groups, while

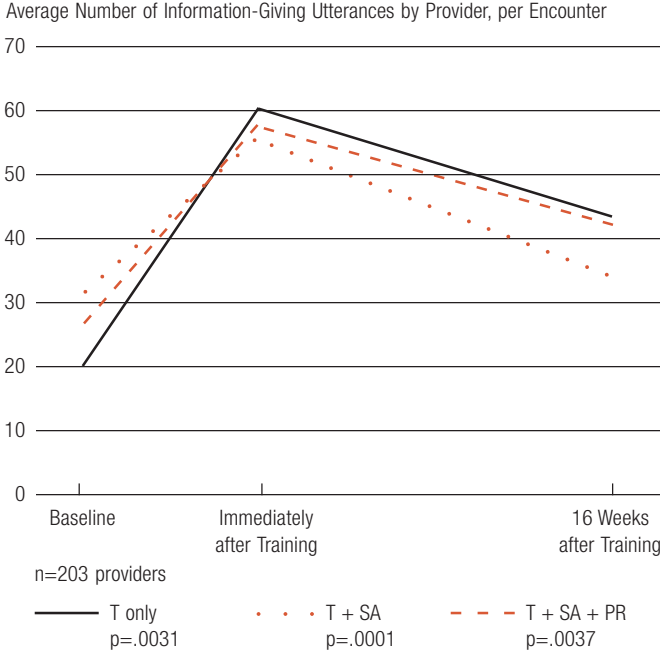
**Figure 2. Effect on Facilitative Communication**



the T + SA + PR group showed no significant change. This shows that SA + PR is most effective in maintaining facilitative communications.

Figure 3 shows the changes that occurred over time with regard to informative communication. It shows that training made a big, short-term improvement, with everyone achieving 55 to 61 percent. It also shows slow decay in all three groups: the interventions did not sustain the training in any meaningful way, and there was no significant difference in the decay rate.

**Figure 3. Effect on Medically-Informative Communication**





**Costs of the interventions.** Table 3 presents the costs in U.S. dollars<sup>8</sup> per provider for the IPC/C training and the training reinforcement interventions, based on the experience of the study sample of 203 providers.<sup>9</sup> The training necessary to implement the interventions added a half-day to the normal duration of the IPC/C training course, increasing the per provider cost (including providers' and trainers' time, materials, and fixed costs) by 7 percent. Other than training, the recurrent non-salary costs of implementing the self-assessment and peer review interventions were

**Table 3. Direct and Staff Costs per Provider of IPC/C Training, Self-Assessment, and Peer Review**

	Direct Cost per Provider	Full Cost per Provider (Including Provider Time and Supervision)
<b>Total training costs</b>		
IPC/C training only	\$ 68.56	\$ 90.10
Additional training cost for self-assessment	4.61	6.39
Additional training cost for peer review	1.08	1.64
<b>Recurrent costs of training reinforcement interventions for 16 weeks</b>		
Self-assessment	\$ 1.56	\$ 9.58
Self-assessment and peer review	10.98	24.29
<b>Total cost of the interventions over 16 weeks, including IPC/C training</b>		
Training only	\$ 68.56	\$ 90.10
Training + implementation of self-assessment	74.73	106.07
Training + implementation of self-assessment and peer review	85.23	122.42

<sup>8</sup> Dollar amounts were adjusted for the fluctuating exchange rate with the Indonesian rupee over the course of the study.

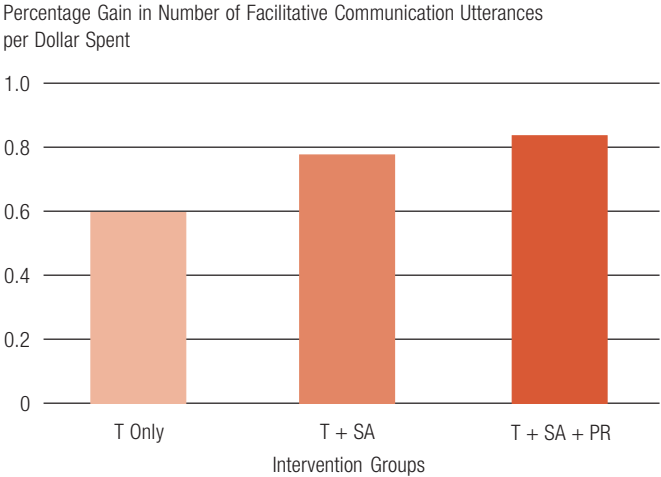
<sup>9</sup> Cost per participant will vary based on the total number of persons trained and the extent to which economies of scale can be applied to reduce the cost per trainee.

relatively inexpensive: \$1.56 per provider for SA and \$10.98 per provider for SA + PR over 16 weeks. The direct costs of implementing the IPC/C reinforcement interventions consisted of the cost of copying the 16 forms and the cost of transportation to and from peer review meetings.

The most important component of the full cost of implementing SA + PR was the time providers spent completing self-assessment forms and participating in peer review groups. The cost of the providers' time added about \$8 to the per provider cost in the SA group and about \$13 in the SA + PR group over the 16 weeks. However, interviews with providers indicated that they were very conscientious about minimizing the *real* opportunity cost of their time by completing forms during low-peak or off-peak hours (e.g., at the end of the day) and attending peer review meetings during non-clinic hours.

**Cost-effectiveness results.** The results of the cost-effectiveness analysis are shown in Figure 5. At the end of the 16-week intervention period, a dollar invested in either

**Figure 5. Cost-Effectiveness of Interventions in Improving Provider Facilitative Communication**



---

the SA or SA + PR interventions generated a larger gain in facilitative communication scores than a dollar invested in IPC/C training alone. A dollar spent in IPC/C training only, SA, and SA + PR resulted in 0.60, 0.78, and 0.84 percentage point gains in facilitative communication scores, respectively, suggesting that both SA and PR interventions were more cost-effective for improving facilitative communication than IPC/C training alone.

A different result was obtained for the cost-effectiveness of the training reinforcement interventions with respect to improving medically informative communication scores. A dollar spent on IPC/C training only, SA, and SA + PR resulted in medically informative communication score percentage point gains of 1.34, 0.11, and 0.46, respectively. This result indicates that the SA and SA + PR strategies were not cost-effective for improving the volume of information provided to clients on medical and family planning issues. This finding was not entirely surprising, however, because the provision of medical and family planning information was not the main focus of either of the two training reinforcement strategies.

**Marginal benefit analysis results.** The cost of the SA intervention averaged an additional \$15.97 per provider (over the cost of training) and produced a 30.5 percent higher gain in facilitative communication scores over the IPC/C training alone. SA + PR cost an additional \$16.35 per provider (over the incremental cost of SA) and yielded an additional 19.4 percent higher gain in facilitative communication over the SA intervention. As depicted in Figure 6, the marginal benefit of an additional dollar spent on SA was a 1.91 percentage point gain in facilitative communication, compared to 1.19 percentage point gain for an additional dollar spent in PR (over the cost of SA). The lower marginal benefit result from the peer review intervention indicates that the incremental value of a dollar spent on peer review diminishes for each additional dollar spent. In other words, the additional dollar spent on peer review was not matched by an equal or higher gain in effectiveness.

### Figure 6. Marginal Benefit of Self-Assessment and Peer Review in Improving Provider Facilitative Communication

Percent Marginal Gain in Facilitative Communication Utterances per Additional Dollar Spent on a Given Intervention over Another



These findings show that investment in the SA intervention provided more marginal benefit than did investment in PR because of the much higher cost of PR relative to the cost of SA. Note from Table 2 that PR involves transportation costs; furthermore, it requires more provider time. In a resource-constrained setting, self-assessment would be a more cost-effective reinforcement strategy for improving provider facilitative communication.

### Using Cost and Quality Data

**Applying the findings in Indonesia.** The BKKBN used the study findings to rationalize the expansion of simple IPC/C skill reinforcement techniques, especially self-assessment, together with their ongoing training in IPC/C. The Board is also investigating alternative approaches to improve the cost-effectiveness of the peer review intervention. One approach involves having providers from the same or a neighboring facility act as peer reviewers for their colleagues, thereby reducing or eliminating the transportation costs associated with peer review.

---

## Cost and Quality Insights

This Indonesian pilot study demonstrated that training reinforcement interventions to improve IPC/C are effective, feasible to implement among primary care-level health workers, and not excessively costly. The study also showed how cost-effectiveness analysis can be used to inform decisions on where to invest resources to most efficiently achieve gains in quality that affect health outcomes.

The effectiveness analysis found that the two reinforcement interventions had different effects on specific communication-related behaviors of providers. Peer review combined with self-assessment was found to be more effective in improving providers' facilitative communication skills than self-assessment or training alone. Still, peer review showed a declining return on investment relative to self-assessment alone, largely due to the much higher costs of the peer review intervention. Self-assessment, because of the low costs involved, proved to be a better “buy” in terms of the improvements attained in facilitative communication for the amount of resources used. Reducing the cost of peer review (e.g., conducting facility-based peer review to eliminate the cost of transportation) would make this training reinforcement intervention more cost-effective.

Neither training reinforcement intervention was cost-effective for improving medically informative communication, probably because the self-assessment and peer review materials did not emphasize giving relevant medical and family planning information, focusing instead on improving the interactive quality of client-provider communication. This finding highlights the logic that specific behaviors promoted by reinforcement materials will, in fact, improve with the use of those materials.

This study sheds light on the need for evaluating the cost-effectiveness of self-assessment and peer review interventions in improving the quality of health service delivery. Because of the promising results from the use of self-assessment and peer review to reinforce IPC/C skills,

---

further research should examine other uses of these two interventions to improve health provider performance and their cost-effectiveness. Remaining questions include: What impact would self-assessment and peer review have on provider IPC/C performance without the IPC/C training? What other aspects of provider performance could be improved with self-assessment and peer review? How cost-effective are these interventions over longer periods (e.g., over a year)? How cost-effective would they be if they were expanded to more facilities, such as district-wide or national implementation? What factors (e.g., years of experience, behavior of colleagues) influence a provider's willingness and ability to change communication and counseling behaviors? What is the effect of changing IPC/C behavior on the average duration of a consultation? How would changes in the average duration affect the interpretation of cost-effectiveness results?



## **Cost-Effectiveness of Self-Assessment and Peer Review in Improving Family Planning Provider-Client Communication in Indonesia: Summary**

This case study illustrates how cost and quality analysis can inform decision making about interventions to improve service quality. It describes a pilot test conducted in collaboration with the Indonesian Ministry of Population in 1998 of two interventions to enhance the effectiveness of training programs to improve interpersonal communication/counseling (IPC/C) skills. One intervention had providers use self-assessment following IPC/C training, and the other had providers use both self-assessment and peer review following training. Both interventions were relatively low cost. This case study describes the methodology used to evaluate the effectiveness and costs of the interventions in reinforcing skills learned in training. The analysis found that while both reinforcement interventions improved providers' facilitative communication, self-assessment was more cost-effective.