The Family Planning Manager

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MANAGEMENT STRATEGIES FOR IMPROVING SERVICE DELIVERY

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Case Scenario

Making Your Clinic Building Work

Editors' Note

When the demand for services increases or a program expands the range of health and reproductive health services it offers, the staff of a health facility can quickly become overwhelmed. Improving the organization of a clinic's space and equipment can increase the efficiency of service delivery, enable staff to use the available space more productively, make the clinic easier to clean, prevent infection, and delay the need for costly additions to existing buildings.

Using interior space efficiently in health centers is critical both for the smooth delivery of services and to the quality of care provided. Clinic managers need to ensure that clients and staff can move easily through their health center and that there is adequate space and equipment for staff to follow infection prevention procedures. Clients want a place that is clean, welcoming, efficient, and comfortable. They also want one that assures their privacy. Managers and medical staff need to work in an environment that is as easy as possible to keep clean.

This issue of *The Family Planning Manager* provides managers with some basic guidelines for evaluating clinic space requirements and for organizing their clinic to improve how the space is used to meet both client and staff needs. It provides simple solutions for adapting existing buildings so they can accommodate a greater number of clients and a broader range of services. It also discusses how to organize and use your space effectively to prevent infection.

—The Editors

The Family Planning Manager

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Using Your Clinic's Space to Improve Quality of Care

Increasingly, health care programs throughout the world are offering an expanded array of family planning, maternal and child health, reproductive health, and primary health care services in one clinic facility. Often these clinics were originally designed to offer more limited services for fewer clients. Expanding the range of services or serving an ever greater number of clients can place a strain on the quality of care a clinic provides by reducing the efficiency of service or making it more difficult to ensure client privacy and prevent infection.

The physical environment in which clinics provide health care activities has a direct influence on the quality and efficiency of the services. Health facilities should be functional and economical to run and maintain. Whether the clinic is large or small, the layout should be organized in such a way that different functions are correctly placed in relationship to each other. The layout should make it easy for clients and providers to enter, move through, and leave the facility. For these reasons, it is important to plan ahead and assess the space and organization required to expand services, serve a greater number of clients, and continue to function efficiently under new service circumstances. Planning ahead also ensures that facilities will continue to provide a clean, functional environment for both clients and staff.

Quality of care—including efficiency, privacy, and infection prevention—is the guiding principle when planning the organization and use of clinic space. Do clients move easily through the building from one service to another, or do they get lost and have to ask staff for directions? Are some clinic rooms always in use and others often empty? If a mother enters with a sick child, does she have to wait a long time in an enclosed waiting area, potentially exposing other people to a contagious disease? Are the rooms staff members must use to do their work near each other, or do they have to travel frequently from one end of the clinic to the other, making them less efficient and limiting their time spent with clients?

This issue of *The Family Planning Manager* presents ways to evaluate your current and future space requirements, and ways to involve staff and clients in the evaluation process. You will also find discussions of typical space problems and simple, cost-effective suggestions for solving them. The issue closes with a brief discussion of space as it relates to infection prevention, and the kinds of equipment, room design, and practices necessary to prevent infection and maintain a clean environment. Although the issue focuses primarily on ways to improve an existing facility, the process of planning a new building is also discussed.

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Improving How Clinic Buildings Function: The Planning Process

As you develop and market your health care program, the demand for your services will grow. Further, as you incorporate a wider range of health and reproductive health services in a single facility, you will serve an increasing number of clients with a greater variety of needs. These services may include such primary care services as child health, prenatal care, family planning, laboratory services, and diagnosis and treatment of reproductive tract infections.

This growing demand for your program's services requires that you consider the space and equipment required for delivering these new services and serving these new clients. Whether you are planning a new program or planning for the future of your current program, it is important to evaluate how your clinic building is organized now and to consider ways to improve its organization in the future.

At the beginning of any redesign process, it is critical to take some time to ask several essential questions. In what ways does your building's existing design help your staff provide quality care in an efficient way? In what ways does the building hinder the provision of care? What simple adjustments can you make in the design and organization of the space that will improve the quality of care you provide your clients and help prevent infection? What are some of the more complex changes that should take place over a longer period of time?

Whether your planning process is highly structured or less formal, you should take the time to ask and answer these questions. You can do this best within a framework of long-term development, in order to ensure the changes you make now do not limit your facility's future usefulness. The following box presents such a framework—a Masterplan, which is a series of documents that will help you plan the future development of both new and existing health facilities.

Contents of a Masterplan

A Masterplan is a series of documents that describe the framework for the immediate and future development of a health facility, either an existing one or one that is in the planning stages. The information you gather and prepare will help you plan and prioritize future changes and will support your proposals.

Developing a Masterplan before proposing changes to an existing health facility also ensures that short-term activities do not limit future possibilities. A Masterplan containing the components outlined below can be developed in a relatively short time, using limited data and resources. Facilities that are part of a larger program of service centers may find that such a plan provides valuable support to requests for funding for renovation or construction activities.

continued on next page

Basic Data

- **Population of catchment area** currently, in five years, and in ten years.
- **Distance to other health institutions,** and the capabilities of those institutions.
- **Current utilization** (for example, the number of clients served per day). Does the client load peak at certain times of day or on different days of the week?
- **Current staffing** (for example, the number of full-time and part-time administrative, medical, and maintenance staff).
- **Mission** of the facility, that is, providing primary health care, including family planning, reproductive health, and maternal and child care.

Existing Conditions

- **Current layout** of the building(s), with location of various departments.
- **Date of original construction** and dates of renovation, reconstruction, and additions.
- **Location and layout of mechanical systems,** including water mains, drainage areas, outside wells, and latrines.
- **Functional condition of electrical system,** including lighting, ventilation, fittings, and equipment.
- **Flow of patients and staff inside the facility,** from reception to various departments or services. Is the flow smooth, or does the flow of providers and clients become congested in certain corridors or areas of the facility? Are related departments (for example, well child care and vaccinations) located near each other? What are the average client waiting time, length of visit, and number and kind of staff seen?
- **Condition of key building elements,** including roofs, walls, doors, windows. Ideally, this kind of evaluation is done by an architect or other building professional.
- **Areas that need renovation or repair.**

Issues

- What are the predicted future use and occupancy of the facility? For example, what is the anticipated client load one year from now, and in five years? This will depend in part on your estimate of the future population in your catchment area.
- Are you providing the appropriate supplies, equipment, and space for infection prevention?
- Have you considered the need for regular maintenance and repair of your facility and equipment?
- Are you disposing of your waste safely?

Future Proposals

Propose the phasing in of new or expanded activities, and the possible elimination of others. For example, when do you anticipate a need for a laboratory, pharmacy, or a room for surgery? The data you have gathered and prepared for this plan will help you prioritize the changes you propose.

Budget

- Prepare a budget for your renovation or construction plan that includes estimates of the costs involved in design, materials, labor, and equipment.
- Have you established a budget that will cover the maintenance and recurrent costs of your newly renovated or newly constructed facility?

Adapted from World Bank, 1996

Using a Masterplan. Developing a Masterplan can help you gather and organize the data and information necessary to present to your supervisors your plan for renovating an existing facility or constructing a new one. Masterplans can also be used at a regional level to develop a renovation or construction plan for several clinics in a region. Such a regional plan should allow adaptations to be made to suit specific local conditions.

Suggested Space Requirements
Maternal and Child Health Clinic
(in square meters)

No.	Room Type	m^2
01	Family planning consultation	15
02	MCH consultation	15
03	Multi-purpose room	24
04	Utility room/laboratory	10
05	Covered waiting area (for 30 people)	30
06	Toilet	05

World Bank, 1996

The Facility Planning Process. Consider an existing clinic that was originally designed to provide family planning services. Planners probably determined the spatial requirements in square meters for carrying out various services and determined what services needed to be located near each other. But what if the planners did not incorporate into the design of the building sufficient space for an increasing demand for family planning services or for all the reproductive health services you now intend to offer? The pharmacy might be housed in a room that is too small. There may be insufficient space for staff to counsel clients with any degree of privacy. The sterilization room or area may not be large enough to prevent contamination between clean and dirty equipment. These kinds of situations can be avoided with careful planning.

Often the planning process for health care clinic buildings is done at the regional or central level rather than at the local level. No matter where planning is carried out, involving local community and staff members in the planning process helps ensure that the facility more accurately reflects the health priorities of the community.

Using a "Type" Plan. In many countries, the planning process is shortened by the use of "type" plans, which are standardized building plans for specific kinds of health facilities, such as an urban health care clinic or a rural health post. These plans provide a model of the layout of the building, including the locations of different services, entrances, corridors, etc., and recommend construction methods and materials. Type plans can be used for reconfiguring a program's existing clinic or clinics, or for constructing new ones.

Type plans can serve the needs of different communities better if they are adapted to respond to the needs expressed by local users (both staff and community) during the planning process. Involving local users ensures that a type plan allocates sufficient space to meet the community's immediate and long-term health care priorities and takes local conditions into consideration. Examples of local conditions that could affect building design and construction include inconsistent water or power sources, a client population that prefers separate waiting areas for men and women, the need to withstand flooding or earthquakes, the local availability of construction materials, or a roof design that prevents rainwater runoff or accentuates heat collection.

How to . . .

Involve Users in Redesigning the Clinic

The success with which a newly designed or renovated facility can facilitate a higher quality of care often depends on whether the users of the facility understand the reasons behind the arrangements and content of their new or newly reconfigured space. Users, in this case, are staff members, clients, and members of the local community. To make sure that you use the space well, you should get their participation in the planning process by:

- **Involving users in a systematic way.** Ask them to nominate representatives, give them sufficient notice of planning meetings, and at the meetings ask them to participate in the discussion by asking and answering questions.
- **Telling users the reasons for their participation.** For example, users should tell planners what services they need, learn from planners what the future possibilities for building design or modification are, and learn the cost, personnel, and construction issues involved.
- **Asking users to participate in ways that use their skills and experience.** Clients or providers have valuable experience providing or receiving health care services in the clinic facility and may be able to give concrete examples of ways in which the facility functions well and poorly. They should not be asked to make drawings or sketches, take measurements, write reports, or analyze statistics. Use their time as efficiently as possible.
- **Recognizing the users' efforts and expressing appreciation for their participation in the project.** They should know that their participation influenced the results.

Evaluating Your Building. Even a well-planned building may encounter problems once it opens for operation. Problems in siting, foundation, construction materials, mechanical or electrical equipment, and ventilation may be discovered. Errors in layout design may have slipped into the type plan that was used to guide construction, and these errors may be repeated in future buildings. A simple reporting mechanism for getting feedback from clinic managers on how their building functions can help planners and managers prevent the same problems in future buildings. Having an architect make a professional evaluation of your building and develop a plan will help you avoid structural problems or mistakes.

Preparing a Budget. Your budget for improving your building depends on many factors. If you can make your use of space more efficient simply by rearranging your use of various rooms, then your costs will be minimal. If you must construct new walls, repair a roof, excavate a foundation, renovate the electrical system, or add new rooms, your costs will increase. One of the most important factors in construction is the use of materials that are durable, easy to maintain, easy to repair, and easy to replace.

The box below presents some of the general categories you should consider when preparing a budget for your renovation, reconstruction, or new construction project. Depending on your circumstances, community participation in providing labor or materials for construction can reduce your costs and increase the community's sense of "ownership" in the facility.

Budget Categories

Following are some general budget categories to consider as you develop your plan and budget for building or renovating your clinic facility.

- **Foundation,** including basement foundation and walls
- **Interior Structure,** including floors, ceilings, roof (frame), and stairs
- **Exterior Structure,** including exterior walls, windows, and doors
- **Roof** (surface of roof)
- **Interior,** including partitions, interior walls, doors, door frames, painting, wall finishes (such as plaster), curtains, and ceiling finishes
- **Bathrooms,** including toilet or pit latrine, waste container, and either a sink or a bucket with water
- **Plumbing,** including pipes, fittings, sinks, and drains
- **Electrical system,** including switchboard, transformers, distribution board, wiring, fixtures, and, possibly, a generator, solar panels, or other self-contained power source
- **Access and exit ways,** including walkways, outside stairs, and landscaping
- **Equipment,** including medical, cleaning, kitchen, laundry, and administration
- **Furniture,** for examining rooms, administration, waiting room, and reception, etc.
- **Site preparation,** including excavation, demolition, and removal of dirt, rocks, and rubble
- **Maintenance,** including maintenance and repair of equipment, cleaning services, and upkeep of interior (paint, plaster, walls, floor, stairways, etc.) and exterior (outside walls, roof, sign, entrance, walkways, landscaping, etc.)
- **Recurrent costs,** including electric bills, water bills, fuel for generator, light bulbs, and cleaning supplies

Maintaining Your Building. An important thing to keep in mind when preparing your budget are your facility's recurrent costs and the cost of maintenance. Planned preventive maintenance, in particular, is an important consideration. Equipment often needs daily, weekly, monthly, and seasonal maintenance to keep it in good working condition. Building structures need regular painting, plastering, or whitewash. Local climate conditions can be a factor in how often maintenance activities must be carried out. Some types of walls, roofs, power generation systems, and walkways require more expensive maintenance than others. When developing a budget for your construction or renovation plan, you should include sufficient funding to maintain the facility and cover your recurrent costs in future operating budget cycles.

Building Facilities for Urban Primary Health Care

About 20 percent of the people of Bangladesh live in urban areas, with the four largest cities having a total population of about 9.5 million. By the year 2010, these cities are expected to have more than 25 million people. More than half of the people in these four cities live below the poverty line, and millions live in slums.

The principal objective of the Urban Primary Health Care Project of the Government of Bangladesh is to ensure that poor people in the four large cities of Dhaka, Chittagong, Khulna, and Rajshani have easy access to a standard integrated package of health care services. This package includes immunization, micronutrient support, family planning counseling and contraceptive supplies, prenatal and post-partum care, health education, and basic curative care. Urban primary health care in Bangladesh has received less systematic attention than primary health care in rural areas. The urban poor have the worst health status of any group in the country, due in part to a relatively underdeveloped infrastructure for urban primary health care.

Health facility construction. At present, most health care programs for urban slum populations in Bangladesh rent their space, a high-cost practice. One of the project's major components is to provide support for the construction of 190 new facilities for primary health care, approximately one facility for every 50,000 people in the four cities. The new buildings will be located conveniently near major slum areas and within easy access of most urban poor. The facilities will be open evenings and weekends, to allow working parents to bring their children for care without having to miss work.

Building design. The project's type design for the health facility is a two-story building with a total of 216 square meters (2,400 square feet), or 108 square meters (1,200 square feet) per floor. In some facilities the ground floor will be used for shops or offices that will rent their space from the City Corporation, and the first floor will be used for primary health care services. In others, both floors will be used to provide health care services. The foundation will be built to accommodate a total of four stories (two additional stories beyond the original construction) to allow for future expansion of the program. All external walls will be 30 centimeter (12 inch) cavities, instead of the usual 25 centimeter (10 inch) walls; the cavity inside the walls will make the interior cooler and act as a noise barrier.

Facility goals. The facility is designed to:

- provide a well-ventilated and pleasant environment for health workers and patients;
- ensure that clients have sufficient auditory and visual privacy when receiving health services;
- allow mothers to comfortably deliver their babies in clean surroundings;
- facilitate maintenance through the use of locally-available materials and construction techniques; and
- allow for the leasing of 108 square meters (1,200 square feet) of commercial space on the ground floor.

By providing a permanent building with commercial space for leasing on the first floor (or ground level), the project is increasing the long-term sustainability of the urban primary health system. The collected rent will be used for the Urban Primary Health Care project, and later, when the project has ended, will help sustain the primary health care program in each city.

Bangladesh Urban Primary Health Care Project, Final Report, 1996; and Asian Development Bank RRP, 1997

Adapting Your Building Layout

In any health care clinic that has existed for a few years or even in a new clinic, it is likely that there will be space shortages, underutilized space, difficulty in assuring a private space to talk with clients, and traffic jams where clients or staff get backed up or have to wait. As a clinic manager, it is often too costly to make extensive structural changes to solve these space difficulties. But you can make simple, cost-effective adaptations to your building that will allow you to use the space differently to improve the quality of care and efficiency of the services you provide.

When solving space problems, you should resist making quick reassignments in space to please one group or another, because each change could have a negative effect on the delivery of other services. Instead, consider all suggestions, in order to make the process as participatory as possible. Draw simple floor plans that show the location of service stations, waiting areas, doors, and arrows for client routes. Use your service statistics to gather concrete data on the services with the greatest demand. The table at the end of this section provides a summary of suggestions for rearranging space so it can be utilized more effectively and make it easy for staff and clients to use.

Reducing Traffic Jams

Use your floor plan to help you think about client and staff routes. Then observe your clients and staff as they go through their routes. Are there any "traffic jams" or points of congestion where crowds of people gather in a limited space? Typical points of traffic congestion are narrow doors or gates used for both entering and exiting, narrow corridors where staff and clients move in both directions while other clients wait, and waiting areas to which clients have to return after passing through stations. Your staff will benefit from having adequate space to do their work and from being able to move easily through the clinic.

To reduce congestion, you can:

- **Create client routes that produce one-way traffic.** You can do this in a number of ways. Adding exit doors from service areas and providing external routes to subsequent services can reduce client traffic inside the building. Or try changing the function of rooms to help client movement. *For example, the office of a clerk who directs all clients to different services can be moved to the beginning of a client route or near the entrance of the clinic, while an office that serves fewer clients can be moved to the end of the corridor.*
- **Think about ways to add secondary waiting areas.** Creating additional waiting areas will reduce overcrowding of the main waiting room. If you add benches in narrow corridors, put them only on one side.
- **Consider adding exit doors from service areas** and provide external routes to subsequent services. *For example, an exit door from an examining room may enable clients to follow an external route to the pharmacy. Then you can install service windows for the pharmacy that open to outside walkways.*
- **Create short staff routes that avoid crowded client areas.** Consider cutting a second door into examining rooms that back onto uncrowded corridors, or cut a door from one examining room to another. Make sure, however, that client privacy is protected.

For more information on ways to streamline client flow, please refer to Volume I, Number 1 of *The Family Planning Manager,* "Reducing Client Waiting Time."

Helping Clients Find Their Way

Clients who don't know where to find their next service can cause congestion within the building and delays in services. Are there confusing places where clients don't know where to go and thus have to ask for help? Try walking with one of your clients to make this assessment. Ask your staff if clients routinely ask them for directions. Think about improving the movement of clients through your clinic by using signs or maps (in a large facility), and making sure that staff give good directions when they tell clients where to go for the next service. If you have some semi-literate clients, you could paint colored lines on the walls, with a different color for each type of service (laboratory, prenatal care, child care) so your clients can follow the lines to their destinations.

All staff—including providers, information desk staff, registration clerks, guards or gate keepers, messengers, transporters of internal supplies, and maintenance people—need to be able to give clients good, clear directions to common destinations.

Signs should:

- identify each department, service, or room (e.g., "examining room," "lab," or "reception");
- be located at every intersection of corridors;
- include, if appropriate, picture symbols for clients who cannot read;
- be legible from seven meters away.

Maps are useful in main lobbies or by stairways in large facilities, especially if many of your clients can read. These maps should:

- be oriented so that the entrance to the facility is marked at the bottom of the map where the client first looks at it. A colorful dot and the words "You are here" are also helpful;
- indicate key areas or "landmarks" in the building to orient the client even if she is not standing at the entrance when she refers to the map;
- show only public spaces such as corridors, departments, and easy-to-remember landmarks.

Protecting Privacy Through Clinic Design

From your clients' point of view, one of the most important features in the design of a health and family planning clinic is the way in which the building and its rooms protect their confidentiality and physical privacy. Making a few simple design changes in your space can make a great difference in how secure your clients feel.

When thinking about how your health care clinic protects client privacy, consider the following design features:

- Is there a private space for taking health histories and for providing counseling? A booth, a screened-off area, or a separate office for these functions lets staff obtain information quickly without the conversation being heard by others.
- Is there a private area where clients can get dressed and undressed knowing that they will not be seen or interrupted? A screen or curtain in the examining area helps. Patients who must remove their clothing in an open area or in front of the provider will feel their privacy is violated.
- Is the examining area private? Can a client move from the dressing area to the examining area without going through public spaces?
- Do the doors of the examining rooms open directly onto the examining table? If so, try moving the table out of view, or provide a curtain between the door and table.
- Is there enough light in the examining room to allow the service provider to examine the patient? Windows provide light but can also be a source of client unease. Use frosted or thick glass in the window to ensure that no one can look in. Provide curtains for privacy if the windows open.

Design Tips for Arrival and Registration Areas

Figuring out how to get to your health care clinic and how to register may seem easy to you and your staff. But it may not seem easy to clients who are coming to your clinic for the first time, traveling outside of familiar areas, anxious about a medical problem, or nervous about entering a family planning clinic. If they get lost or feel confused once they are inside, they may not want to come back. If their first visit is simple and pleasant, they are more likely to return for another visit.

The design suggestions below could help your clients find your clinic and find their way around once they enter. These suggestions will also help staff to serve clients efficiently and maintain confidentiality. Perhaps most important, they will help your clients feel welcome. Are your clients greeted in a friendly way, by someone who treats them with respect? A feeling of being welcomed will help them feel more positive about your services right from the start.

Arrival Area

- Place a sign on the street, or at the nearest bus stop or major intersection, with an arrow showing how to get to your clinic.
- Post a large sign that identifies the facility and the entrance. Clients should be able to see it from a distance.
- Post a sign in the main entrance that tells the hours the clinic is open, the services available, the locations of different services, and (if there are buses), the bus schedule. Large clinics may also need an information desk.
- A second entrance added for staff or for clients needing emergency transport to a referral facility could ease congestion around the main entrance.
- Does your facility have an identifiable logo? This would help your semi-literate clients feel reassured in finding their way.

Registration Area

- Make sure the person at the registration desk has a clear view of the entrance and the waiting area so she remains aware of what is happening there and identifies very sick patients quickly.
- Is the registration desk next to the waiting area? Short distances minimize problems with client flow.
- Does the registration area have easy access to the client records, data forms, accounting records, receipts, correspondence, and inventory forms that staff need to process?
- When clients are standing at the reception desk or counter, can they see the records of other clients if staff have them open on their work surface? Counters can provide clients with access to staff while protecting confidentiality.

Using Your Space More Efficiently

The most cost-effective solution to space problems is to use your existing space more efficiently, thus saving the costs involved in constructing additional walls, rooms, or buildings. It may be that your space is too small no matter how efficiently you use it. Even if you need to carry out some construction activities, using your existing space efficiently will still save you money.

Additional ideas for ways to use your existing space more efficiently include:

- Sorting through your stored items and getting rid of ones that are no longer necessary.
- Eliminating under-used storage rooms, especially if you anticipate no future need for the things stored there. Use the rooms for new purposes, such as examination rooms, treatment rooms, meeting rooms, or a pharmacy.

- Combining part-time functions into one room, particularly if the functions use the same equipment or personnel. *For example, combining immunization and injection services in one room will ease the usage level on the child and adult care treatment rooms and use the facility's equipment and personnel more efficiently.* Is there a room devoted to use by one physician, but he or she only works at your facility one day a week? Allowing a nurse to use the physician's examining table on the days when the doctor is elsewhere is like adding another examination room to your facility.
- Training administrative or other medically unskilled staff members to perform routine prenatal care tasks such as weighing clients, taking blood pressure, etc. and having them provide these services in an under-used room or in the reception area. This could free up an examination room for services that need more privacy.
- Identifying problems in the records area. The records area is a problem area for many facilities. Go through your files and remove and store files that have been inactive for some time. Explore with your records keepers or clerks ways to make your records area more user friendly.

Utilizing Space: Common Problems and Possible Solutions

Problem	Possible Solutions
Traffic jams	Place a map in the reception area showing the location of departments or services. Place small signs or directional arrows at key intersections. Place signs in the hall for each department. Create client routes that produce one-way traffic. Add exit doors from service areas, provide external routes to subsequent services, or provide an exit near the receptionist or cashier. Move busier departments closer to the reception area and move less busy ones further away, to reduce client and staff traffic where unnecessary. Have one staff member perform related basic functions, e.g., weighing clients and taking blood pressure; or train an administrative staff member to perform these functions. Have them provide these services in an under-used room or in the reception area. Paint colored lines, with a different color for each type of service, along the walls so your clients can follow the lines to their destinations.
Underutilized space	Use partitions or moveable screens to divide large rooms into smaller examination or treatment areas. Add another, part-time function to rooms that are unused during part of the day or on some days of the week. Assign several related tasks to the same staff member. Eliminate storage areas and use the rooms to deliver services, instead.

Utilizing Space: Common Problems and Possible Solutions	
Problem	**Possible Solutions**
Space shortages	Offer services to certain population groups at specific times of day or on certain days of the week. Remove excess furniture and add shelves and cabinets high on walls for efficient storage. Add a secondary waiting area, perhaps a covered area outside or benches along one side of a corridor. Combine related functions in one area, performed by one person. Place related functions near each other, such as services for women or services for children.
Lack of privacy	Provide screens, curtains, or partitions to block the view of the examination table when services have to be provided in one large room. Hand clients their contraceptive supplies in the counseling room, or in a separate, screened area to ensure confidentiality. Make sure the door to the examination room does not open directly onto the examination table. Provide a screen or curtain in the examination room or area so patients can remove or put on clothing behind it. Use frosted glass or extra thick glass for the windows of examination rooms to allow adequate light but ensure that no one can see in. Provide curtains for pulling closed when the window is open.

Preventing Infection with Adequate Space and Equipment

Part of redesigning your space to improve quality of care includes making sure your space is organized in a way that protects your staff and clients from infection. Many aspects of infection prevention are space-related. Providing a separate room or area for cleaning, sterilizing, and storing instruments; providing facilities for adequate waste disposal; providing appropriate hand washing equipment and supplies; and cleaning examining tables and instruments after each use, for example, all require you to make decisions about how you organize and use your space.

Because of the prevalence of various types of infections in any clinic, including hepatitis, HIV/AIDS, tuberculosis, rubella, and measles, the risk of spreading infection is high unless you and your staff strictly follow infection prevention procedures. Minimizing the risk of infection of your pregnant patients and their unborn children is particularly important to the quality of the prenatal care you provide.

Following Accepted Procedures Prevents Infection

As your program expands the number and kinds of services it provides, the risk of infection among and between your maternal and child health patients, your family planning patients, and others increases. *For example, the transfer of herpes from a reproductive tract infection (RTI) patient to a prenatal client via contaminated instruments could result in a birth defect in an otherwise healthy newborn.* Providing appropriate hand washing equipment and supplies (such as soap and running water), and spot checking to ensure that proper procedures are being followed are important managerial tasks.

A child infected with measles is highly contagious. People who wait in the same room or pass an infected child in the corridor could easily become infected. Isolating suspected measles cases from other patients and vaccinating exposed patients within 72 hours are essential for preventing the spread of infection. Although this may be hard to manage in many clinics, it is an important factor in infection prevention that clinic managers and staff should try to address.

Preventing Infection Inside Your Building. As the clinic manager, you have the responsibility of spot checking to see that staff follow necessary infection prevention procedures, such as washing hands, using gloves, processing instruments, disposing of wastes properly, and isolating contagious patents. You also need to provide the appropriate space, supplies, and equipment to prevent infection. Keeping your providers informed about how different infections such as HIV/AIDS and hepatitis B can be contracted if they do not follow infection prevention procedures may help them be more conscientious.

For clinics where pelvic exams are performed, or IUDs or NORPLANT® inserted, an examining room should be provided for these services. Set up a schedule so that the examination table and instruments are cleaned after each use. You should also have a separate room or area for processing instruments, with a separate space for storing clean, sterile, or high-level disinfected equipment.

The traffic flow through the cleaning room needs to be arranged so that contaminated instruments don't come in contact with ones that are disinfected or sterilized. One simple way to prevent infection is to place the receiving, cleaning, drying, and storage stations along the walls in a clockwise manner. Be sure to leave adequate space between the "dirty" and "clean" areas. Organizing the room this way minimizes the risk of contamination between areas.

Key Steps in Processing Instruments and Equipment

To process dirty instruments or equipment, follow these steps:

- soak in a 0.5% bleach solution for 10 minutes to decontaminate them;
- clean them with soap and water; and then
- high-level disinfect or sterilize them, depending on what you will use the instruments for.

Remember: Soaking reusable supplies in a 0.5% bleach solution kills hepatitis B and the AIDS virus, making the items safer for staff to handle. Reusable needles or syringes, and instruments used for surgery should be sterilized by using an autoclave or a dry heat oven. Instruments for IUD insertion can be high-level disinfected by steaming or boiling for 20 minutes.

Basic Equipment and Supplies for Preventing Infection

Providing adequate space, equipment, and supplies is critical to supporting the infection prevention activities of your staff and minimizing the risk of infection for all types of health care services.

A list of equipment necessary to prevent infection and maintain a clean environment follows.

For examining rooms:

- A sink with soap for washing hands before and after examining each client, after touching used instruments, and even after removing gloves as they may have invisible tears. If there is no running water, then a bucket with a handled cup or ladle should be placed next to the sink. Keep it covered to prevent mosquitos from breeding. Alternately, keep a covered container with a spigot at sink level so providers can rub their hands under running water. Clean faucet handles and the handle of the ladle or cup frequently;
- Clean, disinfected, or sterile gloves to be put on before doing an examination or procedure;
- A leak-proof container with a tight-fitting lid, or a plastic bag, for disposal of contaminated waste such as cotton, gauze, soiled bandages, and used IUDs;
- A container with a 0.5% bleach solution for soaking instruments and reusable gloves for 10 minutes to decontaminate them prior to cleaning. Putting reusable supplies in this container kills hepatitis B and AIDS viruses. This process makes items safer to handle by personnel when cleaning;
- A puncture-resistant container, such as a box, a can with lid, or a heavy plastic bottle for throwing away disposable needles and syringes. Disposable needles should never be recapped, bent, or broken after use;
- Enclosed shelves for storing clean supplies away from dust.

For the instrument processing room or area:

- A sink, liquid soap or disinfectant, and a brush (a toothbrush for cleaning hard-to-get spots) for washing and rinsing all instruments;
- Industrial (heavy) gloves for handling contaminated waste and cleaning reusable instruments;
- A stove, and a pot with a lid for high-level disinfecting instruments and gloves by boiling them for 20 minutes at a rolling boil. Gloves can also be high-level disinfected by steaming them for 20 minutes in a steamer;
- A clock or timer;
- High-level disinfected forceps for removing instruments promptly after boiling;
- An area to dry and store disinfected or sterile items away from areas with contaminated instruments;
- A high-level disinfected container with a cover for storing dry, high-level disinfected items;
- A storage cabinet for storing sterile or high-level disinfected supplies and containers if the client volume is high enough to warrant a separate storage area. Otherwise these can be stored in the examining room(s);
- An autoclave or dry heat oven for sterilizing instruments and gloves.

Adapted from Tietjen, et al., 1997

Providing Space and Equipment for Waste Disposal

As you serve more and more clients, you will find that your clinic produces more and more waste. Proper handling of waste items minimizes the spread of infection to clinic personnel, clients, and the local community. Involving your maintenance or cleaning staff in your clinic's efforts to improve your use of space will encourage them to follow waste disposal practices that prevent infection to themselves and the community. Staff who are handling waste should wear heavy gloves, and wastes should be transported to disposal sites in covered containers.

Disposing of Waste Properly. An often-overlooked but important aspect of infection prevention is proper waste disposal. Providing convenient waste containers, covered containers for transporting waste, and disposal sites for incinerating and burying waste are all good infection prevention practices.

Decontaminate all needles and syringes (either disposable or reusable) by flushing three times with a 0.5 % bleach solution or by soaking them for 10 minutes in a 0.5 % bleach solution immediately after use. If you are using disposable needles and syringes, throw them away after decontamination. If you are using reusable needles and syringes, send them for cleaning after decontamination.

Keep a puncture-resistant container or box for throwing away disposable needles and syringes in every treatment area. Be sure to throw away the needle and syringe together. Place the disposal boxes where patients, particularly children, cannot reach them, and make sure the opening at the top is small enough so even a child's hand cannot reach inside. Train your providers not to recap the needles, as it is easy to puncture your hand or finger with the contaminated needle while recapping it.

Incinerating and Burying Wastes. Incineration is the most effective method for disposal of contaminated wastes. If incineration is not possible, all contaminated wastes must be buried to prevent the scattering of contaminated materials. Open piles of waste should be avoided. You should also avoid placing untreated waste, including dressings, needles, and syringes directly into community sanitation bins, as the risk of infection of sanitation workers or ragpickers is great when untreated waste is handled in a careless or uninformed manner. Lastly, if you have a burial site, placing a fence around the area will help prevent animals and people from entering the site.

Tips for Handling Waste

- Place waste containers in locations convenient for staff to use them.
- Use waste containers only for holding waste, and not for any other purpose.
- Clean contaminated containers with disinfectant cleaning solution upon emptying them.

How to . . .

Dispose of Wastes Safely

Both of the following methods of disposing of wastes minimize the spread of infection to clinic personnel, your clients, and the local community.

Build a Simple Drum Incinerator for Waste Disposal

Step 1: Select a site downwind from the clinic.

Step 2: Build a simple incinerator using local materials (mud or stone) or a used oil drum. The size depends on the amount of daily waste collected. Make sure the incinerator has:

- sufficient air inlets underneath for good combustion;
- loosely placed fire bars to allow for expansion;
- an adequate opening for adding fresh refuse and for removing ashes;
- a chimney long enough to allow for a good draught and evacuation of smoke.

Step 3: Place the burner on hardened earth or a concrete base.

Step 4: Burn all combustible wastes, including dressings and other contaminated wastes.

Step 5: If the waste or refuse is wet, add kerosene to it so that a hot fire burns it all.

Step 6: Treat ash from incinerated material as non-contaminated waste.

Make and Use a Burial Site for Waste Disposal

Step 1: Bury in a specified location:

- select a site at least 50 meters away from any water source, to prevent contamination of the water table;
- make sure the site has proper drainage, is located downhill from any wells, and is free of standing water;
- make certain the site is not in an area which floods.

Step 2: Dig a pit one meter wide and two meters deep. The bottom of the pit should be two meters above the water table. (Burial can only be used as a method of waste disposal where the water table is more than four meters below the surface.)

Step 3: Cover the site with between 15 and 30 centimeters of earth each day. (Final cover should be 30 centimeters deep.)

Step 4: Fence the site to keep animals and children away.

SEARO, 1988

Redesigning an Existing Facility

If you already have a health facility and are planning to renovate it, you will want to make the best use you can of the features of your building. Using an existing space more efficiently is a challenge. You will have many choices to make in determining how best to use your renovation funds now and plan for the maintenance of your facility in the future. The following Working Solution provides a real-life example of a facility whose redesign used the building's existing structure efficiently while improving the organization of services provided.

Working Solutions—Brazil

Redesigning an Existing Health Facility

In 1996 the Bahia State Secretariat of Health selected the city of Camacari (population 150,000) to participate in a pilot project to improve the quality of and increase access to reproductive health care. The Municipal Secretariat of Health chose the Health Unit of Camacari de Dentro to begin the project. The first intervention was to reorganize the Unit, seeking to promote efficient provision of quality care.

The Health Unit Director worked with the Municipality, the community, and service providers to identify the Unit's priority service areas and the staffing and physical space required to meet its service goals. This work involved four stages:

- establishing a team;
- determining the Health Unit's priority service areas and goals;
- determining the Unit's staffing requirements; and
- reconfiguring the Health Unit's physical space.

Stage One: Establishing a Team

The Secretary of Health selected a technical team to assess the health service needs of the community and determine the staffing and physical facility requirements to meet those needs. The team was composed of a Technical Coordinator from the Municipal Health Secretariat, a technical advisor, an elected municipal official, a representative from the community, and the Health Unit's Director, Community Workers Coordinator, and Supervisory Nurse. At the time of this reorganization, the Unit had no manager.

Stage Two: Determining the Unit's Target Population, Services, and Service Goals

The team's first step was to calculate the Health Unit's target population. The Health Unit of Camacari de Dentro serves five districts, which have a total population of 24,000. This Unit is the only public health unit in the region. Since 90 percent of the population is considered to be in the "low income" category and thus unable to pay for health services elsewhere, the team calculated that the target population for the Unit's health services was: 7,000 children; 4,000 adolescents; 5,400 men; and 5,200 women, for a total of 21,600 people.

The team then determined what services the Health Unit should provide for the community and the goals for each service. The team grouped the Unit's services into six main headings: child care; reproductive health care; general medical care for adults; dental care; information, education, and communication; and laboratory services. Except for dental services, the team had no past records to use in determining goals, as the records had been lost while the Unit was inoperational. The service goals developed by the team are as follows:

- **Child Care**, with Pediatrics and Basic Child Care, including growth and development monitoring, treatment for respiratory infections, oral rehydration, and immunization. The team based these goals on an expected six visits for newborns and one visit for 60 percent of children 1–12 years old.
  1997 Service Goal for Pediatrics: 3,900 patient contacts
  1997 Service Goal for Basic Child Care Control: 3,000 patient contacts
- **Reproductive Health Care**, with specific activities for adolescents, men, and women in the areas of family planning, gynecology, prenatal care, post-partum care, breast and cervical cancer detection, and prevention and treatment of sexually transmitted infections. The team estimated two visits per year for family planning, four visits for prenatal care, and two for gynecology.
  1997 Service Goal for Gynecological Services: 3,200 patient contacts
  1997 Service Goal for Prenatal Care: 2,000 patient contacts
  1997 Service Goal for Family Planning: 4,600 patient contacts
- **General Medical Care for Adults**, including basic care, and detection and control of diabetes, hypertension, and tuberculosis. Included in the service goals are one visit per month for each of the 400 clients already registered for diabetes, tuberculosis, and hypertension control.
  1997 Service Goal for Medical Services: 6,300 patient contacts
  1997 Service Goal for Basic Services: 4,800 patient contacts
- **Dental Care**, providing services to adults and children and first aid.
  1997 Service Goal for Odontology: 3,800 patient contacts
- **Information, Orientation, and Education**, including social and psychological services. The team designated this area of service to be a priority for the Health Unit.
  1997 Service Goal for Health Education Lectures: 144 lectures
- **Laboratory Services**, including basic blood, stool, and urine tests, and Pap smears. On average, clients have three tests at one time.
  1997 Service Goal for Laboratory Tests: 35,000 tests

continued on next page

Stage Three: Determining Staffing Requirements

Health professionals in Brazil work part time for the public sector—physicians work 16 hours per week, and lab technicians work 20 hours per week. To meet these service goals, the team determined that the Unit's human resources requirements would be: two pediatric physicians, two general practice physicians, two OB/GYN physicians, one registered nurse, one social worker, one psychologist, one biochemist, two dentists, three laboratory technicians, one laboratory assistant, five auxiliary nurses, one administrative manager, three administrative assistants, one director, three administrative assistants for reception, three maintenance workers, and two guards.

Stage Four: Reconfiguring the Facility's Physical Space

Because of the Municipality's financial constraints, controlling the costs of reconfiguring the Unit's existing space was a team priority. The new design, therefore, recommended only minor construction activities and mostly involved organizing the location of the Unit's services in a way that grouped related services near each other, reduced client and provider traffic, improved infection prevention, and made working at the Unit more pleasant for the staff.

The existing building was shaped like a capital "I": the Unit's entrance opened onto a long main corridor with four "wings," each wing housing between four and five rooms. Previously, the Unit's organization of rooms was haphazard—gynecology was next to general practice, sterilization was combined with injections in a room directly across from reception, and first aid was housed in the room farthest away from the clinic entrance. A separate room was used as storage for old furniture and equipment.

In the redesign, the team made each of the four wings into a separate service area: one for child care, one for adult care, one for women's services, and one for administration. The large storage room was converted into an IEC area with three rooms: one large room for presentations, and small offices for the social worker and the psychologist. The smaller storage room inside the building was divided into two rooms which house the pharmacy and a group meeting room. The new design added a second client bathroom and a small kitchen and dining area for staff.

For traffic flow and infection prevention, the new design is efficient and practical. The sterilization room is now at the end of the administration wing and has only one entrance. Now less traffic passes through or near the room, and there is less risk of contamination of sterilized equipment. The pharmacy now opens only to the outside, which means less congestion inside the building from people waiting for medicines or contraceptive supplies.

Conclusion

The team defined the Health Unit's target population, services and goals, and developed the new design in two days. All of the team members made suggestions and contributed to the discussions. Because of the participatory nature of the process, the new design for the clinic has created a pleasant place for both providers and clients. The new design is appropriate for infection prevention, minimizes traffic jams, and uses the available space in an efficient and cost-effective manner.

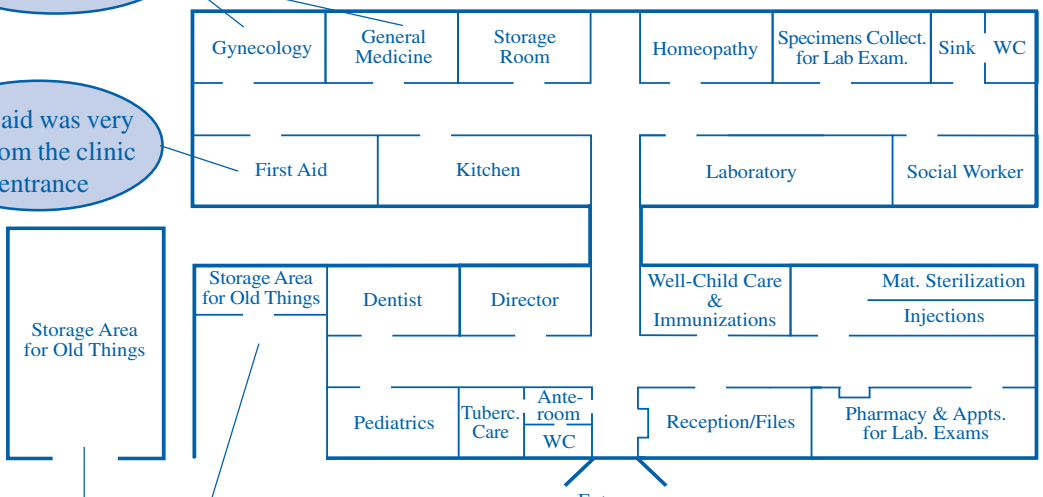
Camaçari de Dentro Health Unit Layouts: Before and After Renovation

Before Renovation

In the original layout, the organization of rooms was haphazard

Gynecology is next to general medicine

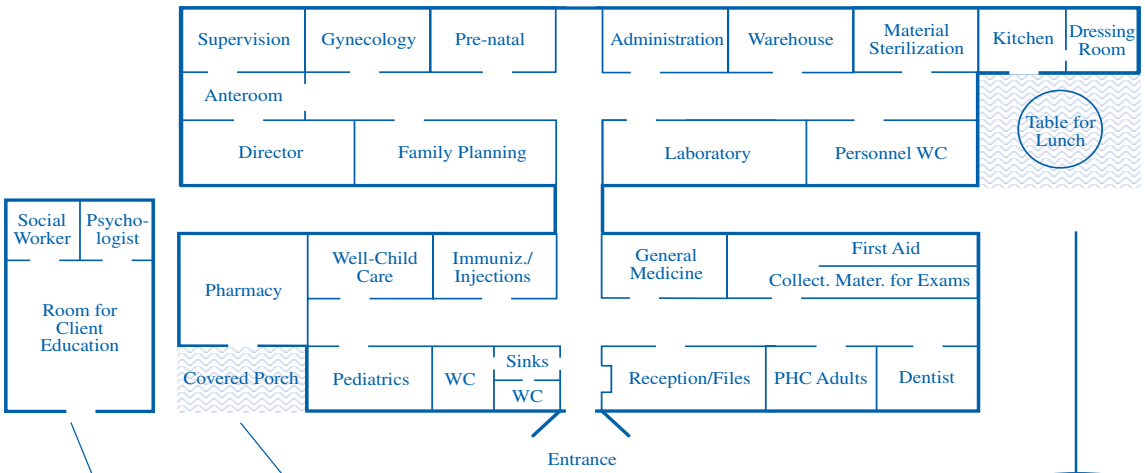
First aid was very far from the clinic entrance



The space allotted to storage of old things was excessive

After Renovation

Each of the four wings is now a separate service area



The storage room is now a client education room, with offices for the counselor and psychologist

The pharmacy now opens to the outside, which means less congestion inside

The new design added a small kitchen and covered porch for staff meals

Improving Quality of Care Through Your Use of Space

Whether you anticipate making major modifications or minor adjustments to the use of your facility's physical space, taking a careful look at the efficiency, privacy, and infection prevention aspects of your space helps to improve the quality of care you provide to your clients. Sometimes a simple readjustment, such as transforming a storage room into a service room, or adding another, part-time use to an existing office is all that's needed to utilize your space in a more efficient manner and increase quality of care.

Be sure to consider not only your immediate needs, but also your facility or program's long-term space requirements. Carrying out a Masterplan will help you plan for the long term. Including staff and community members in the planning process will increase their acceptance of any readjustments or modifications and help ensure that the users' short-term and long-term priorities are met.

As the demand for your services increases you will need to periodically re-evaluate your use of space and space requirements. This will help you make timely adjustments in the way you organize your space and services and will help ensure that you continue to provide quality services.

Reviewers' Corner

A forum for discussing additional applications of FPM concepts and techniques

On infection prevention and keeping down costs… *One reviewer reminds,* "You don't have to spend a lot of money on expensive equipment for infection prevention. Using locally-available pots for boiling and steaming instruments works just fine."

On the importance of ventilation to quality of care… *Several reviewers comment,* "One often-ignored aspect of quality is good ventilation, especially in examining rooms. Without adequate ventilation, air-borne diseases such as those that cause respiratory infections can remain in the air of the examining room and infect subsequent patients. Certain infections have a powerful odor that remain in the air and can be unpleasant for the next patient. Ensuring good ventilation, either by opening windows or installing fans or air conditioning, prevents infection and contributes to quality of care."

On cultural differences in perceptions of quality care… *One reviewer says,* "We have found that in some rural areas, clients want to be with their peers during counseling. They find it easier to accept the side effects of a family planning method if they know that others have these effects also."

On infection prevention… *Several reviewers state,* "In the cleaning room we have provided an autoclave, three containers with 0.5% bleach solution (one for sharps, one for instruments, and the third for gloves), regular water supply, waste containers, and infection prevention charts. We also provide regular refresher training courses for clinic personnel on infection prevention techniques."

On increasing the satisfaction of different client groups… *One reviewer says,* "We provide separate entrances and waiting areas for men, women, and youth in our facility. This ensures privacy and confidentiality for each group. Client demand for our services has increased, especially for young persons."

On providing client toilets… *One reviewer suggests,* "Providing a toilet for clients as well as staff is important for infection prevention. Clients also need to be able to wash their hands after using the toilet."

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Checklist for Making Your Clinic Building Work

For Clinic Managers

- ☐ Develop a plan with clinic staff and a few clients for space changes that promote one-way traffic, eliminate "traffic jams" of clients and staff, prevent infection, and reduce space shortages.
- ☐ Identify places where clients might lose their way and provide guidance with signs and trained staff.
- ☐ Evaluate the need for changes in the registration, counseling, and examining areas to protect client privacy.
- ☐ Evaluate the effect of space changes from the perspective of your clinic staff as well as the perspective of your clients.
- ☐ Follow up on senior management initiatives to assess adequacy of space and equipment for infection prevention. Communicate problems and ideas for solutions to supervisor.

For Supervisors

- ☐ Encourage and try to obtain resources for clinic managers to make changes in the use of space that will improve client and staff flow, protect client privacy, and improve infection prevention.
- ☐ Monitor the compliance of providers in the use of these changes, especially infection prevention procedures.

For Mid- and Senior-level Managers

- ☐ Evaluate the need for making changes in the current facility planning process for clinics.
- ☐ Initiate a review of the adequacy of clinic space and equipment for infection prevention. Include regional and local staff and community members in the review process.
- ☐ Evaluate the costs and benefits of centralizing design efforts for reconfiguring existing health facilities and adapting centralized designs to local conditions.

The Family Planning Manager is designed to help managers develop and support the delivery of high-quality family planning services. The editors welcome any comments, queries, or requests for subscriptions. Please send to:

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The Family Planning Manager

CASE SCENARIOS FOR TRAINING AND GROUP DISCUSSION

Bale Health Post Reconfigures its Space

Aminata Conte, Nurse Manager of the Bale Health Post, walked into the clinic's reception area looking distressed. The receptionist, Fatoumata, asked her what was wrong.

"At the regional meeting yesterday, the Regional Director told me that in six months we will be expected to start providing a broader range health of care services. In addition to the child health, maternal health, and family planning we offer now, we will need to add more reproductive health services and curative adult care," she answered in a discouraged voice. "Everything, including a laboratory and a pharmacy, will be here in this building."

"Well, what's wrong with that?" Fatoumata asked. "The Neighborhood Committee has been asking us to do that for years. Our clients want a laboratory here, too, not just at the hospital on the other side of town. And you yourself have said that too many clients aren't getting the medicines they need because the local pharmacies don't have enough stock and it's hard for them to go elsewhere."

"Yes, I know it's a good thing to provide all these services here," said Nurse Manager Conte, "But we have enough trouble keeping client waiting times down as it is. And where will we put all these services?" She sighed. "Well, first things first. Send someone to the home of Mohamady Traore of the Bale Neighborhood Committee to ask him to come here for a meeting at four o'clock this afternoon. Is Nurse Diallo here? I want to talk with her, too." She walked through the reception area and down the hall to her office.

Late that afternoon, Nurse Manager Conte, Nurse Diallo, and Mr. Traore sat on low chairs in Nurse Manager Conte's office. Nurse Manager Conte had just finished explaining to them that the Central Government had directed all regional offices of the Ministry of Health to work with their health posts to devise organizational and management plans to provide integrated health care. Each clinic was expected to come up with a transition plan to be presented and discussed at the next regional monthly meeting.

"Will the clinic stay here in this building?" asked Mr. Traore. He hoped so, because his shop was across the street, and the opening of the clinic five years ago had increased his business quite a bit.

"Yes," said Nurse Manager Conte. "But we are going to have to figure out how to use the space we have more efficiently. We'll have more staff and we'll need more clinic rooms. We'll have to figure out where the laboratory and the pharmacy should go, and where to store our supplies and equipment. I just don't know where we are going to put everything."

"How many nurses do you think we'll need?" asked Nurse Diallo. "I've been having a hard time supervising the three we have now. I'd like to have a separate office where I can keep the personnel files of the staff members I supervise, and be able to speak with them privately instead of out in the hall where everyone can hear us."

"I think we'll be able to do a little reconstruction, maybe construct some walls to divide up some of the larger rooms and put a roof on the front porch," said Nurse Manager Conte. "The government is going to

give us a small amount of funding for construction. But for the most part we are going to have to figure out how best to use the space we already have."

"Let's set up a committee to begin discussing the reorganization. We'll meet Saturday. Who do you think we should ask to join us?"

"I want to be on the committee," said Mr. Traore. "And I think Mme Balde, head of the Women's Group, should be included."

"I'll ask Nurse Assatou," said Nurse Diallo. "And I think we should include Fatoumata. She might have some good ideas. And Bocar, as he is in charge of cleaning and maintaining the building."

"The Regional Office has given us some guidelines to help us get organized," said Nurse Manager Conte. "I think we should look at this as an opportunity to improve the efficiency of our services and provide better services for everyone."

The following Saturday afternoon, the reorganization committee met in the reception area of the facility. Nurse Manager Conte opened the meeting by welcoming the other committee members. "Thank you for participating in this important redesign of the physical space in our health post," she began. "I want this meeting to be an open forum for you to express your opinions and make suggestions. We will not be able to make every change suggested, but we will consider them all."

Fatoumata spoke first. "I think we should move the supply room," she said. "With the door behind my chair, I have to get up every time someone wants to get into it, which they do all day long."

"That's a good suggestion," said Nurse Manager Conte. "What about moving it to that room where we keep the files? What if we put the files next to your desk, instead?" Fatoumata nodded, pleased.

"I think we should consider using Dr. Diabate's room as an examination room every day," said Nurse Assatou. "He is only here once a week, and we really need that space, especially now that we are going to be offering more services." Nurse Diallo nodded in agreement.

"Okay, I'll talk with him about it," said Nurse Manager Conte, "but I think that's a good idea." She turned to Mme Balde. "We haven't heard from you yet, Mme Balde. Do you have any suggestions?"

"Some of the women in the community have been complaining to me about the way the Health Post handles its waste," said Mme Balde. "Leaving it in open cans to the side of the clinic before it gets carried to the dump is not safe. Dogs have been dragging waste out to the street, and sometimes children play with it. We would like you to do something about it."

"Better waste disposal is something the regional office has asked us to look at," said Nurse Manager Conte. She turned to Bocar, the cleaner. "Do you have any suggestions?"

"How would the community feel if we burned our waste in a drum incinerator in the back?" he asked. "Would they complain about the smoke?"

"No, I don't think so," said Mme Balde. "Especially if it meant that the street was safer for their children. I will talk to some of the women in the group and let you know what they say."

"My biggest problem," said the family planning counselor, who had been invited to participate, "is that I do not have a separate space for counseling people. My clients don't feel comfortable talking about family planning when other people can hear our conversation."

Nurse Diallo turned to Nurse Manager Conte. "What about dividing your office into two rooms?" she asked. "I know you need an office to receive visitors, especially from the government and from donor agencies, but that doesn't happen very often, and I think you'd have enough space even if the room were half the size it is now."

Nurse Manager Conte sighed. She was used to her big office. "Well, I suppose that would be a better use of space," she said. "Let's see how much money we get for construction."

"Where are we going to put the pharmacy?" asked Mr. Traore. "I think it should open onto the

Case Scenario: Bale Health Post Reconfigures its Space

front porch. That way, even people who were passing by could use it."

"Yes," said Fatoumata. "And people could wait out there for their prescriptions."

"Good idea," said Nurse Manager Conte. "And a roof on that front porch would make it another waiting area, for people who prefer to wait outside."

"I think the women in the community would like that," said Mme Balde. "They don't really like waiting inside, and it's too hot in the sun."

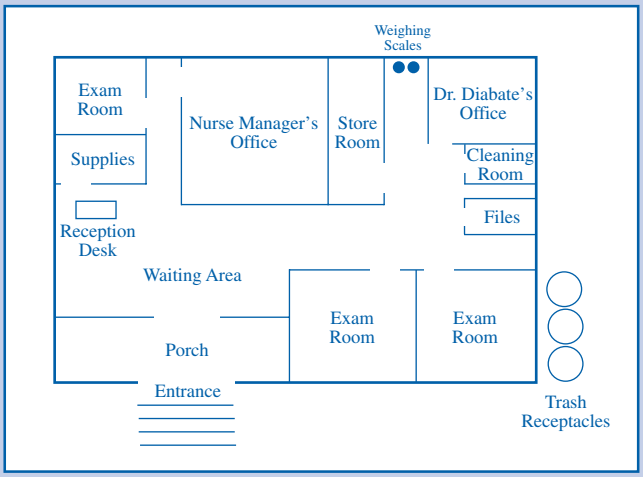
"Sometimes it is hard to move around inside the clinic, when there are a lot of clients, and some of them are waiting in the hallways," said Nurse Assatou. "What if we put an exit in the back, so clients who have finished could walk from the back of the building instead of retracing their steps? The clients in the clinic rooms might feel more private, too, if there were less traffic passing by those rooms."

Nurse Manager Conte looked at her watch. "Well, we've had a lot of suggestions today," she said. "Nurse Diallo and I will discuss all of them this week. If you have any more ideas, please let us know.

"We will take a systematic look at our space, using the layout the regional office has sent us. And we will begin to think about what kinds of resources and staff will be needed to provide the additional services and serve the additional clients these services will attract. Let's meet again next Saturday to continue this process and discuss how we can implement changes, given our budget, floor plan, and the new services we will be providing."

Case Discussion Questions: Bale Health Post Reconfigures its Space

1. **Identify the steps that Nurse Manager Conte has already taken in developing a plan for reconfiguring the clinic space, and identify the steps needed to complete the process.**
2. **Referring to the discussion among the committee members in the case, list the suggested changes to the layout of the Bale Health Post. Then, referring to the current design of the Health Post provided below, suggest a preliminary redesign based on the committee member's suggestions.**
3. **What should the Bale Health Post do to improve its infection prevention procedures, both inside and outside the clinic, particularly those related to space, equipment, and waste disposal?**



Case Analysis: Bale Health Post Reconfigures its Space

1. **Identify the steps that Nurse Manager Conte has already taken in developing a plan for reconfiguring the clinic space, and identify the steps needed to complete the process.**

Steps Completed: Nurse Manager Conte consulted with a Neighborhood Committee member and a staff member to hear what they had to say about managing the transition to providing integrated health care at the facility. Then she set up a reorganization committee of staff and community members to discuss the clinic's current services, future service priorities, staffing needs, and utilization of space. In future meetings, the committee members will be expected to express their opinions on the current services provided by the Bale Health Post, the services they consider will be priorities in the future, and their experiences working in and using the clinic. Are they frustrated by having too much or too little to do? Do they have to wait a long time for service? Would they buy their medicines at the Health Post pharmacy if they were offered there?

Next Steps:

Prepare a Masterplan. Nurse Manager Conte should prepare a Masterplan and gather information on the population served by the Health Post, the present utilization of services, and the existing condition of the facility and its equipment. This will help her develop a reorganization plan that will not limit the facility's long-term development. This information may also help Nurse Manager Conte present her reorganization plan more effectively to the regional office.

Evaluate the Present Use of Space. Someone will need to evaluate the present use of space. With a layout of the Bale Health Post in hand, the person carrying out the evaluation should follow clients through the clinic, marking down in numerical order on the layout the places where they stop. On the back of the paper, the evaluator should note how long the client spends at each place, and what happens there. This information will help the reorganization committee decide how to use the clinic's space and staff more efficiently.

Develop Service Priorities and Goals. The committee members may have opinions on the services they consider priorities and the ones clients are less likely to use. What is likely to be the demand for the new services? Will providing a broader range of services increase the demand on all services the clinic provides? Nurse Manager Conte will need to monitor the demand for services carefully in order to make staffing and physical space adjustments when required.

Determine Staffing Needs. Nurse Manager Conte should discuss staffing priorities with her supervisor and make decisions based on how best to provide the new services being offered.

Determine Budget, and Maintenance and Recurrent Costs. Nurse Manager Conte will have to determine how best to carry out the reconstruction and renovation of the facility, given her budget. She will also need to determine her recurrent costs and the cost of maintaining the renovated facility, and include them in her future operating budget cycles.

2. Referring to the discussion among the committee members in the case, list the suggested changes to the layout of the Bale Health Post. Then, referring to the current design of the Health Post provided below, suggest a preliminary redesign based on the committee member's suggestions.

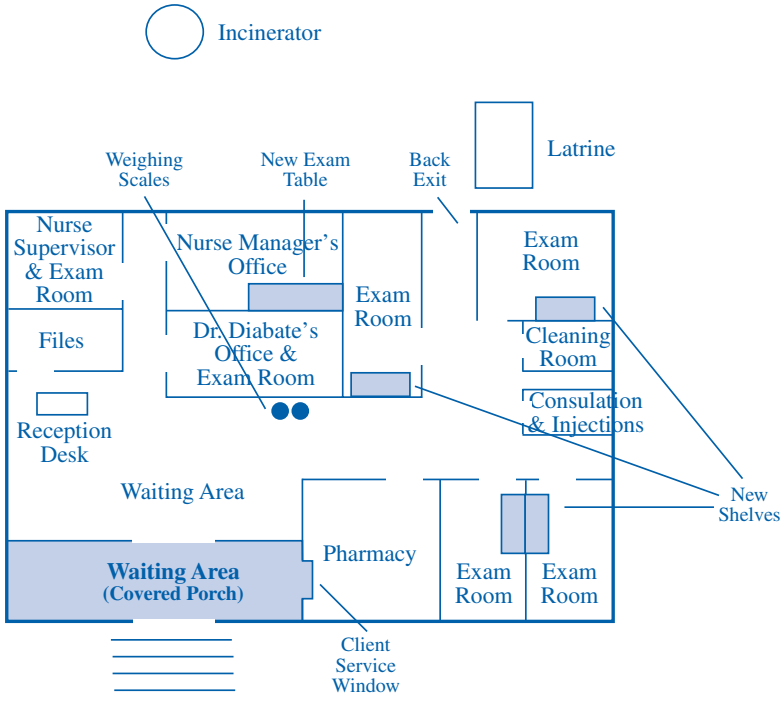
Nurse Manager Conte's reorganization committee members have made the following initial suggestions for redesigning the clinic.

Changes Suggested by the Committee Members:

- group related services near each other
- divide larger rooms up to make more, smaller rooms
- eliminate unused or under-used storage rooms
- construct shelves up high on the walls
- cover the front porch to make it into another waiting area
- give any under-utilized rooms another, part-time function
- add an exit in the back for clients to leave the building, return to the waiting area, or go to the pharmacy
- train the receptionist and the guard to give good directions to clients so they can find their way more easily

Possible Redesign:

Although there are additional steps that the committee will need to take before completing their plans for redesigning the clinic, one possible design, based on their initial suggestions, is presented below. There are many other designs that would also serve their needs. In this design, notice that there are now six exam rooms as compared to three exam rooms in the previous version. The Nurse Manager's office has been divided into two rooms, and Dr. Diabate's office is now also an exam room.



3. What should the Bale Health Post do to improve its infection prevention procedures, particularly those related to space, equipment, and waste disposal?

To improve the infection prevention procedures of the Bale Health Post, Nurse Manager Conte should think about the space both inside and outside the facility. On the inside of the building, she should think about how dirty equipment and waste move through the facility. Outside, she should find a systematic way of treating waste, either by burning or burying it to prevent exposing sanitation workers, children, adults, and animals to possible infection.

Inside the Health Post. There are two considerations to keep in mind concerning the inside of the Health Post: preventing infection of staff and preventing infection of clients. Staff may be more motivated to follow accepted infection prevention procedures if they know about the potential risks to themselves. Infection prevention strategies for inside the Health Post include:

- isolating contagious clients (children or adults);
- providing an examining/service room for pelvic exams and IUD or NORPLANT insertions, and cleaning the room and equipment after use;
- providing a room or area for cleaning and sterilizing instruments and a separate space for clean, high level disinfected, or sterilized equipment;
- arranging traffic flow through the sterilization room in a clockwise manner so instruments that are sterilized do not come in contact with dirty ones;
- providing convenient waste containers in every clinic room, covered containers to transport waste, and boxes with holes in the top just large enough to place a needle and syringe in;
- providing sinks with running water or convenient water containers in every room;
- providing soap, liquid soap or disinfectant, and gloves;
- using containers with a 0.5% bleach solution in clinic rooms to decontaminate dirty equipment prior to cleaning or transport to the instrument processing room.

Outside the Health Post. Incineration is the most effective method for destroying contaminated wastes. If incineration is not possible, waste should be buried to prevent animals, children and adults from scattering it. The risk of infection of sanitation workers, children, and adults is great when untreated waste is handled carelessly. Infection prevention strategies for outside the Health Post include:

- providing heavy gloves for staff who have to carry waste away to the disposal site;
- if possible, burning all waste in a drum incinerator before disposing of the ashes;
- providing covered containers for transporting waste from the facility to the disposal site.

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