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Improving Provider-Client Communication: Reinforcing IPC/C Training in Indonesia with Self-Assessment and Peer Review

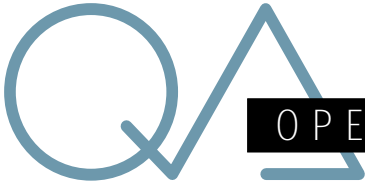




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Abstract

To improve the quality of reproductive healthcare in Indonesia, refresher training in interpersonal communication and counseling (IPC/C) has been offered to clinic-based service providers who attend family planning clients. This study tested the effectiveness and feasibility of two low-cost alternatives to supervision—self-assessment and peer review—that may reinforce providers' skills after training.

The performance of three groups of providers in East Java and Lampung Provinces was compared. All 203 providers attended an IPC/C training workshop in 1997–98, after which they were divided into three follow-up groups by district. The control group received no reinforcement after training. Providers in the self-assessment only group conducted self-assessment exercises for 16 weeks after training. Providers in the peer review with self-assessment group attended peer review meetings as well as conducting self-assessment exercises over the same 16-week period.

Reinforcement activities boosted provider-client interaction over the four-month follow-up period even as the length of consultations grew shorter. Provider facilitative communication increased from 28 percent to 35 percent in the two reinforcement groups (the self-assessment only group and the

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Abstract *Continued*

peer review with self-assessment group), while it declined from 29 percent to 27 percent in the control group. Self-assessment and peer review did not have a similar positive impact on information giving. Both types of reinforcement proved feasible for a low-resource setting. Cost analysis showed that money spent on training alone, without reinforcement, had minimal impact on provider performance. Adding peer review to self-assessment proved cost-effective despite its relatively higher cost.

When providers returned to their home clinics after training, self-assessment and peer review helped them consolidate their newly learned skills by focusing their attention on important issues, clarifying performance standards, helping them identify weaknesses, and motivating them to do better. The reinforcement strategies also taught providers how to work more efficiently so that they were able to maintain the quality of the interaction while shortening the duration of the session. In addition, the reinforcement strategies served as a mechanism of ongoing quality improvement, encouraging providers to continue strengthening their skills beyond post-training levels. Results also confirm that interventions directed to providers can, indirectly, influence client behavior. Changes in provider communication behavior elicited more active communication from clients, probably as a result of increased rapport between providers and clients. Lessons learned from this study point to simple, affordable strategies to maximize the impact of costly training courses.

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Improving Provider-Client Communication: Reinforcing IPC/C Training in Indonesia with Self-Assessment and Peer Review

Young Mi Kim, Fitri Putjuk, Adrienne Kols, and Endang Basuki

Abbreviations

BKKBN	State Ministry of Population/ National Family Planning Coordinating Board
COPE	Client-Oriented, Provider-Efficient
IPC/C	Interpersonal Communication and Counseling
JHU/CCP	Johns Hopkins University/ Center for Communication Programs
RIAS	Roter Interaction Analysis System
SDES	Service Delivery Expansion Support Project
UNFPA	United Nations Population Fund
USAID	U.S. Agency for International Development

I. Background: Quality Improvement in Indonesia

Although contraceptive use in Indonesia is high at 55 percent, so are discontinuation rates: Fully one-fourth of couples who adopt a contraceptive method discontinue its use within a year. At the same time, pregnancy and childbirth continue to be major causes of death among women of reproductive age (Central Bureau of Statistics et al. 1995). In response, the State Ministry of Population/National Family Planning Coordinating Board (BKKBN) is leading a national initiative to improve the quality of reproductive healthcare at the *puskesmas*, or community health clinic, level.

A chief component of this quality improvement initiative is refresher training in interpersonal communication and counseling (IPC/C) for health workers who attend family planning clients. Good quality IPC/C

has proven to increase client compliance, promote contraceptive continuation, and improve health outcomes in a variety of healthcare settings (Pariani et al. 1991; Kim et al. 1992; Abdel-Tawab 1995; Ong et al. 1995; Stewart 1996; Clark et al. 1998; Roter and Hall 1998). Client participation is especially essential during family planning consultations, because clients must discuss their personal needs and priorities with the provider and understand their options in order to make an informed choice of contraceptive methods. Yet formative research in Indonesia documented multiple weaknesses in the interaction between clients and providers in Central and West Java (JHU/CCP 1998). Clinic-based providers did not always explain technical matters accurately, clearly, and completely, and clients played a passive role, volunteering little information (Kim et al. 1997).

Therefore, BKKBN in collaboration with the Johns Hopkins University (JHU/CCP) developed new national IPC/C curricula for field workers and clinic-based workers to promote greater dialogue between provider and client. The curricula were employed in 1997–98 when BKKBN conducted extensive refresher training for service providers in 13 provinces with support from the United Nations Population Fund (UNFPA) and the U.S. Agency for

International Development (USAID) through the Service Delivery Expansion Support Project (SDES).

Research has found that providers need reinforcement after training if they are to apply and consolidate their newly acquired skills as part of their daily work (Best 1998; Kols and Sherman 1998). Individual service providers find it difficult to carry new skills learned in the supportive environment of a workshop back to their home clinics because coworkers are skeptical, needed materials or equipment are lacking, providers do not understand which behaviors to change without regular feedback on their performance, and/or providers do not feel motivated to change old habits (Garavaglia 1995; Sullivan and Smith 1996).

BKKBN searched for low-cost, low-maintenance forms of reinforcement to ensure that providers who attended the IPC/C workshops used their new skills after they returned to their home clinics. Self-assessment and peer review are affordable, sustainable, and potentially self-empowering alternatives to supervision that can help providers apply newly learned skills on the job. Self-assessment calls on individual providers to judge their own job performance against a set of outside standards. In peer review, small groups of providers give one another feedback and share experiences and ideas. Both approaches rely on self-administered tools (individual self-assessment questionnaires and group discussion guides) that are especially developed for these purposes.

A self-learning process is built into both self-assessment and peer review to help providers change their behavior. After identifying their

weaknesses, providers set personal goals for behavior change, try out new behaviors, and assess the outcomes of their efforts. This is a continuous process in which providers establish new goals and repeat the learning cycle until they are satisfied with their performance. The success of self-assessment and peer review depends on providers' own motivation, ability, and diligence in completing the tasks required, since there is little or no outside supervision.

While research on whether self-assessment and peer review improves health workers' performance is limited and inconclusive, studies suggest these interventions do have the potential to improve healthcare providers' communication skills (Calhoun et al. 1990; Gordon 1992; Fincher and Lewis 1994; Sobral 1994; Kaiser and Bauer 1995; Roberts et al. 1997). An earlier Indonesian program tested the effectiveness of peer assessment by sending trained midwives to observe, assess, and give direct feedback to their colleagues. An evaluation found that this intervention enhanced midwives' interpersonal and clinical skills (MacDonald 1995). Some of the key elements of the self-assessment and peer review approaches also have been tested as part of the Client-Oriented, Provider-Efficient (COPE) intervention, in which clinic staff work as a group to assess and solve problems. Results from sub-Saharan Africa and Asia suggest that providers are intrinsically motivated to offer better services, consider themselves responsible for self-improvement, and can continue to learn through group self-assessment and support (Lynam et al. 1993; Beattie et al. 1994).

This study tests whether self-assessment and peer review are sustainable, cost-effective alternatives to supervision and refresher training for maintaining and improving providers' IPC/C skills. Unlike prior studies, self-assessment and peer review were the sole reinforcement mechanisms: Providers did not benefit from continuing supervision or receive refresher training.

II. Methods

A. Research design

This study employed a prospective, quasi-experimental research design. The investigators purposefully selected three districts in each of two provinces, East Java and Lampung, that were comparable in size, proximity to the provincial capital, and clients' socioeconomic characteristics. Within each district, clinics were randomly chosen for the study. In most clinics, the single provider responsible for family planning services was asked to participate. In large clinics, two providers were invited to participate.

All of the participating service providers had attended a five-day IPC/C workshop as part of a national intervention conducted by BKKBN with funding from UNFPA and USAID. After training, the service providers were assigned to one of three groups (control, self-assessment only, or peer review with self-assessment) by district, that is, one district from each province was assigned to each study condition. Table 1 outlines the interventions in each group. The control group received training, but no follow-up. In contrast, the other two groups received some kind of reinforcement

for a 16-week period following training. Members of the self-assessment only group completed weekly self-assessment exercises. Members of the peer review with self-assessment group completed the self-assessment exercises and, in addition, attended weekly peer review sessions. Providers in both reinforcement groups received an additional half-day of training at the IPC/C workshop during which they were taught about self-assessment and/or peer review. This report analyzes data on 203 providers, from 172 clinics, who completed the training and all three rounds of data collection, along with 1,209 of their clients.

Self-assessment exercises consisted of a series of eight forms, each covering a different IPC/C skill area. During the training workshop providers had been introduced to the basic IPC/C concepts involved: listening, giving feedback, sharing, and receiving feedback. Providers were asked to fill out the form immediately after a randomly selected family planning consultation, but some busy providers completed the form at the end of the day instead. It took providers 15 to 20 minutes to complete the form, which asked them to rate their own and the client's behaviors during the selected session. The form also prompted providers to reflect on the impact of their behavior on the client and to list specific behaviors that they wanted to change. Later, they recorded the outcome of their efforts to change. The forms were true self-assessments: They were not turned in to or reviewed by supervisors.

Peer review took place during the same 16-week period as self-assessment. Peer review consisted

of a weekly 30- to 60-minute peer review session with three or four providers from participating clinics. Most had to travel to a different, sometimes distant, clinic to attend these meetings. No moderator or facilitator was assigned, but providers were given a brief discussion guide echoing that week's self-assessment activity. Providers were expected to discuss issues that emerged from the self-assessment exercises but not to identify a specific case or to share their self-assessment forms.

To ensure that providers understood how to conduct self-assessment and peer review, project staff met once with participants, either individually or in groups, after they had begun the reinforcement interventions. Project staff used these meetings to check how well the providers were implementing the interventions and to clarify problem areas.

B. Data collection

Data were collected at three points in time over a six-month period:

1. *Baseline round*--conducted in December 1997 prior to training
2. *Post-training round*--conducted in February 1998 immediately after training

3. *Follow-up round*--conducted in June 1998 after the self-assessment and peer review interventions were completed

The primary source of data is coded client-provider interactions. During each round of data collection, research assistants selected two family planning clients per provider to participate in the study and audiotaped their consultations. These tapes were then analyzed using an adaptation of the Roter Interaction Analysis System (RIAS), which has been used extensively in both developed and developing countries (Roter 1997). RIAS assigns a code to each utterance of the client and the service provider in order to generate quantitative data about client-provider communication. An utterance is defined as a complete thought, usually a phrase or sentence. The coders were Indonesians who understood the local language and received special training in the RIAS system.

RIAS codes were used to construct the following three variables to measure the impact of training and reinforcement. (See Table 2 for a complete list of communication categories.)

- *Provider facilitative communication*--utterances that promote an interactive relationship between

Table 1
Study Conditions

Group	Interventions
1. Control	Training
2. Reinforcement: self-assessment only	Training + self-assessment
3. Reinforcement: peer review with self-assessment	Training + self-assessment + peer review

Table 2
**Provider and Client Communication Categories
 for Coded Transcripts**

Providers	
Facilitative Communication	Information Giving
Asks lifestyle and psychosocial questions	Gives information on medical and family planning issues
Gives information and counsels on lifestyle and psychosocial issues	Counsels on medical and family planning issues
Builds partnership with clients (self-disclosure, checks for understanding, asks for opinion, states opinion, etc.)	Other Communication
Expresses positive emotion (approval, empathy, concern, reassurance)	Asks medical, family planning, and routine questions
Shows agreement or understanding	Gives instructions
Makes personal or social remarks	Expresses negative emotion (disapproval, criticism)
	Miscellaneous (transition words, mechanical repetition, unintelligible)
Clients	
Active Communication	Other Communication
Asks questions of all kinds	Gives medical, family planning, and routine information
Seeks clarification	Gives lifestyle and psychosocial information
Shows concern or worry; seeks reassurance	Shows agreement or understanding
Expresses opinion, approval, disapproval; requests service	Laughs (nervous or happy)
Makes personal or social remarks	Miscellaneous (transition words, unintelligible, gives instructions)

client and provider by fostering dialogue, rapport, and client participation

- *Provider information giving*—utterances that give clients the technical information and advice about family planning and medical matters they need to make informed decisions
- *Client active communication*—utterances that allow the client to take an active part in the consultation and help shape its direction. Includes social and personal

conversation that indicates the client feels comfortable talking with the provider

Client exit interviews provided data on clients' subjective assessment of their own behavior during the consultation and of the quality of care offered by the provider. Research assistants read a series of statements to clients, who had a choice of four responses: strongly agree, agree, disagree, strongly disagree. The statements were grouped into indicators as shown in

Table 3. The first indicator, client *self-efficacy*, is a precondition to behavior change: It is the extent to which a person believes that she or he is able to act. Here, self-efficacy refers to clients' belief that they can say what they want to the provider. The second indicator, *self-expression*, is clients' assessment of how much they spoke and what they said during the consultation; it is a subjective measure of client participation. Two aspects of a third indicator, clients' *satisfaction* with the quality of care, were assessed: the personal attention they were shown and whether they received the help they came for.

Other data came from provider interviews and clinic observations. In addition, providers' performance during the final round of data collection was rated by three outside experts and by service providers on a special checklist.

Steps were taken to ensure data integrity. Before data collection, providers and clients signed a confidentiality and voluntary participation consent form. Names of clients and providers were not known to those performing primary or secondary analyses.

C. Site profile

About three-quarters of the clinics were located in rural areas, and most of the remainder were in peri-urban areas. While 82 percent had electricity, only 66 percent had running water. The size of the clinics, the number and type of providers, and client flow varied dramatically. While a single midwife was responsible for family planning services at most clinics, multiple midwives, nurses, and doctors

Table 3
Client Assessments: Key Concepts and Exit Interview Items

Concept	Interview Items
Self-evaluation	
Self-efficacy	<ol style="list-style-type: none"> 1. When I come to the clinic, I feel confident that I can talk about whatever is on my mind. 2. When I come to the clinic, I feel confident that I can ask for clarification when I do not understand something. 3. When I am asked a question by the provider, I feel confident that I can give more than brief answers.
Self-expression	<ol style="list-style-type: none"> 1. I feel that I spoke as much as I wanted today. 2. I feel that I had the chance to say, in my own words, what I wanted to say today. 3. I feel that I asked all the questions I wanted to ask today.
Satisfaction	
Attention and care	<ol style="list-style-type: none"> 1. The provider took time to find out what I was concerned about today. 2. The provider answered my questions. 3. The provider listened carefully to everything I had to say. 4. The provider made me feel that she cared about me. (I felt attended by provider.) 5. The provider treated me well today.
Needs met	<ol style="list-style-type: none"> 1. I feel that I received the information and services I wanted today. 2. I feel that I got appropriate assistance for my particular needs.

offered family planning services at large clinics. The number of family planning visits in June 1998 ranged from less than 18 at the slowest 20 percent of clinics to more than 90 at the busiest 20 percent; a few clinics recorded more than 200 family planning visits during that month.

D. Service provider and client profiles

The majority (91 percent) of the providers who participated in the study were midwives, while the remainder were nurses. All were women. Four-fifths had more than five years of experience offering

family planning services. About half (49 percent) served ten or fewer family planning clients per week; only 21 percent saw more than 20 family planning clients each week. The providers had a wide variety of job responsibilities; 58 percent were responsible for at least eight different tasks, such as maternal and child healthcare, control of communicable diseases, nutrition, outpatient clinics, health education, and school health services. Forty-two percent split their time between family planning and other activities, 13 percent spent more than half their time on family planning, and 45 percent spent less than half their time on family planning.

During each round of data collection, two family planning clients per provider were asked to participate in the study. The clients were chosen randomly on the day of data collection so they mirrored the general family planning population in Indonesia, which consists mostly of women and is limited to persons of reproductive age. All but two of the 1,209 clients were women, 99 percent were married, 70 percent had at least two living children, and 55 percent were between the ages of 25 and 34. Most (76 percent) were continuing clients already using contraception. Of these continuing clients, about half had problems with their method, while the rest came for routine check-ups, resupply or, in a few cases, the removal of an IUD or implant. Injectables and IUDs were the most popular contraceptive methods, followed by implants and the pill.

III. Results

Baseline data confirmed that providers dominate family planning consultations in Indonesia, as they do around the world. Providers accounted for 64 percent of all utterances. Most provider communication consisted of information (39 percent) and questions (27 percent) regarding family planning and related medical issues, but 25 percent of all provider communication was facilitative. Providers did not speak for long before giving clients an opportunity to reply, but clients rarely took advantage of these opportunities to volunteer information, ask questions, or otherwise play an active role in the consultation. Most client comments were brief responses to provider

questions (56 percent) or an acknowledgment of what the providers said (24 percent). Only 10 percent of all client utterances were active, and clients asked 1.6 questions per session, on average.

Client assessments of the consultations were relatively high, ranging from 3.9 to 4.1 on a five-point scale. This is not surprising given the strong social pressures against expressing disagreement in Indonesia. Some clients, however, did have reservations about the extent of their participation. For example, 7 percent of clients did *not* feel confident about asking for clarification, while an equal percentage said they did *not* speak as much as they wanted. While low, these levels of disagreement are meaningful in the Indonesian context.

A. Impact of training on provider performance and client communication

The most dramatic impact of training was to almost double the length of family planning consultations from an average of 6 minutes to 11 minutes. Longer sessions gave both providers and clients additional time to talk, although the two-to-one ratio of provider to client communication remained intact. The fluctuating length of the sessions makes it more difficult to interpret changes in provider and client communication. Percentage data control for the length of the session but may overlook important changes in the frequency of a behavior. For example, longer sessions allowed providers to express positive emotion more often (the frequency rose from 2.6 to 4.5 utterances) even though the percentage of positive emotion remained the same, at just

over 4 percent. Therefore, both percentage and frequency data are reported here.

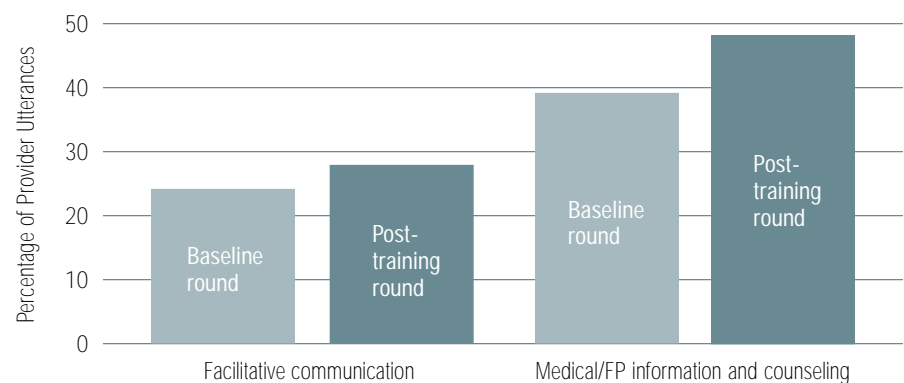
Providers used most of the extra time in longer sessions to give clients additional information and counseling on medical and family planning issues: Both the number (27 to 58, $p < .001$) (Table 4) and proportion (39 percent to 48 percent, $p < .001$) of utterances in this

category rose sharply (Figure 1). Since prior research in Indonesia has found that providers generally give family planning clients sketchy information (Kim et al. 1997), the increase in the amount of information marks an improvement in the quality of care. More important than the quantity of information is its quality, but RIAS coding does not provide data on the clarity, accuracy, and relevance of information given.

Table 4
Frequency of Selected Provider Communication Categories:
Baseline and Post-Training Rounds

Type of Communication	Average No. of Utterances		p Value
	Baseline (n=397 clients)	Post-Training (n=406 clients)	
All facilitative communication	14.9	30.5	.0001
Medical/FP information and counseling	26.5	57.9	.0001

Figure 1
Impact of Training on Provider Facilitative
Communication and Information Gathering



Source: JHU/CCP, Self-assessment study - 1998

Notes: Baseline n=397 clients; Post-training n=406 clients

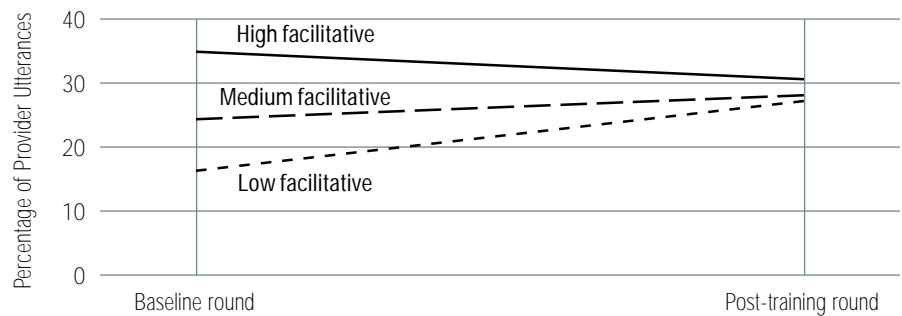
After training, providers encouraged client participation with more facilitative communication and also gave clients more technical information about contraception.

Longer sessions also meant that the frequency of most types of facilitative communication increased markedly even when their percentage remained flat. Overall, the number of facilitative utterances doubled after training from 15 to 31 ($p < .001$) and, in percentage terms, increased from 25 percent to 28 percent ($p < .001$) (Figure 1).

Training made the greatest impact on providers' weakest skills so that, as a group, providers' IPC/C behavior became less variable. Facilitative communication and information giving were inversely related at the baseline: The group of providers that was least facilitative gave clients the most family planning and medical information and vice versa. As Figures 2 and 3 show, providers who had the lowest levels of facilitative communication during the baseline round made the greatest gains in that behavior, while information-giving increased most in the group that started with the lowest baseline levels. As a result, the gap between the most and least facilitative providers shrank from 19 to 5 percentage points, while the gap between the providers giving the most and least information shrank from 14 to 4 percentage points.

Training also had an indirect impact on client participation. While the percentage of active client communication did not change significantly after the training workshop, longer sessions gave clients more opportunities to communicate actively. The frequency of client active communication rose from 3.3 utterances per session at the baseline to 7.0 after training ($p < .001$). Most of the increase was in acknowledging what the provider had said; this was a consequence of the sharp rise in provider information giving. How-

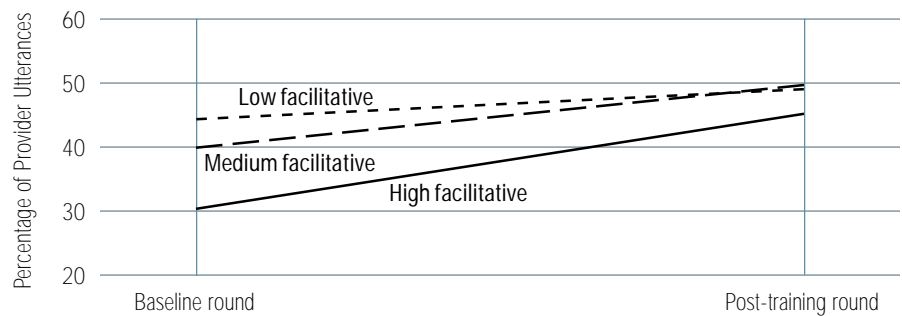
Figure 2
Impact of Training on Provider Facilitative Communication, by Level of Facilitative Behavior at Baseline



Source: JHU/CCP, Self-assessment study - 1998
Notes: Baseline n=397 clients; Post-training n=406 clients

Providers who used the least facilitative communication during the baseline round made the greatest gains after training. As a result, after training there was less variation in the amount of facilitative communication offered by individual providers.

Figure 3
Impact of Training on Provider Information Giving, by Level of Facilitative Behavior at Baseline



Source: JHU/CCP, Self-assessment study - 1998
Notes: Baseline n=397 clients; Post-training n=406 clients

During the baseline round, providers who used the most facilitative communication gave clients the least family planning information. After training, these providers made the greatest gains in information-giving, so that there was less variation between providers.

ever, the average number of questions also doubled from 1.6 to 3.3 ($p < .001$) in the post-training round, and slipped only slightly to 3.2 at follow-up even though the consultations were shorter.

B. Impact of reinforcement activities

During the four-month follow-up period, consultations grew shorter in both the self-assessment only and

peer review with self-assessment groups (Table 5). In contrast, consultations continued to grow longer in the control group.

Providers in the reinforcement groups used their limited time efficiently as self-assessment and peer review activities helped them maintain or continue to improve many IPC/C skills. From the post-training to the follow-up round, provider facilitative communication increased from 28 percent to 35 percent in the two reinforcement

groups even as the sessions grew shorter; in contrast, facilitative communication declined from 29 percent to 27 percent in the control group (Figure 4). Given the changing length of sessions from the post-training to the follow-up rounds, this translates into a marked decrease in the number of facilitative utterances among the control group (from 33 to 23, $p < .001$), while the number of facilitative utterances in the reinforcement groups held steady at 29 (Table 6).

Reinforcement had a greater impact on facilitative communication among experienced providers with more than 10 years of experience offering family planning services. This implies that experienced providers, far from resisting change, were better able to understand, carry out, and apply lessons learned from reinforcement activities than their less experienced peers.

By every measure, the amount of medical and family planning information offered by providers decreased in both the reinforcement and control groups (Table 6). The proportion of medical and family planning information and counseling fell from 47 percent to 43 percent in the reinforcement groups and from 48 to 45 percent in the control group. However, both remained significantly higher than the baseline level of 39 percent.

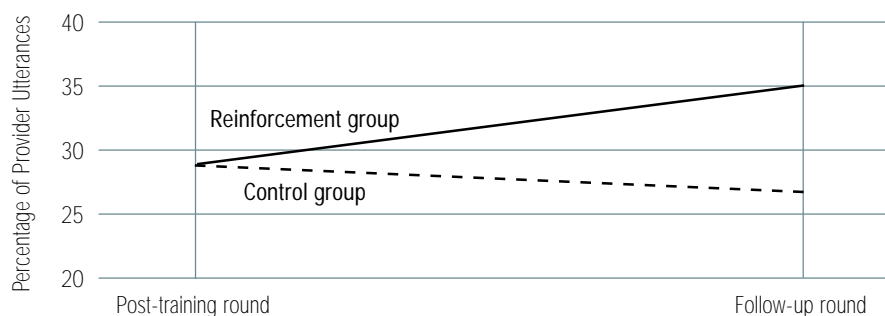
Expert ratings and client assessments confirm the positive impact of reinforcement. According to expert raters, providers in the reinforcement groups more often encouraged clients to ask questions (in 36 percent of sessions compared with 20 percent, $p < .01$), complimented clients when they asked questions (6 percent versus 0 percent, $p < .001$), asked clients about their feelings (15 percent versus 1 percent, $p < .001$), and asked clients to return if they had a problem (55 percent versus 41 percent, $p < .01$) compared with providers in the control group. Similarly, client satisfaction and self-expression increased significantly in the reinforcement groups, but not in the control group, from the post-training to the follow-up rounds.

Client communication also changed in response to reinforcement strategies. Client active communication rose from 12 percent to 16

Table 5
Duration of Consultation in Minutes, by Study Group

Study Group	Baseline (n=397)	Post-Training (n=406)	Follow-Up (n=403)
Control	6.1	9.7	10.4
Self-assessment only	5.1	9.9	8.8
Peer review with self-assessment	5.8	13.1	10.6

Figure 4
Impact of Reinforcement on Provider Facilitative Communication: Control versus Reinforcement Groups



Source: JHU/CCP, Self-assessment study - 1998

Notes: Control group: post-training n=121 clients; follow-up n=119 clients

Reinforcement group: post-training n=285 clients; follow-up n=284 clients

Levels of facilitative communication in the control group changed little in the four months after training. In contrast, facilitative communication increased significantly in the self-assessment only and peer review with self-assessment groups.

percent in the reinforcement groups during the four-month follow-up period, compared with a smaller increase from 10 percent to 12 percent in the control group (Figure 5). The changes primarily reflect an increase in social and personal conversation and were concentrated among new clients and continuing clients with problems. Expert raters also noted that clients were more likely to answer questions at length when their providers were participating in reinforcement activities (40 percent versus 23 percent, $p < .01$).

C. Comparing self-assessment and peer review

Peer review heightened the impact of the self-assessment intervention on some, but not all, aspects of provider communication. Total levels of facilitative communication rose from 28 percent to 37 percent in the peer review with self-assessment group, compared with 28 percent to 33 percent in the self-assessment only group (Figure 6). This is due to sharper increases in social conversation and lifestyle/psychosocial information in the peer review with self-assessment group, as well as more limited declines in positive emotion and acknowledgment. The peer review with self-assessment group did no better than the self-assessment only group in lifestyle/psychosocial questions and did worse in partnership-building. Frequency data show that the number of facilitative utterances declined among providers in the self-assessment only group (from 29 to 25, $p < .05$) while it did not change significantly in the peer review group (30 to 32, ns) (Table 7). While the percentage and frequency of provider information giving declined in both groups, the drop was more

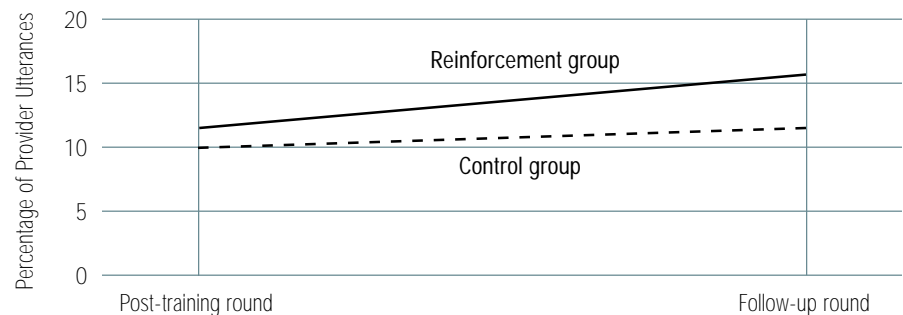
Table 6
Frequency of Selected Categories of Provider Communication, by Control and Reinforcement Groups

Category/Study Group	Average No. of Utterances		p Value
	Post-Training	Follow-Up	
All facilitative communication			
Control	32.6	23.2	.0010
Reinforcement	29.6	28.4	.4201
Medical/FP information and counseling			
Control	60.4	43.9	.0031
Reinforcement	56.8	38.6	.0001

Control group: post-training n=121 clients; follow-up n=119 clients

Reinforcement group: post-training n=285 clients; follow-up n=284 clients

Figure 5
Impact of Reinforcement on Client Active Communication: Control versus Reinforcement Groups



Source: JHU/CCP, Self-assessment study - 1998

Notes: Control group: post-training n=121 clients; follow-up n=119 clients

Reinforcement group: post-training n=285 clients; follow-up n=284 clients

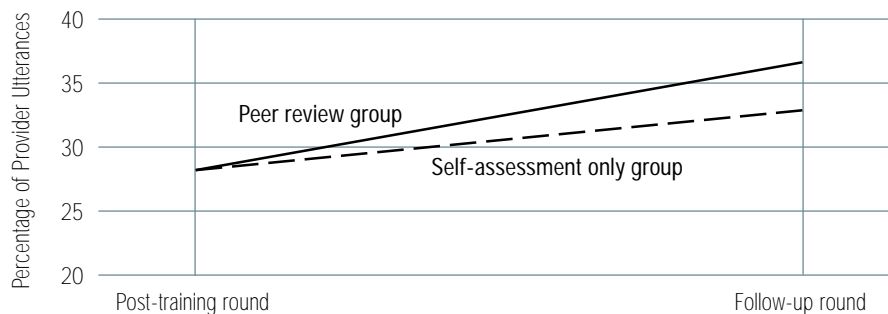
Client active communication increased in every group during the four months after training. However, the increase was significantly greater in the self-assessment only and peer review with self-assessment groups than in the control group.

marked in the self-assessment only group (Table 7).

Further analysis shows that peer review benefited providers at all skill levels, but that more highly skilled providers gained the most from the intervention. During the four-month

follow-up period, levels of facilitative communication increased by one-fifth among providers in the peer review with self-assessment group who had the lowest baseline levels of facilitative communication (Table 8). In contrast, they increased

Figure 6
Impact of Self-Assessment and Peer Review on
Provider Facilitative Communication



Source: JHU/CCP, Self-assessment study - 1998

Notes: Self-assessment only group: post-training n=142 clients; follow-up n=142 clients

Peer review group: post-training n=143 clients; follow-up n=142 clients

Provider facilitative communication increased in both of the reinforcement groups during the four months after training. However, the increase was significantly greater in the peer review with self-assessment group than in the self-assessment only group.

Table 7
Frequency of Selected Categories of Provider Communication, by
Self-Assessment Only and Peer Review
with Self-Assessment Groups

Type of Communication/Study Group	Average No. of Utterances		p Value
	Post-Training	Follow-Up	
All facilitative communication			
Self-assessment only	28.7	24.9	.0417
Peer review with self-assessment	30.4	32.0	.4876
Medical/FP information and counseling			
Self-assessment only	55.8	34.6	.0001
Peer review with self-assessment	57.9	42.7	.0037

Self-assessment only group: post-training n=142 clients; follow-up n=142 clients.

Peer review with self-assessment group: post-training n=143 clients; follow-up n=142 clients.

by one-third among providers with medium to high levels of facilitative communication at the baseline. A similar pattern prevailed in the self-

assessment only group, but the gains were far smaller than those in the peer review with self-assessment group.

As for clients, total active communication increased more sharply in the peer review with self-assessment group (from 12 percent to 17 percent) than in the self-assessment only group (from 12 percent to 15 percent), mainly because of differences in social and personal conversation (Figure 7). During the final round of data collection, clients in the peer review with self-assessment group made 8.5 active utterances, including 4.9 questions, compared with 5.8 active utterances, including 3.3 questions, in the self-assessment only group.

Self-assessment and peer review had more impact on both provider facilitative and client active communication among clients with at least a secondary education. Better educated clients more often engaged in active communication than their less educated peers at the baseline, and this gap widened over the intervention period. This may indicate that education gives clients the confidence to take advantage of any opportunities to speak that providers offer, while providers may be more open and responsive to better-educated clients with whom they identify.

Despite documented improvements in the quality of interpersonal communication, the number of family planning visits to clinics in all three study groups dropped during the four-month reinforcement period because of economic and social disruptions in Indonesia. Riots, contraceptive shortages, and newly introduced charges for contraceptives all discouraged clients from attending public clinics. Many clients may have discontinued family planning or switched to private providers.

D. Cost analysis¹

Data were obtained on the one-time training costs and 16-week operating costs of the two reinforcement interventions (self-assessment and peer review). While the reinforcement interventions may have continued on in some locations, this analysis is restricted to the 16-week period following training.

Each intervention had both direct and opportunity costs. Direct costs include additional program expenditures on materials and supplies, trainers' honoraria and transportation, and providers' per diems and transportation. In contrast, opportunity costs consist of employee time that is diverted away from regular duties to program activities, for example, the time midwives and nurses spent at the training workshop, filling out self-assessment forms, and attending peer review meetings. Opportunity costs were calculated by prorating providers' and trainers' salaries. The cost analysis did not consider development costs for the training curriculum, self-assessment forms, and peer review discussion guides, since they are one-time costs that had already been paid, nor did it consider opportunity costs associated with longer counseling sessions.

Two scenarios were considered in calculating costs. The "minimal" cost scenario includes only the direct costs of training and reinforcement, without supervision. The "full" cost scenario includes both direct and opportunity costs, including the cost of a single supervisory visit to the reinforcement groups.

Table 8
Percentage of Facilitative Communication in Reinforcement Groups by Provider's Baseline Level of Facilitative Communication

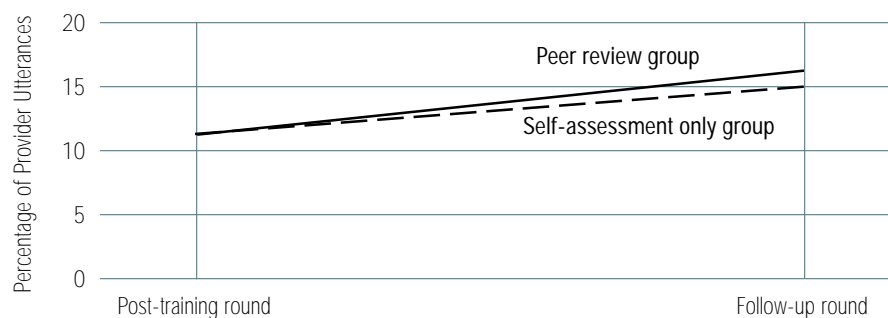
Baseline Level of Providers' Facilitative Communication	Self-Assessment Only		Peer Review with Self-Assessment	
	Post-Training	Follow-Up	Post-Training	Follow-Up
Low	26.3	32.6	27.4	33.1
Medium	28.6	33.6	27.8	36.8
High	31.0	33.0	29.6	39.9

Control group: post-training n=121 clients; follow-up n=119 clients.

Self-assessment only group: post-training n=142 clients; follow-up n=142 clients.

Peer review group: post-training n=143 clients; follow-up n=142 clients.

Figure 7
Impact of Self-Assessment and Peer Review on Client Active Communication



Source: JHU/CCP, Self-assessment study - 1998

Notes: Self-assessment only group: post-training n=142 clients; follow-up n=142 clients

Peer review group: post-training n=143 clients; follow-up n=142 clients

Client active communication increased in both reinforcement groups during the four months after training. However, the increase was greater in the peer review with self-assessment group than in the self-assessment only group.

¹ This section is based on an unpublished paper analyzing the cost-effectiveness of reinforcement in Indonesia by Hany Abdallah and further analysis by Barton Burkhalter, both of QAP.

Table 9
Direct and Opportunity Costs per Provider of Training, Self-Assessment, and Peer Review Interventions (in US\$)

Intervention	Cost per provider	
	Minimal (Direct)	Full (Direct + Opportunity)
Training:		
IPC/C	68.56	90.10
Additional cost for self-assessment	4.61	6.39
Additional cost for peer review	1.08	1.64
Reinforcement for 16 weeks:		
Self-assessment ¹	1.56	9.58
Additional cost for peer review ²	9.42	14.71
Total cost by group:		
IPC/C training only (control group)	68.56	90.10
Training + self-assessment group	74.73	106.07
Training + self-assessment + peer review group	85.23	122.42

¹ Direct costs of self-assessment are photocopying forms; opportunity costs are provider time and supervision.

² Direct costs of peer review are photocopying forms and transportation to meetings; opportunity costs are provider time and supervision.

Table 10
Cost-Effectiveness of Training, Self-Assessment, and Peer Review in Improving Provider Communication (in US\$)

	Average No. of Utterances per Session		% Gain over Baseline ¹	% Gain per Dollar
	Baseline	Follow-Up		
Facilitative communication:				
Training only group	15.2	23.2	52.6	0.60
Training + self-assessment (SA)	13.6	24.9	83.1	0.78
Training + SA + peer review	15.8	32.0	102.5	0.84
Medical and family planning information:				
Training only group	20.1	44.3	120.4	1.34
Training + SA	30.9	34.6	12.0	0.11
Training + SA + peer review	27.3	42.7	56.4	0.46

¹ % gain over baseline = (# of utterances at follow-up – # utterances at baseline) / (# of utterances at baseline).

Training was the most expensive intervention, costing a total of US\$ 90 per provider in both direct and opportunity costs.² Once providers and trainers were already gathered for IPC/C training, however, it cost relatively little to add an extra half-day of training on self-assessment and/or peer review (Table 9). Self-assessment was the least expensive intervention, costing less than US\$ 2 per provider to photocopy the forms plus another US\$ 8 in opportunity (time and supervision) costs. Adding peer review to self-assessment raised reinforcement costs another US\$ 16, largely due to the cost of transporting providers to peer review meetings at other clinics. Overall, full costs for the three study groups ranged from US\$ 90 for the control group, to US\$ 106 for the self-assessment only group, to US\$ 122 for the peer review group. In comparison, the providers' average monthly salary is approximately US\$ 76.

To calculate cost-effectiveness, the outcome measures were defined as the percentage gains in two types of provider communication: facilitative communication and information giving. Table 10 presents the increase in the number of utterances from the baseline to the follow-up rounds for each study group and the marginal cost to achieve that increase.

The higher costs in reinforcement groups were more than matched by greater gains in facilitative communication. The average number of facilitative utterances per session increased by 53 percent in the

² The cost-effectiveness analysis employed the exchange rate that prevailed when each expense was incurred. This generally ranged from 5,000 to 7,500 rupees to the dollar, but at one point rose as high as 13,500 rupees.

training only group, 83 percent in the self-assessment group, and 103 percent in the self-assessment and peer review group. When costs are considered, one dollar spent on interventions in each of the three study groups led to 0.60, 0.78, and 0.84 percentage point gains in facilitative communication, respectively. An analysis of the marginal costs and gains associated with self-assessment and peer review further demonstrates the cost-effectiveness of reinforcement. The self-assessment only group incurred US\$ 16 more in costs than the training group, but had an additional 29 percent gain in facilitative utterances. This means that one dollar spent on self-assessment yielded a 1.83 percentage point gain in facilitative communication. In contrast, one dollar spent on IPC/C training yielded just a 0.6 percentage point gain in facilitative communication. Compared with training and self-assessment, peer review cost an additional \$16 but led to an additional 19 percent gain in facilitative communication. Thus, one dollar spent on peer review yielded a 1.17 percentage point gain in facilitative communication.

Results proved far different for information giving, which was a featured topic during training but was largely ignored by the self-assessment and peer review materials. The control group had by far the largest gain in information giving, 120 percent, compared to 12 percent for the self-assessment group and 56 percent for the self-assessment and peer review group. Thus, spending additional money on reinforcement actually reduced the impact on information giving, an issue that is explored further in the

discussion section below. One dollar spent on the training only group led to a 1.34 percentage point gain in information-giving, while a dollar spent on the reinforcement groups led to 0.11 and 0.46 percentage point gains, respectively.

IV. Discussion and Implications

A. The value of IPC/C training and reinforcement activities

This study confirms the value of brief IPC/C training for primary healthcare providers in developing countries. Providers credited the course with increasing their patience with clients and helping them feel closer to clients, as well as teaching them the importance of giving clients extensive information and opportunities to talk. Objective assessments confirm that the training workshop increased the degree of interaction between providers and clients, the amount of information provided, and the consistency of care. To some extent, these improvements depended upon increasing the length of consultations, which could potentially strain the resources of busy facilities and add to clients' waiting time. However, providers in the reinforcement groups were able to maintain good communication with clients even as their consultations grew shorter over the course of the four-month follow-up period. Evidently, self-assessment and peer review activities helped providers use their time more efficiently by focusing on critical elements in the consultation. Trainers could contribute to this process by teaching providers to

eliminate unnecessary and counter-productive behaviors even as they try valuable new behaviors.

Although the vast majority of providers believed they could apply their newly learned IPC/C skills at their workplace, they found little support when they returned to their home clinics after training. Routine supervision visits were irregular, and supervisors rarely addressed client-provider communication. Trained providers also encountered skepticism from colleagues since only one provider was trained at most clinics. Even clients could pose an obstacle: Continuing clients were bewildered when providers, contrary to past experience, acted unusually friendly or offered lengthy explanations, and their reactions made providers feel uncomfortable.

Given the obstacles to behavior change, it is not surprising that the job performance of newly trained providers tended to erode over time without reinforcement. But exactly how do self-assessment and peer review work to counter this trend? Observations from this study and findings from other self-assessment studies point to several possible mechanisms (Abrams and Kelley 1974; Stuart et al. 1980; Stackhouse and Furnham 1983; Henbest and Fehrsen 1985): Regular self-assessment and peer review remind providers to apply newly learned skills and provide the support and motivation they need to succeed. They teach providers how to discriminate between good and poor skills, so they can evaluate their abilities more realistically. They reduce providers' anxiety and confusion by clarifying standards and focus providers' attention on

important issues. They guide providers through a systematic behavior change process so they can identify and correct weaknesses. Last, but not least, they motivate providers to do better by pointing out their improvement over time as well as their deficiencies.

Reinforcement had a greater impact on provider facilitative and client active communication than on information giving, probably because the self-assessment and peer review materials emphasized the need for more interactive sessions and barely touched on giving complete and relevant information. This may have caused providers to focus on boosting facilitative communication and client participation at the expense of information giving. If this is the case, the lack of impact on information giving further demonstrates the power of the self-assessment and peer review interventions: Behaviors promoted by reinforcement materials (i.e., provider facilitative and client active communication) increased, while behaviors not promoted by the reinforcement materials (i.e., provider information giving) decreased. This suggests that changing the content of the reinforcement materials to include information giving along with facilitative and active communication might change the results.

The fact that reinforcement may have weakened information giving raises other important issues. Which is more important to the quality of the client-provider interaction and healthcare outcomes: giving clients more technical information or eliciting client participation? And must information giving and client participation necessarily be trade-

offs? After all, a key goal of client participation is to improve the quality of the information exchanged between clients and providers. Actively participating clients disclose more information about themselves, so providers can counsel them better. Actively participating clients also may elicit more information from providers, allowing them to make a better choice of family planning methods and to more fully understand how to use their chosen method safely and effectively. Further research is needed to explore the relationship between information giving, client participation, and family planning and healthcare outcomes.

A key assumption of this study is that clients will feel more comfortable and talk more openly with providers who have good IPC/C skills. This, in turn, means that interventions directed to providers can influence client behavior. Findings support this assumption. By the end of the study, clients were engaging in more active communication and, according to providers, were speaking more freely. Most of the gains in client active communication were in personal and social conversation, suggesting that the intervention was more successful in promoting rapport between providers and clients than in actually boosting client input into the consultation. However, clients did ask twice as many questions by the end of the study.

B. Successfully implementing self-assessment and peer review

The self-assessment and peer review interventions were designed to be low-cost and low-maintenance. This is critical for the sustainability of any program but is especially important in Indonesia, where the recent economic crisis has intensified cost concerns for policy makers and program managers. Whether or not providers attempted the self-assessment exercises or participated in the peer review meetings, and how much energy they put into them, depended entirely on their own diligence and motivation. Despite the fact that providers conducted the self-assessment exercises in isolation from one another, nearly all of them completed the full 16-week series. Similarly, absenteeism from the peer review meetings was extremely low, and providers participated enthusiastically in the discussions.

The smooth implementation of the self-assessment process stands in contrast to previous studies in which unfamiliarity with the assessment forms and provider resistance, disorientation, or distrust have caused problems (Jelly and Friedman 1980; Abrams and Kelley 1974; Geissler 1973; Katz 1970). Three factors eased the implementation. First was the simple design of the self-assessment and peer review materials. Most providers did not find it difficult to complete the forms, although it took somewhat longer than anticipated (15–20 minutes instead of 5–10 minutes). With just a little outside help, all the providers were able to apply the most critical part of self-assessment, that is, the self-learning cycle, which consists of

setting behavioral goals, trying out new behaviors, and assessing the outcomes.

A second factor was the consistency in the contents of the training curriculum and reinforcement activities. The training workshop clearly defined the behaviors to be evaluated and their performance criteria, so that providers understood what each behavior meant and how to discriminate its quality. A comparison of expert ratings and provider self-ratings found that, while self-ratings were inflated, they followed the same pattern as the expert ratings. That is, the weaknesses commonly identified by providers during their self-assessment exercises matched outside assessments of their deficiencies. This indicates that providers can rate their own performance well enough for learning purposes, if there is consistency between the curriculum and reinforcement activities.

The third factor was providers' high level of motivation. Training instilled providers with the desire to give better service, as evidenced by the increased length of sessions immediately afterwards. Further motivation may have come from Indonesian service providers' identification with the service delivery system and their tendency to comply with their institutional obligations. In addition, providers at public clinics in Indonesia face increasing competition for clients from private and village midwives who are more conveniently located. They believe that improving services is a powerful way to attract more clients.

Despite the relatively smooth implementation of the interventions,

it is clear that some refinements could heighten their impact:

- *Training* all the providers in a clinic and orienting the rest of the staff to the curriculum content would eliminate the skepticism that many providers faced, create a system of mutual support, and lower the cost of peer review by allowing providers to hold group meetings within the clinic.
- *Self-assessment* would be more powerful and more objective if providers audiotaped the consultation and listened to themselves before they completed the form, rather than relying on memory. A job aid outlining key skills (such as a composite of their lengthy training materials) also would help providers complete the forms, especially the section asking them to choose specific goals for behavior change.
- *Peer review* sessions would be more focused and more constructive if there were a skilled facilitator, such as a supervisor or trained peer mentor, to lead them and if there were specific examples of counseling to discuss, perhaps in the form of a role play or an excerpt from one of the provider's audiotapes.
- *Clients* could be transformed into a positive force for change by a mass media campaign raising their expectations about provider behavior.

This study demonstrates that self-assessment and peer review interventions can reinforce newly learned skills, encourage healthcare providers to change their behavior on the job, and contribute to continuing quality improvement. In

contrast, training without reinforcement has little long-term impact on providers' behavior and may be money wasted. Self-assessment and peer review are effective reinforcement strategies because they focus providers' attention on important issues, clarify performance standards, teach providers to evaluate their abilities more realistically, help them identify weaknesses in their job performance, and motivate them to do better. They are sustainable because they require few materials and virtually no supervision. As providers work to strengthen their skills each week during self-assessment and peer review activities, the quality of care continues to improve long after training ends.

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