HAI-GHANA PROJECT
Healthcare Associated Infections Project, Ghana





The Healthcare Associated Infections (HAI) project is a 5-year research study with funding from DANIDA. The overarching objectives of the project are to reduce morbidity, mortality and costs related to healthcare associated infections in Ghana.

HOUSE OFFICERS AND RESEARCH ASSISTANTS UNDERGO TRAINING FOR SSI STUDY

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EPIDEMIOLOGY OF SSI IN A TEACHING HOSPITAL AND DEVELOPMENT OF SURVEILLANCE SYSTEM FOR SURGICAL SITE INFECTIONS

By
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Following ethical approval from the College of Health Sciences Ethical and Protocol Review Committee and Korle Bu Teaching Hospital Institutional Review Board, a pilot of the above study was carried out for the above study in the SSI work package. The pilot began on the 21st May, 2017 and comprised a week of recruitment of patients followed by 30 days of postoperative surveillance for surgical site infections. It was carried out in a single unit (Unit 4) of the general surgical department. Surveillance was in the form of In Patient Surveillance using daily wound inspection and Post Discharge Surveillance using a Patient Based Telephone surveillance system and a Healthcare Personnel Based wound care surveillance system.

Twelve patients were eligible for inclusion out of sixteen patients who underwent a surgical procedure. Two patients were in-patients during the entire duration of the pilot (30 days) and were surveyed as such. Ten patients were discharged home at some point during the pilot program and underwent post discharge SSI surveillance. During the inpatient SSI surveillance, one patient was diagnosed with SSI.

In the Post Discharge Patient Based Telephone surveillance system, all but one patient answered their telephone calls and one SSI was diagnosed using this system. In the Post Discharge Healthcare Personnel Based wound care surveillance system, eight (8) patients had wound care at the index unit and this system diagnosed SSI in one patient.

TRAINING FOR SURVEILLANCE

Training of nurses was done on 20th June 2017. Nine (9) nurses from general surgery wards, (mainly nurse-in-charge of wards 2,3,4,5,6 and the surgical treatment room [STR]), Dr. Enid Owusu (Postdoc), Mr. Bannerman (research assistant) and myself were in attendance. The background to the study in general, the justification for the study and the benefits to patient management and their role in the study was explained – use of the Post Discharge Healthcare Professional Based survey wound card. They were taught:

- Which patients to issue the wound care card to – All patients who undergo a surgical procedure (as defined) and are discharged home.
- How to fill the card at every change of dressing of the patient
- How to identify an SSI using the wound card
- What to do when an SSI is identified – call to inform myself/research assistant
- What to do with the wound card when the wound is healed and patient does not need to come back for dressing – Collect the card from the patient.

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MARIUS T STAUNING'S EXPERIENCE IN GHANA



Marius T. Stauning

Some say that time flies when you spend it in good company, and I could not agree more. Even though 3 months of data collection have now passed, it still feels like yesterday that Japheth Opintan picked me up, a very early Friday morning at Accra International Airport. I remember that the sun had barely risen from the horizon, but the temperature was already much higher than in Denmark, I left just 8 hours ago. Half a year of preparation with putting together a research protocol had gone by and it was now finally time to begin the data collection on the "Air contamination in operating rooms and surgical site infections in Ghana" project.

After Japheth had introduced me to the other members of the staff at the department, the first week went quickly with conducting pilot studies of the air quality, meetings with involved partners, and laboratory preparations. This meant that we, when the final clearance from the Scientific and Technical Committee and institutional Review Board was granted, we could hit the ground running, and start an effective data collection right away. A good routine for processing samples was established in the lab at the Department of Medical Microbiology, and with the help form Dr. Bediako-Bowan from the Department of General Surgery, an effective routine for identifying possible surgical cases and conducting patient follow-up was also quickly in place.

Now data collection is coming to an end, and I will soon leave Accra with a bag full of research data. Air samples have been obtained during more than 120 surgical procedures and a little more than 600 air samples are cultivated and waiting to be shipped for further analysis in Copenhagen. The key objective is to examine the relationship between bacteria isolated from the theatre air during surgery with bacteria derived from infected surgical wounds, but analysis will also be done on traffic flow inside the surgical theatre and the correlation between increased traffic and air quality, as well as investigations on the presences of *S. aures* and *MRSA* in the theatre air. Final results are expected to be ready in the end of July 2017.

But research data is far from the only thing I will bring home. With me I will also bring a lot of warm and pleasant memories from Ghana. During the last 3 months, I have had the opportunity to visit some of the many beautiful places in the Eastern, Central and Volta regions as well as exploring the lively city of Accra. It has been a great experience travelling in Ghana, where many things are very different from life in Denmark. I have met a lot of friendly people and made new friends along the way. I will bring back a lot of warm memories of everything from riding around in the TroTro, to learning how to properly eat FuFu with spicy light soup. A special thanks is given to all the staff members at the Department of Medical Microbiology and the Department of General Surgery at Korle-Bu Teaching Hospital, who made this project possible, and made the last three months a very pleasant experience. This was my first visit to Ghana, but I hope that it will not be my last.



Gifty and Ama at NICU, Koforidua

Report from fieldwork in the Eastern Regional Hospital and Korle-Bu Teaching Hospital

In the last quarter of 2017, the HAI-Ghana Ethnography team conducted field work in Korle-Bu and Koforidua. Koforidua is the capital of the Eastern region of Ghana, with the Eastern regional hospital (ERH) as the main referral point. Korle-Bu Teaching Hospital (KBTH) in one of the major tertiary referral centres in Ghana, located in the Greater Accra region. The team included the Principal Investigator, Gifty Sunkwa-Mills, a Public Health physician and PhD Student, and Mette Breinholdt, a Masters student of Anthropology from Denmark, whose main area of study involves the orderlies.

As part of our study, the team conducted participant observation, in-depth interviews and quantitative surveys in both hospitals. Working with doctors, nurses, cleaners and patients in the same space helped us to appreciate that infection control is indeed everybody's business.

In Koforidua, we recruited a 3-member team from the hospital and took them through some training in the administration of survey instruments. The team involved the research coordinator, a pharmacist, and a national service personnel.

Each morning for the first two weeks of October, the team joined the hospital staff to carry out routine ward work, whilst taking keen interest in activities related to HAI. Subsequently,

we paid intermittent visits to the field, to spend time doing participant observation, and to supervise data collection and other activities related to the project.
All staff groups were considered equally important for the study. The overlapping roles played by various cadres of staff places even more emphasis on this. Have you ever thought about the role a nurse plays in the hospital? Most people think that the role of a nurse is limited to taking care of patients, taking blood pressure, temperature and dressing wounds. It would interest you to know that nurses do far more than that, and their work involves a holistic approach to patient care which includes carrying out health education, health promotion and counselling sessions when required. It even includes cleaning! Yes, they spend a good amount of time cleaning babies' incubators, patients' bedside drawers, etc. Student nurses posted to the wards for attachment also take up some of these roles - cleaning up patient areas after discharge, tidying sinks and laying beds.

Though the laying of patient beds may sound like a straightforward task, it comes with lots of negotiation amidst the resource constraints in some hospital wards- which bedsheet is really 'dirty' enough, or has visible stains?; how long has it been since the sheets were changed, and how many clean sheets are really available to give out? These are some practical challenges associated with ensuring that each patient has a clean sheet every day.
Sometimes, just like some of the other staff, orderlies find themselves performing multiple roles too - wheeling patients in and out of theatre, fetching food from the kitchen, and running other errands.

Patients: It is interesting how much patients know, or do not know about HAI. Some have never heard the term; others have only heard it in passing. Much as many are aware that one could get an infection from within the hospital environment, most have not given much thought to how it could be prevented; however, they are curious to know. We interacted with some patients, to gain insight into their own perspectives of dirt and cleanliness in the hospitals. Beyond cleanliness, patients have many other concerns, which we shall explore further, in relation to healthcare associated infections.

Hospital Economy:

Sometimes, we observed staff performing procedures, on some occasions with gloves on one hand and not the other- another area of negotiation- maybe, depending on how risky the task at hand is perceived to be. The term 'hospital economy' came up a few times when we tried to find explanations to why things were being done in a particular way. 'Shortage of gloves' was an equally common term used on the ward. The hospitals seem to have a system where logistics and disposables are distributed in defined quotas to various units.

The team will continue to study the management and organisational structure of the hospitals to get a better understanding of how the system works, and put all the bits and pieces of information and observations into perspective. Undoubtedly, there is an interesting ethnographic journey ahead.

An ignorant Dane learning about cleaning and infections at Korle Bu



Mette Breinholdt

From August to November 2017, I have had the privilege to do research in Ghana. Except for three weeks I spent my time at Korle Bu Teaching Hospital working on my tiny part of the much bigger HAI Ghana Project.

The core method of my study has been participant observation. This means that I have been cleaning with the orderlies and spending time with them in the backspaces of pantries or utility rooms. I have visited some in their homes and some have been interviewed in depth. I have also interviewed and talked with other central actors like persons working with Infection Prevention Control (IPC) or people having managing-roles in relation to the orderlies. These qualitative



Orientation of research assistants at Koforidua



Ethnography team with Nursing team, Koforidua



methods have been supported by a survey investigating the range of perceptions and conditions among orderlies.

Through these methods I have aimed at understanding what is important to the orderlies in their job and the conditions under which they work. The study also aimed to reach an understanding of how orderlies perceive their work, how they are instructed and how they understand this instruction. The idea of the study is that such knowledge will benefit future programs for preventing HAI both at the hospitals in the study and at other hospitals.

A small part of a big study

It ought to be safe at the hospital, and patients or staff should not risk getting sick because of their stay at the facility. Thus prevention of HAI is the overall objective of the HAI Ghana Project. Through a period of three years six work packages comprising of four PhD-studies and four postdocs (some work package carry both a PhD and a postdoc) will be conducted each exploring a specific aspect of HAI. (See Fig. 1)

The point prevalence survey is already completed. The other five studies all follow a path with three phases: a baseline study, an intervention study and a post intervention study. The current phase, and the phase my study is part of, is the baseline study. That is: how are things now, before interventions are initiated.
The hospitals and departments involved in the HAI Ghana Project are the three departments: NICU, Surgical and Maternity at three hospitals with Korle Bu Teaching Hospital as the main site of research plus Eastern Regional Hospital in Koforidua and 37 Military Hospital in Accra as reference-hospitals. As the scope of my study is limited, I have not been to 37 Military Hospital.

My study is part of a master's degree in Anthropology at Aarhus University, Denmark. At the same time it is contributing to one of the four PhD-studies, namely the ethnographic study which is investigating the socio-cultural and material aspects and perspectives of HAI among all staff groups, patients and relatives, as well as the role played by hand hygiene and Infection Prevention and Control (IPC) practices.

Extent and significance of the problem

Health Care Associated Infections is a serious problem. In countries with a high budget on healthcare, HAI affects 5-10 pct. of all patients. This means that for every 10 or 20 patients one will acquire an infection. Reliable prevalence rates for Ghana is not available, but the literature consistently indicates that the problem in Ghana and other African countries is even larger. As mentioned also staff is at risk of HAI. However I have not found literature indicating how often staff is affected from infections acquired at the job, but during my study I have learned that the staff is actually concerned about the risk, and also how some have experienced HAI with severe outcomes.

HAI and cleaning:

20 years ago many people would ask: And what has this to do with cleaning? The short answer is: A lot! Until the late 1990's – early 2000's - cleaning was perceived as a merely esthetic activity. Cleaning was something you did because you wanted the ward and the hospital to present itself neatly. Today there is a rising awareness on the impact of cleaning in prevention of infections. The germs that cause infections can be at all surfaces and items and may persist for months. If not removed or disinfected by cleaning, the hands of patients, relatives, healthcare staff and cleaners may move the germs from one place to another thus spreading the risk of infection. Accordingly the wards have to be cleaned: Not only to look and smell nice, but to reduce the risk of infection.

But how the cleaning should be performed is an issue of debate. Off course there are guidelines available in the IPC manuals, but whether these guidelines are optimal or whether the guidelines are followed have not been part of my project. This limitation of my study has been difficult to communicate to the people I have worked with. Many have asked me: "Am I doing the right thing? Please tell me, if I should do anything differently!" But I have not been able to answer. I cannot tell. As an anthropologist cleaning is not an area of my expertise.

Invisible monsters, teamwork and tools

Yet I have listened carefully to the eager voices vainly asking for my advice, because my area of expertise is to notice practices and perceptions. And in these questions I have sensed an eagerness to learn and to improve: A thirst for knowledge and understanding.

Through my work with the orderlies, I have also noted that what we are chasing, the HAI, is an invisible monster: Not to be seen by the naked eye it is spreading fear and terror as any invisible enemy will do. It cannot be detected with our senses and yet our senses are for daily practices the only available instrument to assess whether the cleaning is done well.
From my stay at the hospital I have also realized the rather obvious fact: that no person or no group can fulfill the task of preventing HAI on his, her or their own. Cleaning and infection-prevention is teamwork. I have noticed how the orderlies divide the tasks among themselves, and I have noticed how the labor is divided between health care staff and orderlies. While the nurse or health care assistant puts the soiled linen to suck in bleach and water, the orderly rinses off the bleach, dries the linen and disposes it for laundry: divisions of labor which at times work seamless and



uncontested – and which at other times are subject to disputes.

But cleaning is more than knowing what to do and how to share the work in an efficient way. It is also about having the tools needed. Water for instance, is an essential ingredient in cleaning. And so are brooms with long straight brushes, buckets that may help the orderly squeeze the water out of the mop, or dusters that are neither too clumsy nor not too tiny. Not to mention the supplies needed to protect the orderly staff from the germs which they work to diminish: Gloves, aprons and facemasks for example. These tools and supplies are not always available too great regret for those who want to do a proper job.
Together it all: the invisible monster, the necessity of teamwork, and the availability of needed supplies, adds to the picture of the restraints and possibilities provided the orderlies which may significantly affect the impact of cleaning on infection prevention control.

An ignorant alien:
Some might ask: Why come all the way from Denmark to study cleaning in Ghana? How can you as a foreigner ever expect to understand our lives and challenges? And they are right: I will never be able to understand the life and the challenges as well as those who are living them. What I can offer instead is a "non-understanding". Because I don't understand I take less for granted, and accordingly I will ask some different questions.
However, what I cannot provide as a foreigner, not knowing the local languages, is insight to the chit-chat of everyday life at the ward: important chit-chat which mirrors perceptions and relations among the orderlies and between staff groups. This, I admit, is a shortcoming of my study.

My gains and insights derived from this study also have a broader scope. I believe that the insights the orderlies and other staffs have shared with me will also enhance our understanding of cleaning in Denmark and other places. Sometimes going away from what you know, makes you see what you know in a new light.

The further process
Now, what am I going to do with all the information I gained during my three months in Ghana?
I have taken with me a bunch of notes and hours of interviews. Now I must scrutinize the material thoroughly and I will interrogate into existing literature in order to make sense of it all. By the summer of 2018 I expect finish a final report. This report I will share with the orderlies I worked with, with the HAI Ghana Project and with the managers of the hospital. I intend to communicate the results in a style that is easily comprehensible. Beside the report I also aim to publish scientific articles and in other ways share the insights I have gained.
How these insights are then to be used will be up to the orderlies, the healthcare staff and the leaders of the hospitals. I will keep away from suggesting solutions, as I believe that those who shall live the consequences find the best solutions. Nonetheless I hope the report and study results will support and inspire in the creation of good solutions.

DANISH RESEARCH PARTNERS VISIT GHANA

In December 12 – 17 2017, our Danish collaborators paid a working visit to Ghana. They used the visit to visit the various project sites of the PhD students, including the Korle-Bu Teaching Hospital, the 37 Military Hospital and the Korforidua Regional Hospital. During their visit, we also discussed the general progress of the HAI Ghana project. Key discussions focused on effective communication strategies, research advocacy and dissemination and financial matters. To improve communication between the north and south partners, a quarterly Skype meeting was proposed. We additionally used the visit to begin planning for our mid-term events.



From left to right: Gifty, Britt, Christabel, Stephanie, Appiah-Korang and Jorgen at the Medical Microbiology Department, SBAHS



HAI Ghana project refurbishes a laboratory at the Medical Microbiology Department

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