

Measuring the quality of supervisor–provider interactions in health care facilities in Zimbabwe

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Abstract

Objective. Measuring performance is the first step on the road to improving it. This report presents the results of an exploratory study sponsored by the Quality Assurance (QA) Project to describe and quantify the quality of supervisor–provider interactions in health care facilities in Zimbabwe in 1999. Supervisors were district and municipal nursing officers who are responsible for guiding, assisting, and motivating health providers at government and missionary health facilities.

Design. The study's design was qualitative. It involved the triangulation of data from various sources: structured observations of supervisors, audiotaping of supervisor–provider interactions, recording of all supervisory activities, and interviews with supervisors and supervisees. A team composed of current and past supervisors, along with researchers, determined the supervisory practices that would be measured.

Study participants. Sixteen district-level government, municipality, and Zimbabwe National Family Planning Council supervisors from four provinces participated in the study.

Results. The study found that supervisors devoted <5% of their time to patient care issues. The supervisors' main strengths were in giving feedback on technical standards, discussing and analyzing data, and developing a rapport with the providers. They were most deficient in making suggestions, seeking client input, problem solving with the providers, and building on previous (and future) supervisory visits. None of the supervisors observed achieved the threshold set in advance by the team for exemplary performance.

Conclusion. The study concludes with recommendations to the Ministry of Health and Child Welfare on how the quality of supervision in Zimbabwe could be improved.

Keywords: developing countries, measuring performance, quality, supervision, Zimbabwe

Clinical supervision is considered one of the vital support systems for effective, high-quality health services. In developing countries, supervisors are viewed as the main link between the health facilities and management. With regular and facilitative supervision, it is expected that health care providers will have the guidance, encouragement, and resources they need to perform well. Facilitative supervision by district-level nurse supervisors is defined as ensuring that providers in peripheral primary health facilities follow appropriate guidelines, continuously seek to improve their performance, overcome operational barriers, and maintain their motivation [1].

Unfortunately, reports from developing countries indicate that district-level supervision is often irregular and un-

structured, and involves little follow-up [2–4]. District and regional health offices frequently do not give supervisors the resources and support they need to supervise effectively, such as access to official vehicles, travel allowances, essential supplies, and guidelines. Moreover, supervisory duties are often vaguely defined [5]. Supervisors are typically promoted from the ranks of service providers without receiving much additional management training or mentoring in their new responsibilities. It has been observed that many supervisors act as inspectors rather than as facilitators, educators, and problem solvers [6]. Although structured observation checklists and feedback by supervisors have been found to improve the delivery of care [7,8], their use does not seem to be widespread or consistent.

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In Zimbabwe, district-level supervisors are generally registered nurses who have received 1 year of post-basic training that includes nursing administration [9]. In their capacity as District or Municipal Nursing Officers, they are responsible not only for supervising providers in government and missionary health facilities, but also for promoting community health outreach activities, collecting data, and assessing clients' concerns. They are expected to supervise all types of clinical services provided by primary care nurses, including reproductive health, maternal, and child health, and communicable diseases.

At the time of the study, Zimbabwe did not have specific guidelines for supervisor–provider interaction or detailed job descriptions for district supervisors. Each supervisor was expected to create and use his/her own checklist to evaluate a facility. The supervisees were generally nurses in charge of the primary health facilities, nurse/midwives, and auxiliary staff. Frequency of supervision in Zimbabwe is considered good; a situation analysis in 1996 found that 73% of facilities reported three or more supervisory visits in the past 6 months [10]. But little is known in Zimbabwe or elsewhere about what district supervisors actually do when they visit a facility and how, if at all, they influence service delivery.

Study objectives

A recent review of clinical supervision noted that 'the quality of the relationship between supervisor and provider is the single most important factor for effective supervision' [11]. In the quality field, the first step to improving something is to measure it. But validated methods for measuring the quality of clinical supervision were found to be lacking [11]. In the absence of a better measure, the frequency of supervision visits has generally been used as a proxy for quality, with the presumption that more is better. Yet this proxy is flawed: researchers have failed to find a correlation between the number of supervisor visits and provider performance [5,10,12,13]. Tools to measure directly the quality of district-level supervision are needed as the first step in improving supervisory performance.

The purposes of this study were therefore two-fold: (1) to investigate current supervisor–provider interactions in a developing country; and (2) to use participatory approaches to develop and test instruments to quantify and characterize the quality of the supervision. The study's specific objectives were to identify how supervisors spend their time during their visits to facilities, to assess supervisors' strengths and weaknesses in interacting with providers, to explore how supervisors and providers, respectively, view supervision interactions, and to make recommendations on how to improve supervision interactions in a developing country.

Methods

Study design

This study was designed as an exploratory, qualitative investigation of how supervisors currently interact with providers during regularly scheduled visits to health facilities in

Zimbabwe. Because of its exploratory nature, the researchers chose a multi-faceted approach to measuring the quality of supervisor–provider interactions that included audiotaping of supervisory visits, detailed minute-by-minute notes on supervisor's activities, individual interviews with supervisors and supervisees, observation and ranking of supervisor interactions with a structured guide, and review of any checklists used by supervisors. This approach was chosen to permit cross-validation of findings from the various instruments.

I. Development of data collection instruments

In view of the lack of national supervisory guidelines or checklists in Zimbabwe, the research team assembled a group of 10 current and past district-level supervisors from the Zimbabwe National Family Planning Council (ZNFPC) and the Ministry of Health and Child Welfare (MOHCW) to assist in determining key supervision behaviors. With assistance from the Quality Assurance (QA) Project, the group first discussed the main recommendations from the literature on facilitative supervision, particularly from manuals developed by AVSC (now EngenderHealth) [6] and Management Sciences for Health [14]. They next determined what constituted desirable supervisory behaviors of district-level and municipality supervisors in Zimbabwe. The group identified 11 categories of supervision practices: developing rapport, discussing the previous visit, promoting provider participation, jointly identifying problems, facilitating problem solving, giving constructive feedback, educating or training the provider, discussing and interpreting data, making suggestions and being proactive, seeking client input, and discussing the next visit. The group agreed that all of these practices fit within the general job description of a district supervisor.

The creative work was to develop evaluation criteria for assessing the quality of supervisory practices. To reduce subjectivity and ambiguity, the group agreed on concrete examples of what a supervisor could be observed doing or saying, both positive and negative, that would help the observers to arrive at a score for the supervisor in that category. For instance, in the category of 'promotes participation of supervisees', a positive example was 'asks supervisees' opinions' and a negative example was 'doesn't show interest in what the supervisee says.' (See Table 1 for a portion of the observation guide.) The group then agreed on a 1- to 10-point scale for rating the supervisors on each of these categories, and developed a short description for what each number meant. Scores of 7–10 were considered good to excellent; 4–6 inadequate, needs improvement; and 1–3 poor, greatly needs improvement. Since there were 11 categories, overall scores could range from 11 to 110.

The researchers next created a time log for recording all the tasks that a supervisor performed, so that the amount of time supervisors were spending on various activities could be quantified. Finally, they developed questionnaires for supervisors and supervisees. The researchers spent a week pre-testing and refining the instruments, and standardizing observer ratings.

Table 1 Portion of the observer guide for rating supervisors (category 6)

6. Gives feedback to supervisees and facility	Score (1–10):
Positive examples (circle all observed)	Negative examples (circle all observed)
P1. Observes performance of supervisees for sufficient time	N1. Fails to observe performance or to give feedback on critical issues, like safety
P2. Praises when appropriate	N2. Only or mostly finds fault
P3. Diplomatic and tactful correction	N3. Just gives instructions without explaining
P4. Doesn't criticize or shame in public	N4. Dictates; gives orders
P5. Doesn't shout at supervisee	N5. Gets unreasonably angry or hysterical
P6. Records findings in facility's book	N6. Fails to record any findings at facility
P7. Gives only as much feedback as the supervisee can handle	N7. Gives excessive feedback
Comments on examples:	

The complete guide can be obtained from P. Tavrow.

2. Data collection

A senior consultant who had been trained as a nurse in Zimbabwe, a nurse from ZNFPC, and a former nurse supervisor (rotated between the QA Project and ZNFPC) collected the data. The process of data collection followed a similar pattern. The team arrived at a supervisor's office early in the morning (all supervisors had been notified in advance of the team's visit). The team then spent an entire day with the supervisor, accompanying him/her on all supervisory visits to health facilities. The senior consultant observed the supervisor, the ZNFPC nurse maintained a log of activities and tape-recorded the supervisor, and the former nurse supervisor took notes on various aspects of the visit. Afterwards, the senior consultant interviewed the supervisor and collected any checklist the supervisor used, while the ZNFPC nurse interviewed one or two providers.

In the evening, the three research team members reviewed the findings and arrived at a consensus for how to score the supervisor for each of the 11 categories. Making decisions on scoring usually took ~2 hours. The three team members used their notes and time logs first to agree on which positive and negative practices they had observed, and then to arrive at ratings in each of the 11 categories. Major differences of opinion about ratings were rare and mostly concerned with the extent to which the supervisor had been proactive.

Because the district supervisors were informed in advance by their superiors that they would be observed, the team encountered very few problems in accompanying them on their supervision visits. In two cases, however, the supervisors told the team that they had other plans that day, and hence would only perform brief supervision visits. To check on observer bias, the team asked all supervisees privately whether they felt that supervision was being performed differently that day. Only three (12.5%) responded affirmatively. In all three cases, they reported that the supervisor visited for somewhat longer than they normally did. None of the providers at facilities where the supervisors claimed they could visit only 'briefly' reported that the supervision visit was

different than usual. For this reason, all of the supervisory visits were included in the analysis.

All interviews, observations, and audiotaping were conducted with the permission of everyone involved, including the supervisors, providers, and any clients with whom providers/supervisors interacted. To maintain confidentiality, names and any other information that might identify individual supervisors, providers, and clients were eliminated from the data, including the transcriptions of the audiotapes. The audiotapes were stored in a locked place at ZNFPC headquarters.

3. Data analysis and interpretation

Rankings from the structured observation guide, answers to the supervisor and supervisee questionnaires, and the complete activity logs were entered onto Microsoft Excel spreadsheets, and then imported into SPSS statistical software version 9.0. Activities from the logs were subsequently coded into 15 categories for analysis. These categories related to how time was spent: e.g. observing clinical procedures, reviewing records, taking tea breaks, etc. Frequencies, correlations between the activity logs and the observations, and cross-tabulations were calculated using SPSS.

A total of 40 hours of audiotaped supervisor interactions were translated into English and transcribed. The sessions taped were in English, Shona, and Ndebele. Only a small proportion (<30 minutes) of the tapes was unintelligible. The transcribed interactions were coded using the Nudist software program and analyzed. Checklists collected from supervisors were reviewed and summarized.

After the study was completed, the research team conducted three meetings with supervisors, providers, and program officers from MOHCW, ZNFPC, and the municipalities in order to enrich the interpretation of the findings and to develop intervention strategies for improving the supervision process. One interpretation meeting was held exclusively with interested ZNFPC staff, at their request. All provincial supervisors who had been visited were invited to attend, as

well as the supervisors who had been observed. About half of the invited supervisors were able to attend one of the meetings. The meetings also enabled the team to disseminate the research findings and to begin to strategize for a subsequent intervention to improve supervisor–provider interactions.

4. Study locations and participants

As this was an exploratory study, the researchers chose purposely to visit provinces in different geographical regions of the country. The study was therefore conducted in three of the nine provinces of Zimbabwe: Masvingo, Manicaland, and Matebeleland North. Each of these provinces has seven to eight districts, of which three were randomly selected for inclusion. Because of the interest shown by the MOHCW in municipal supervision, the research team added a municipal district in Bulawayo (a city with provincial status). Finally, the team decided to include data from a supervisor observed during the final pre-test of the instruments in Mashonaland East, because the instruments did not change substantially after this observation.

Upon arriving at the district, researchers accompanied whoever was conducting supervisory visits that day. In each district, there are usually two people who perform general district-level supervision of primary care. A total of 16 supervisors participated in the study, or ~15% of all district-level supervisors in Zimbabwe. The supervisors' schedules determined which facilities were included in the study. The researchers requested that the supervisors conduct their visits as they normally would, and most seemed to adhere to this request. The facilities visited consisted of four MOHCW health centers, three mission hospitals, three Rural District Council health centers, four municipality clinics, and two ZNFPC mobile clinics.

All but one of the supervisors were women, and all were registered general nurses. They had worked as supervisors for 5 years on average, with a range of 1–18 years. Their average age was 47 years, with a range of 34–61 years. Two supervisors were stationed in the facilities in which they were observed, while the remainder travelled to the facilities where they were observed.

At the conclusion of each supervisory visit, researchers interviewed the main providers supervised that day. A total of 24 providers (20 women and four men) were interviewed. They included 10 matrons/sisters in charge, 11 nurses, two nurse aides, and one environmental health technician.

Results

Time spent on supervision activities

On average, supervision visits lasted 2.5 hours, but the length of the visits varied widely: from <30 minutes to 8 hours. Two supervisors noted that their visits were briefer than usual, and three supervisees reported that the visits were longer than normal. Three-quarters of supervision visits lasted from 1.5 to 4 hours. This did not include travel time to and

from the facility. The briefest of these visits was made to check on some specific issue rather than to review general operations at a facility. The duration of the average supervision visit was 30 minutes in municipality clinics, 2 hours in mission hospitals, 3 hours in ZNFPC facilities and Rural District Council clinics, and 4 hours in MOHCW facilities. Supervisors at ZNFPC mobile clinics in rural areas spent a considerable amount of time providing services, as well as actually supervising.

Direct supervision activities can be divided into two main categories: overseeing patient care and monitoring facility-level issues. As shown in Table 2, for shorter visits of <2 hours, supervisors spent on average only 5 minutes supervising patient care and 29 minutes monitoring facility-level issues. For longer visits, supervisors again spent significantly more time on facility-level issues (88 minutes) than on patient care issues (33 minutes). In nine out of 16 visits, supervisors spent no time observing patient care. On the other hand, all but two of the supervisors spent time interacting with patients, but this mostly consisted of social talk rather than discussions about service quality. During longer visits, supervisors spent considerably more time eating and socializing. Supervisors devoted considerable time to writing comments, but many of these were in the supervisors' own diary, which was not shared with providers. Overall, supervisors spent only 6% of the total time discussing patient care issues with providers. Among supervisors on shorter visits, only two out of six discussed patient care issues.

Quality of supervisor–provider interactions

Overall quality score

As part of the structured observation, the research team rated each supervisor's skills in the 11 categories discussed earlier (see Table 3). In none of the categories assessed did the average skills exceed 7, which was the threshold set for good performance by the research team and the initial group of supervisors. Performance varied widely among supervisors. In every category, some supervisors performed well, scoring 7–9 on the 10-point rating scale, while others performed extremely poorly, scoring as low as 1 or 2. None of the providers achieved an overall score of ≥ 77 (or at least seven for each of the 11 categories), which was the threshold set for exemplary performance. The overall ratings ranged from 14 to 65, with 47 as the median. There was no correlation between the supervisors' age or years of experience and the scores they received. A significant positive correlation was observed between overall skill score and duration of time spent at the visit ($P < 0.002$), but this was rendered insignificant upon exclusion of the three visits of <30 minutes.

Feedback and education

Giving feedback was the supervisors' strongest skill area, rated as 6.3 on average. Feedback was the supervisors' main mechanism for solving problems in patient care, along with correcting clinical procedures on the spot and giving focused education. A number of weaknesses were noted. One-third of supervisors did not observe for a sufficient period of time

Table 2 Average time spent on various activities by length of supervisory visit, Zimbabwe, 1999

Activity	Shorter visits (<2 hours) (<i>n</i> = 6)		Longer visits (2–8 hours) (<i>n</i> = 10)	
	Minutes	%	Minutes	%
Supervising patient care				
Observing clinical procedures	3		8	
Observing client–provider communication	0		10	
Interacting with providers on patient care issues	2		15	
Total	5	8.9	33	15.3
Supervising facility-level issues				
Interacting with providers on facility-level issues	4		25	
Checking registers, records, and data	11		30	
Checking supplies and equipment	8		20	
Checking infrastructure	6		13	
Total	29	51.8	88	40.9
Interacting with clients				
Talking with clients	6		22	
Performing clinical procedures	1		7	
Total	7	12.5	29	13.5
Writing notes, comments	10	17.9	27	12.6
Other (tea break, lunch, greetings, etc.)	5	8.9	38	17.7
Total	56	100.0	215	100.0

Table 3 Ratings of supervisors' skills by trained observers, Zimbabwe, 1999 (*n* = 16 supervision visits)

Skill area	Average rating ¹	Range of ratings
Giving feedback	6.3	2–9
Discussing and interpreting data	5.6	1–9
Developing rapport	5.5	1–8
Education	5.4	1–8
Promoting provider participation	4.4	1–8
Identifying problems	4.1	1–7
Problem solving	3.6	1–7
Discussing the previous visit	3.4	1–7
Seeking client input	3.1	1–8
Making suggestions	2.9	1–5
Discussing the next visit	2.9	1–7

¹Skills were rated on the following 10-point scale: 10, greatly exceeds expectations; 9, outstanding; 8, performing very well; 7, performing properly, meets expectations; 6, average, could do better; 5, doing something, inadequately; 4, doing something, minimally; 3, disappointing, poor; 2, extremely poor, doing nothing; and 1, unacceptable.

before giving feedback, and one-half gave excessive feedback (more than they could reasonably absorb). Having observers present may have led some supervisors to give more feedback than normal. One-quarter of supervisors gave only verbal feedback, which meant that providers had nothing to refer to later.

All supervisors reported praising providers, and two-thirds of providers reported being praised. The transcripts indicate that most supervisors did offer praise once or twice during a visit, but it was often weakly phrased and vague, for example: 'I am happy about your emergency tray; it is in order' or 'Your ward is looking nice'. Praise reported by supervisors and providers generally related to facility-level issues, rather than patient care.

Supervisors seldom criticized providers or shamed them publicly. Most of the remarks made to correct a provider were diplomatic and tactful. All supervisors reported criticizing providers, but only one-third of providers reported being criticized. Those providers reported that supervisors' criticism was 'constructive' and said they did not mind it. Supervisors confirmed that most providers accepted criticism without denial or anger.

Education, which comes from feedback, was another relatively strong area for supervisors; it received an average rating of 5.4 (Table 3). Supervisors provided accurate information and clear explanations when they instructed providers about gaps in their knowledge and skills, and they made sure providers understood what they taught. One-half of the supervisors demonstrated skills to providers, and one-third gave concrete examples when teaching. Despite the supervisors' focus on education, however, observers rarely noted them referring to manuals or guidelines, or conducting true on-the-job training (systematic training in a predetermined area).

Discussing and interpreting records and other data is a natural extension of giving feedback. Supervisors performed relatively well in this area, earning an average rating of 5.6.

Almost all supervisors discussed and educated their providers in thorough and accurate record keeping, and two-thirds helped providers use data to identify problems or improve the quality of service.

Partnership and problem-solving

Building a rapport with providers was relatively good, receiving an average rating of 5.5. In the majority of supervision sessions, interactions between supervisors and providers were observed to be cordial, relaxed, and cooperative. Supervisors usually allowed providers to attend to clients first and seldom demanded that providers interrupt what they were doing in order to attend to them. Occasionally, providers were encouraged specifically to focus on their clients. Supervisors were never observed speaking rudely to providers. Providers did not seem to be afraid of speaking or responding to supervisors' questions.

Despite the good rapport between providers and supervisors, little partnership or teamwork was exhibited. Supervisors were rated as 4.4 on promoting provider participation. Only about one-half of supervisors asked the provider's opinion. Two-thirds of supervisors did not promote discussion with providers, one-third did not ask any probing questions, and one-third did most of the talking.

Although most supervisors were very articulate in pointing out problems, especially in record-keeping, supplies, equipment, and clinical procedures, they rarely explored problems from the provider's point of view. Less than half of all supervisors encouraged providers to identify problems or raise issues, one-half did not give providers time to reflect on their problems, one-third never asked providers what problems they had, and none of the supervisors asked providers whether clients had complaints about services. When supervisors did invite providers to identify problems, they typically used open-ended questions such as: 'What are the problems you have?' (at the beginning of a visit) and 'Any other issues?' (at the end). These questions were cursory and rarely elicited much provider participation.

Providers sometimes raised issues and brought up problems, but this behavior was sporadic rather than systematic. This lack of partnership limited the supervisors' ability to identify problems, which was rated as 4.1 on average.

Problem solving was one of the weakest areas in the supervision process, rated as 3.6 on average. Most of the time, supervisors tried to resolve problems quickly by unilaterally making a recommendation, correcting a mistake, or teaching the provider on the spot. Supervisors typically did not take a longer or more comprehensive view of the problems identified, nor did they try to engage providers in analyzing problems. Supervisors rarely explored the cause of a problem, weighed alternative solutions, developed an action plan to solve a problem over the longer term, prioritized problems, or engaged in systematic on-the-job training. One-quarter of supervisors imposed solutions on the providers.

A few supervisors did try to work together with providers to identify and solve problems. The following are some examples demonstrating good communication skills by supervisors who were trying to work together with providers:

'Do you think the way you are recording STI [sexually transmitted infection] cases is effective?'

'Most of them [pregnant mothers at delivery time] won't come, so what do you think we should do? Should we continue using it [the antenatal care register] or have you got other ideas?'

Problem identification and quality improvement may also have been weakened by the lack of discussion of service standards. During the visits observed, supervisors seldom discussed criteria for good services and rarely shared, or encouraged providers to share, their visions of quality.

Continuity and support for improvement

A lack of continuity between supervision visits was common. Supervisors seldom referred to recommendations made during past visits, checked progress achieved, made action plans for providers to implement, or mentioned that they planned to review progress in future visits. Discussing the previous and next supervision visits received some of the lowest ratings (see Table 3). This weakness is related to other deficiencies already noted: the lack of prioritization of problems, feedback going unrecorded, and the emphasis on limited, short-term solutions to problems.

During interviews, most supervisors were able to point out areas in which progress had been made and areas that had worsened. However, they rarely mentioned these observations to providers during supervision sessions. Also, the supervisors lacked monitoring records or other evidence to support the progress or deterioration they observed.

Mechanisms for continuous quality improvement were not institutionalized, and lack of continuity hampered efforts to improve the quality of patient care. Less than half of supervisors discussed with providers what needed to be done before the next visit. Only a few told providers what actions they, the supervisors, would take to help resolve any problems. The date of the next visit was seldom mentioned. Only one-fifth of supervisors mentioned what the focus of the next visit would be.

Supervisors were aware of their difficulties in managing time effectively and balancing different tasks during a supervision visit. They reported that they could not do everything they wanted during the observed visit, and three-quarters attributed this to lack of time. In general, supervisors spent a considerable portion of their time on problem identification and giving feedback, but devoted almost no time to helping providers determine causes, explore alternative solutions, or develop an action plan to address shortcomings. Lack of continuity between visits meant that little attention was given to long-term or endemic problems.

Supervisory checklists

Despite being aware of the importance of checklists to structure their supervision visit, only about one-third of the supervisors were observed using a checklist during any part of the supervisory visits. When supervisors did use a checklist, they seldom discussed the findings with the providers. The researchers collected 14 checklists: 10 from MOHCW, two

from the City Council, and two from ZNFPC. The formats of the checklists varied. Four checklists contained blank lines for recording, four contained listed items that served as reminders to supervisors on what to cover during the interactions, three were just lists of items with no space for recording, and two were in a yes/no format with an additional section for written comments. The topics covered by the individual checklists were also variable, although there were some common items. Most checklists reminded the supervisor to check the physical appearance of the provider, the physical structure and surroundings (e.g. cleanliness, state of repair), the records, the condition and availability of equipment and supplies, and staff development issues. Only three checklists provided items on patient care.

There were a number of weaknesses observed in the checklists collected. None adequately addressed issues of client–provider interactions or patient care. They did not provide guidance on how to relate the current visit with previous and/or follow-up visits. The checklists were not flexible enough to allow visit objectives to be tailored to different findings and facility needs. Finally, supervisors generally saw the checklists as inventory tools. During the group meetings held to discuss the study findings, supervisors described the checklists as tedious and unnecessary for routine supervision.

Discussion and recommendations

While various researchers have called for better descriptions of the specific behaviors and utterances of health care supervisors [4,10–12], the authors have not been able to find any published or unpublished methodology. There is evidence that interviews with supervisors give an overestimation of their positive behaviors [15]. Using multiple data collection methods to understand supervision interactions has several strengths. It provides both qualitative and quantitative data, and allows researchers to view the same interaction from the perspective of the provider, the supervisor, an observer, or the client. Audiotaped sessions can be re-analyzed several times to investigate different aspects of the interaction. Open-ended questions provide the context and insights needed to interpret closed-ended questions about providers' and supervisors' perceptions of their performance.

The small sample size of this study imposes some limitations on the findings. The research team observed each supervisor for 1 day only, due largely to resource and time constraints. It would have been useful to observe the same supervisor at various facilities, to determine the extent to which the study captured their typical interactions. The supervisors and providers who participated in this study may have performed differently than usual due to the presence of the observers and their awareness of the audiotaping. Although the senior researcher emphasized that supervisors and providers should conduct their supervision as usual, it is human nature to be concerned about being observed and taped. Also, two supervisors did mention that they had not

planned to do supervision that day and may not have performed as usual, despite supervisees' statements to the contrary.

The small number of people who assessed the supervisors and the subjectivity of the observer rankings may also have weakened the study. However, in pre-testing it was found that a larger group caused too many distractions for the providers and supervisor in a small facility. Having complete transcriptions of the interactions, plus a detailed activity log, served to validate the rankings. Table 4 provides an example of a completed activity log. A videotape of the supervisor encounter would have helped to capture non-verbal communication, but transcribing and coding of videos is more costly and complex than audiotapes. In addition, it was felt that videotaping would be too obtrusive.

On a promising note, virtually all the supervisors observed were very interested in the study and appreciated any feedback from the research team. Many supervisors told the research team that they had never been closely observed before in their supervisory practices. Apparently, when provincial supervisors do 'spot-checking' at facilities, they supervise the facilities directly, rather than monitor how district supervisors handle their supervisory duties.

Several post-hoc tests were run to validate the observation instrument. Firstly, as mentioned earlier, a correlation analysis was performed on the ratings and duration of time spent at each visit. As expected, quality of supervision did correlate with time spent for short visits of <30 minutes, but did not correlate with longer visits. Secondly, a compilation of supervisory utterances obtained from the transcripts of the visits showed significant correlations with six of the 11 categories observed. The overall ratings also correlated significantly with supervisees' perceptions of how helpful the visit had been and how much they learned from the supervisors. On the other hand, the ratings did not correlate with supervisees' views of whether supervision at the facility needed to be improved or whether the supervisee believed that the supervisor had sufficient skill to perform effective supervision. It is possible that supervisees' reluctance to criticize the supervisor accounts for the lack of correlation of these last two items.

Although the study did have some limitations and needs to be repeated to enhance its validity, the findings seemed to resonate with the supervisors who participated in the interpretation meetings. The main recommendation that arose from the meetings was to move away from the current hierarchical, top-down approach to supervision, towards a partnership approach to supervision. This requires creating opportunities for providers to participate actively in problem identification and solution.

In addition, participants agreed that improving supervision skills requires more than a single training workshop. It is important to build continuing support mechanisms for supervisors, including self-improvement mechanisms. Specific recommendations were:

- (1) Special skills training for supervisors should be introduced that focuses on the three most critically

Table 4 Example of an activity log of an actual supervisory visit in Zimbabwe, 1999

Time	Activity of district supervisor
10:44	Introductions and greetings
10:51	Interacting with nurse aide
10:52	Writing in her diary in the storeroom
10:53	Checking in the storeroom with service provider
10:54	Writing in her diary
10:55	Checking in the environmental health office with service provider
10:56	Writing in her diary
10:58	Checking the toilets with service provider
10:59	Writing in her diary
11:00	Checking the waiting mothers' shelter with the service provider
11:02	Checking the hospital grounds with service provider
11:03	Checking the staff houses with the service provider
11:05	Writing in her diary
11:06	Talking to the men who were slashing grass
11:07	Looks at the dustbin within the hospital grounds with the service provider
11:08	Interacting with the general laborers in the presence of the service provider
11:09	Checking the patients' toilets and bathroom, and interacting with a patient
11:13	Checking the refrigerator and emergency tray in the labor ward with the service provider
11:14	Checking the resuscitation tray with the service provider
11:15	Checking sterilized delivery packs with the service provider
11:16	Writing in her diary
11:17	Checking all the vaccines in the refrigerator of the postnatal ward (PNW) with the service provider
11:18	Checking in the linen cupboard in the PNW with the service provider
11:20	Going through the drugs in the trolley in the treatment room with the service provider
11:21	Writing in her diary
11:24	Checking on all anti-tuberculosis drugs for expiry dates in the treatment room with the service provider
11:25	Checking on sterilized pressing packs and delivery packs with the service provider
11:26	Reading pamphlets that were in the file
11:29	Checking the autoclave pot in the patients' waiting room with the service provider
11:31	Interacting with patients in the waiting room with the service provider
11:35	Checking in the second storeroom and browsing through the drug control cards
11:37	Interacting with the nurse in charge of the consultation room
11:40	Looking at the charts on the wall and at the same time interacting with the nurse in charge
11:41	Checking the measles register book in the consultation room
11:45	Reading alone some memos in the PNW
11:50	Interacting with the nurse in charge in the PNW and giving her some memos
11:55	Reading memos and writing in the PNW with the service providers
11:56	Checking the clinic work plan in the PNW with the service provider
11:59	Going through the supervisory guidelines with the nurse in charge
12:01	Observing the off duty list in the PNW with the nurse in charge
12:02	Checking the stock control book in the PNW with the service provider in charge
12:05	Writing in her diary
12:07	Looking at the work plan again in the PNW with the nurse in charge
12:15	Writing in the supervisory guidelines in the PNW with the nurse in charge
12:20	Interacting with nurse in charge in the PNW
12:25	Writing in the supervisory guidelines in the PNW with the nurse in charge
12:30	Continuing to give feedback in the PNW to the nurse in charge
12:40	Checking on the patients' register book in the PNW with the nurse in charge
12:46	Writing in the supervisory guideline in the PNW with the nurse in charge
13:02	Writing in her diary in the PNW with the service provider
13:05	Checking the inventory book in the PNW with the nurse in charge
13:07	Writing in her diary in the PNW with the nurse in charge
13:15	Checking T5 forms in the PNW with the nurse in charge
13:17	Checking the staff meeting book in the PNW with the nurse in charge
13:19	Checking in the supervisory book in the PNW with the nurse in charge
13:20	Perusing through the supervisory guideline in the PNW with the nurse in charge
13:21	Writing in the supervisors' book in the PNW with the nurse in charge
13:26	Giving the nurse in charge pamphlets in the PNW
13:27	End of supervisory visit

needed skills: partnership building, coaching on the quality of provider–client interaction, and monitoring and self-assessment skills. The curriculum should also include a section on the interpersonal communication skills needed to encourage provider participation.

- (2) Concrete activities that reinforce supervision skills should be undertaken during and after the training to ensure performance improvement. Provincial supervisors need to mentor district-level supervisors on key activities, such as time management, time spent in critical areas (such as client–provider interaction), problem solving, and developing an action plan. Quarterly meetings of district and provincial supervisors on these issues would be valuable.
- (3) Strengthening supervision will require a variety of new job-aids, including a reference manual for supervisors on the main components of effective supervision, supervisor self-assessment guides that are interesting and user-friendly, and a mentoring guide for trainers of supervisors.

Conclusions

Clearly, there is considerable room for improvement of supervision in Zimbabwe and, by extension, in other developing countries. On the structured observation of their practices, none of the supervisors scored 77 or higher, which was the research team's threshold for exemplary performance. Chief among the strengths are supervisors' technical competence, their ability to interpret and analyze data, their ability to rapidly identify errors and problems at the facility, and their reference to standards manuals at the facilities. On the other hand, the supervisors generally failed to involve providers in problem identification and solving, were rarely innovative, infrequently used checklists, did not espouse a vision of quality, and rarely referred to past or future supervisory visits. Little attention was paid to client–provider interaction at the clinics. Although supervisors often chatted with clients, they rarely sought their input into the quality of services or checked to see if they understood what the provider had told them.

Overall, the multifaceted participatory approach used by the research team elicited important insights into the strengths and weaknesses of district-level nurse supervisors in selected provinces of Zimbabwe. In addition, the MOHCW and ZNFPC now have quantitative baseline measures of supervision that can be used to assess the effectiveness of interventions and to track change in supervisor–provider interactions over time. The results of this study were used to design an intervention to enhance district supervisory skills, improve supervisor–provider interactions, and re-focus supervisors' attention to patient care. This intervention was launched in Zimbabwe's Mashonaland East province in late 2001.

Acknowledgements

This work was undertaken by the Quality Assurance Project with funding from the United States Agency for International Development (contract No. HRN-C-00-96-90013) with the Center for Human Services, the non-profit affiliate of University Research Co., LLC. The authors are grateful to Margaret Nyandoro of the Ministry of Health and Child Welfare for her support, and Sithokozile Simba, Alasford Phiri, Perpetua Gumbo (consultant), and Josephine Jingura of the Zimbabwe National Family Planning Council for their assistance in conducting this study.

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Accepted for publication 19 July 2002