Jan Swashtya Sahayog Key Questions for MIT Sloan School of Management

March 2016

Chronic Disease Patient Groups

1. JSS currently runs 27 patient groups for chronic diseases. The goals of these groups are to improve treatment compliance, provide social support, improve education about the disease and general health among members as well in their villages, and identify new patients. It is important to note that carers/family members usually attend these groups along with the patients themselves. JSS would like to explore how we can improve the operation of these groups and expand their membership.

2. Specifically, we would like to know how patient groups in other settings have achieved success. What techniques do successful groups use? How have they facilitated education and intra- and inter-group social support? How have they encouraged group cohesion? How have they encouraged the autonomous running of the groups so that they are truly self-help groups? How have they dealt with the stigma attached to certain diseases that may cause reluctance to join, i.e. in HIV/AIDs or mental illness? And how have these groups become change agents within their communities?

3. One specific area we are interested in is salt consumption, which is a major contributor to hypertension here. How have patient groups approached reducing salt consumption within their communities, working at the community rather than hospital level?

4. What point of care technologies would facilitate identification of new patients with chronic diseases?

5. JSS often comes across so-called "lost cases," that is, patients who are identified as having a particular disease but refuse to seek care at either the Ganiyari hospital or from the VHWs. Such refusal to seek treatment may be driven by fears of cost, stigma, or painful or drawn out treatment, or by a sense that the disease is not really a problem, or that its cause is supernatural rather than medical. What models are there for providing in home care and treatment for such patients, thereby reducing the fears and costs associated with seeking treatment and improving patient quality of life?

Senior and Village Health Worker Knowledge Systems

1. JSS would like to explore how it can meet the knowledge needs of its SHWs and VHWs. Our goal is to provide better first contact care and prevent cases requiring close follow up from falling through the cracks. JSS is interested in exploring app technology that might guide a health worker through diagnosis and treatment. Such technologies could work for individual illnesses or across our entire system. We would like a system that can help our health workers can quickly make sophisticated decisions about diagnostic and treatment pathways, whether it is to treat on the spot, consult with a supervising physician, or immediately refer someone to our hospital. Hopefully this technology can remind our workers of important details to look out for or actions to take. Within this realm, we have several specific requirements.
   - Due to the relatively low literacy levels of many of our workers, this technology should be as simple to use and as visual as possible. An app that uses audio cues to guide our workers through the steps would be ideal.
   - At the same time, our workers need to be able to conduct nuanced communication with supervising physicians located elsewhere. What is the best way to approach this problem? Can our workers take pictures or audio, and, if so, how should those be transmitted to a supervisor.
   - Often our workers find themselves without a regular cell or broadband phone signal, so what technologies would allow someone to work without a signal and then "check in" later when they "reach" a hello point?
   - As noted, these technologies could work for specific diseases, especially chronic diseases such as diabetes, hypertension,

2. Related to the above, we are interested in using these kinds of technologies not just for one to one communications but also to build a repository of knowledge based on our collective experiences. Ideally, the technology would be one-to-all. Is there a way to bank the above interactions and push them to other workers? Such information could also help us refine our practices and serve as the basis for ongoing training. What systems would facilitate this?

3. We would also like to know whether there are ways our workers can use our print books and videos--or others' resources--on the spot. For example, we have an easy-to-use drug formulary that relies heavily on visuals for our village health workers. Is there a way we can easily digitize and update our printed materials for our workers to refer to as they treat patients? Such resources could help with decisions like dosing and interpreting lab results.

4. A specific area of interest is in the treatment of elderly patients. For elderly patients, we are interested in an app that can help the health worker diagnose and treat elderly patients, remind the worker of specific things to watch out for in this demographic, and even help facilitate palliative and end of life care.

Appropriate Technology

JSS is interested in several areas related to the use of technology in its community health programs.

1. JSS would like to explore ways to refine or improve the designs of several of its key tools. These include the following:
   - The breath counter has two problems: it has battery leakage and it could be made simpler to use.
   - We need a better tool to monitor blood pressure. Our analog gauges require regular correlation, which the VHWs cannot do themselves. Our digital gauges have problems with power supply leading to inconsistent readings. Is there a rechargeable type of gauge with a battery supply similar to a mobile phone or some other technology that could obviate these problems? It should be easy to use for a neo-literate.
   - The same goes for thermometers. Is there a non-mercury thermometer that does not require calibration and would be manageable for neo-literates to use?
   - Our water purification UV drum requires refinement. It currently has problems with corrosion.
   - Our spacer for asthma requires design improvements.
   - Our copper sulphate hemoglobin test for anemia is somewhat complex for a VHW. Could the design be refined to make it easier to use?
           https://www.youtube.com/watch?v=ZmuZhPZnm78
   - How can we improve the design of our warmers for low birth weight babies?
   - Are there better height measures that are portable and accurate?
   - Our Interactive Voice Recording system works intermittently both due to human errors and technological challenges. Is there a way to improve this?

2. Second, JSS requires additional technologies for which we currently lack in-house designs.
   - Given our high rates of malnutrition in this area, we require a great ready to eat food that does not spoil and is cheap. Most ready to eat foods have either milk, which spoils, or nuts, which are expensive.
   - Is there an effective calorie counter so our mid-level workers can conduct nutritional analysis and planning? JSS is interested in exploring point-of-care diagnostics and treatment technologies. Current smartphone technologies seem promising but require relatively high degrees of literacy. In addition, these technologies would work best for us if they did not require a constant Internet signal. What point-of-care technologies would meet our needs?

3. Third, JSS is interested in exploring point-of-care diagnostics and treatment technologies. Current, smartphone technologies seem promising but require relatively high degrees of literacy. In addition, these technologies would work best for us if they did not require a constant internet signal.

4. Finally, JSS would like to disseminate its appropriate technologies, whether they are products or systems, such as the malaria slide transport system. What methods or tools exist for effectively pushing both our products and ideas to other groups?

Antenatal Care

1. JSS wishes to reduce the harms our patients face from pregnancy-induced hypertension. How can we improve the care of women at high risk of pregnancy-induced hypertension? Are there programs that have dramatically reduced complications from pregnancy-induced hypertension through education, close monitoring, and close follow-up? What education and training materials are available to improve comprehension among patients and their families about the risks of pregnancy induced hypertension such as eclampsia? What protocols have others used to identify and closely follow high-risk patients to ensure thorough education, initial treatment and compliance with treatment plan, and well thought out labor and delivery plans?

2. JSS is interested in exploring safe birth kits. We currently have an effective kit which is distributed to each pregnant woman in our Antenatal Care program should she choose to or be forced to give birth at home. However, we are interested in exploring what others have done in this realm.

3. JSS is interested in design improvements for our warmers for low birth weight babies? We would also be interested in learning about other interventions or technologies for low birth weight babies.