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## ATTACHMENT A

# *Descriptions of the Experiences of 11 Hospitals*

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RS Ridwan Meureksa .....	A-3
RS Harapan Kita .....	A-7
RS Tangerang.....	A-11
RS Koja .....	A-13
RS Islam Pondok Kopi .....	A-15
RS Pelni .....	A-17
RS Fatmawati.....	A-21
RS Marinir Cilandak.....	A-23
RS Husada.....	A-27
RS Budi Kemuliaan.....	A-33
RS Bekasi .....	A-37

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# RS Ridwan Meureksa

*Ridwan Meureksa is a district-level army hospital in central Jakarta. Since 1970 they have been offering the full range of family planning contraceptive services, although there are very few clients for implants or vasectomy. The staff of the family planning unit see an average of 18 new clients and 160 continuing users per month.*

*Three members of the hospital's family planning clinic participated in the PKMI team training for quality assurance in April 1993. However, in the year following the training, two new hospital directors were appointed. During this transition phase, the team did not begin any quality assurance activities. With the appointment of the second director, the quality improvement team was appointed and began working in May 1994. The hospital's activities began with an orientation for 48 hospital staff to the quality assurance program, after which the team began on their journey through the quality improvement process.*

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## *Problem Identification:*

**T**he team began by brainstorming a list of eight problems. "This is the most difficult step for us, to think about quality problems, and to know the difference from non-quality problems." With the help of the PKMI facilitator in guiding the team's discussions, the list was reduced to four quality problems. The team was very enthusiastic in collecting data, interviewing the department heads, and discussing the findings to confirm the problems.

Although the team did not report any data from the confirmation process, they did use a criteria matrix to prioritize and select one problem from among the four. The matrix included three main categories of criteria: importance (prevalence, severity, rate of increase, public concern, and political climate), technical feasibility, and resource availability.

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Problem statement: 12.5% of intra-uterine device (IUD) acceptors at the hospital's family planning (FP) clinic experienced side-effects (infection and bleeding) between January and May 1994.

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### *Understanding the Cause of the Problem:*

The team followed the recommended steps of developing a flow chart and fishbone diagram to understand the source/cause of the problem. A high-level flow chart began with the client entering the clinic, passing through each of the service points, and ending with the client leaving the clinic. Based on a discussion of this flow chart, the team determined that the problem is most likely to occur during the IUD insertion process.

The use of the high level flow chart, however, did not really permit the team to focus on the problem itself, but only on the flow of the client through the clinic. While some possible causes of bleeding and infection could be due to the insertion procedure, it could equally be caused by poor screening during the history and examination, by poor hygiene practices once the woman goes home, or inappropriate counseling that does not inform the woman that she may experience increased bleeding with an IUD. A detailed flowchart would have helped the team to better understand the nature of the problem, which was perhaps not well understood when it was selected during the first phase of identifying a problem.

The fishbone diagram contained three categories of causes: environment, materials, processes. All of the possible causes identified under equipment are shortages of equipment; those under environment listed acceptors, management, organization, and policy, without explaining what the weaknesses are with each; those under process identified types of processes carried out, but again, not the weaknesses with the processes. From the fishbone diagram, the team thought that shortages of staff, shortages of equipment, incomplete sterilization of equipment, and the skill of the workers to do IUD insertions were the most probable causes of the problem.

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The team experienced difficulty developing the fishbone diagram and spent a lot of time trying to complete it. The PKMI facilitator worked with all of the team members to review how to develop the diagram. With this input, the team developed their own fishbone diagram, with the above mentioned causes, and set out to confirm which of these possible causes is the most likely. The results of the confirmation were that the equipment and number of staff giving FP services was insufficient, but that the sterilization process and IUD insertion process were satisfactory.

In spite of these results, the team developed a criteria matrix and inserted all four possible causes into the matrix. Using the same criteria as above for prioritizing among problems, shortage of equipment was selected as the most important cause of the problem. Curiously, IUD insertion procedures and sterilization of equipment were the second and third priorities, even though the confirmation process found that they were not problematic. Rather than using a criteria matrix at this point, the team could have used the data and/or a pareto diagram, to select the priority cause.

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### *Solution Development and Testing:*

“**T**his was the easiest and fastest step for us,” stated the team members. They brainstormed three interventions that could be used to reduce the problem of not enough IUD insertion equipment: sterilize used equipment immediately, ask the director to purchase more equipment, or borrow equipment from another unit.

The interventions were entered into a criteria matrix, with categories of efficiency (cost) and effectiveness (magnitude, importance, vulnerability) as the criteria. The priority intervention selected for testing was to sterilize equipment immediately after it is used.

The team developed a detailed implementation plan, running from June to December 1994 with the target of reducing IUD side effects from 12.5% to 7%. During a team meeting staff members were identified to prepare and sterilize equipment. Every week for three months, from July to September,

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the team monitored the results of the intervention on the occurrence of side-effects in IUD clients. However, it appears that they did not monitor the intervention itself, that is to say, how frequently equipment were not available, or if the staff sterilized them immediately after use.

At the end of the monitoring period, the frequency of reported IUD side effects had decreased to 5.7% (or 3 of 53 new IUD clients). This is 30.9% more improvement than anticipated. But because the intervention itself was not monitored, it is difficult to say whether or not the improvement in quality (i.e., the reduction of IUD side effects) is due to the intervention or to some other factors.

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# RS Harapan Kita

*Harapan Kita is a large, maternity and pediatric hospital with over 375 beds, and several outpatient departments. The family planning clinic serves an average of 50 new family planning clients and 200 continuing users per month. The director and staff of the hospital were already familiar with quality assurance, and have a large quality assurance program operating in many units of the hospital. This was not seen as a conflict for PKMI to introduce its internal quality assurance program into the hospital's program since the existing program was focused in the inpatient areas and the tools and process were the same. The principal difference between the PKMI program and the hospital's existing program is that the PKMI approach used multidisciplinary teams from several professions and units within the hospital, whereas the hospital's existing program had homogenous unit- and profession-specific teams.*

*One physician and two paramedics participated in the PKMI training for hospital teams in April 1993. However, the official team was not formed and operational until February 1994. The team, consisting of seven persons, met twice a month between February and December 1994. They received generous support from the hospital director as well as the director of the maternity services, and they routinely reported the progress of their work and the findings to the directors.*

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## *Problem Identification:*

**T**he team began by brainstorming a list of 10 problems. Through group discussion of the items on the list, the team categorized, combined and eliminated problems; those that were eliminated were done because they were thought to be causes of problems. After narrowing the list to 7 problems, the team members collected data for three

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days, either through direct observation of services or examination of 30 medical records. The data helped the team to eliminate two problems that occurred less than 5% of the time. The remaining five problems were entered into a criteria matrix, and the problem with the highest score was select as the priority problem.

***Problem statement:** 40% of medical records in the family planning clinic, between the period of January 1 and April 1, 1994, are incomplete.*

The team reported that they had no difficulties brainstorming and clarifying the list of problems. However, they had a little difficulty, for which they requested assistance from the PKMI facilitator, in collecting and managing the data to confirm the problem.

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### *Understanding the Cause of the Problem:*

**T**o understand the problem, the team developed a flow chart and a fishbone diagram, collected data, and used a criteria matrix to prioritize among possible causes.

A high level flow chart began with taking the patient's chart from the medical records office, followed a sequence of steps through those who had responsibility for entering notes into the chart, and ended with the chart being returned to medical records. The flow chart was linear and had no decision points. However, it was useful to the team in helping them understand how many people have responsibility for entering information in the chart and enabled them to see that if any one of these personnel did not do their part, that the record would be incomplete. They identified the admissions/ counseling personnel, nurses, and doctors as potential areas where charting might be incomplete.

Using a fishbone diagram, the team identified knowledge, attitude and practices (KAP) as the most likely causes of the problem. The team admitted to having difficulty using the fishbone diagram. They identified three categories of problems: inputs, environment, and process, and only single-word causes, such as 'manpower', 'equipment' and 'finances' under the

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category of inputs. The KAP causes were applied to each of the personnel identified in the flowchart above as potential sources of the problem.

The team conducted three days of observation, as well as an in-depth interview with each staff member (admissions, counselors, nurses and doctors), and examined 56 medical records. They determined that the knowledge and attitudes of all staff are acceptable, however entering information in the records was not completed 28.6% of the time by admissions personnel, 36.7% by nurses and 39.2% by doctors.

Discussion and a criteria matrix were used to select the priority cause, which is the practice/behavior of the nurses.

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### *Solution Development and Testing:*

**T**he team used two meetings to brainstorm a list of five possible solutions and to use a criteria matrix to select one priority intervention. The criteria matrix for this step uses variables for efficiency and effectiveness to help select among interventions.

Alternating responsibility among nursing staff to check the completeness of charting in the medical record and take action to ensure complete recording was selected over the other four alternatives. Over a six month period from April - Oct 1994, the team's goal was to reduce from 40% to 10% the proportion of medical records that were not complete. Once the system was established and operating, the team reviewed 30 medical records per month for 3 months, with the following results:

- October 94 = 13% records incomplete (4/30)
- November 94 = 3% records incomplete (1/30)
- December 94 = 10% records incomplete (3/30)

Clearly the solution produced the intended results. The team conducted meetings with the heads of the units involved, established schedules, and communicated the findings so that the solution could be institutionalized.

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# RS Tangerang

*Tangerang hospital is a large government teaching hospital with over 300 beds located just outside Jakarta. In addition to several specialty units, the family planning unit is staffed by four physicians and three paramedics.*

*One representative from the hospital participated in the PKMI quality assurance training in April 1993, and the quality improvement team was formed in May. In June, PKMI delivered a one day orientation seminar for 64 staff at the hospital. The team was not able to meet until September because all the staff were extremely busy with other activities. The hospital director wrote a letter to PKMI suggesting that a new team be constituted; however, none of the new members had been trained in basic quality assurance skills.*

*After the new team was put together, they had their first meeting April 2, 1994 to discuss how they should work as a team. Their second meeting was held April 4, 1994 to discuss the problem.*

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## *Problem Identification:*

**D**uring this meeting, the team brainstormed a list of 12 problems, discussed and clarified the problems and reduced the list to 6 problems. During the meeting the team also discussed the criteria for confirming how they would know if the problem is really a problem — if the problem occurred more than 5% of the time, it would be considered a problem.

After this initial technical meeting, however, the team never met again. The reason given was that the team leader did not have time to call or participate in meetings. No problem was selected and no further activities undertaken.

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# RS Koja

*Koja hospital is a general hospital which sees approximately 25 new family planning acceptors per month for long-term contraceptive methods. After agreeing to participate in the PKMI quality assurance program, the hospital director participated in an orientation training and three members of the quality improvement team participated in a technical training in April 1993.*

However, as of February 1994 the team had not met or begun any activities. PKMI met with the hospital director on March 22, 1994 to discuss resurrecting the quality assurance activities. The reason given for the delay was that the hospital was undergoing building renovations. In addition, the team members had been changed by the director, but the letter had not yet been written. A team meeting was scheduled for March 25, 1994 and attended by the director and 6 team members. Dr. Azrul met with the team to review the quality assurance program and the steps in problem-solving, with special focus given to the first step that the team would implement, namely identification of a problem. The next team meeting was scheduled for April 21, and a hospital-wide seminar was scheduled for May 28.

The April 21 team meeting was attended by only 3 team members and the team leader. The meeting was rescheduled for May 20, but in the time intervening several other activities had been scheduled for that same day and the meeting was again rescheduled, this time for June 4. The hospital-wide seminar was conducted by Dr. Azrul on May 28 as scheduled and attended by 60 staff.

At the end of this seminar, the team leader appointed the only other doctor on the team as the secretariat and made him responsible for scheduling and running team meetings. The June 4 meeting was rescheduled for June 21 and then postponed again. The PKMI facilitator met with the team on June 24; only 2 members showed up and stated that the team had never had any meetings or activities because the team leader was too busy.

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Some of the difficulties encountered include:

1. The physician appointed as team leader is not the division director, however, the division director was on the team as the deputy team leader.
2. There are only two obstetrician/ gynecologists in the hospital and both were on the team. It was difficult for them both to participate at the same time.
3. The team members participation depended on the team leader, and he was too busy. Because he was so busy, gave responsibility to another doctor to arrange the team activities. However, he was also very busy and did not work everyday at the hospital.

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# RS Islam Pondok Kopi

*Ponok Kopi is one of three branches of the private Islamic hospital in Jakarta. This 150 bed hospital is staffed by over 300 health professionals. The only long-term contraceptive method offered through the hospital's family planning program is the IUD. Sterilization services have not been authorized by the religious leaders of the hospital except for medical conditions, and to date there have been no Norplant users serviced by the hospital.*

*Two staff members participated in the PKMI quality assurance training in November, 1993. A full team of 8 persons was formed in February 1994.*

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## *Problem Identification:*

**T**he team brainstormed a list of 7 problems. After discussion to clarify the problems, the list was reduced to 5 problems. Client interviews confirmed the existence of three problems, and a criteria matrix was used to select the priority problem.

Problem statement: 95% of (potential) family planning clients who came to the clinic during the month of March 1994 had a very low knowledge of family planning methods.

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## *Understanding the Cause of the Problem:*

**T**he team used both a high level flow chart and a fishbone diagram to identify the potential causes of the problem. The flow chart began with the client entering the hospital's clinic for family planning services, and ended with the client leaving the hospital. It is not evident that the team was able to identify any source of the problem with this flow chart, since it deals with the flow of the client through the clinic, rather than focusing on the problem of lack of knowledge about family

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planning. A detailed flow chart would be more useful—one that identifies ways that clients learn about family planning before entering the clinic, as well as detailing the counseling process within the clinic.

The fishbone diagram, used to identify potential causes of the problem, helped the team organize their ideas under inputs, processes and environmental causes. Through this tool, the team identified four potential problems for which they would collect data through interviews with staff and observations. The team found that 85% of the time, there were not enough staff to do counseling, that there were no educational or informational materials nor a room for counseling, and that no counseling was being given.

The team then used a criteria matrix to prioritize and select a priority. However, only three of the four possible causes were entered into the matrix—staff, materials, and a room. The priority cause identified was there are not enough staff to do counseling.

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### *Solution Development and Testing:*

**T**he team proposed two possible solutions: 1) move a staff person who already knows counseling to the FP clinic, or 2) move a new staff person to the FP clinic and train them in counseling. The alternative solutions were again entered into a criteria matrix, this time with criteria for efficiency and effectiveness, with the priority being to move an already trained staff person to do counseling in the family planning clinic.

The team developed a workplan and timeline for testing the solution from March through December 1994. Their target was to decrease from 95% to 18% the number of potential FP clients who do not know FP methods.

At the time this report was written, there had been no reported results.

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# RS Pelni

*Pelni hospital is a large hospital, owned by the government shipping industry. It has a capacity of nearly 540 beds, and provides all types of health care services. The family planning clinic sees an average of 40 new acceptors and 230 continuing users per month.*

*The director and staff of the hospital were already familiar with quality assurance, and have a large quality assurance program operating in many units of the hospital. This was not seen as a conflict for PKMI to introduce its quality assurance program into the hospital's program since the existing program was focused in the inpatient areas and the tools and process were the same. The principal difference between the PKMI program and the hospital's existing program is that the PKMI approach used multidisciplinary teams from several professions and units within the hospital, whereas the hospital's existing program had homogenous unit- and profession-specific teams. One of the PKMI team members was also a facilitator for other hospital quality assurance teams.*

*Three staff members participated in the PKMI training in April 1993. The full team was not formed immediately because of a change in the hospital director, which occurred in January 1994. A one-day orientation seminar for hospital staff was held in February. Immediately after that the 11-person team began meeting once a week on Thursdays from 12:00 to 2:00 pm. The PKMI facilitator visited once per month to review the team's work, answer questions, provide technical assistance, and collect reports from the team.*

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## *Problem Identification:*

**T**he team brainstormed a list of 10 problems, and then discussed them to clarify that they were really quality problems. As a result of the discussion, the list was reduced to four problems, the others eliminated from the list being identified as causes of problems. The

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four problems included: a) many family planning acceptors experienced side effects, b) client knowledge about sterilization is low, 3) clients experience long waiting times at the clinic, and 4) explanations to clients before and after IUD insertions is low.

The team divided responsibilities for collecting data about the size and existence of these problems. Of nearly 400 medical records reviewed, 10% of acceptors had documented evidence of side effects, and of 30 clients interviewed, 92% did not know about sterilization, 73% experienced waits of more than 30 minutes, and 23% of IUD users did not receive information before the IUD was inserted and 20% did not receive information after the insertion.

Through discussion and the use of a criteria matrix, the team prioritized among the four problems and selected the second one as the problem.

***Problem statement:** 91.6% of family planning acceptors at RS Pelnı in the month of March 1994 did not know about sterilization.*

The team experienced some difficulty during this problem identification step, particularly with the collection and management of data; the PKMI facilitator provided assistance.

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### *Understanding the Cause of the Problem:*

**F**or this step, the team used a high level flow chart and a fishbone diagram to generate ideas about the cause of the problem. The flow chart began with the client entering the clinic and ending with the client leaving. At two points during the client's visit, the team identified potential sources of the problem: when the client received counseling prior to receiving the family planning service, and again after the service is received when the client receives further information about their contraceptive. The team did not have difficulty completing the flow chart. However, a more detailed flow chart would have been more useful to the team to understand weaknesses in the counseling process.

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The team used a fishbone diagram to organized possible causes under the headings of manpower, process/method, environment, and equipment. Rather than selecting individual causes, the team selected three categories of causes to investigate further: workers, equipment, and environment. To confirm the problems, the team conducted observations during service delivery to gather data about the number of workers who are active in information, education and communication (IEC), the number of brochures available, and the average amount of time for IEC.

The findings revealed that: 1) 12 staff are active in providing IEC, 2) the average amount of time spent on IEC is 3 minutes, 42 seconds per client, 3) the knowledge of 30 staff interviewed about IEC is low, 4) the clinic has available 82 tubectomy brochures, 85 vasectomy brochures, 7 pre & post tubectomy brochures, 95 pre & post vasectomy brochures, and 63 brochures for couples, and 5) the family planning clinic is busy, crowded and open, and the counseling room shares the same space with the administration room and the pre-exam room.

From these findings, the team concluded: 1) personnel factor: the number, availability, and knowledge of workers is limited, 2) materials factor: the number of brochures and IEC materials is not sufficient, and 3) environmental factor: the time for family planning services is the same as obstetric services. Although the team reported that they had difficulties constructing the fishbone diagram, they did not have difficulties collecting and analyzing the data.

These problems were entered into a criteria matrix with the priority problem being the personnel factor: the number and the understanding of staff is limited, as is the amount of time available for IEC.

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### *Solution Development and Testing:*

**T**he team met four times to develop and select a solution for testing. They brainstormed four possible solutions: 1) use staff from other related units who are experienced in giving IEC, 2) increase the number of staff and the knowledge of staff through self instruction, training from PKMI, or send to PKMI for training, 3) adjust the schedule to have a special day for family planning, and 4) provide IEC in other units.

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Using a criteria matrix with efficiency and effectiveness variables, the priority solution was to adjust the schedule, especially for family planning.

The objective of the solution was to decrease from 92% to 50% the number of clients who do not know about sterilization. The team held meetings to determine the new schedule, and conferred with the directors and staff of the hospital units to inform them of the changes. Likewise information was given to clinic staff and clients informing them of the changes. Unfortunately, nowhere in the report does it indicate what these schedule changes were, or how they are related to other services. For six months, from July - December 1994, the new schedule was monitored.

During the first month, only 33% of the clinic's clients adhered to the new schedule. This decreased to 25% in October, although on average, only one-third of the clients followed the new schedule throughout the solution testing period. In spite of not adhering to the schedule, the proportion of clients who did not know about sterilization continued to drop, from an average of 30% in October, to 16% in November, and only 7% in December.

While it appears that the change in schedule contributed to a decrease in the number of clients not knowing about sterilization, it is also apparent that other factors contributed to improving the quality of IEC services, since the majority of clients did not adhere to the new schedule. This demonstrates that the quality improvement team approach of involving others in and informing others about the goals of the team, can build support and help support a positive outcome.

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# RS Fatmawati

*RS Fatmawati is a large hospital in south Jakarta, with over 500 beds. The hospital had already begun quality assurance activities throughout its inpatient units at the time that the PKMI study began, and agreed to work with PKMI to introduce quality assurance in the family planning program clinic. The family planning clinic sees an average of 87 IUD clients, and 6 tubectomy clients per month; in 1994 there were no Norplant or vasectomy clients.*

*Three staff members on the team participated in the PKMI training. In May 1994 a hospital-wide seminar was conducted to introduce the new quality assurance activities to other staff throughout the hospital, and the following week the team began the problem-solving process. The team tried to meet once every two weeks, and the PKMI facilitator visited once per month. However, they reported that it was difficult to agree on meeting times, with the result that they did not always pay attention to each step in the process. The PKMI facilitator reported that this may also be due to the fact that not all of the team members participated in the training, and therefore did not thoroughly understand the problem-solving process.*

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## *Problem Identification:*

**U**sing the brainstorming process, the team listed 10 potential problems; after discussion and clarification, the list was reduced to 5 problems on which the team would gather data: 1) a patient death, 2) cancelled sterilization procedure, 3) long waiting time for patients, 4) the number of tubectomy cases is low, and 5) tubectomy failure. For problems 1,4,5, the team reviewed the medical records of 31 tubectomy clients, for the second problem the team reviewed the records of 33 potential tubectomy clients, and for the third problem the team interviewed 7 staff in the family planning clinic and 37 staff in the maternity inpatient units.

The results of the investigation revealed that a) 100% of clients experience a long waiting time, which was also stated by 92% of the staff, b) in the last 5

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months only 31 tubectomies were performed, although the expected standard for that time period is 80 cases, and c) of these 31 tubectomy cases, 3.03% resulted in failure (pregnancy).

Using a criteria matrix, the team selected the priority problem.

***Problem statement:** 91.8% of 42 workers in the polyclinic and inpatient units agreed that potential tubectomy clients wait too long to receive services.*

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### *Understanding the Cause of the Problem:*

**B**ecause the team consisted of representatives from every unit that is involved with tubectomy procedures, they were able to develop a detailed flow chart, identifying 45 steps that a client goes through to receive a tubectomy. Of these 45 steps, 12 are non-medical activities, such as registration, payment, etc., and 13 are medical steps such as examination, laboratory, etc. The remaining 22 steps in the flow chart represented times that a client waits between other activities.

Each of the team members collected data about the waiting times, with the shortest waiting period being 15 minutes, and the longest being a half day. The waiting periods fell into three categories: waiting time before the surgery, waiting time associated with the surgery, and waiting time for administrative payments. In addition to classifying the categories of waiting time, the team also tried to assess the activities associated with each category.

The team made excellent progress in using the flow chart to understand the source of the problem. However, the analysis of the findings from the flow chart seems incomplete. For example, they did not report which of the three categories is the most problematic, nor do they report any further detail about the activities associated with the categories. Instead they proceeded directly to constructing one fishbone diagram for each of the three categories of waiting time. Based on these three fishbone diagrams, they identified five potential causes of the waiting time problems, for which they went on to collect more data.

By the end of the study period, the team was still at the steps for understanding the cause of the problem. No further data were available.

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# RS Marinir Cilandak

*Marinir Cilandak is a navy hospital open to navy members and their families, as well as to the surrounding community for general services. The hospital has an 86 bed capacity as well as outpatient facilities. The family planning clinic sees an average of 85 IUD clients, 1 Norplant client, 4 tubectomy clients, and 1 vasectomy client per month. Four staff members participated in the PKMI training in April 1993, but it wasn't until October that the team really began to implement its first quality assurance cycle.*

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## *Problem Identification:*

**A**fter brainstorming a list of seven problems, and using monthly reports to confirm the existence of the problems, the team used a criteria matrix to select the priority problem: 7.8% of IUD clients at the hospital experienced IUD failure in 1993. The term 'failure' was clarified to mean pregnancy with the IUD still in place, which occurred for 13 of 167 IUD clients.

The team reviewed the medical records for ten of the failure cases to try and identify possible causes of the problem, such as type of IUD and duration of use. No clear patterns emerged from these data as the failures occurred with three different types of IUD. The team then discusses several other possible causes of the problem, any of which were related to clinical service provision, physical conditions of the uterus, and client behavior. Some of these causes were related to IUD failure if the IUD was expelled, but not to pregnancy with the IUD in place. The team wanted to know how their data on IUD failure compared with other data. It was suggested that the team contact BKKBN and the pharmaceutical companies to ask for comparison data.

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In attempting to understand the source of the problem, the team developed a high-level flow chart from the time the client arrives at the clinic until she leaves. This flow chart does not deal with the specific problem, which is a difficult one to flow chart since the failure occurs after the client has returned home. The team's previous discussion of possible causes could have been organized onto a fishbone diagram, which would have been more helpful to the team than the flow chart, for this particular problem. During discussion with the PKMI facilitator, the team decided that it would be very difficult to solve this problem, and selected another problem: the waiting time for services is too long.

To confirm the problem, the team interviewed 30 women who had returned for a postpartum control visit, as well as interviewed staff at the clinic about family planning services at the hospital. These interviews revealed deficiencies in servicing potential family planning clients.

***Problem statement:** 50% of potential family planning clients return home without receiving family planning services.*

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### *Understanding the Cause of the Problem:*

The team began by trying to develop a flow chart of client flow to see where in the process clients were required to wait and why they were not getting service. The flow chart began with the client entering the clinic and ended with the client going home. The longest waiting period was determined to be prior to receiving any services. Following this step, the team developed a fishbone diagram to list possible causes of the waiting time problem. Five possible causes were identified for which the team then collected data: 1) on average one worker sees 15 patients per day, 2) there is no organization for family planning, 3) 100% of staff provide family planning services, but they are at the same time as vaccination services, 4) more than the two designated staff work at other activities, and 5) doctors are frequently late, although there is no record to verify this.

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The team used a criteria matrix to prioritize and select the most important cause of the problem: The day for family planning services is the same day as other services (vaccination).

In both of these problems, IUD failure, and potential family planning clients leaving before receiving services, this team has demonstrated a good understanding for exploring potential causes of the problem.

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### *Solution Development and Testing:*

**D**uring one meeting the team identified four potential solutions and used a criteria matrix with efficiency and effectiveness variables to select a priority solution: Adjust the schedule of clinic services.

The team's next meeting was to discuss how to adjust the schedule of clinic activities. But once the team understood the problem, changes began occurring. The principal change increased the number of immunization and family planning days from once per month to twice per month. In addition, the nursing staff from the maternity unit gave mothers referral cards to return to the clinic for family planning services. Since the solution was implemented, the team reported that there were no more instances of potential family planning clients leaving the clinic without receiving services.

Although this problem has been reduced and the quality of services to potential family planning clients improved, the team has not met to begin another problem-solving cycle. The reason given is that it is too difficult to find the time to meet.

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# RS Husada

*Husada is a private hospital in the center of Jakarta. The hospital director, Dr. Samsi Jacobalis, is one of the pioneers in Indonesia to begin implementing quality improvement activities in his hospital. For more than a year prior to the implementation of PKMI's program, Dr. Samsi helped teams get started in several units within the hospital. Two of the teams, one from the nursing department and one from the laboratory, conducted a presentation of their work and findings to other hospital staff. These presentations clearly demonstrated the process and tools used to identify and solve quality problems.*

*Three persons from the PKBRS polyclinic were trained during the first technical training session in April 1993. A orientation for hospital staff, particularly nursing staff, was conducted by the hospital director and Dr. Azrul on June 28. Dr. Samsi retired on August 1, 1993, and it wasn't until a few months later that the new director was in place. The new director is also very supportive of quality improvement activities, although he has not taken the personal interest that Dr. Samsi demonstrated. Before he retired, Dr. Samsi was the in-house advisor, but there is currently nobody taking over this responsibility.*

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## *Problem Identification:*

**T**he quality improvement team consisted of 10 members. Initially the team met bi-weekly for the first two months, with each meeting lasting an average of two hours. They first met on August 7 to begin brainstorming a list of problems. Eleven problems were listed and discussed by the team members, and five were selected as priority problems. During the subsequent meeting on August 19, the team used a criteria matrix to select one problem that they would address. Although

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there were differences of opinion because of the closeness of scores (ranging between 52-58), the team settled on the following problem.

***Problem statement:** Post-tubectomy wound infection among post-partum patients.*

While the team felt that this problem was certainly a priority, they needed a baseline that would tell them how frequently infections were occurring so that they could later assess whether they were making improvements by decreasing the incidence of infections. For three months the team monitored each tubectomy client and recorded the number of infections occurring within the first week after surgery. They found that 6.6% of clients who returned after one week for their post-operative visit had a wound infection.

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### *Understanding the Cause of the Problem:*

**I**n September, the team developed a flow chart to identify possible sources of the infection. In January, during the project's mid-term evaluation, the team reported that they just had a 3 1/2 hour meeting to review and revise their work in previous steps and to develop a new flow chart.

The revised flow chart was very detailed, demonstrating the team's understanding of the larger steps in the process. However, the team experienced difficulties using the tool, particularly in identifying decision points, as well as determining where the process begins and ends. The process outlined in the flow chart began from the time the woman received counseling about tubectomy during the antenatal period and ended after three follow-up visits, clearly beginning long before the infection process could take place, and ending well after the one week timeline for post-operative infection. It was suggested that the team eliminate unnecessary steps in the process, and develop smaller flow charts of sub-processes which could then be examined in more detail.

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“Identifying the cause of the problem is the most difficult step” said one of the team members. “We made a flow chart to see where infections might occur, and then tried to do a fishbone diagram to look for other causes. We started first by looking at what is going on in the hospital - sterilization of equipment, cleanliness of the operating room and patient rooms, sterile technique used during the operation - but we found nothing. Then we thought that maybe something is happening when the client goes home - what is their living environment like, is their house clean, are they taking care of the incision like they are told? For each of these possible causes, we had to collect a lot of information because one thing could be related to another thing, and we found that the cause of the problem lies deeper than we first thought. That is why this step was the most difficult and time consuming.”

During return checkup visits, team members interviewed each client about her home environment and asked her to recall what instructions she received before going home from the hospital. The team learned that very few clients were given information about what to do when they went home, and that those who had received information did not receive complete information. The team decided that this was the real cause of the problem, and the only one that they would work to improve.

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### *Solution Development and Testing:*

**N**ow that the team had identified what they felt to be the main cause of the problem, it was easier to develop a solution. Several possibilities were discussed such as increasing the number of staff or assigning one staff member to do counseling and education, or developing materials for clients to take home with them. They decided on a combination of these.

PKMI already had a leaflet for clients that explained tubectomy and provided information about what the client should do and not do before and after the procedure. The team reviewed the leaflet and determined that the information was complete and written in a simple manner so that clients could easily follow the instructions. Leaflets were distributed to every unit

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in the hospital, especially those where tubectomy clients would spend the night. Staff were asked to give a leaflet to each client before she went home, to read the leaflet with the client and answer any questions. The leaflet has space on the back for the doctor or midwife to write any special instructions, such as the date of the return visit or a medication schedule. Clients were instructed to bring the leaflet back with them to the return visit.

The team monitored the effect of the solution for a three-month period. They found that all clients returned for their follow-up visits, and nearly all brought their leaflet with them. During the visit, the doctor noted the client's condition and any further instructions for the client and returned the leaflet to the client. During the three-month monitoring period, there was not a single case of post-operative wound infection. While the team members are not sure what clients are doing differently at home, they are satisfied that the extra information and counseling given to clients before they go home has resulted in a better outcome.

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### *Institutionalization of the Solution:*

The final steps for the team are to ensure that the process of counseling and providing a leaflet to all clients continues. This means maintaining a steady supply of leaflets, distributing them to the nursing units, and reminding staff to discuss the information with the clients before they go home from the hospital. The team plans to present their findings to the hospital staff during a seminar supported by the hospital and division directors.

“Using the QA approach, I feel like we are working on a ‘real’ problem” said one of the team members. “This is different than doing an inspection and finding a little thing here or there that needs to be improved. Sure, you can improve that thing, but it may not solve an ‘entire’ problem. With this program, we feel like we really understand how to solve problems. It can be a difficult process, but that is because we are learning the steps at the same time as we are doing them. I think the next time will be easier because I understand more and can help my team members better.” The

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team used the materials they received during the training, rather than the Quality Assurance Manual as their reference materials. They suggested that the training should be very practical and use more examples and exercises.

One of the problems identified by the team in implementing the quality assurance program is finding the time and motivation to get the team members together. In this regard, they identified the external motivation from PKMI as very important for the progress of the team's work. When they knew that PKMI was coming to visit, the team would meet prior to the visit, and complete at least one more step in the process. During the visit, the team discussed their work with PKMI and received feedback on it. Once the team got together and worked through the steps, they found the process very stimulating and enjoyable. All members of the team said that they worked well together.

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# RS Budi Kumuliaan

*RS Budi Kemuliaan is a government maternity hospital in Central Jakarta with a large outpatient department for maternal and child health services as well as family planning. The director, Dr. Sunarto Wironagoro, is very supportive of the quality assurance program. Three persons (two doctors and one midwife) were trained by PKMI during the second training session. After the training, the director asked that each of these three persons head a problem-solving team, such that the nursing unit, the central medical records unit, and the PKBRS each formed a quality improvement team. A hospital-wide orientation seminar was conducted June 24 with more than 50 staff in attendance.*

The PKBRS quality assurance team consisted of nine persons: the three persons who were trained as well as six others. Between July 12 and 22, 1993, the team met every day for two hours to develop a list of problems, select a priority problem, identify possible causes of the problem and develop a questionnaire.

The team brainstormed an initial list of ten problems, most of which were not stated as problems, but rather identified topics where problems might exist. For example “problems with counseling”, “beginning work”, “work flow”, or “medical records”. During one of PKMI’s monitoring visits, the problems with these topics were identified, such as “not all clients receive counseling” or “staff do not begin work on time”.

The team did not collect baseline data about any of these problems in order to determine whether or not they are really problems. They used the voting technique to select their priority problem.

***Problem statement:*** *Records/charts of FP clients in the PKBRS were difficult to find between the months of January and July 1993.*

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Discussion of the problem statement during this evaluation visit revealed the need to quantify how many and what percent of charts are difficult to find, and to precisely define what is meant by “hard to find” (i.e., it takes more than 30 minutes to locate the chart).

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*Understanding the Cause of the Problem:*

A simple flow chart was developed defining the normal or ideal routing of a client’s record from the time the client arrives until the record is returned to the filing shelf. The flow chart did not, however, detail what is done if the record is not found or is lost at any step along the way, nor did it detail the filing system after the client’s visit is completed. The team experienced some difficulty getting started with the flow chart because they did not know if they should follow the flow of the client or the flow of the record; they made the correct choice deciding on the latter. No boxes or diamonds were used in the flowchart to illustrate where decision points and potential problems occur. Dr. Azrul reviewed this with them during the evaluation visit.

The team used a fishbone diagram to identify possible causes of the problem under the categories people, equipment, process, and system. From the fishbone, three potential causes which the team felt were the most likely causes were selected.

A questionnaire was developed to collect information about these possible causes. It was distributed to 50 staff who work on a rotational basis in the PKBRS. Questions were grouped into three categories corresponding to the three possible causes. However, the manner in which the team analyzed and interpreted the data is not clear. For one category, the results of only one question were used; for the second category, the results of two questions were combined; and for the third category, the results of all three questions were combined. Percentages were calculated for these three categories and the cause of the problem identified.

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*Cause of the problem:* Staff responsible for filing the records want to go home quickly.

Discussion to clarify the meaning of this statement revealed that at the end of the day when the staff want to go home they do not file the records before they leave.

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### *Solution Development and Testing:*

The team brainstormed three alternative solutions: develop guidelines for filing records, disseminate information, assign one staff to be responsible only for filing records. Using a criteria matrix with the criteria for efficiency and effectiveness, the team selected the first solution, to develop guidelines for filing records.

The PDCA cycle was used by the team to plan, implement, check and revise the solution. The objective of the solution was to decrease to 5% the family planning clients' records which are difficult to find. The timeline of intervention was from September 1993 to March 1994. The first two months were used to develop and pre-test the guidelines, the following month to orient the PKBRS staff to the new process, the next three and a half months for monitoring the solution, and the last month for final revisions and dissemination of findings. The team then entered the phase of monitoring the solution.

No further data are available on the outcome of this study.

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# RS Bekasi

*RSU Bekasi is a government-owned general hospital in West Java. The director, Dr. Hario Untoro, is very supportive of the quality assurance program. He explained that in 1988 RSU Bekasi contracted a management consultant to conduct an assessment of quality in the hospital; this assessment was not ordered by the Ministry of Health. To conduct the assessment, the management team interviewed staff to get their opinions of problem areas, developed a questionnaire, collected and analyzed the data, and presented the findings to the hospital and unit directors. The next step was then to take action to solve the priority problems. The heads of several departments who had participated in a management course the previous year, received additional training in facilitating quality circles and using the problem-solving tools. The facilitators then trained eight quality circle teams throughout different units in the hospital. While the model taught by PKMI is different from their original model, the principles are the same. As well, all the teams have ceased to function. The director sees this new team as possibly being able to breathe life back into the hospital's quality improvement program.*

*Three persons were trained by PKMI during the second training session. The PKBRS quality assurance team consisted of 13 persons: the three persons who were trained as well as 10 others. A hospital-wide orientation seminar was conducted June 26, 1993, with 60 staff in attendance.*

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## *Problem Identification:*

**T**he team first met on July 16 to begin developing a list of problems. They followed the steps in the first version of the manual, namely to make a list of services offered through the FP polyclinic, select a priority services, and then identify problems within that service. IEC was selected as the priority service after a group discussion and consensus decision of the team. At this first meeting they decided to collect data

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about problems in IEC, both medical and non-medical, and bring the data to the second meeting.

According to previous monitoring records by the PKMI staff, the team identified as the principal problem that 80% of 'work units' do not report IEC activities. During this visit, the results of the counseling for gaining new FP clients was the stated problem.

***Problem statement:** The results of in-patient IEC during the period of January - June 1993 are less than 2%.*

The team presented a table of data which included the total number of in-patients per month, total number of IEC encounters per month, and the total number of new FP clients per month. Calculations were made of the percent of in-patients receiving IEC (7.2%) and the percent of new FP clients (1.2%). A problem was identified with the calculation of new FP clients because the denominator used was the total number of in-patients rather than the total number of IEC encounters, which would result in 17.3% acceptance of FP among those who received counseling. Several other problems were discussed about the sources and validity of the data since many patients who received IEC may have sought FP services elsewhere, or the new FP clients may never have been in-patients.

A bigger concern, however, is that the team did not realize that two problems could be identified from the data. The first is that the number of in-patients receiving IEC is low, and the second that the effectiveness of the IEC is low. Although the team selected the latter problem for their problem statement, subsequent steps focused on identifying causes of the former problem.

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### *Understanding the Cause of the Problem:*

The team did not use a flow chart which was an appropriate for the problem that clients who receive counseling do not become FP acceptors. A fishbone diagram was used to organize ideas about possible causes of the problem. However, all the causes were related to the problem that in-patients do not receive IEC. Likewise, a questionnaire was developed and 30 staff interviewed about their knowledge and attitudes to providing IEC;

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there were no questions related to behavior or practices in providing IEC.

At this point the evaluation team clarified with the team which of the two problems they were most interested in working on. They decided that more clients should received IEC, and selected that problem. Using the data they already had, they revised the problem statement: In-patients at RSU Bekasi who received IEC during the period of January - June 1993 is low - only 7.5%.

Questions were posed to the team about when and how IEC occurs during a patient's stay. To detail the process by which in-patients receive IEC, a flow chart can be used to identify points in time during the patient's stay that staff do/could provide IEC, as well as barriers to providing the IEC. It was also suggested that the questionnaire used to collect information should focus on what staff do, or say that they do, and the difficulties they encounter in providing IEC. The team is planning their next meeting for mid-February.

No further data are available on the outcome of this team's problem-solving activities.