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Ndank-Ndank: How Governmental Health Organizations Can Take Their First Step to Help Other's Take Their First Step: A Case Study of a Prosthetics and Orthotics Rehabilitation Center in Dakar, Senegal

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SIT Study Abroad

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A Case Study of a Prosthetics and Orthotics Rehabilitation Center in Dakar, Senegal

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Dedication:

This paper is dedicated to the little boy who had to have his legs amputated at the age of five but who will one day be able to walk with prostheses, the little boy who took some of his first steps holding onto my hands, the little boy who sat up for the first time in the chair I helped build, and the countless number of people who I saw with a giant smile on their face because of what they received from the clinic. They have forever changed who I am and I will always hold them in a very special place in my heart.

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Abstract

The number of people with disability in the world is very large, however; what having a disability means for each person is even more alarming. In a developing country, it is extremely difficult for people with disabilities to receive the health care they need. The organizations that offer health care to people with disabilities are faced with a number of challenges; but they continue to do the best they can. This study was done at a prosthetics and orthotics rehabilitation center in Dakar, Senegal. It is a case study that examines the difficulties the workers face, the motivations the workers have, and the relationships between the people in the organization.
Keywords: Public and Social Welfare, Business Administration, Anthropology (other), Health Care Management, Rehabilitation and Therapy

Introduction

Background Information:

As I stepped out of the taxi, I saw over a hundred people leaning up against a wall, each one of them had some form of disability. A few of them had crutches or wheelchairs. A few of them had the ability to move. The majority, though, just sat there, hopelessly watching the world go by. In 2004, an estimated 15.3% of the world's population lives with disabilities, making it arguably one of the biggest problems for every nation, especially a developing nation (Chan). When someone lives with a disability, it affects all parts of their lives; including, but not limited to, familial, financial, social, emotional, and, of course, physical. Getting medical care in a developing country is no easy task to begin with; getting a medical device is even harder. The typical mobility device is generally around 100 dollars (50,000 CFA) (Ingstad). Due to the cost of mobility devices, it is extremely difficult to give these devices out free of charge. The majority of the clinics who make these mobility devices "operate[s] on a fee-for-service basis" (Ingstad). However, the clinic's main cliental are those who do not have many means to begin with. This begs the question: how does an organization like this function and who is sacrificing something so these handicapped people can move?

Health organizations in general, both governmental and non-governmental, seem to face a number of different problems. The first problem is that "materials and functioning…equipment are limited" (Peddi). This prevents the staff, even if they know what to do, from being able to do something to help the disabled. The second problem is "skilled personnel are scarce – in particular, there are few supervisors with technical expertise" (Peddi). Untrained staff entails poor quality of products and a lack of productivity in their work. These two problems cause other

problems, such as, “unmotivated and poorly trained staff, long waiting times, inconvenient clinic hours, inadequate supplies and drugs and lack of any confidentiality or privacy” (Cassels). The product of all these problems is that the people who desperately need help do not get the help they need.

With a problem as big disability is in the world, it is crucial that a solution to the difficulties organizations face is created. However, it is no easy solution as many different things block the progress of the advancement. In the public sector, the sheer number of resources is a major problem, but additionally, “public funds are being spent on inappropriate and cost-ineffective services, too much is spent on salaries compared with operating costs, and on tertiary rather than primary levels of care” (Cassels). Additionally, in order to effectively start to solve these problems, it is important that a system of organization and communication is set up between all levels of the organization because:

> In the absence of clear management structures, consensus has to be reached between technical staff and generalist administrators, different professional cadres, and competing program managers. Organization structures frequently reflect the success of these different groups in lobbying for status rather than the need for managerial control. Similarly, the process of resource allocation is dominated by provider rather than managerial or societal interested (Cassels).

Without an organizational system, there is no effective way of discussing the problems, and without discussing the problems; there is no way to make a solution.

In order to create a solution, it is important to understand the workers of the organization and what they do, what they view as their biggest difficulty, what their motivations are, and how

they view their relationships with others in the organization. By starting at the most basic level of the organization, one can build and get a better idea of how to improve.

The Clinic:

I conducted a three and half week study a health organization in Dakar, Senegal. The health organization called Prosthetics and Orthotics Rehabilitation Center[1] (PORC) consisted of multiple different departments, including; prosthetics, orthotics, production of devices to enable movement to the patient (wheelchairs, walkers, tricycles, etc.), and rehabilitation therapy (kinesiotherapy[2], ergotherapy[3], and physical therapy[4]) for both adults and children. My study investigated what each worker at PORC does, the difficulties they face in their work, the motivations they have to continue working, and the relationships between the workers at all levels of the clinic. This research is beneficial because it shows the strengths and weaknesses of the organization as well as difficulties. Once those are known, solutions can begin to be created, and presumably, the difficulties can be lessened. Once that happens, the productivity of the organization can increase and the workers can be more content. Then, there is hope of providing more help to the patients who come to PORC.

I chose PORC due to my own personal interest in prosthetics, orthotics, and rehabilitation. After I earn my undergraduate degree, I plan to become to a prosthetist. I hope to one day have my own organization in Africa, helping victims of war and genocide. This clinic gave me an opportunity to see how an organization is run, the problems that exist, and ideas of

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[1] In order to protect the confidentiality of the organization, the organization was given the pseudonym, prosthetics and orthotics rehabilitation center (PORC)

[2] Rehabilitation therapy that focuses on the treatment of degenerative diseases, amputation, nervous system diseases, and paralysis by exercise and movement for gross motor skills (generally an emphasis on lower extremity treatment)

[3] Rehabilitation therapy that focuses on the treatment of neurological disorders and paralysis by massage and exercises for fine motor skills (generally an emphasis on upper extremity treatment)

[4] Rehabilitation therapy that focuses on the treatment of injury by massage, exercise and movement, and electronic stimulation (generally an emphasis on the back and lower extremity)

how to overcome them. It also gave me an opportunity to experience working in a prosthetic clinic and have hands-on learning in a variety of allied health medical professions.

Methodologies

I used observation, participant observation, and interviews as my main three methodologies. I chose these because I felt that in order to fully understand what the workers at the organization do, the difficulties they face each day, and what day-to-day life is like, it was necessary to experience it. There were some situations when I was able to participate and assist in what the participant was doing but other times that it was not appropriate due to my lack of medical training. I chose to conduct interviews with the medical personnel and other workers in order to investigate some information that is not apparent in daily conversation.

I conducted two weeks of observation and participant observation. I arrived at the clinic between 8:30 and 9:00. Each day, I spent time with a different department in the clinic. Some days, I would spend half the day in one department and the other half in another. This was because of the large number of different departments and the lack of time to conduct my research. I also felt that some departments were harder to understand than others which influenced me to spend more time with them. There were also departments where it was not appropriate (or in some cases, allowed) for me spend a significant amount of time with them. I ate lunch with the workers and continued my observation until the majority of the workers went home, typically around 16:00 or 17:00. I took notes periodically throughout the day to document details of the work. At the end of each day, I reflected on what I did, my thoughts on it, and started to analyze connecting patterns. After participating in daily life for a two week period and spending time at the clinic for about four weeks, I felt I became a member of the organization

and that has given me a perspective from an outsider (from the beginning of my experience) and an insider (from the end of my experience).

During my last week of research, I conducted interviews with the workers. Due to the business of each worker and the difficulty to organize a meeting in the clinic, I spent some time in each clinic and waited until someone looked like they were not busy. I asked them if they would be willing to be interviewed. Once someone accepted, we found a place to sit down and talk. Each interview was conducted in a different environment. Some environments were quiet, private, and comfortable. Others had significant background noise and other people working around us. Although that was not a preferred location, it was not practical to find a quiet, private place in a prosthetics and orthotics clinic (where heavy machinery is used) and at a clinic where space is one of the biggest problems. Each time we were in a situation like that, I made sure to ask if the participant felt comfortable talking in that environment. Once we were settled, I explained my project, my purpose for it, and why I chose this organization. Due to the fact that I am not fluent in French, I decided to record each interview. Once I finished explaining my project, I explained that French was not my first language and in order to make sure I understand correctly, I would like to record the interview. I asked each participant if this was okay before I started recording. I also told them that everything they said is confidential and in no way is attached to their name[5]. Once I felt they understood, I began recording. I started off asking some basic questions (age, marital status, degrees, etc.) and then moved on to more specific questions. To see the interview guide, please refer to Appendix I. Due to the range of types of departments, some questions more directly applicable than others. Therefore, I choose to have a foundation of basic questions but with each interview, I was led by what the participant's response was.

[5] Each worker interviewed and/or observed was given an alphanumerical code in order to protect their confidentiality. Please refer to the bibliography for a list of interviewees/codes.

Sometimes I asked more questions than I had on the interview guide that explored more in-depth what they said. Other times, I asked fewer questions when I felt the participant was naturally following my interview guide without my help. Each interview lasted between five minutes and thirty minutes depending on the participant's responses.

In addition to these three main methodologies, I read scholarly journals about a wide range of topics, including; prosthetics, disability, health care, health care reform, mental health in developing countries, government aid, motivations to work, volunteerism, and case studies about health clinics in Africa. I used all this information to help guide my project and format my questions for the interviews. It also brought more understanding once I finished analyzing some of the trends I discovered. It was important that I had a wide range of information because there are many components to how a health organization functions.

Data: Observation and Participant Observation

In my two weeks of observation at PORC, there were some major themes that reoccurred in various ways in each department. Sometimes these themes came up through casual conversation, sometimes through observation, and sometimes through personally experiencing them. The four most predominant themes were patient care, materials and space, relationships and hierarchy, and organizational systems.

Patient Care:

One of the biggest difficulties at PORC is the number of patients and the demand of services versus the number of workers and what is possible to do in a given period of time. This showed itself differently in each department but the end results were more or less the same; the patients wait a very long time and the quality of interaction, instruction, and product were

lessened. That said, there are many things that the workers do that make the patients' experience better and more desirable.

In all of the rehabilitation therapies, there were constantly patients waiting in the waiting room. In one instance, there was a patient who was waiting to be seen for over an hour and she eventually just had to go because she was going to be late for something else. There was another instance that the patient waited an hour and a half due to the therapist's tardiness but the patient was not seen right away. Another way this comes out is due to the number of patients that are seen at one time and the lack of tools, patients wait to use machines or equipment. In some cases, there can be two patients using the equipment at the same time but in other it is not possible. Between these two factors, the patients' overall visit time is substantially longer than necessary.

In the medical apparatus departments, patients came in the morning and typically stayed until the afternoon. The majority of the time it seemed that the reason why they waited so long was due to lack of communication of how long it takes to make the given medical device. For instance, there would be two or three patients waiting for his or her child's orthotic device but the same person was seeing all of them. It takes about half a day to make one pair of orthotic corrections for legs. That means it was impossible to be able to make all of the patient's legs in one day and there was no way to please all of the patients. Unfortunately, because of the lack of communication, the patients did not seem to understand this and they became frustrated after waiting for so long. The patients who had previously received orthotic corrections seemed to know the wait times but the patients who were there for the first time seemed to be very restless.

In the consultation department, the patients seemed to be satisfied with the rate that they were seen. The doctor saw patients very productively and had a set list of patients who he was supposed to see. The doctor also was very efficient to do what needed to be done as soon as he

understood the problem. In one case, a patient needed to a procedure done to remove fluid from her knee. The doctor examined her knee, took out a needle, drew the fluid, and was done. The doctors' experience in their field was evident because each patient seemed to take very little time to diagnose and prescribe the treatment. This definitely seemed to play a major part in his productivity and efficiency. Additionally, there was a nurse who was able to take care of all the administration work for the doctor. The nurse kept the order of patients organized and made sure the doctor had everything he needed. This also definitely aided the fluidity of the department.

Another aspect of patient care that seemed to fluctuate between departments and within each department was the quality of interaction, instruction, and product. This was one of the most inconsistent themes and very much depended on the staff member. There are connections between the quality of service and motivation which makes the inconsistency less sporadic.

In all of the rehabilitation therapies, the quality of interaction between the patient (or in some cases the patient's parent) and the therapist was very good. Although the amount of time each therapist spent with the patient was not very much, the time that they interacted was always positive. The therapists seemed to listen to the patient and be engaged in the conversation. One therapist had obviously developed strong relations with her patients and each time I saw her with them, they laughed, talked, and enjoyed themselves. It was also apparent that the patients felt they could talk with her about the difficulties of their disability. It seemed that the majority of therapists had this kind of relationship with their patients. One difficulty was the quality of instruction patients received. For instance, in the children's therapy area, the parents who were familiar with the clinic knew exactly what to do when they got there; making it so the time they were waiting was used productively. However, the new parents who did not know what was going on were left wondering for quite some time. The other therapists did not try to explain

what the new patient could do while waiting or explain why they were waiting. The therapist never came in and introduced himself to give some sense of direction. Unfortunately, this was caused by the business of each therapist and their inability to be with every patient at the same time.

In the medical apparatus departments, the quality of product was generally very good. Each apparatus was handmade and put together with care. Every patient who received their apparatus seemed to be very happy to receive it. There was one staff member who told me in a causal conversation that he wished he could make his device better. He said if he had the materials he would make it more comfortable for the patient. One instance where the quality of product was not as good was with the metal that was used. I observed that the metal that was used to make orthotic braces was rusty and dirty. Although the cosmetics of the apparatus are not as important as the functionality, it seems as though it would be an easy solution to move the metal storage area to a place that does not get wet. One difficulty that I continually saw in the medical apparatus departments is the quality of interaction with the patients. It seemed at times as if the technicians did not care about the patient and the patient was taking up their time. One occasion that I experienced was the technician handed the person the apparatus and walked away and had another conversation. Afterwards, the technician rushed the patient out of the room without helping him with his apparatus. At the same time, there were other technicians who sat down with their patient and made sure everything fit well, worked, and the patient understood how to use it. The interactions that were like that were some of the best I saw in the entire clinic. It was very obvious that the workers cared about the patient, wanted to work until they got it exactly right, and were invested in the patient's recovery. The satisfaction the patient felt from

receiving the apparatus was felt often by more than the patient but also the patient's family, the technician, and myself. It was one of the most beautiful parts of my time at the clinic.

Materials and Space:

In almost every department, there was some theme of needing more material and/or space. This is the most significant problem that I encountered in both the observational time and the interviews. Unfortunately, it has to be recognized that at a public, government funded organization, there are going to be things missing due to the lack of resources. Though this is true, it is worth investigating because there are always solutions to be found. There were needs in every department; therefore, I feel it is important to only focus on the most substantial needs and the discrepancies.

The department that was lacking the most material and space was ergotherapy and the children's specialized therapy[6]. There are very few toys and gadgets that can be used to work the fine motor skills. For the children, there are few toys that are practical to get the attention of the patients. Additionally, the toys that are there are not appropriate for the exercises. The most valuable tools are those that were donated by prior volunteers and those that were brought by therapists. It was clear that the lack of materials made a difference in the patient's recovery. Additionally, the therapists have the potential of helping the patient learn to do basic daily activities, such as, getting dressed and using the bathroom. Due to the lack of space, there is no possibility to do this. This is a major impairment because there are some essential things that the patients must know how to do that they cannot learn. Similarly, I personally experienced the impact of not having enough space to work with the children. It is necessary to have room to

[6] The exercises done in ergotherapy and the children's therapy overlap which is the reason they are grouped together

play with the children in order to help them build their muscle. Due to the lack of space, the children walk in circles. As it would with any person, walking in circles is not an efficient way to hold a child's attention. This situation most significantly impacts the advancement of recovery for the patient.

The department that is most limited to do their work because of material is social services. Social Services is a unique section of the organization because it is the only section that all patients interact with and it is also the only department that has the potential to aid in the mental health of the patients. Via causal conversation and observation, the staff in social services expressed that they cannot perform the services such as counselling and patient home visits because they have nothing they need to begin to do them. This changes the role of social services to planning center parties, organizing funds when there is a birth or death in the organization, and other things similar. Recently, they have begun to hold support groups. What social services has the potential to do is counsel patients (those with depression, Post Traumatic Stress Disorder, or overall distress from having a significant disability), visit patients' homes and help the family to implement a plan to better support the patient, come with the patient to receive their apparatus as it is typically a very confusing process, and provide support to the staff at the center when there is a conflict or distressing situation. In order to grow to its full potential, social services needs an office where the patient feels comfortable and knows everything is private and confidential. This would look like having a couch, a more welcoming atmosphere, and getting rid of the furniture that gives the room a very office, professional feel (not a place where one could talk openly). Social services would also be able to do more if they had access to a car. With a car, they would be able to go to the patients' homes and implement support plans. Without a car, they are able to make house visits within walking distance but that obviously greatly limits who they can help.

The department that has the most potential to grow with a reorganization of the materials they have is the section where wheel chairs, tricycles, crutches, and walkers are made. This section is the hardest section to provide all the materials for due to the complexity of wheelchairs and tricycles. The staff in this section does a fantastic job working with the materials they have but there is still more room to grow. There is an area of their workspace where there are many wheelchairs that are missing just one or two parts. Unfortunately, these wheelchairs have been abandoned and there has not been much effort to refurbish them. When asked, the staff seemed to not know much about the things that were in that area. Although it is true that some of the materials needed to refurbish them are hard to find, it would be possible to find a way to adapt material to make it so the wheelchairs were usable for someone. From my observations, it seems that there could be significant growth from the use of these resources.

Relationships and Hierarchy:

One of the best things I experienced at this clinic is that everyone treats each other with respect and gets along well. The way in which I had my greatest participant observational experience was in the final week of research when everyone at the clinic seemed to treat me like a part of the family. As a student who had only been there for three weeks, I felt very welcomed in my time there and feel that I have made some very good friends. This is a testament to the people at the organization as well as the Senegalese concept of *Terranga*[7]. Additionally, I noticed that everyone seems to get along with each other and the divide of departments is not a barrier in friendliness. I did observe, though, that people tend to stay inside their own department when eating lunch. This is not surprising as it is a natural human tendency to be closer to those whom you spend the most time with.

[7] The Senegalese cultural idea that everyone should be treated like one of the family and with excellent hospitality

In regards to the hierarchy of the organization and how that played a role in the relationships, I noticed an interesting pattern throughout all the organizations. Those that were older seemed to naturally take on the role of chief even if they were not the chief. Not only did they regard themselves as the chief, the other people regarded the older people as chiefs even if they are not. For instance, while in the prosthetics area, I worked with an older man. While with him, another member came up to me and said "today you are working with the chief, I see!" I asked the person I was working with if he was the chief and he shook his head but said "everyone treats me like it though." This idea makes a very interesting idea of hierarchy in the organization because the person who was the real chief was younger than the man regarded as chief by the employees. The real chief was also not as involved in the department as much as the regarded chief. I did not notice any major implications because of this but there are definitely interesting dynamics that could exist because of that situation.

Organizational System:

There was a very large variety of types of organizational systems between different departments. The department that seemed to have the best organizational system was consultation because there was one person who would organize all the patients, on which day, for which doctor, and when they would be seen. Kinesiotherapy also seemed to have a good system because they had books where they wrote down which patients they saw on which day. I did not notice any organizational system in prosthetics and orthotics or in wheel chairs. I noticed significant differences between the productivity, patient satisfaction, and staff stress level between these four departments. It seemed that the more organization there was in the department, the more the staff could get done, the less stressed the staff was, and, consequently, the more satisfied the patients were.

Data: Interviews

In total, I completed 19 interviews, consisting of seven in medical apparatuses, six in rehabilitation therapy, and six in other departments (administration, social services, etc.). From these interviews, there was an overwhelming response for every category of question creating a general consensus. There were minority responses with every category and the minority responses will be discussed as well.

Difficulties:

Distribution of Responses of Difficulties

Department	Materials	Training	Hierarchy	No Problems
Rehabilitation Therapies	3	1	0	2
Medical Apparatuses	7	3	1	0
Other	1	1	1	3
Total	11	5	2	5

The general consensus for the biggest difficulty at the clinic was the lack of materials and/or space. There was a variation in severity of the lack of materials. In one department in the medical apparatuses, the worker only had to wait a few days to have a new supply. In another department in medical apparatuses, the worker had to wait three to four months. There were a variety of ways in which the person reacted to the lack of material. Some people felt defeated, as if there was nothing that could be done. Other workers brought their own tools or equipment that they bought with their own money. One worker described the lack of materials as just part of the job, he described his attitude as “If you don’t have the materials that you want, you can adapt.

There is always another way of doing the same technique. If you can't do plan A, you do plan B. It's a good idea to have all the way to plan D"[8]. Workers from all departments, but especially the rehabilitation therapies, noted that the lack of materials and space affected the patients. It seemed that the way in which the patients were affected by the lack of materials and space was waiting times. Many therapists discussed that the lack of equipment and space made the patients wait longer which in turn, makes other patients wait longer because there is not enough room to bring in more patients.

Other problems that were discussed were the desire to have more training and the impact of not having an organizational system. A handful of workers acknowledged that medical fields are constantly changing and it is important to get updated information every few years. One worker said she knows that there is new information out there that would help her work more productively. She understands the new information well enough to know it exists but not well enough to actually implement a new system. A minority of workers noted that the lack of organization of patients contributed to the long wait times. Another worker expressed that she wished to improve her work situation but due to the lack of organization, she felt there was no one to talk to who would help her. This was a very common feeling throughout the entire organization.

There was a minority of people who noted that there were no problems that they encountered with their work. The people who mentioned this worked in medical apparatuses and other departments, such as administration and consultation. There could be a few possible reasons for this difference in opinion. The first could be that the workers felt that they had adapted well enough and felt they could do all they could do once they had adapted. Another

[8] B 7, interviewed by author, Dakar, Senegal, November 26, 2013.

could be that their job did not involve a significant amount of materials (such as administration). The last reason could be that the level of training they received covered the work they do with the materials that they have and they are not aware of further work that could be done.

Motivation:

The most common response for the workers' motivations was to best help the patient; 10 out of 19 workers responded with something related to the patients' welfare. This response came from all departments, including those that do not directly work with the patients. One worker in administration recognized the other workers' impact on patients' lives and noted that "With the little materials that they have, they [referring to the other workers] do great work. They give hope to the patients"[9]. One of the most common themes in helping the patient was to see the drastic difference between when the patient first comes to the clinic and when they leave. One worker in rehabilitation therapy described his motivation as:

> Sometimes we see results from what we do with the patients. If he recovers, it is very important. If someone comes in with back pain, he stopped working. After the sessions, he is recovered; he can go back to work. He is able to do more than he did before. Someone who has a neurological disease, in the beginning, he may think he will never recover but after the sessions, he does. It's very important. It is moral satisfaction. The results we get in our job are our motivation.[10]

Additionally, workers mentioned that their own experience with disability inspired them to want to help others and give them the same hope that they were given. One observation about these workers was that they were generally significantly more passionate than those who did not have a disability. It was very clear that the majority of people who work at PORC work there because

[9] E 1, interviewed by author, Dakar, Senegal, November 28, 2013.
[10] C 3, interviewed by author, Dakar, Senegal, November 26, 2013.

they want to help people get better. The volunteers and interns who worked there also said that their motivation was to gain experience working while also making an impact the patients' lives.

There was a minority of workers who said that they worked at PORC because of the money and security for their future. There was another minority who said that they were motivated by their own willingness to do the work. Typically, the workers who said they were self-motivated also included something about helping the patients (however, it was not the main point of their response). There were a handful of workers who said they were not motivated at all. I observed that the ones who replied with no motivation typically felt their problems were very substantial and significantly limited them from doing their work. One worker who replied that he did not have any motivation said that if he had what he needed to work, he would become more motivated.

Relationships:

The relationships between workers at the clinic seemed to be very strong and a general feeling of being a team or a family was common; 8 out of 19 workers mentioned something directly relating to that feeling. The majority of workers thought well of the other clinics and seemed to respect them. One worker even described the organization as her "second family"[11]. Although when asked, it seemed as though workers from medical apparatuses did not really fully understand the rehabilitation therapies, and vice versa. Regardless, almost everyone felt they did their job well and had no problems.

One problem that did come up was how long the patient and therapist had to wait for their medical apparatus. The therapist explained that he had been waiting quite a while for an

[11] D 1, interviewed by author, Dakar, Senegal, November 26, 2013.

orthotic device and without it; he cannot advance the patient's recovery. He was notably frustrated. This possibly reflects the impact of the wait times the patients feel.

Another common pattern that was seen in all the interviews was the feeling that there was no one who the workers felt they could talk to about the problems they had. A few workers mentioned they could talk to the chief of the department but when I talked to the chief of the department, they said there was no one they could talk to about the problems. One worker also mentioned that she had tried a few times to talk to people higher up than her about changing a few things but she never felt like she was heard or taken seriously. She was frustrated but had come to accept that things were not going to be resolved.

Analysis: Connections Made

Given all the data collected, there are connections that can be made between the problems identified in the observations and the information discovered from the interviews. Once these connections are made, the first part of the solution can be made. There are three areas where the most connections can be made: motivation, education, and organization.

Motivation:

There is a strong correlation between the type of motivation the worker has and their work ethic and patient care. As previously mentioned, the majority of workers were motivated by the ability to help people. There was some variant of degrees of passion to help people; some workers felt as their job is what they had devoted their life to, others felt as though it was nice thing to do and get paid for. Drawn from observation, the interviews, and observation made during the interviews, the people who were more passionate and more motivated to make an impact worked much harder, made a higher quality product, and were more invested in the project. Furthermore, when the workers are more passionate and motivated, they give the patient

better care, more attention, they care more about if the patient is satisfied, and are overall a better health professional.

One example where I saw this strongly demonstrated was when I helped a medical apparatus worker create an orthotic chair for a child who, due to a delivery problem, had lost all ability to use all of his muscles. The worker was very diligent about getting the chair exactly right, making sure there was nothing that would cut the child (screws, plastic, etc.), making it as comfortable as possible, and making it aesthetically pleasing. When he gave the chair to the child, he sat down with him and his mother. He placed the child in the chair, made adjustments, and showed the mother how to use it. While they were testing it, the worker realized that the child needed more support for his head. He took the chair back and on the spot thought of a solution to the problem. He quickly made the correction, brought the chair back to the family, and did the same thing as before. Now more comfortable with the correction, the child's face lit up, realizing he was sitting up for the first time in his life. As the mother watched her son, relief flooded her face as she realized she no longer would have the burden of carrying her child around everywhere. The worker very much shared the joy with the family. It was one of the most touching moments I saw in the clinic. Once the family left, the worker told me that one day, because of that chair, that child will have enough muscle to hold his head up and sit up. Once he can do that, he can get a wheelchair and maybe even start learning to walk. His entire face was lit up and I could tell that he was very invested in his work. In that moment, the worker had excellent patient care, as he gave clear instruction, made sure everything worked, took the time to be with the patient, and respected the family.

One of the things I observed was that this was not a rare experience. Each day someone received a device that would allow them to walk correctly, give them mobility, or take the first

steps to doing one of those. Additionally, in the rehabilitation therapies, patients who had never walked before learned to take their first step. Patient's, parents', and therapist's faces all lit up when something that was previously considered impossible happens. This motivation to see things like these happen is the biggest contributing factor to the patients receiving good care.

Unfortunately, the opposite of this is also true. When the worker is not motivated or is only motivated because of the money, they give very respect, settle at a functional level of quality, and give poor instruction. During an interview, one worker told me that he had no motivation to do his work. He did not give any reason for his lack of motivation except that it partially due to the lack of materials. While I observed this worker earlier, he did not pay close attention to his apparatus he was working on and he did not take time to make it nicer with the tools he had. When he saw the patient, he just handed him the apparatus and then started talking to another worker. The patient told the worker what was wrong, the worker took the apparatus back, did a few adjustments, and then handed it back to the patient, all without saying a word to the patient. When the patient left, I could tell that he was rather annoyed at the situation.

Overall, the strong connection between motivation and work ethic and patient care is one to take in consideration when evaluating the problems that exist in the organization.

Education:

There is also a connection between the amount of education a worker has, the amount of satisfaction they have from their work, and how productively they spend their time. This connection is not as clear as the previous connection but when further investigated, it becomes apparent.

There is a very broad range of the amount of education each worker at the clinic has. Some workers have only received enough training to make the one or two apparatuses they know

how to make. Others have master's degrees and many years' worth of seminar classes. The workers just received just enough training to do their current job seemed to be more or less satisfied with their work situation. They did not consider there to be severe problems with materials or other related difficulties. They seemed content doing their part and then going home, doing no more or no less. They also took more spontaneous breaks. On the other end of the spectrum, the people who had master's degrees seemed to be very dissatisfied with the quality of their work, frustrated with the material, stuck using technology from years prior, and wished to be able to do more. Similarly, as the prosthetics industry in particular has greatly advanced in the last five years, the younger workers seemed to be more frustrated by the lack of means than the older workers. This is presumably because the younger workers know what they are doing is outdated and that there is a better way of doing it. The older workers most likely have not received an updated training since they finished their degree.

This sheds more light on why some of the workers reported serious material issues and others reported none. It also puts more emphasis on giving the workers more training and resolving that issue. Furthermore, if the workers had more training, they would know better ways of to adapt the material in a more efficient way. If the workers knew more efficient ways of working, then they would be able to make more apparatuses in one day, and therefore, treat more patients in the same amount of time.

Organization:

As previously mentioned, there is a connection between the system of organization, the satisfaction, and stress of workers and patients. The more organization that is in place, the happier the workers are, the less stressed the workers are, and, in turn, the better the quality of

service the patients receive. If a system of organization was implemented in each department, the productivity and satisfaction of the organization would increase.

Analysis: Proposed Solutions

Running any organization is extremely difficult, especially one that is funded by the government and has large number of demands without much supply. Unfortunately, there is no way to get around having a limited budget or dealing with expensive materials. Everyone feels like they need something but there is always going to someone who goes without. However, after drawing connections between problems, resources, and other aspects of PORC, I have discovered a few areas in which solutions could be implemented, without significant financial need, to make the organization run better, help the staff, create more unity as a clinic, and, as a result, be able to provide more and higher quality care to patients.

Priorities:

Workers in this type of setting are always going to be in need of more materials. There is no way that the organization would be able to provide everything each department needs on the budget the government gives as medical equipment is very expensive. Nevertheless, there can be some relief in order to start improving the organization step by step. It is necessary to figure out which departments in PORC are in the most need and are most limited to do their work based on the difficulties. From the data, it is seen that the children's therapy department and the social services department are in need of the most need. This does not mean these departments will get everything they need or want but it means they should be on the top of the list if there is an opportunity for improvement.

Communication:

There are many resources available at the clinic in terms of a ride range of skills and people who understand a variety of things. If there was a way in which people of different departments could talk and share their needs with one another, there is a possibility of creating solutions to some of these problems. For instance, there is a need of a sofa in the social services department in order to have a place for counselling. There is a person in the apparatus department who has made chairs and other types of furniture for other departments. That worker and social services could work together to design a sofa. There may be a few materials that are necessary to buy but the majority of materials, the worker uses every day. Additionally, the rehabilitation therapists could work with the people who make the prosthetics and orthotics in order to better design an apparatus that would be more effective in the patient's recovery. By combining tools and skill sets, many problems can begin to be solved.

System of Organization:

It would be very easy to install a system of organization for each department and the clinic as a whole. With communication between the workers in the rehabilitation center, a schedule of when patients come in and what each patient needs to use could be created. For example, if two therapists know that both of their patients need to use the same machine, they could plan on not seeing those patients at the same time. Additionally, the workers in apparatuses and administration could coordinate how long it takes to make an apparatus and how patients are feasibly possible to see in one day. Then, administration can coordinate with the patient what time they should come in to get their apparatus. This way the patient would not be waiting and becoming more and more frustrating. With little steps to organizing time and patient needs, the organization could help more patients and be more effective in their work.

In addition, in order to make communication between departments easier, meetings between the director and the chiefs of departments could be held. This way communication between the director and the rest of clinic is possible and the workers do not feel as if there is no one to talk to. Then, there could be another meeting held between the chief of the department and the workers of each department. This way all the workers have a chance to talk and feel that they are heard. This could bring more unity and give the workers a feeling of support in their work.

Conclusion

I thoroughly enjoyed my time working at PORC and feel as though it has made a lasting impact on my views as a student, a researcher, and a future health professional. Given the circumstances PORC is faced with and the amount of people they serve, PORC does a very good job helping the disabled as much as possible. One of their greatest strengths is their ability to treat a large range of cliental, from amputees, to people with common injuries, to paralyzed people, and all people in between. Additionally, the team of people who work at PORC clearly have the desire to bring change to the community in the best way they can. This gives me hope that they would also be willing to better the organization itself.

Although there are problems at PORC, I feel confident that if these solutions are attempted to be implemented, there could be a positive shift forward. None of the solutions are substantial, organization-changing solutions but I believe that with time and practice, there could be significant improvement. Inevitably, there will be issues while implementing change, such as, problems in leadership, disagreements between workers, miscommunication, and procrastination to implement the solutions. It is not easy to take the little funds the government gives and turn that into something that can substantially help the public. Though, if PORC works hard,

continues to work towards improvement, and takes one step at a time, I believe it is possible to start satisfying the needs of the workers and, in turn, the needs of the patients.

This research will be able to be implemented and related to other health organizations who struggle with similar problems. I hope that the simple approach to solving the problems will make it more accessible to clinics that do not have access to a large amount of funds. Further research could be done by following up with PORC and seeing how they have implemented the solutions and the improvements made because of them. Additionally, one could do the same study on a broader scale with similar organizations from different countries or different fields of health.

With these solutions, the organization will be able to serve more people and help make an impact in the large number of people with disabilities who still suffer. It is a big problem and PORC is a small piece of the puzzle but I believe, *ndank-ndank*[12], step by step, PORC could be a role model for many other governmental organizations.

[12] Wolof word for step by step

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Appendix I

Interview Guide

In English:

I. Basic Information

1. Sex; Age; Marital Status; Nationality; Degrees (Specialties)

2. How did you start working here? How long? Why?

3. Explain your daily routine

II. Challenges

4. Tell me what the biggest challenges are working here.

Give me an example.

5. Is there anything else that limits you from successfully doing your work?

6. Is there someone you can talk to in order to solve these problems? [Relationships]

III. Motivation

7. Given these difficulties, what motivates you to keep working here?

Give me an example.

8. In what ways do you see your work impacting the lives of the patients and their families?

IV. Relationships

9. What is your impression of the other clinics here?

In French:

I. Information Basique

1. As-tu quelle âge? Ou est-ce que tu viens de ? Quel tipe de dégrée est-ce que tu as ?

2. Comment est-ce que tu as commencé travailler ici ? Pour combien d'années…

Pourquoi ?…

3. Dit-moi ce que tu fais chaque jour

II. Difficultés

4. Dit-moi ce qu'est le problème le plus grand en ton travail

Donne-moi un exemple

5. Est-ce qu'il y a autres choses ce que tu limites de travailler succès?

6. Est-ce qu'il y a quelqu'un qui te peut aider avec ces problèmes ?

III. Motivations

7. Donné ces difficultés, quelle parte de ton travail est-ce que tu es motivât de ?

8. Comment est-ce que tu vois l'impact de ton travail dans les vies des malades et leurs familles ?

IV. Relations

9. Qu'est-ce que c'est ton impression d'autres clinques ici ?