

The Quality of Family Planning Programs: Concepts, Measurements, Interventions, and Effects

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This study reviews the major research and interventions concerning readiness and quality of care in family planning programs. It has three aims: to identify and describe the principal methodological research including conceptual frameworks, perspectives, and tools for measuring and improving quality; to describe the results from various intervention studies; and to assess what is known about the effect of such interventions. The review suggests that interventions that improve client-provider interactions show the greatest promise. Good quality of care results in such positive outcomes as clients' satisfaction, increased knowledge, and more effective and longer use of contraceptives. Rigorously documented evidence of the effects of interventions is sorely needed. The review indicates areas requiring additional research. (STUDIES IN FAMILY PLANNING 2003; 34[4]: 227-248)

More than a decade after the publication of Bruce's article on the fundamental elements of quality of care (Bruce 1990), the issue of quality has become a central concern of the international family planning and reproductive health-care community. The vocabulary used to define quality has expanded, and numerous activities have been undertaken in the name of improvement of quality. As a result, the need to collate, review, and assess lessons learned and to identify remaining gaps in knowledge has increased.

"Quality" in terms of reproductive health care is currently defined in a variety of ways. A consensus exists that good quality requires the presence of trained personnel in well-equipped clinics where clients are treated courteously and provided with a variety of appropriate services. The term, therefore, refers both to the readiness or level of preparedness of facilities to offer services and the manner in which clients are cared for. In this study, this distinction between readiness and quality of care, suggested by Jain (2001), is maintained.¹

Diagnostic studies in a variety of program settings have identified constraints to good quality. These include deficiencies in physical facilities and equipment;

disruptions in supplies; insufficient information provided to clients; and providers' insensitivity to the feelings and needs of clients. Recently, intervention studies have begun to test specific strategies to improve readiness and the quality of care, and impact studies have begun to document the effects of these efforts.

In this review, the major research and interventions concerning readiness and quality of care are identified and described in terms of conceptual frameworks and tools designed to measure and improve that quality. Results from a number of intervention studies are described and what has been learned about the impact of such interventions is assessed. One important objective of this review is to provide rigorous documentation of successful efforts, lessons learned, and pathways of influence that are useful for guiding future policy and programs.

Methodology

This article focuses on evidence from programs conducted in a variety of settings in the developing world. It examines both diagnostic reports and intervention studies in public and private facilities across Africa, Asia, Latin America, and the Middle East.

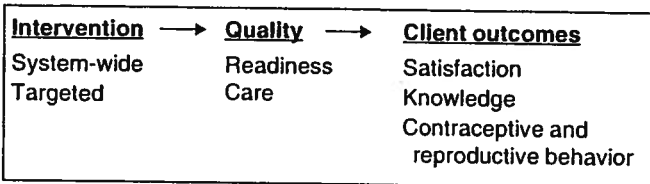
Three main English-language databases were used to locate and build the bibliography for the years 1970-2001: POPIN (the United Nations database), POPLINE, and MEDLINE. Search terms included: "quality of care + intervention"; "quality of care + experiment"; "infor-

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mation exchange"; "client"; "client satisfaction"; "patient satisfaction"; "quality"; and "user perspective." Searches were also conducted for materials that may not have been contained in the three databases using the Internet search engine Google.

In selecting studies for this review, we included only those that had as their central aim the assessment of readiness or of client-provider contact and their effects on clients. Greater documentation exists for facility-based than for community-based research, and this review reflects this orientation. The published materials in this review include only those that were rooted in a scientific methodology or that used a research-oriented approach. Research reports and peer-reviewed journal articles were the main sources of data.

We have used the following conceptual framework to organize the material in the review.



The theoretical basis of this conceptual framework is straightforward: Interventions designed to improve quality can be broad-based, working on more than one element of a service-delivery system, whereas others can be narrowly focused on a single element. Interventions can enhance both a facility's readiness and the quality of care provided there. Readiness refers to factors such as infrastructure, contraceptive supplies, buildings, management information systems, logistics, and the availability of trained staff; quality of care includes all the intricacies of client-provider contact, including interactions with health-care personnel not directly related to service provision. Finally, improvements in quality are hypothesized to result in clients' greater satisfaction and understanding, and in longer-term effects such as extended practice of contraception and avoidance of unwanted pregnancies.

Approaches to Studying Quality

Interest in the area of quality arose when researchers, health advocates, and program managers observed that clients often received inadequate care and that legitimate constraints inhibited the delivery of high-quality services. In 1990, Bruce developed a basic framework for studying quality of care in family planning service delivery and listed its key dimensions. This framework provided a point of reference for those interested in studying qual-

ity of care and offered a theoretical structure with which quality—its constituent elements, determinants, and effects—could be viewed. The theory accompanying the concept of quality of care was elaborated upon in an article by Kumar et al. (1989) that discussed quality assessments of policy, service-delivery, and contact with clients. The policy assessment measures the intention of the government to provide services of good quality; the service-delivery assessment measures the readiness of clinics to provide services and the care provided; and the assessment of contact with clients examines the quality of the care received by clients.

Quality of care can also be viewed in terms of human rights. In 1992, the International Planned Parenthood Federation (IPPF) outlined a clients' "Bill of Rights" to focus on what clients should be able to demand from providers and, ultimately, from their governments (IPPF 1999). The rights listed include receiving information, access to services, and choice, as well as safety, the right to privacy, confidentiality, maintenance of dignity, comfort, continuity, and expression of opinion. Huezo and Diaz (1993) went a step further to argue that clients' rights, in order to be viewed realistically, must be considered together with providers' rights and needs. They outlined providers' rights to receive training, supplies, guidance, backup, respect, encouragement, supervisory feedback, and their right to self-expression. The authors argued that the relationship between clients' and providers' rights must be considered when an effort is made to remove obstacles to offering good quality of care in family planning services. Many nongovernmental organizations (NGOs) have adopted the human rights approach, and activists have begun rallying their governments to adopt a client-centered approach to service provision, based on a human rights platform.

In the years since the 1994 International Conference on Population and Development in Cairo, numerous constituencies have articulated their ideas of how family planning services should be organized and rendered. The common theme behind their visions is that services should be responsive to the needs of individual clients. Programs that address contextual factors such as gender or power imbalances, or that expand services to include underserved groups such as adolescents or men, or that render services in a humane and personalized manner may be understood to provide services of good quality. Paying attention to a wide range of contextual issues including power in sexual relationships is considered sound programming, producing improved reproductive health outcomes for men and women alike (Blanc 2001). This way of thinking has directed innovative programming using a gender-sensitive approach to provide services of good quality (IPPF/WHR 2000).

Measurement Tools

A wide variety of tools has been developed to measure and assess readiness and quality of care in family planning service delivery. Some are used in a comprehensive way, others focus on particular elements of quality, and some are used to diagnose problems, whereas others are employed to propose solutions.

One tool that uses a comprehensive approach is the situation analysis, which identifies the strengths and weaknesses of a program. As its name suggests, it is a diagnostic measure of the current situation. Developed by the Population Council in 1989 to collect data, guided by the Bruce framework, it has been used to assess the overall state of family planning program quality throughout the world (Miller et al. 1997).² To date, situation analyses have been conducted in more than 40 countries, most frequently in Africa (Askew et al. 1994; Mensch et al. 1994; Miller et al. 1998). Findings from situation analyses have been influential in guiding the direction of policies and programs. For example, an analysis conducted in Botswana resulted in the formulation of a reproductive health section in the national development plan and the design of reproductive health indicators for monitoring services (Askew 1998). A modified situation analysis allows for more country-specific elements to be added to the assessment and also allows the incorporation of program-specific concerns. Such an analysis was conducted in 1992 in Morocco to identify relevant quality indicators and to provide the government with a measurable basis for improving the quality of the family planning program (Brown et al. 1995). Most of the clinics studied were found to have adequate equipment and supplies and to have staff who were trained and regularly supervised. Poor client counseling was identified as a problem, however.

Another comprehensive approach to quality assessment is the strategic approach to improving quality of care in reproductive health services proposed by the UNDP/UNFPA/WHO/World Bank Special Program of Research, Development, and Research Training in Human Reproduction (WHO 2002). This strategy involves a participatory process whereby stakeholders from many different constituencies frame relevant questions, develop data-collection instruments, collect data, and analyze them.³ The team of stakeholders visits facilities, interviews clients and providers, observes as services are provided, and interviews other key stakeholders. At the end of the assessment, the team analyses the data and presents its findings.

Other tools help to identify indicators of quality. For example, the MEASURE Evaluation project identified more than 200 indicators (Bertrand et al. 1994) for mea-

suring quality from the points of view of the program manager, the service provider, and the client. Managers choose which quality indicators to track, based on the program's requirements. For the second phase of the project, field tests were conducted in Ecuador, Turkey, Uganda, and Zimbabwe using three instruments: an audit of facilities, observations of client-provider interactions, and exit interviews with clients. A shorter list of 25 indicators was thus compiled called the Quick Investigation of Quality (Sullivan and Bertrand 2000). The data collected from facilities and users complement information gathered by means of the service-availability module of the Demographic and Health Surveys (DHS) at the community level.⁴ In addition to these tools, others have been developed for a range of different methodologies, many of which are described in Katz et al. (1993).

The growth in the development of measurement tools has been accompanied by a considerable body of research on the methodology of data collection. Topics studied range from the appropriateness of various instruments designed to capture different perspectives (those of the client and of the provider), their use under dissimilar circumstances, and the reliability of different instruments to measure quality of care, to the correspondence of information collected by means of various instruments.

Findings indicate that the "mystery client" or "simulated client" approaches are handy when client load is low, when too few actual clients fit a particular profile (León et al. 1994 and 2001), or when clients refuse to be interviewed.⁵ Mystery clients can also lower the cost of data collection, decrease the level of intrusiveness during a consultation that is caused by the presence of an independent observer, reduce faulty recall, and at the same time capture both the observable and intangible aspects of the care-giving process (Huntington et al. 1990; Huntington and Schuler 1993).⁶ The disadvantages of the approach include providers' inability to give informed consent, physical exams that mystery clients do not want but may undergo, and the unreliable rating that a single mystery client may give a provider. These disadvantages can be addressed. For example, providers and program managers can be informed in advance that they will be visited by mystery clients at some point, thus reducing the lack of informed consent; appropriate selection and training of mystery clients can reduce their exposure to unwanted or poor services; and use of more than one mystery client can reduce unreliability of the ratings. Research findings suggest that a high degree of agreement exists among different observers concerning the same client-provider interaction, especially on items measuring the provider's physical actions (Huntington et al. 1996).

A growing body of work is available about the reliability of information collected by means of different

methods. If costs and complexity of data collection are an issue, Bessinger and Bertrand (2001) suggest that a choice can be made between two particular instruments—direct observations of client-provider interactions and exit interviews with clients. Their analysis indicates that these instruments provide a fair degree of agreement on a number of indicators of quality of care. Observations can be used for assessing providers' behavior, and exit interviews can be used to assess clients' perceptions of the services they received.

On a related issue concerning the reliability of information collected, recent research from South Africa indicates that exit interviews conducted at health-care facilities and focus-group discussions conducted in communities may present different pictures of service quality; therefore, researchers call for caution in interpreting results that can vary according to the research methodology employed (Schneider and Palmer 2002). Reliability issues are especially important in large-scale surveys. Increasingly, an effort has been made in such surveys to solicit information from individuals and communities about their perceptions of the quality of services available to them (for example, see Mroz et al. 1999 and Speizer and Bollen 2000). Speizer and Bollen (2000) reported findings from Tanzania similar to those described by Schneider and Palmer. They found that a community's perceptions of quality collected from key informants are related to perceived travel time to the facility and to the availability of specific services. Community reports do not correspond well, however, with data gathered through facility surveys about a variety of readiness factors such as contraceptive availability, physical infrastructure, equipment and supplies, services, and personnel.

Finally, documentation of users' perspectives about quality of care reveals some general patterns. Typically, users identify as important cleanliness of facilities, promptness and availability of services, time made available for consultation, cordial treatment, and a meaningful and sympathetic consultation with a provider (for example, see Vera 1993 and Gready et al. 1997). One client's comment clearly defines the concept of quality—being treated "like a human being" (Vera 1993:43). Sometimes clients are able to provide specific suggestions for improvement. They may, for example, suggest particular changes in the training of health-care workers (Gready et al. 1997).

Other topics of research include the extent to which exit interviews with clients can measure their satisfaction with the services they receive (see Williams et al. 2000). Findings indicate that clients are better able to express their dissatisfaction about waiting time, clinics' hours of operation, fees for services, and access to the clinic than about their direct contact with providers.

Interventions to Improve Readiness and Quality of Care

Interventions designed to improve quality of care range from implementation of system-wide changes to those targeting specific areas for improvement. Appendix Table A1 presents information about the interventions tested, the site of the interventions, and some details of the research design employed, according to the research studies in which they are described.

System-wide Interventions

System-wide improvements typically consist of a series of interventions that aim to alter many components of a program. The SEATS (family planning service expansion and technical support) initiative is a good illustration used in Turkey and Russia that was designed to improve the capability or readiness of facilities, as well as providers' knowledge and skills (John Snow, Inc. 2000).

Turkey

In Turkey, the objective of the initiative was to establish and expand comprehensive, high-quality family planning services within the system of curative health care provided by the facilities of the Social Insurance Organization, Sosyal Sigortalar Kurumu (SSK).⁷ The interventions that the SSK initiated over a period of five years (1992–97) included staff training; development of information, education, and communications materials (posters and method-specific brochures for distribution); an upgrading of infrastructure and equipment; initiation of policy dialogues; and strengthening of management systems including strategic planning, human-resource management, logistics, and contraceptive self-sufficiency. By the end of 1995, the number of SSK facilities offering family planning services had increased from 15 to 83; six training "centers of excellence" in SSK's largest maternity and general hospitals had been established; and the number of SSK enrollees having access to family planning information and methods had increased more than fourfold.

Between 1995 and 1997, the focus of the project was on strengthening management systems, or introducing continuous quality improvement (CQI) (described below), and on establishing postpartum and postabortion family planning services.⁸ As a result of these efforts, a management information system for logistics was established, a strategic plan for SSK family planning services was developed, training curricula were standardized, and new curricula for postpartum and postabortion services were developed. SSK was also able to achieve self-sufficiency in obtaining contraceptive supplies when it

began to procure condoms, oral contraceptives, and IUDs. The momentum generated by the project waned, however, after the SEATS initiative ended. Although some staff members were able to continue activities on their own such as in-house training, the development of new materials, and counseling for antenatal women, a slowdown occurred in activities designed to sustain high-quality services.

Russia

In Russia, SEATS worked in two areas—Primorsky Krai and Novosibirsk Oblast—to introduce client-centered services and increase providers' ability to deliver a broad range of contraceptive methods in keeping with current international standards. SEATS provided information about international standards and reproductive health as well as equipment and contraceptive commodities. Training in clinical contraception, counseling, information about breastfeeding and rooming-in of newborns, and prevention and treatment of STIs was provided to a range of health-care workers to help them improve the quality of reproductive health care in their facilities.⁹ Policy and management changes were established to ensure that the new training and service guidelines were applied. The project reported a shift in providers' attitudes whereby they became more responsive to clients and increased their knowledge and skills. Furthermore, an expanded variety of family planning methods was made available and contraceptive use increased.

As with the SEATS project in Turkey, no rigorous evaluation using an experimental design or pre- and postintervention measurements seems to have been attempted. Therefore, quantifying the effects of the interventions is difficult. No quantitative evaluation appears to have been incorporated into the project design, other than a listing of the project's achievements. Furthermore, the quantitative analysis was limited to a numerator analysis of the increase in caseloads. Process information, essentially qualitative in nature, is available on various dimensions of the project such as the morale of the staff, their creativity in finding solutions, and bureaucratic hurdles that impeded smooth program implementation. One reason for the lack of rigorous evaluation is that the project's goals included a wide range of objectives such as policy shifts, new services, and better care. A second reason, as indicated in the project report, is the lack of technical capacity in service-delivery organizations to collect, maintain, and analyze data. The technical assistance required to create this capacity is enormous and difficult to undertake when the primary objective is to introduce interventions to improve service delivery.

Vietnam

The Vietnam Ministry of Health together with the Reproductive Health Program (a consortium of international reproductive health agencies including Pathfinder International, IPAS,¹⁰ and EngenderHealth) initiated a comprehensive intervention to improve the overall quality of services at three public clinics. A follow-up study was conducted in 1997 with women and men who had received abortion or contraceptive services at the three sites, and their perspectives concerning the quality of the care they had received were noted.

Quality of care was assessed by the proportion of abortion clients who left the study sites with a modern contraceptive, by clients' self-reported side effects and complications, by three- and eight-month contraceptive continuation rates and patterns of method use, and by numbers of subsequent or repeat pregnancies. The study reported that improvements had been made in the quality of services delivered. After the intervention, respondents were aware of family planning methods and their side effects (Thang et al. 1998).

Tanzania

In Tanzania, EngenderHealth and UMATI, an IPPF affiliate, worked with the Ministry of Health to increase access to permanent and long-acting family planning methods (Bradley et al. 1998). In the first five years of the project (1988–93), teams of physicians and nurses were trained in minilaparotomy. In 1995, the project expanded to include Norplant[®] training, and eight supervisory teams composed of a doctor and a nurse were hired to oversee training in clinical contraception and to facilitate quality improvement in 72 sites. Quality-improvement activities included assisting with logistics management, record keeping, and supply maintenance; assisting site staff with safety issues; and providing support for problem-solving initiatives such as AVSC's client-oriented provider-efficient (COPE) tool (discussed below).

Data from 39 facilities in Tanzania were collected in 1995. In 1997, these facilities and others were sampled to assess changes in the quality of services. The data were collected by supervisory staff and included observations of client-provider interactions and discussions with health-care staff. Issues investigated included the availability of contraceptives, supplies, consumables, and educational materials; the infrastructure and condition of facilities; infection-prevention practices; treatment of clients; staff training and orientation; site management and planning; and supervision.

Positive results were seen in the area of record keeping, ordering of supplies, provision of educational materials, access to reproductive health services, and maintenance of clients' privacy and confidentiality. Improve-

ments were observed in maintenance of supplies and infrastructure and in the orientation and training of staff in family planning service provision. In terms of the services that clients received, marked improvement was found in some areas, specifically in available choice of methods, safety, and confidentiality. Problems of continuity of services remained as a result of the unavailability of expendable supplies and some brands of contraceptives during the period. Multivariate analysis was undertaken to estimate the determinants of change. Where providers reported an improvement in management and supervision, improvement in the quality of care was likely to have occurred as well.

Senegal

In the 1990s, with the aim of broadening public-sector involvement in the delivery of reproductive health services, the government of Senegal created the Reproductive Health Service, which operates under the Ministry of Health. Fourteen reference centers were established across the country,¹¹ and key problems such as shortages of qualified family planning personnel, lack of equipment and supplies, and poor supervision were addressed (PNPF and Population Council 1995). The reference centers were also equipped with improved management information systems, trained staff, and improved infrastructural facilities. In 1998, the government began studies to evaluate the impact of these interventions on service quality. Five reference centers were compared with five other health facilities that were similar but not identical to them. The government's strategy at the reference centers was successfully implemented, and improvements were observed in the physical infrastructure, availability of trained personnel, and availability of a greater variety of services. Clients who visited these centers also benefitted from higher standards of care than those available to clients who visited the control facilities (RamaRao et al. 2000).

In summary, interventions devised as a complete package have been successful in substantially improving the readiness of facilities and the care they provide. The examples above demonstrate, however, that evaluations are not always rigorous or clear for a number of reasons. First, implementation typically unfolds over a number of years, and the effects of the intervention are not evident until a considerable period of time has elapsed. Sometimes the period allotted for the project is shorter than the length of time required for its effects to become visible and as a result, evaluations of its long-term impact are not built into the project's design. Short-term and intermediate results that are process oriented are usually emphasized in these instances. Second, because the intervention is provided as a package, disentangling the

contribution of any specific component from the whole is difficult. Finally, the scale of the intervention in terms of the number of facilities involved or geographic area covered determines evaluation methodology.

Interventions to Expand Contraceptive Choice

Programs that offer many contraceptive choices are considered to be superior to those that offer few choices because individuals differ in their family planning needs, and a wide range of methods is needed to satisfy diverse requirements. Furthermore, the needs of a single individual can vary during her lifetime. A number of countries have tried, therefore, to expand choice by introducing new contraceptives in existing family planning programs.

Contraceptive introduction has not always been smooth or encouraging, as illustrated by the Mexican government's efforts to introduce contraceptive implants and monthly injectables (Figueroa and Guillermo 1994). The Mexican experience indicated that the quality of care may deteriorate as a contraceptive moves from the research stage to regular service provision. This deterioration could be the result of stricter adherence to protocols of informed consent, informed choice, and full provision of information that are part of a research study and not part of regular service delivery.

In response to these and other related concerns, a new three-stage model of contraceptive introduction was developed by the UNDP/UNFPA/WHO/World Bank Special Program of Research, Development, and Research Training in Human Reproduction that takes into account the nature of the contraceptive method, its delivery requirements, and the suitability of these requirements in a country's social context and service-delivery setting (Simmons et al. 1997). This model contrasts with the traditional approach, which moves quickly to large-scale distribution and to a delivery system that may be ill-equipped to manage such a rapid introduction.

This strategic approach to contraceptive introduction¹² has been tested in whole or part in a number of countries including Bolivia, Brazil, Burkina Faso, Chile, Myanmar, South Africa, Vietnam, and Zambia. Information collected in Brazil indicated that a number of interventions were required including the training of staff in contraceptive technology, restructuring providers' roles and service-delivery patterns, and establishing a referral center for family planning to accompany the introduction of injectable contraceptives and vasectomy services. A formal evaluation conducted later revealed the project's considerable impact in broadening reproductive choices for women and men (Díaz et al. 1999).

Contraceptive choice can be expanded not only by introducing new methods but also by presenting users

with more options than they had in the past. A qualitative report from Deqing County in China documents an intervention in which country leaders introduced "informed contraceptive choice" on a pilot basis (Gu et al. 2002). In a break with the past, clients rather than providers were allowed to make a choice among the five available methods—oral contraceptives, the IUD, condoms, and male and female sterilization. Moreover, these choices were not linked as strongly to clients' parity status as they had been previously. The introduction of expanded choice was supported by the training of providers, by new guidelines for counseling, and by the provision of follow-up care; by the use of new information, education, and communication materials; by modifications to the health-management systems; and by revisions to monitoring and evaluation efforts. The qualitative data indicate that subsequent to the adoption of "informed choice," a change in the method mix occurred, clients felt that they were able to make meaningful choices, and providers were more comfortable with their facilitative rather than their previous adversarial role. Married Chinese women are still required, however, to use contraceptives, to limit their families to no more than two children, and to terminate pregnancies resulting from contraceptive failure. Program emphasis on long-term, long-lasting methods continues although to a lesser degree than previously.

Tools to Improve Quality

The client-oriented provider-efficient (COPE) tool for improving quality of care was developed by EngenderHealth using providers' self-assessment (Lynam et al. 1993). Providers evaluate their own services and identify better ways to respond to clients' needs and organize services, guided by a philosophy of clients' rights and providers' needs developed by IPPF.¹³ COPE is conducted as a whole-site exercise involving everyone in the family planning clinic from the top to the bottom of the hierarchy.¹⁴

COPE has been implemented throughout the world in several government and nongovernment facilities, hospitals, and smaller clinics. An evaluation of COPE was carried out in 11 sites across Ghana, Kenya, Nigeria, and Uganda. At these sites, the COPE strategy had been introduced between five and 15 months before being evaluated. The evaluation was performed using follow-up visits conducted by the facilitators who recorded changes and by interviewing 35 providers¹⁵ who had participated in the implementation (see Lynam 1993). In addition, results from a follow-up client-flow analysis conducted in five clinics where waiting times were lengthy were used. Three indicators were considered to

mark change: the proportion of the problems solved of those identified by staff and clients; lessening of waiting time; and providers' perceptions of their experiences with COPE.

Of the total of 109 problems identified at all of the five clinics, 59 percent were solved. Some problems could not be resolved by the clinic staff and required external support. When this category of issues was excluded, the solution rate was higher at 73 percent. The types of problems solved included the shortage of staff trained in family planning, the absence of signs to direct clients to the clinic, lengthy waiting times, lack of information and educational activities and materials, and shortages of contraceptives. Those problems that were not solved included chronic staff shortages, lack of space, and lack of transportation. At the five clinics where follow-up client-flow analysis was conducted, clients' waiting time was considerably reduced. The interviews with providers backed up these findings and provided additional qualitative information. Findings similar to these are reported in an evaluation of a district hospital in Tanzania where COPE was introduced (Dohlie et al. 2002).

The lessons from these experiences are many, and the most important are discussed below. One salient lesson is that after the COPE exercise, providers understand the meaning of quality; they are able to define it and relate it to their work (Bradley et al. 1998; Dwyer and Jezowski 1995). The COPE tool also helped providers identify problems and devise solutions. Providers were made aware that clients were compelled to wait a long time to be served, and were able to reorganize services so as to reduce waiting time. Finally, the spirit of team-building and the rapport created by the COPE exercise energized all of the staff.

COPE appears to work best when a political commitment to improving quality exists and when management is willing to make necessary changes. It also works where clinic staff are motivated and eager to participate in change and visualize themselves as owners of the "product." The process of engagement and the resulting change are slow. Although using the COPE approach may bring about positive changes, the exercise also has limitations. The very elements that are the ingredients for its success can also be constraints to success. COPE is an intervention designed to address problems at a single clinic. Whether it can address systemic problems successfully is, therefore, unclear. For example, issues that are beyond clinic control such as staff shortages or chronic supply problems or lack of space may be difficult to solve. Implementing COPE is most feasible in a nongovernmental setting where staff have some flexibility and a measure of control over resources that can be used to institute changes.

A number of tools based on management principles such as quality assurance (QA) and continuous quality improvement (CQI) have been proposed. Considerable overlap exists between these methodologies; all are process-oriented and involve a combination of problem identification and solution, accreditation, regulation, and meeting of standards.

Quality assurance relies on defining, designing, measuring, and improving quality (Askov et al. 2000). It has been applied in a variety of contexts. The Malawi national family planning program provides an example. Staff at six health facilities in two districts assessed the quality of their family planning services and were able to identify problems and list potential solutions (Lin and Franco 2000).¹⁶

CQI was initially used in Mexico by MexFam, an IPPF affiliate, and subsequently refined and systematically used by the SEATS initiative undertaken by John Snow, Inc. in a number of countries. This methodology trains the personnel in an organization or facility who are most familiar with its strengths and weaknesses to identify problems, develop solutions, and implement them, and to mark progress by means of using simple indicators (JSI/SEATS 2000). For example, in Cambodia, CQI was implemented in four clinics of RHAC, an IPPF affiliate. Information collected from users identified problems, and at the end of two years, 73 percent of problems related to quality, 77 percent of problems related to management, and 62 percent of problems related to access had been solved. A checklist was used to evaluate the counseling process; the project reports that providers' skills increased from 75 percent to 97 percent in antenatal counseling and from 65 percent to 89 percent in counseling for sexually transmitted infections. A variant of CQI called "EQUIPE"¹⁷ was tested in Senegal at eight service-delivery sites. Teams at each of the sites elicited information from clients and community members regarding the quality of services at the facilities by means of focus-group discussions and interviews at the clinic and in the community. Based on the feedback they received, the teams reorganized their delivery of services to shorten clients' waiting time; they installed methods for quicker retrieval of records, altered the workloads of staff members, and eased bottlenecks in client flow.

Although not as widely used, service quality improvement (SQI) is another tool that integrates the Bruce framework and the principles of CQI (Hardee and Gould 1992). Performance improvement (PI) is a recently developed tool that is being used in a wide reproductive health context to address issues of quality (see Lande 2002).

In summary, these management tools have been useful for enhancing problem-solving skills among health-

care providers, for improving their job satisfaction and morale, and for empowering them to make decisions. Some of the problems identified were solved, but some require technical and management assistance before they can be worked out.

Targeted Interventions

Training of Providers

Interventions can also target for improvement specific elements of the service-delivery system. Such strategies include training health-care providers in various aspects of service delivery; technical competence, counseling and communication, including information exchange, and MIS management have been tested. Some documented or evaluated interventions of this type are described below.

In Nigeria, family planning nurses working in eight public-sector clinics in Ogun received training in counseling (Kim et al. 1992). Although all of the nurses were certified to provide family planning services, some received an additional three-day training in interpersonal and communication skills. Using exit interviews with clients, observations of client-provider interactions, and medical records, the research team was able to demonstrate that clients who were served by a nurse trained in interpersonal communication skills received better service than those who had been seen by a nurse who had not received the training. Moreover, clients treated by trained professionals were more likely to return for follow-up visits. The effects of the training were measured again a year later by means of exit interviews and observations. The trained nurses were better able than those who had not received the extra training to maintain good interpersonal relations, to provide fuller information, to counsel clients, and to schedule follow-up visits. The study concluded that the training significantly improved the quality of care provided and clients' compliance with follow-up appointments.

Huntington et al. (1990) investigated the effect of training in counseling on the quality of information providers gave to clients at three public-sector clinics in Ghana. The performance of providers who participated in a five-day training program in the technical and interpersonal aspects of client counseling were compared with that of providers who did not receive the training. Exit interviews with clients and observations from simulated clients were used to assess providers' performances. Compared with their untrained colleagues, trained counselors consistently offered more contraceptive options to clients, provided more complete information about the advantages and disadvantages of various methods, and were more likely to leave the choice of method up to the client. Both trained and untrained pro-

viders, however, were equally likely to treat younger clients with disrespect and to refuse to give them information that they had requested. Although the training in interpersonal aspects of counseling included values-clarification exercises to help providers recognize their own attitudes about family planning, clearly the training was more successful in increasing providers' skills in presenting clients with information and facilitating clients' decisionmaking than it was in promoting attitudinal change among the providers themselves.

In India, the Indian Medical Association together with Development Associates and the Population Council trained private medical practitioners for the purpose of promoting family planning, with an emphasis on oral contraceptives (Barge et al. 1995). Some 1,326 doctors in the experimental group attended three half-day training sessions on the technical aspects of oral contraceptives, including counseling in their use and administration. Both quantitative and qualitative approaches were used in evaluating the results of the intervention. These included pre- and postintervention surveys of the doctors; statistics drawn from doctors' monthly reports concerning their number of clients and services provided; and the use of mystery clients to assess the quality of services that the doctors provided. The results indicated an increase in the level of the trained doctors' knowledge of oral contraceptives, a 23 percentage point increase in the number of trained doctors who advised clients about oral contraceptives, and improved quality of services. Improved quality was demonstrated by the greater number of trained doctors who provided alternative choices to clients seeking family planning information, trained doctors' provision of more information to clients about methods' side effects, and clients' greater satisfaction with trained doctors than with those who had not received training.

In the Philippines, an experiment to improve quality of care included training of family planning providers in information exchange and training of supervisors in facilitative supervision (Costello et al. 2001). The evaluation design included an equivalent control group and pre- and postintervention measurements. Data collected from providers before and after the intervention demonstrated improvements in providers' knowledge about contraceptives. Improvements were also noted in the information exchange between clients and providers as reported by the clients. Providers in the experimental group exhibited improved behavior in terms of the information they solicited from clients about their reproductive intentions and about their prior experience with contraceptive methods and in terms of the information they gave to clients. Clients in the experimental group received a greater amount of family planning informa-

tion and more accurate information than did those in the control group.

A different training model was piloted by the Proquali project in Brazil. The Proquali model is competency-based training for professional development in reproductive health (JHPIEGO 1999). Three USAID cooperating agencies (JHPIEGO, Johns Hopkins University, and Management Sciences for Health) joined together to help facilities achieve state-approved standards of reproductive health service quality for accreditation. During phase one (18 months) of the Proquali pilot study, the model was field-tested in five primary health-care centers in the states of Bahia and Ceara. Five core areas of interest were measured: clinical services, clients' education, infection prevention, management systems, and environmental facilities and supplies. At the end of phase one, four of the five centers received accreditation, that is, they met quality-improvement standards consistent with the state-designed guidelines and preestablished performance-improvement criteria. Moreover, a dramatic increase in service quality was observed in all five participating clinics. Positive changes also occurred in client satisfaction, in service delivery, and in service use. However, improvements in the physical infrastructure and supplies were slow to occur and difficult to achieve.¹⁸ Phase two of Proquali's model for accreditation will include 25 additional facilities and will involve a modified version of the accreditation process as well as development of standardized assessment tools and evaluation designs.

In summary, evidence suggests that training providers is worthwhile; it expands their knowledge, improves their technical competence, helps them with attitude adjustments, and improves their interactions with clients. These positive findings must be balanced with the inherent weakness of single-shot training—that it has a limited effect. Its effects become diluted over time for a variety of reasons: Providers forget, trained providers are transferred, the evaluation criteria to assess providers do not always correspond to those of the training, or institutional support is weak.

Training of Supervisors

Supervision within family planning programs generally focused on administration and record keeping. In demographically driven programs it also involved monitoring and ensuring the achievement of program goals. The role of supervisors in such programs, therefore, has largely been one of inspection and censure. Consequently, subordinate staff work within an uncomfortable atmosphere, increasing the likelihood that the care they provide to clients will be compromised. Many service organizations recognize that supervisors can be employed to foster good service practices and to create an enabling envi-

ronment for workers, and they have begun to concentrate on this aspect of management.

In EngenderHealth's model of facilitative supervision, the supervisor is a catalyst for improvement in quality and acts as an intermediary between staff and the institution, interpreting institutional goals, standards, and guidelines for subordinates (Ben Salem and Beattie 1996). Supervisors attend a series of workshops and activities where they learn the principles underlying improvements in quality, how to manage the improvement process, and how to set measurable objectives and examine opportunities for improvement with their staff. Facilitative supervision emphasizes mentoring, joint problem solving, and two-way communication between supervisors and subordinates.

EngenderHealth has tested this model of supervision as a complementary intervention with COPE in a few settings (Ben Salem and Beattie 1996). In Tanzania, six teams were organized to facilitate the introduction of permanent and long-term contraceptive methods at public facilities and to ensure good quality of services. The teams worked with existing Ministry of Health supervisors who were trained to identify the needs of each site and to devise strategies to meet those needs. The teams of supervisors worked to link sites with their zonal or central headquarters and facilitate communication between private and public providers, introducing and implementing protocols for clinical methods. They assisted as well in resource management. In Bangladesh, efforts focused on improving local planning and supervision systems by establishing or strengthening coordinating committees and introducing the COPE strategy. In conjunction with these efforts, supervisors from the family planning clinical supervision teams and mobile teams whose task is to assess the medical quality of the family planning methods provided received training to improve their supervisory skills for medical site visits. The facilitative supervision model relies on internal evaluation conducted by supervisors and staff at individual facilities. Although this type of evaluation is consistent with the philosophy of the COPE approach and with the aim of quality improvement, deriving general lessons from the model that can be universally applied and replicated is difficult.

In 1995-98, in the Agra and Sitapur Districts of Uttar Pradesh, India, the lack of a supportive approach to supervision was identified as one of several systemic problems in service delivery. The chief medical officers of the two districts, with technical assistance from the Population Council, set about strengthening program management through improved supervision (Population Council 1998). The intervention was designed to assist super-

visors at all levels in the district health-care system to change their approach to supervision from monitoring outcomes to problem solving. Health-care supervisors received a three-day intensive training in February and March 1997 followed by three weeks of field experience. Monthly and weekly review meetings at the district and facility levels continued to focus on field-based supportive supervision and problem solving in order to influence the quality of services provided by auxiliary nurse-midwives whose work was overseen by the trained supervisors. A qualitative evaluation was conducted in January and February 1998 to assess the program from the perspective of a number of supervisors within the district health and family welfare system. Two important findings emerged: Functionaries at all levels of supervision in both districts expressed an appreciation of the concept of supportive supervision, and compared with their male counterparts, female health supervisors and medical officers had a better understanding of the supportive approach and were more likely to change their supervisory style.

Planned Parenthood Association of Ghana designed a training in technical supervision for supervisors and community-based-distribution (CBD) agents as a result of an evaluation conducted in 1996 (Combarry et al. 1999). The performance problems identified included the failure of supervisors to prepare plans, write reports, and provide technical assistance or support to their CBD agents. The main performance problems found among the CBD agents were poor counseling skills and lack of technical supervision. A two-week training for supervisors using protocols to address these problems was prepared. The training covered information on reproductive health and family planning,¹⁹ a variety of styles and techniques of supervision, how to prepare a supervisory report, and how to make decisions and recommendations based on data collected.

A quasi-experimental design was used to determine whether the training resulted in an improvement in supervisors' and CBD agents' job performance. One group of 19 Ghanaian CBD supervisors received the training, and their performance was compared with that of another group of 21 supervisors who did not. An overall improvement was found in the on-the-job performance of the trained supervisors. Four months after being trained, they were significantly more likely to conduct necessary supervisory visits than were those in the control group; they were also better able than those in the control group to perform a variety of service activities such as demonstrations of condom and foaming tablet use and preparation of oral rehydration salts. The measured effects of the training on the CBD agents, who work directly with

clients, were even more encouraging. Although based on small samples, the findings indicate that the skill level of the CBD agents in the group whose work was overseen by the trained supervisors improved significantly, compared with that of those in the control group, suggesting that the supervisors transmitted the knowledge and skills they had gained. The CBD agents acknowledged the changes in supervisory style and also indicated a broad array of topics about which they wished to receive technical training from their supervisors.

An operations research study in Guatemala evaluated two specific supervisory approaches—district-level meetings and self-assessment (Vernon et al. 1994). Using a quasi-experimental design with a nonequivalent control group, the study found that either of these supervisory approaches performed better than the traditional one in that more contraceptives were distributed, workers and clients were better satisfied with services, and a variety of facility-level problems requiring relatively simple solutions were solved.

Clearly, supervision is an area that requires strengthening in the effort to improve quality of care. These studies show that supervisors can be trained to be good facilitators and problem solvers, working far more effectively than they had done when their role was limited to that of facility inspector. They also indicate that changing management practices is a long and slow process with few easily measurable outcomes. Process-oriented interventions are difficult to evaluate in a quantitative and rigorous fashion; outcomes are difficult to capture in a meaningful way. For example, modification of a censorious tone or enhancement of joint problem solving are not easily measurable. To some extent, evaluation is made easier by specifying discrete activities as expected outcomes, as illustrated in the Ghana CBD study. Despite the collective evidence from research, questions still abound about how to make system-wide changes in supervision.

Job Aids

Such job aids as checklists, worksheets, decision tables, cards, flip-charts, and service guidelines can make obtaining and retaining new knowledge and skills easier for providers. Similar devices can also be used with clients and can facilitate their access to health care of good quality. The support that providers and clients receive in using such aids is as important as the aid itself. Although examples of job aids exist, the use of only a few is well-documented within the family planning context.

An intervention in Indonesia used job aids in self-assessment efforts to help health-care workers consolidate and apply their counseling and communication skills (Kim et al. 2000). An experimental design was used to

test whether providers' self-assessment could strengthen the lessons they learned at an interpersonal counseling and communications training workshop and help to improve their performance. All providers in both experimental and control groups attended the five-day training workshop. Those in the intervention group were also trained in the use of the self-assessment job aids. Data were collected prior to and immediately after the training and again four months later when the intervention group had completed all the self-assessment forms. The key variable measured, providers' facilitative communication, is a set of verbal behaviors that providers use to encourage clients' participation.

The workshop training had an effect on all providers, although the effect was more dramatic for those in the intervention group who continued to improve during the four-month period after the training. By contrast, the skills of those in the control group eroded during this time, although their performance remained above its pretraining levels. The job aids had an indirect but statistically significant effect on clients' behavior: Clients who were seen by providers in the intervention group were more active participants in the client-provider dialogue than were those seen by providers in the control group.

Another example of an intervention using job aids was implemented in Peru, where health-care providers were given two types of aids to use during family planning consultations (León et al. 2002). Method cards and a checklist were used to complement a training on counseling called "balanced counseling."²⁰ The counseling process was divided into several stages in each of which an appropriate job aid was used. In the pre-contraceptive-choice phase, providers were to use contraceptive method cards to help clients eliminate methods that were ill-suited to their needs. In the contraceptive-choice phase, providers discussed characteristics of the remaining method choices shown on the cards. In the post-choice phase, providers were to employ the checklist to insure that all the relevant items pertaining to choice of method had been addressed. Evaluation of the balanced counseling strategy with job aids indicated that the providers in the experimental group were more likely to give clients relevant and adequate information, in comparison with those in the control group. Fewer than half of those trained to use the job aids did so, however. Based on these findings, a refresher training course was held, and the job aid was altered so that the provider could use it during consultation and offer it to the client to keep at the end of the session. After these changes were made, not only did the performance of those in the experimental group improve, but also the percentage of the intervention-group

providers who used the job aids increased—from 44 percent to 62 percent (León 2001).

Job aids can also be used with clients. The “smart patient” project in Indonesia employed aids that encouraged women to express their opinions during the counseling session (Kim et al. 2003). Some 768 family planning clients visiting 64 clinics in East Java province participated in the study.²¹ A client educator used the aids—an information sheet and a leaflet—with individual women for 20 minutes in the waiting room. The sheet covered the following topics: the woman’s right to seek information; to talk up and speak out to providers; to ask questions; to express any concerns, worries, or opinions that she might have; and to ask for clarification when she did not understand any point of information that she was given. The client educator used the leaflet, reading it with the client, and spaces were left where clients could write down the questions that they wanted to ask the provider that day or where they could write their concerns or worries. The coaching had an effect on clients’ ability to communicate with providers. Clients who had been coached asked more questions than did other clients (6.3 questions versus 4.9); they were also more likely to express their concerns. Although the leaflet and the coaching had an impact on older and less assertive women, it did not appear to benefit less educated and poorer women.

The evidence suggests that although job aids have the potential to assist providers and clients in a consultation, they cannot be relied upon to instigate significant change by themselves. Some providers are reluctant to use such aids for fear of appearing ignorant or inexperienced, and others feel that they do not need such reminders because they already know what to do. Moreover, job aids wear out over time and need to be replaced frequently. Their potential can be maximized only when they are one component of a package of interventions that are supported by the institutional framework.

Effects of Improved Readiness and Quality of Care

Clearly, programs lacking adequate infrastructure, supplies, and trained personnel are not able to provide good quality of care. Program managers often cite the lack of such resources as the main constraint to giving clients what they need. Few studies have tried to test empirically whether the lack of readiness is a limiting factor in quality of care, however. The sparse evidence that is available concerning this relationship provides a mixed picture. One study of Kenyan family planning clinics found that facilities that were better supplied in terms

of equipment, trained providers, contraceptives, and informational and educational materials provided higher levels of care than did others that were not so well equipped (Ndhlovu 1998). This relationship did not hold for all aspects of care, however. For example, the availability of medical equipment ensured that examinations were conducted; similarly, availability of IEC material ensured that users were counseled and that they were provided with information. The presence of trained providers and the availability of contraceptives did not guarantee that all users were informed of all available methods, however. The lack of a clear relationship between readiness of the service environment and all aspects of quality of care underscores the need for further research.

Readiness and Contraceptive Behavior

Access to and readiness of health facilities have been linked with specific contraceptive behavior including method adoption, continuation, and switching. Although some studies have found a positive relationship (see Hotchkiss et al. 1999 and Steele et al. 1999), others have found a weak link between readiness and clients’ contraceptive behavior (for example, see Feyisetan and Ainsworth 1996; Mensch et al. 1996; and Magnani et al. 1999). The Steele et al. and Hotchkiss et al. studies use accessibility to family planning services as a proxy for the service environment, whereas the Mensch et al. study uses information on readiness from a situation analysis. Magnani et al. use the same data sets as Steele and Hotchkiss, and therefore, the measures of service environment are similar.

The link between the family planning service environment and the contraceptive behavior of women who live in the vicinity of the service centers was studied in Morocco (Steele et al. 1999). Access to a family planning clinic and the number of methods available to members of the community were used to measure the service environment.²² In this study, all three behaviors were examined: adoption, continuation, and switching. The authors reported that the presence of a government clinic tended to increase the postpartum adoption of a method having low failure rates. Availability of contraceptives from a pharmacy was associated with lower discontinuation rates resulting from side effects or health concerns. Another interesting finding relates to the availability of methods at the community level. As the number of methods available to the community increased, the likelihood of postpartum contraceptive adoption increased. Although users of oral contraceptives living in areas having more methods available were more likely than others to switch, nevertheless, the relationship was not statistically significant.

The other analysis of the same data set reported similar findings (Hotchkiss et al. 1999). In that study, an effort was made to distinguish between variables measuring access (distance to a facility, the presence of a facility offering maternal and child health care and family planning, the presence of community-based distribution of contraceptives, the availability of oral contraceptives) and readiness (an index of infrastructure and equipment). The presence of CBD, the availability of oral contraceptives, and the readiness index all emerged as significant determinants of contraceptive use, after controlling for other variables. A notable feature of this multivariate analysis is that it accounts for unobserved household and community sources of heterogeneity that might exist.

A third analysis of the same data sets by Magnani et al. (1999) indicates that the family planning service environment significantly influences subsequent adoption of a method. The effect is attenuated, however, when the intention to use a method is considered as a factor; in other words, supply factors do not appear to be strong predictors of contraceptive use but are, instead, strong determinants of contraceptive intentions. The supply factors used in this study are, again, those related to access and readiness.

A similar analytical approach linking data on family planning service availability and individual reproductive behavior was replicated in a different setting (Ali 2001). Using findings from the Egypt Demographic and Health Survey I and the Egypt Service Availability Survey, that study reports that users of oral contraceptives living in areas with poor access to family planning services are more likely than others to discontinue use. Residents of service environments characterized by facilities with few trained family planning providers or by limited access to female providers were significantly more likely to discontinue pill use compared with those who resided in better service environments. One notable result is that a reduced range of methods was associated with higher continuation; the author attributes this finding to a lack of alternative methods, which forces dissatisfied users to continue with what is available. The effects of readiness persist when multivariate models are used that include a range of controls for the respondent's socioeconomic background, which indicates the importance of this factor. The Ali study makes no distinction between the readiness and care aspects of quality and uses readiness variables as a proxy for quality of care.

Other researchers have attempted to link the readiness of services with current contraceptive use. One such analysis uses data from the Peru DHS and from a subsequent situation analysis to demonstrate that readiness and quality of family planning services have a measurable effect on contraceptive use (Mensch et al. 1996). The

analysis incorporates two specifications for readiness and quality, one measuring eight dimensions and a second based on a reduced set of three factors. The indexes combine readiness and quality-of-care measures and reflect the conceptual problems of definition discussed earlier. The eight-dimension index includes method availability, lack of provider bias toward specific methods, absence of restrictions for the provision of methods, availability of trained providers, information provided to clients, cleanliness, privacy, and availability of other reproductive health services. The reduced specification was limited to the first three dimensions. Although the eight-dimension indicator did not show a significant effect on contraceptive use, the three-dimension indicator showed a small but significant effect, which held after controlling for a variety of personal, household, and community factors. The authors concluded that contraceptive prevalence would be 7 percentage points higher (from 16 to 23 percent) if all women lived in areas with the highest quality of care than in those areas with the lowest.

One possible explanation for the lack of a stronger effect on contraceptive use could stem from the way the indexes were defined. These indexes reflect readiness more than they do quality of care, and the conceptual link between readiness and effects on clients' behavior is not as convincing as is that between quality of care and effects on clients' behavior. Factors such as a clinic's cleanliness, regard for clients' privacy, or the availability of other reproductive health services have not been shown to affect clients' contraceptive behavior directly.

Feyisetan and Ainsworth (1996) reported results from Nigeria similar to those found by Mensch and her colleagues concerning the effect of access and a facility's readiness on current contraceptive use. Access was measured by distance to the nearest health facility, the availability of family planning services, and the availability and price of individual methods. Readiness was measured by whether the facility was privately owned, the presence of at least one doctor, and the number of contraceptives offered.²³ Although the authors found that access to family planning services was associated with contraceptive use, readiness was not a strong predictor of use. Results from both the Mensch et al. and the Feyisetan and Ainsworth studies lend support to the hypothesis that quality of care rather than readiness may be a more relevant determinant of effects on clients' contraceptive behavior.

Relatively more is known about the effect of quality of care on clients' behavior, specifically, on the likelihood that they will adopt and continue to practice contraception. Although the body of evidence is decidedly slim, enough exists to support the hypothesis that improved quality of care is positively associated with all as-

pects of contraceptive use. The evidence comes from diverse settings including Bangladesh, China, the Gambia, Indonesia, Morocco, Niger, the Philippines, and Senegal.

Quality of Care and Contraceptive Adoption

An intuitive hypothesis is that perceptions of quality will guide decisions on reproductive and contraceptive behavior, that is, that individuals are more likely to use contraceptives or family planning services if they perceive the latter to be of good quality; likewise, perceptions of poor quality will dissuade them from use. This hypothesis has been empirically tested in Bangladesh and Tanzania.

Individual relative to community perceptions of quality of care provide a more disaggregated level of information. Interpersonal rapport between a provider and a client, for example, appears to be important in determining the contraceptive behavior of the client. A longitudinal study of Bangladeshi women demonstrated that those who perceived that they had received good quality of care from field-workers were significantly more likely to adopt a contraceptive method than were those who did not (Koenig et al. 1997). Some 3,632 women who had been visited by a female field-worker and who were not using contraceptives at the baseline were followed up twice over a period of 30 months. The respondents were asked about their perceptions of the quality of care they had received from the field-worker.²⁴ The multivariate analysis demonstrated that women who reported higher levels of care as measured by interpersonal rapport were 27 percent more likely than those who did not to adopt a contraceptive method within the next 30 months. The evidence for the importance of the quality-of-care variables in explaining subsequent contraceptive adoption after controlling for several client characteristics is, therefore, compelling.

In Tanzania, community perceptions of the quality of the available family planning services were measured by interviewing a number of key informants in each community (Mroz et al. 1999). Each informant was asked two questions: How would most women (or men) describe the quality of a specific family planning facility and how would they rate on a scale ranging from one to five the overall impression women (or men) have of that facility.²⁵ The informants also reported on accessibility of the facility, distance, and travel time. This information was linked to data on individuals' practice of family planning and family background collected for the Tanzania DHS. The resulting analysis revealed that community perceptions of quality have direct effects on contraceptive use after controlling for the individual-level factors. The level of contraceptive use among women was higher where quality was perceived to be better and lower where the facilities were perceived to be poor. Of the factors

measured at the community level, only quality had a significant effect on contraceptive use.

Quality of Care and Contraceptive Continuation

Empirical support for the hypothesis that quality of care is an important determinant of contraceptive continuation is available from Africa and Asia. Specifically, information provided during a consultation is positively associated with contraceptive continuation: Users who are adequately counseled are more likely than those who are not to continue practicing contraception.

In a study of contraceptive discontinuation in Niger and the Gambia, researchers reported that approximately 30 percent of new family planning clients discontinued contraceptive use within the first eight months of acceptance (Cotten et al. 1992). The principal reasons given for discontinuation included side effects, spousal separation, spousal disapproval, and the desire to have a child. The study also noted that discontinuation was higher among women who reported that they had not been adequately counseled about contraceptive side effects: For example, in Niger, 37 percent of the women who reported inadequate counseling discontinued use, whereas among women reporting that they had received adequate counseling, only 19 percent discontinued use. A similar situation was encountered in the Gambia, where 51 percent of those who felt they were not properly counseled discontinued use, compared with 14 percent of those who reported being well counseled.

Similar findings are reported for China (Lei et al. 1996). Acceptors of the injectable contraceptive Depo Provera in four family planning clinics who received more information were significantly more likely to continue using the method than were those who received little information. Women in the experimental group received substantially more information regarding the mode of action, hormonal effect, and potential side effects of the injectables, whereas those in the control group received no such information unless they requested it. The study concluded that women who receive detailed counseling concerning side effects are almost four times more likely than those who do not to continue with the method.

In a study conducted in India, IUD continuation rates were compared for women who attended an NGO clinic before and after a health-education intervention was introduced (Patel et al. 1999). The intervention consisted of teaching women about their anatomy, in particular the gastrointestinal and reproductive organs, the process of IUD insertion, the normal side effects associated with IUD use, and their recourse to assistance in the event of problems arising from use of the method. The sample consisted of 56 women who had begun use of the IUD before the intervention and 80 women who had accepted

the IUD after the health-education campaign. All the women in the sample were reinterviewed every two months for two years.²⁶ The results indicate that continuation rates improved postintervention: Continuation at six months was 66 percent preintervention and 89 percent postintervention and 48 percent and 77 percent at one year, respectively. The authors believe that part of the reason for the higher rates of continuation was that the information women received allayed their fears about side effects. Although at postintervention interviews, greater proportions of women reported problems with the method, greater proportions also retained the IUD, suggesting that the women were better informed and were able to identify side effects correctly and not assign other adverse health effects to use of the IUD. Therefore, despite the study's small sample size and the simple analysis presented, the results suggest that providing women with adequate information, especially about a method's side effects, has a positive effect on contraceptive continuation.

Receiving one's preferred method also seems to have effects similar to those resulting from being better informed. A follow-up study of 1,945 family planning acceptors in Indonesia reported that women who had received their preferred method were significantly more likely than were those who had not to be using a contraceptive a year later (Pariani et al. 1991). The rate of discontinuation was 72 percent among those who had not received their chosen method, compared with 9 percent among those who had. This result was upheld after controlling for several factors.²⁷ The highest rate of discontinuation occurred when the choice of method was denied and both partners agreed on method choice; the lowest rate of discontinuation occurred when method choice was granted and the spouses concurred about the method.

Similar findings have been reported in the study conducted in Bangladesh discussed above. Women who reported having received better care were more likely than others to continue with contraception (Koenig et al. 1997). Some 3,497 users of oral contraceptives, the IUD, injectables, condoms, and foam tablets were followed from month of initial acceptance until the time of method discontinuation, loss to follow-up, or the end of the observation period. Women who reported having received moderate and high standards of care were 22 percent and 72 percent more likely, respectively, to continue to use any contraceptive method, after controlling for the effects of other programmatic and individual variables. The analysis also found that first-method continuation rates were 8 percent higher for those receiving moderate levels of care. The effects were found to be significantly stronger for those receiving relatively high standards of care: Women receiving a high standard of care

were 41 percent more likely to continue with their first method than were those receiving poor care.

Thus far, the empirical evidence has identified some aspects of the care-giving process—provision of clients' chosen method, offering the client adequate information, and treating her or him courteously—as being significant factors in contraceptive use. Research conducted in the Philippines and Senegal includes these and many more aspects of the care-giving process—assessing the client's needs, providing her with a variety of options, and linking the client to services in the future—and combined all these variables into a single indicator of quality of care (RamaRao et al. 2003; Sanogo et al. 2003). The findings from both settings indicate a significant and positive effect of quality of care on contraceptive continuation when clients were followed up more than 16 months later. The results are derived from a multivariate model with a variety of controls for socioeconomic background. In the Philippines, contraceptive continuation increased monotonically with good care; at low levels of care, the predicted probability of contraceptive use was 55 percent; at medium levels of care, use was 62 percent, and at high levels of care, it was 67 percent. Comparable results are reported from the study conducted in Senegal: Senegalese women who reported receiving good care were 1.3 times more likely than others to continue use of a contraceptive method 16 months later. Moreover, both of these analyses suggest that including many dimensions of quality is more useful than relying on a few selected ones because the analysis can be based on a more detailed picture of the client-provider interaction.

Quality of Care and Achievement of Reproductive Intentions

Little is known about the link between quality of care and the achievement of reproductive intentions. Questions relating the two can be addressed only by means of a longitudinal study design, and, as noted above, few studies of this kind have been undertaken. An innovative analysis attempted to link the quality of care to which women have access and their experience in avoiding an unwanted pregnancy in Peru (Mensch et al. 1997). The study used three sources of data: DHS, a follow-up survey of a subsample of the DHS respondents, and a situation analysis. The findings show that 20 percent of the respondents reported an unwanted or mistimed pregnancy occurring in the period between the two surveys. Regional differences ranged from 13 percent to 32 percent. Most of the unintended pregnancies resulted from nonuse of contraceptives or from the failure of traditional methods. Multivariate analyses used to capture the effect of quality on the likelihood of an unwanted pregnancy found that quality was a significant determinant in speci-

fications that included only service factors and the respondent's characteristics. The addition of urban-rural residence or region tended to suppress the effect of the quality of care. The authors speculate that the region variable may capture unobserved dimensions of quality and, therefore, the models do not show statistical significance. Overall, the evidence suggests that interventions that aim to improve quality of care rather than readiness will have the greater impact on clients' contraceptive behavior.

Conclusion

This critical review of the analytical literature on quality in family planning programs with its special focus on intervention and impact studies reveals a considerable amount of theoretical research on concepts and frameworks, measurement, and methodology. At the same time, rigorous experimental studies are relatively few. This finding refutes the impression in the field that much is known about quality, be it readiness or care. This misperception is partly a result of the widespread recognition of the importance of good quality, a notion endorsed by a variety of stakeholders that masks the dearth of information about successful, well-documented efforts to provide it. Even less is known about the effects of good quality.

A significant finding of this review is that many innovative ideas for improving quality are being tested in a variety of service-delivery settings. These efforts are largely undocumented, however; they exist in the realm of anecdotal evidence, and information about them is disseminated verbally. As a result, they are not useful for informing future policy and program efforts. In instances where adequate documentation exists, no systematic attempts at evaluation appear to have been made. Few interventions are designed within a rigorous research framework so as to measure and quantify their effects.²⁸ In this regard, we were able to locate only 15 studies that satisfied our criteria. Absence of control groups, a lack of timely measurements—pre- and postintervention or repeated postintervention measurements—and inadequate samples are some of the methodological flaws we encountered. Those experiments that incorporated a qualitative research component or process documentation can provide rich information about the details of implementation and principal findings. Nevertheless, disentangling context-specific factors from generic factors in these experiments is often difficult. Particular factors that are not found in other settings make the results of some studies not generally representative. The lack of a research perspective severely hampers the exploration and elucidation of relationships between key variables of interest and diminishes the generalizability of results.

Valid reasons can be advanced to explain why documentation is scarce and the research perspective is rare. Typically, service-delivery organizations implement efforts at quality improvements because they are convinced of their usefulness, and they see no benefit to conducting research and providing documentation. Moreover, such research activities are perceived to be outside the normal scope of their work and are burdensome where resources are stretched. In other instances, a scarcity of financial or technical support or other field constraints results in inadequate evaluation of interventions. Few verifiable data are available to guide policy and program choices. The small number of rigorous studies of interventions that have been published to date clearly shows that quality can be improved and that good care has beneficial effects.

In summary, current research indicates that conceptual frameworks to examine quality have been developed and refined, and that the language and vocabulary to define it has been accepted by diverse constituencies. Methodological advances have been developed for data collection. A variety of interventions ranging from system-wide improvements to specifically targeted ones have been tested. Those interventions that show the most promise are the ones that facilitate a better interaction between clients and providers either by means of training providers in interpersonal communication and information exchange or by the use of job aids. The empirical evidence on interventions that aim to improve quality through processes of problem identification and resolution is limited. Better physical infrastructure does not always result in better care. Better care results in higher levels of satisfaction among clients and of contraceptive adoption and continuation. Some aspects of quality of care, such as interpersonal communication, can be improved without recourse to large investments in staff, equipment, or supplies.

The number of experimental studies that have examined the direct effect of an intervention on such aspects of client behavior as contraceptive continuation or achievement of reproductive intentions is limited. Two experimental studies have reported significant and positive effects of interventions on contraceptive continuation, but these examined continuation of a single method and are based on relatively small samples sizes (Lei et al. 1996; Patel et al. 1999). Others have reported positive effects of interventions on contraceptive continuation, which, however, did not reach statistical significance (Sanogo et al. 2003; RamaRao et al. 2003). Based on the studies reviewed, a firm conclusion cannot be drawn that interventions have a direct and significantly positive effect on contraceptive continuation.

This review reveals a number of unanswered questions and gaps in the literature. Some of the questions that merit further study are:

(1) How will the process of improving quality of care be affected by health-care-sector reforms currently underway in several countries? Decentralization and community participation are two critical aspects of the reform process; district managers can now set priorities and plan activities to achieve policy goals, and communities have a larger role in articulating their needs, directing the allocation of resources, and monitoring the progress of policies. Therefore, although opportunities exist to sustain improvement in quality, whether they will be used to advantage remains unclear.

(2) What levels of readiness and quality of care can be found in the private sector? Willingness to pay for services offered by the private sector and high levels of use of such services are taken as indicators of good quality of care. Studies of private health services in a number of settings indicate that they do not necessarily provide better care. The readiness and care offered by this sector should be subject to further examination.

(3) Why do family planning clients choose to use some facilities rather than others? Determining whether choice of a facility for family planning services is guided by perceptions of the standards of care it provides is important. Nonuse of available facilities is often hypothesized to be a result of perceptions of the poor quality of care they provide, a supposition that should be tested.

(4) What changes would encourage clients to continue to visit facilities and stay with existing programs? Family planning programs have a tendency to concentrate on attracting new users rather than focusing on the needs of existing clients. Models of care provided to continuing

clients should be developed. Although provider-training manuals include modules on the management of returning clients, the emphasis on this point should be clearer.

(5) What types of accountability mechanisms can be used to ensure that individuals or organized groups can demand services of good quality and correct shortcomings in the services they receive? Empowering users and potential users is an underexplored area of research. The feasibility of applying existing national accreditation and quality-assurance protocols to primary health-care services, including reproductive health, should be explored.

(6) How can program managers and policymakers become involved in the periodic monitoring and assessment of quality of care in their own countries? Indicators for measuring and monitoring quality of care have been proposed, but none has been tested on a wide scale within a program framework.

(7) How can quality of care be improved without extraordinary financial outlays, and how can the effort better use existing resources such as in-service training opportunities? Cost savings can result from reductions in unwanted and inappropriate procedures and protocols, higher productivity, and efficient use of current resources. The dearth of information on costs, cost-effectiveness, and financing should be rectified.

(8) What curricula exist or could be developed for medical and nursing schools for integrating quality of care into the training of medical providers? The literature abounds with references to providers' bedside manner, but client-provider relationships are not emphasized in training, as clients' reports attest.

Appendix

Table A1 Aspects of studies describing specific interventions to improve readiness and quality of care in family planning services, alphabetically by author

Author(s), date, country	Intervention	Design, sample size	Dependent variable	Analysis
Barge et al. 1995, India	Training of physicians in the promotion of oral contraceptives	Quasi-experimental, pretest and post-test; 1,326 physicians in experimental and 300 in control groups	Physician's knowledge; Physician's performance; quality of services	Bivariate; qualitative
Ben Salem and Beattie 1996, Bangladesh and Tanzania	Facilitative supervision	Experiment only, self-assessment with checklist	Supervisor's performance	Qualitative
Bradley et al. 1998, Tanzania	Staff training in clinical contraception, logistics management, record keeping and supplies, safety; support for problem-solving initiatives such as COPE	Pretest and post-test; 39 sites; COPE checklist	Client's rights; provider's needs	Multivariate
Combary et al. 1999, Ghana	CBD supervisor training in technical supervision	Quasi-experimental, pretest and post-test; 19 CBD supervisors trained and 21 untrained; 15 CBD agents in experimental and 16 in control groups.	Supervisor's knowledge; Supervisor's performance	Bivariate; qualitative
Costello et al. 2001, Philippines	Training of providers in information exchange; training of supervisors in facilitative supervision	Quasi-experimental, pretest and post-test; 13 nurses and 76 midwives in the pretest and 18 nurses and 73 midwives in the post-test; panel of 869 new users in the experimental and 859 in the control groups	Provider's knowledge; Provider's behavior	Multivariate
Gu et al. 2002, China	Informed contraceptive choice; training of providers; IEC material, new guidelines for MIS, and monitoring and evaluation	Postintervention documentation; 21 townships of Dequing County	Contraceptive choice	Qualitative

(continued next page)

Appendix Table A1 (continued)

Author(s), date, country	Intervention(s)	Design, sample size	Dependent variable(s)	Analysis
Huntington et al. 1990, Ghana	Training of providers in technical and interpersonal aspects of counseling clients	Quasi-experimental, pretest and post-test; 18 mystery clients in six facilities (three with trained and three with untrained providers)	Information provided to clients	Qualitative
JHPIEGO 1999, Brazil	Improve service performance and quality improvement accreditation	Experiment only, five facilities	Clinical services, client education, infection prevention, management systems, and facilities/supplies	Qualitative
John Snow, Inc. 2000, (JSI/SEATS)	Provision of equipment, training, logistics, IEC, MIS, and research and policy development; CQI	Experiment only, post-test only	Quality improvement	Qualitative
Kim et al. 1992, Nigeria	Training of providers in counseling	Quasi-experimental, post-test only; eight facilities, 480 client exit interviews; 39 client-provider observations, and 1,001 medical records	Provider's performance	Bivariate
Kim et al. 2000, Indonesia	Job aids for providers' self-assessment	Quasi-experimental, pretest and post-test; 201 providers in 170 facilities; interviews with providers and clients, audio tapes of consultations, and clinic records	Facilitative communication between providers and clients	Bivariate
Kim et al. 2003, Indonesia	Job aid for clients to use in consultation	Experiment only, post-test only; exit interviews and audio tapes of consultations; 384 clients each in experimental and control groups	Communication between providers and clients	Bivariate
Lei et al. 1996, China	Structured counseling on contraceptive side effects	Quasi-experimental; post-test only; 204 women in structured counseling group and 217 in routine counseling group	Contraceptive discontinuation	Bivariate
León et al. 1998, Peru	Job-aids assisted balanced counseling	Quasi-experimental, pretest and post-test; 12 randomly distributed health directorates in experiment and control groups	Provider's performance	Multivariate
Lin and Franco 2000, Malawi	Quality assurance	Experiment only, post-test only; six facilities; self-assessment, client exit interviews, observations of client-provider interactions, client-flow analysis	Client's rights	Qualitative
Lynam et al. 1993, Ghana, Kenya, Nigeria, and Uganda	COPE	Pretest and post-test	Proportion of problems solved; improvements in clients' waiting time; providers' experience in implementing COPE	Bivariate; qualitative
Patel et al. 1999, India	Health education including information about IUDs	Experiment only, pretest and post-test	IUD continuation	Bivariate and life tables
Population Council, Asia and Near East Operations Research and Technical Assistance Project 1998, India	Training of supervisors in supportive supervision	Post-test only; 42 supervisors and 22 providers	Supervision process	Qualitative
RamaRao et al. 2000; Sanogo et al. 2003, Senegal	Establish reference centers to provide a range of reproductive health services; train family planning service providers; and receive cases referred from the region	Quasi-experimental, post-test only; five reference centers in experimental and five other health facilities in control; panel of 1,320 family planning users from the ten study clinics	Quality of care provided; quality of care received; contraceptive use	Bivariate and multivariate
Thang et al. 1998, Vietnam	Improve overall quality of care	Post-test only; 754 female and 20 male clients who received abortion and/or contraceptive services at three public clinics	Proportion of abortion clients leaving clinic with a modern contraceptive; client's self-reported side effects and complications; three- and eight-month continuation rates and patterns of contraceptive use; and numbers of subsequent or repeat pregnancies	Univariate/bivariate
Vernon et al. 1994, Guatemala	Supervision strategies	Quasi-experimental; three arms with two districts in two of the experimental groups and one district in the control group	Contraceptives distributed, process of supervision, cost, satisfaction of users and workers, problems solved	Bivariate

COPE = Client-oriented, provider-efficient (see discussion, page 233). CBD = Community-based distribution. IEC = Information, education, and communication. MIS = Management information systems. CQI = Continuous quality improvement. IUD = Intrauterine device. *Other countries where SEATS operated include Albania, Cambodia, Eritrea, Senegal, Zambia, and Zimbabwe.

Notes

- 1 Jain (2001) uses the quality of services to refer to readiness.
- 2 This methodology has also been used to measure the quality of other reproductive health services such as maternal and child health care and treatment of sexually transmitted infections.
- 3 Stakeholders include policymakers, program managers, service providers, researchers, health advocates, NGO representatives, users, and key members of communities.
- 4 In some countries, the Demographic and Health Surveys include a service-availability module (SAM) for collecting information on the service environment.
- 5 A "mystery" or "simulated" client is a data collector posing as a client.
- 6 Observable aspects include providers' behavior such as asking and answering questions, whereas intangible aspects include their body language.
- 7 SSK provides health coverage to 30 million workers and their dependents.
- 8 The specific interventions to establish these new services varied from site to site and included training of antenatal, labor, and delivery staff in family planning counseling; conducting seminars for physicians on postpartum IUD insertions; and creating record-keeping systems for postpartum clients.
- 9 Follow-up training, monitoring, and support visits completed the training cycle.
- 10 IPAS is the acronym for International Projects Assistance Services. One center was established in each of the ten regions of Senegal and four in Dakar, the capital.
- 12 Subsequently, this methodology was broadened to include quality of care and is termed the strategic approach to improving quality of care in reproductive health services; it is discussed earlier in this review.
- 13 These rights are listed above under Approaches to Studying Quality.
- 14 More detail on how COPE is implemented is found in Lynam et al. (1993) and Bradley (1998).
- 15 Providers from all of the 11 sites could not be interviewed; these 35 providers represented nine sites.
- 16 Quality assurance has been applied in both public and private sectors; it has been used to study a diverse range of health services from safe motherhood, integrated management of childhood illnesses, and malaria, to hypertension.
- 17 EQUIPE ("team" in French) stands for Expanded Quality to Improve Program Effectiveness.
- 18 Another similar example is the Gold Star program of the Egyptian Ministry of Health and Population (see Rooney and van Ostenberg 1999).
- 19 The areas covered under reproductive health and family planning included the CBD concept, clinical and nonclinical contraceptives, and issues related to gender, development, and family-life education. The training was prepared by staff of the PRIME project.
- 20 Method cards resemble playing cards, with one card for each kind of contraception.

- 21 The clients were randomly assigned to experimental and control groups consisting of 384 women each.
- 22 Clearly, these variables are more measures of access than they are of the readiness of clinics to provide services.
- 23 Feyisetan and Ainsworth refer to these variables as measures of quality of care, but for the purposes of this review, we have classified them as readiness variables.
- 24 The questions pertained to field-workers' visits in the three months prior to the baseline survey and in the longer term.
- 25 A score of one indicates poor quality and a score of five very good quality.
- 26 The rate of loss to follow-up was minimal: one case out of 56 and two cases out of 80.
- 27 The controls were: spousal agreement about method, interaction between spousal agreement and preferred method, method used, experience of side effects, new user, age, education, husband's occupation, number of living children, number of children who died, desired number of additional children, and desire to limit births.
- 28 Similar views have been expressed elsewhere; for example, see Knebel's (2000) review of job aids, which reports the lack of research on their use and effects, although many have been pilot-tested.

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