

Case Study:

The Vision of Comprehensive Primary Health Care-

Learning from Jan Swasthya Sahyog for developing an alternative model of organization of primary health care services.

Introduction:

Jan Swasthya Sahyog Programme is located in rural Bilaspur district of Chhattisgarh state. In addition to the provision of high quality services in a remote and underserved area, for over 15 years, their work has generated a wealth of data and experience.

This case study focuses on the organization of primary health care services, delivered through the Bamhani health sub center, located in the midst of a cluster of villages covering a population of 8403. Bamhani is one of four sub-centers, which between them provide primary health care to a population of 35,000 persons, and are linked to a base hospital of 30 beds. These four sub-centers are referred to as Health and Wellness Centers (HWCs) to differentiate from the government-managed sub-center and in line with the changing usage within the project as well.

These four HWCs are supported and coordinated and provided referral support from a 30-bed hospital and health care team located at Ganiyari- much on the lines of what is expected of a community health center.

Geographical Location:

Bamhani Health and Wellness Center (HWC) is located in a tribal and forested area, catering to 17 forest villages. The HWC is located at a distance of ., about 50 km from the referral facility at Ganiyari and about 77 km from the district headquarter town of Bilaspur.. There is a once-daily bus service connecting Bamhani to the nearest town. However, only a few rugged 4 wheel drive vehicles can reach the villages. For all practical purposes the only means of connecting the 17 villages served by the Bamhani center and Bamhani with the bus stop is bicycle or by foot..

The Health Workforce:

The HWC in Bamhani caters to a population of 8408 persons dispersed across 17 villages and 40 hamlets with populations ranging from 103 to 938.

At the level of the hamlet, there is a Mitanin of the state programme (same as ASHA at the national level) who plays the role of the Village Health Worker of the JSS as well. Some of the pre-existing VHWs of the JSS also continue. Both VHWs and Mitanins are selected and deployed by a similar process and on the same terms-. There are 38 Mitanins/VHWs in the entire Bamhani area. (The Ganiyari Project on the whole has 110 Mitanins).

The HWC is staffed by 2 ANMs and one Senior Health Worker (SHW). The SHW is a mid level care provider with a nine month pre-service training provided by JSS followed by a structured review meetings every month. When needed short three day training programmes could be held. All trainings included practical aspects, with supervised practice on the field.

Where the catchment area is larger and covers a population of 15,000 there are two or more SHWs. In addition there is also a manager, responsible for patient registration, logistics support and management of case records. The manager functions as a support to the SHWs, and not as their supervisor. The senior most SHW is the leader of the team. In addition in each HWC, there is one individual who is a sort of general factotum- as a handy man, watchman and to carry samples/documents/records between HWC or the main facility.

Once a week a team consisting of a doctor, coordinator/registrar, a pharmacist and a laboratory technician visits every HWC.

Supervision of the VHWs is by a cluster coordinator located in the Ganiyari Health Care Facility.-.For each VHW there is a cluster coordinator. There is also one HWC coordinator for all four HWCs who support the chronic illness care and HWC functioning and another coordinator for women's health care. There are thus 5 non-medical supervisors located outside the HWCs who supervise and support the 4 HWCs and there is a distribution of skills and functions between them..

The Service Package:

(i) The case load (quantity of services utilized):

There are 1500 visits to the village/family level each month by the three providers at the HWC. (The three providers are two ANMs and one SHW. Henceforth we will refer to all three as SHWs- since they have similar overlapping skills). In addition there are approximately 500 clinical encounters at the HWC/sub-center every month. This approximates nearly 24,000 visits per year. In addition in a year there are 3000 referral clinic visits from Bamhani villages that occurred at the Ganiyari health care center. This works out to about 3.2 out-patient visits per capita per year- very much in line with the use patterns of optimal care.

In addition there is a mandatory monthly visit by the VHW/Mitanin for every single household in their care. Families at risk or special needs are visited more frequently. The VHWs also undertake management of a large number of acute simple illnesses – the exact number has not been estimated. In addition there is care seeking outside the ambit of the programme. If all these are included, the number of outpatient visits per capita touches about five, which is, nearer the expected range in many developing nations.

(ii) Close to Client Access:

Over half of the people needing care either for acute simple illness or for chronic illness get such care at their home or within their village. About one in three

patients require care at the HWC, which is within 7 km, and one in ten need to travel about 50 kilometers to the Ganiyari health care facility.

The Set of Assured Services:

The set of services that are assured, their providers and site of provision could be enumerated as tabled as follows:

	Condition	Provider(s)	Drugs and diagnostics in addition to counseling and referral.
Acute Simple Illness	Fever, diarrhea, cough and colds, allergy, mild pain abdomen, passing worms, mild or moderate anemia,	VHW/Mitanin – in all of these if not responsive within three days- referred to the HWC for the weekly clinic or to Health Center, Ganiyari as required.	Using a drug kit of 23 medicines and a set of diagnostics (see annexure 2)
Animal Bites	Animal Bites (this is a dense forest area with considerable fauna)	In HWC in a regular basis. Provided by SHWs	ASV, ARV. TT, available at HWC. Dressings at both animal bite clinic and HWC
Chronic Illness	Tuberculosis (157 cases in 3 yrs)	The treatment is started by the visiting doctor in the HWC, followed up by the senior health worker or SHW. ANM during village and home visits- where monthly drug supply is given, and counseling, diagnosis or further treatment or referral as necessary is provided. All these patients have universal care. The figure in brackets gives the number of patients in care in Bamhani area on the day of visit. It is a total of about 48 chronic communicable diseases and about 343 chronic non-communicable diseases which are under	Anti-TB drugs
	Leprosy (63 in 3 years)		Anti-leprosy drugs, disability care
	Hypertension (174)		BP check, medication
	Epilepsy (45)		Medication
	Sickle Cell disease (31)		Medication
	Asthma/COPD (23) no active screening.		Medication, acute illness care
	Diabetes (13- no screening done)		Medication
	Arthritis (9) no active screening.		
	Thyroid (10)		Medication,

	No active screening.	treatment and all are visited at least once a month. Except for hypertension all the others are without active screening- those who were picked up by opportunistic screening at the HWC or PHC . There are also a number of severe anemia and SAM and grade III malnutrition under follow up. Everyone gets continued access to medication and at home/village level follow up care.. In all, coverage of this set of services accounts for about 1200 visits per month-	
	Mental Illness (34)		
	Rheumatic heart disease (12)		Medication, record on mobile for consultation
	Airborne contact dermatitis (12)		Medication,
Nutritional	Severe Anemia no active screening.		Medication
	SAM .	Medication- Injection Penidure at HWC	
RCH	Antenatal care (182 pregnancies in one year)	By ANM at a designated ANC site once a month. - there are three such sites in Bamhani area, located so that no pregnant woman has to walk more than half hour. VHWs of the area are present	
	Delivery (70+ in institution)	At the HWC , or if high risk referred to Ganiyari.	
	Post partum and neonatal care	By VHW - home based	
Eye Care	Refractive error detection and management Cataract, decreased vision	At HWC- Provision of glasses to correct age related refractive error for all those above 40, referral for others as needed	spectacles
Public Health Administrative	Registration of Births and Deaths (56 deaths, 153 births, 4 still births in one	Within two hours of learning of a birth or death in their area, VHWs or SHWs call up a Voice recording center where the event is recorded in a pre-	

	year)	recorded Q & A format.	
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In the 30 bedded Ganiyari Health Center, the following services are available

1. Emergency obstetric care
2. Abortion services
3. Dental OPD- referrals from VHWs who also have community dentistry inputs.
4. Eye Care- refractive errors.
5. Cancers and follow up care (130 in entire area- approx 32 in Bamhani areas)
6. All acute surgical illness
7. All simple acute or chronic illness which develop complications:
8. Suicide Help Line.

The role of the Government Sub-Center:

There is government sub-center in this same area and it provides immunization services, access to contraceptives and sterilization. It is also mandated to provide Weekly Iron and Folic Acid Service, deworming day, pulse polio, Rashtriya Kishori Swasthya Karyakram and Rashtriya Bal Swasthya Karyakram related services. The only areas of overlap are ante-natal care and promotion of contraceptives. None of the other services provided at Bamhani by the JSS programme and listed above are currently available in the government programme.

The Organization of Service Delivery:

The health sub-center or HWC is the hub of all activity – and corresponds closely to the proposed health and wellness centers of the draft national health policy in staffing, density and package of services. How does such a small complement of staff handle this considerably expanded set of services?

Every day the HWC opens at 8.30 and remains open till the evening. One of the three staff in rotation, is available there till the evening. Two others come there for an hour and then leave on their beat – visiting one or two villages for that day. In a five day week, , two health workers undertaking outreach work, would cover between them all 40 hamlets of the 17 villages .

The sixth day of the week is the clinic day when all the health workers remain in the HWC and the four person team comes from the PHC for its weekly visit. This day is primarily for referral care, and establishing diagnosis and treatment plans for chronic illness. The HWC has a small and impressive list of diagnostics which enables this.

The weekly clinic day is also an occasion for training of the SHW/ANMs. On one such day every month there is a meeting of all 38 VHWs/Mitanins and dais of the area and their training as well.

Ante-natal care was initially provided at the HWC, but given access problems, due to the distance the women needed to walk, three village sites were chosen such that every hamlet is within half hour walking distance of these, and ANC is provided on a pre-fixed day every month. The HWC are well equipped to manage normal deliveries. Complicated cases are shifted to the Ganiyari center where emergency obstetric care including blood transfusion is available.

Given the large numbers of animal bite cases, while acute cases are brought to the HWC, TT, wound dressing or antibiotics are provided at the HWC with follow up at the village level by SHWs. HWCs have s tetanus toxoid injections, ASV and ARV injections and antibiotics and dressings as needed.

The HWC is also the site of animal health care for the life-stock and for agricultural extension work.

The visit of the SHW to the villages is a well-organized effort. There are five important aspects of this organization of services:

1. The list of patients with chronic illness in their area, is generated at the PHC and provided to them each month. No ANM/SHW ever initiates the drug. The doctor does this during the weekly HWC visit. . The patient is then registered and the lists generated monthly for follow up by SHW..
2. The visiting SHW/ANM carries a month's drug supply for each of their cases to the village they are visiting. The drugs carried are as already prescribed and known to be required from the list- these are standing orders of the doctor being implemented under supervision- The drugs could range from digoxin for chronic heart failure, or anti-epileptics, or folic acid.
3. The VHWs are updated on the visit schedule of the SHW and facilitate their work during the village visit.
4. Specific materials - in the form of a printed, illustrated note, guide the details of care- how and what is provided for each specific illness. These are not protocols to be adhered to, but reminders to guide the health worker during the encounter.
5. An innovation catalyzed by the VHW and SHWs is the creation of a number of patient groups for each of the chronic illnesses, including the for alcohol and substance abuse, which are the largest of these.. The patient group directly or indirectly mediates and follows up on the interaction with the SHW.

Lessons from the Patient Groups:

The creation of the patient groups is a major community level innovation, which has made chronic illness care, successful. Most chronic illness, especially those

asymptomatic in nature, has very poor compliance to treatment. Medication compliance in the best-case diseases was only 40%, but rose above 80% with the formation of support groups.

Patient groups are formed and sustained by VHWs with active assistance from the visiting SHWs. Since they span many villages, the role of the SHW is important. There are functional groups for epilepsy, type I diabetes, sickle cell disease, leprosy, chronic airborne contact dermatitis, (a local need), hypertension and disability. There are 8 groups for chronic alcoholics and one for relatives of chronic alcoholics that meets separately. There is an incentive of about Rs 200 provided for the group to meet which they can spend on organizational expenses. The group discusses their problems, organized the smooth access to drugs and also identifies and brings in latent cases from the community.

Protocols of Care for Chronic Illness.

The protocol of care varies from case to case, and the individualized plan for a given case, is defined in the treatment plan set out by the doctor. Though there are clear training modules for the health workers that are built around standard treatment protocols, these are guiding documents- so to understand the individual plan better.

There are interesting modifications of the treatment plan and its supervision. For mental illness, the main symptoms of the patient are recorded on mobile video by the SHW and transmitted to the consultant psychiatrist at the referral site at Bangalore. Sometimes this is enough to start off immediate remedies. Then on the day of the clinic, based on a Skype or other consultation between the visiting I doctor and the psychiatrists, the treatment plan is established. . When necessary a further telemedicine consultation is sought.

The Village Health Worker/Mitanin.

The Village Health Worker/Mitanin is in charge of all acute simple illness and is trained to manage this with a small but effective package of 23 drugs including those for malaria. (see annexure). The diagnostics she carries include RDKs for malaria, pregnancy testing kits and sputum collection cups for TB and another 15 assorted supplies.

The medicines are re-filled every month in the monthly meeting by the cluster coordinator..

The VHWs have also had a training on community dentistry, which allows them to manage with minor dental problems and when required refer it to the dental OP at the Ganiyari Health Care facility.

One important function the VHW/Mitanin does in birth and death registration. Within two hours of a birth or death, the VHW/Mitanin would make a phone call to a number where there is an Interactive Voice Recorder (IVR), which would record all the main details of the event. This would get typed into the data-base

the next days. At this point of time, this is a public health tool only, not yet integrated into the states birth and death registration system.

Addressing Social Determinants:

There is a high degree of sensitivity in the programme to addressing social determinants. The meaning of social determinants is far more fundamental than nutrition and drinking water, or exercise and stress management concerns alone. The first and most important is an understanding inequity by caste and tribal group and reaching the most marginalized communities preferentially.

The other major category of social determinant is hunger and malnutrition. There is an active programme to address this- called the Phulwari programme: This Phulwari programme does growth monitoring, measures the exact levels of malnutrition in children under 5, and guides preventive action through counseling for infant and young child feeding. It is also a crèche programme with one Phulwari worker for 10 to 15 children in the age group of 6 months to 3 years. There are in all 1016 children in 86 crèches across the 38 villages. The children get Sattu in the morning and a cooked meal in the afternoon and eggs twice a week and there is an addition of edible oil as well- which together accounts for 70% of a child's daily nutritional needs. The Phulwari programme is separately financed. Its interface with the main health programme is to ensure that every grade III child has a health referral to the HWC, and a more intensive follow up for illness. Children with severe acute malnutrition are referred to the base hospital and after treatment are followed up at the village level by both the Phulwari worker and the VHW. Severe anemia cases are started on treatment at the HWC or more often at the Ganiyari Health Facility, but in contrast to childhood malnutrition, the follow up is by the senior health workers as part of their chronic illness services. .

Malnutrition Grade	Grade I	Grade II	Grade III	Total
Bamhani	272	128	58	458
Semariya	156	47	15	218
Shivtarai	120	35	15	170
Achanak	60	26	8	94
Total	608	236	96	940

For pregnant women counseling on nutrition and non-drug aspects of pregnancy care is re-inforced and contextualized by a hot cooked meal served on the day of the monthly ante-natal clinic. Given the long and tiring walk to reach the center and the loss of a day's wage the immediate relief this provides also ensures attendance and improves outcomes.

On drinking water and sanitation, these are promoted through the VHW, , but there is no measurement of outcomes or record of improvement.

One important area of action is agricultural extension work and veterinary support. This is undertaken by separate staff, but seen and made available through this programme. Agricultural extension work is focused on the promotion of SRI which has a great positive significance for the source reduction of vectors and therefore the control of malaria and encephalitis in this areas. Due to operational constraints, the linkages and contributions it makes have not been documented in this study..

Information and Information Systems Support:

The VHW/Mitanin has a simple register. (annexure – available on request). On the left side of every double page is a print out of the each member of the family with their “baseline-age”, sex, relationship. Most important, this page gives every family and every individual a number. At the bottom of the page is a two line space for future births. On the right side the register documents the day of the month when they visited the family, any illness the family had, who had the illness (using the individual number), with whom they had sought care with (which is coded into 7 groups so that they have to only write a number between 1 an 7) and also the cost of care if sought outside the JSS ambit?.

The left side of the page-listing of family members allows one to add on members if there are new additions- and allows for deletions by a simple strike-through. Two lines are given for recording births. At the end of the year the data is updated at the PHC and the new sheets are printed out for each Mitadin. These sheets are then bound to constitute the register.

One important innovation is the birth and death registration system, which has the potential using an IVR- which has a great potential for scaling up. It requires integration through use of data standards and inter-operability mechanisms.

The VHW/Mitadin has no reporting data function and no “to-do” lists.. No effort is made to compile this register data as this is not even required- except for research purposes. The VHW/Mitadin does however, supply on a monthly basis an aggregate number of number of houses visited and number of illness episodes treated, without disaggregation by type of illness.

In addition, the Mitadin has a pass book for the drugs that she issues. The SHW/ANM has a print out of all chronic illness categorized- by illness, by village and the individual address with a brief mention of follow up drugs required. This is followed by the SHW, but no effort is made to compile and monitor whether it was in effect provided or not. This too was not required.

The case records of each patient are kept at the corresponding HWC but the PHC has a scanned copy of the same. This is available to the referral doctor.

Each HWC has one manager cum data entry operator who does the registration, sends and collects the record. At the PHC, the HWC coordinator is in charge of generating the chronic illness lists and supplying the necessary drugs.

The case records of all new cases seen in the weekly clinic are sent to the centers where the case-details are entered and a number is given. This constitutes the

act of registration. The case records are returned to the HWC the following day. Subsequently every month the patient would be included in the chronic illness lists generated for the SHW to follow up.

The PHC itself has an innovative hospital information system called Bahmni in honour of the village that inspired the programme. The programme provides the tools for facility administration and for case management at the facility level. This is developed as part of a Corporate Social Responsibility Project by ThoughtWorks, an IT firm.

Logistics :

Drugs and diagnostics move together. For the HWC and the SHWs managing chronic illness and ANMs for pregnancy care, the pharmacist and the HWC coordinator update stock registers and provide the refills to the HWC during the weekly visit.

The HWC has a stock book and so has each SHW.

The VHWs are however provided drugs directly by the cluster coordinator who sources the drugs independently from the main pharmacy.

It would be possible to work out the consumption of drugs by each village, and each HWC and each provider, but there has been no reason to do so. The total amount required for refill at each HWC and each cluster of VHWs has been adequate for all operational purposes.

Financing:

The programme are largely financed by sponsors interested in developing a model of health care delivery. There are no costs to the users within the Bamhani primary care services.

However referrals to Ganiyari health care facility/hospital have to pay a level of user fees that covers a fair part of the running costs of the hospitals.

About one-thirds of the in-patient services provided get reimbursed by RSBY. However, though almost every patient is eligible for inclusion in the RSBY, most are denied this re-payment. For some it is because the cards are outdated or they were never issued the cards (in a state where all are covered). In others it was not eligible. In many the insurance company refuses to reimburse, without citing an reason (documents not complete) and refuses to come into conversation. The a government facilitator is equally helpless. This creates a problem as to whether to charge user fees for a RSBY patient or not. Despite the problems this is an useful source of revenue.

Lessons from the Bamhani Case Study: A dialogue with the JSS leadership:

The first and foremost lesson is the possibility of providing good quality of care at very affordable costs using a level of human resource which is more or less consistent with what is envisaged in draft national health policy and in the Indian Public Health Standards and the existing financing packages and strategies.. The health workers in this case study are not paid more- they are paid considerably less, except for Mitanins who get similar sums of money as in the national programme- but more regularly and reliably.

The game changer is really the organization of service delivery and the quality of training and support provided. . And the most important is the commitment to shift from selective health care approaches to comprehensive health care, defined as addressing all the illnesses that are endemic in a community based on simple epidemiology and a compassionate responsiveness to all felt needs.

It also shows that though some information systems are necessary and there is scope to improve on these, these should be friendly and empowering to the peripheral providers and minimalist in nature. The bottom line is that that is not the game changer- though it certainly helps. Work on improving the IT support is ongoing- with a leading firm ThoughtWorks providing the support.

The linkage between the existing government programmes on the ground and this programme are also revealing. Firstly this programme does not address immunization- and therefore the additional human resource, infrastructure and logistics support that this component requires has to be added. . Estimating how much difference that would make to prevailing morbidity or mortality would also be very revealing. The government sub-center /ANM is also charge of the following programmes- the Weekly Iron & Folic Acid Programme (WIFS), the Rashtriya Kishori Swasthya Karyakran (RKSK), the Rashtriya Bal Swasthya Karyakran (RBSK), pulse polio days (PP), the national de-worming day, hand washing days- and some other such days etc. These programmes along with immunization potentially absorb the bulk of public health expenditure and work time of the workforce. These are almost all initiated by international donor agencies and made mandatory by financial packaging into the state PIPs. If these programmes were to reach full coverage, it would leave the vast majority of felt needs and the epidemiologically defined priorities in health care of this area almost untouched. To what extent are they value for money and why are they made mandatory when such priorities are invisible has much to do with the international and national politics of health care as well as the dominant stream of public health thinking, which in turn derives from closely linked institutional factors. These are not explored further here. What can be stated conclusively is that if these programmes are to continue to have the same priority, then additional money and staff are required. Similarly if the package of immunization is expanded with choice like universal hepatitis B vaccination- we can estimate the additional number of deaths and morbidities that would be saved in such a context.

Even if policy does not change, at least public perception can be influenced to reduce the criticism on public health systems and public health workforce, failing to provide quality services and lay the blame for it where it belongs- in the policy and mainstream public health community.

It is also important to note those key recommendations that dominate the discussion on health sector reform in Delhi – but which are **not** present in the discourse as articulated in the JSS programme. When discussing the programme with its senior or mid level management or field functionaries- there is an almost complete absence of the word monitoring in the discourse, or even of accountability. Training and support and organization of work elements are what one hears. Standard Treatment Protocols are also not part of the discourse. However there are clear guidelines for every case, which are revised as and when necessary and they find expression in the training modules. For the hospital itself, they use the clinical guidelines of CMC Vellore, adapting these as needed. Protocols are used as a guide to providers for quality of care- having no role in financing or monitoring.

There is limited well-integrated use of ICT, and none at all on use of ICT for monitoring or as the key organizing principle of health care delivery. ICT tools being developed now are basically to support providers to improve the quality of care they provide and to get better, real-time public health analytics in place at the local level.

There is also no mention and even an active rejection of performance based financing or financial incentives of any kind. But reliable and timely payments of the modest sums agreed upon are essential. One important element of their human resource policy that no doubt helps is local recruitment and local training and deployment- largely from within the community. This is true of not only Mitanins- but also of the SHWs/ANMs and senior health workers.

The discourse does not contain any element of trying to separate clinical from management functions. Though there are non-clinical coordinators at the mid level the senior levels are all clinical and manage the public health functions in an integrated fashion.

More often than not, visiting policy makers see in this model, only the success of a private enterprise, to the chagrin of the group. They strongly emphasize the non-commercial nature of their enterprise, and the problems of the private sector in the district and state. To them, this is a model meant for public sector scaling up. They see themselves as part of the public system in spirit- a form of public ownership by alternative means. When presented with the argument, that despite their opinion about it, what differentiates their work from the public system is their motivation and this in turn, has a link to their being a private not for profit entity- they counter that motivation for public service- is the same across public and private- and indeed many public providers are private providers also. The important difference lies in how the philosophy of comprehensive care, community basing of care, equity, responsiveness are all hard-wired into its techniques- in the structure and content of the programme

and in the organization of each work element. At any rate, their face-to-face contact with the health worker is limited- and theirs is not a disciplinary approach to workforce management. To their mind the main barriers to scaling up are the lack of understanding and political will at the policy level and the nature of leadership in public health. One section of the leadership in public health are the tertiary care professionals who have a complete disconnect with field realities. Another set collects and interprets a mass of data on the public health situation, but through the lens of economic theories, and these have led to these current choices in health care design. The lived experience of this team is very different.

The documentation of this case study is incomplete and the work is ongoing. There is for example a need to cost these services. There is still considerable latent demand for health care in chronic illness that is not estimated. There is also a need to understand the challenges that scaling up of this approach would offer. But clearly what we have here is a model that within currently available resources, public health systems can learn from and try out.

References:

Most of the information is based on primary data collection from the registers and data bases of the programme during a visit made on 21st and 22nd of February 2015.

Two supplementary data sources from published papers are:

1. The complex problems of simple people: The burden and the pattern of illnesses among the adivasi communities in central India as it relates to the problems of hunger and deprivation; Yogesh Jain*, Raman Kataria*, Sushil Patil*, Suhas Kadam*, Anju Kataria*, Rachna Jain*, Ravindra Kurbude*, Sharayu Shinde*
*Jan Swasthya Sahyog, Village and Post Ganiyari, Bilaspur – accepted for publication, IJMR, Dec, 2014
2. Patient-centered Care: Patient communities reform healthcare in India; Anita Jain, BMJ 2015;350:h225 doi: 10.1136/bmj.h225 (Published 10 February 2015)

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Annexure 1:

Distribution of Jan Swasthya Sahyog's Programme across its four sub-centers

Subcenter	Population
Bamhani	8408
Achanakmarg	5696
Shivtarai	9148
Semariya	12226
Total	35478

Annexure 2:

List of Drugs with Mitani/VHW:

1. Paracetamol- Fever, aches, pains, inflammation
2. Syrup Paracetamol- same as above but for children
3. Tab. Chloroquine- for malaria
4. Syrup Chloroquine- for malaria
5. Tablet Co-trimoxazole- for respiratory infections- also other infections
6. Syrup Co-trimoxazole- same as above for children
7. Iron Tablets- anemia
8. Chlorpheniramine: Anti-allergic
9. Cough syrup.
10. Metronidazole tablets- dysentery, some RTIs
11. Albendazole- tablets- deworming
12. Gentamycin eye drops- eye infections
13. Calamine lotion?- external application or itching
14. Tab Domperidone? For Vomiting
15. GV Paint.- external application : minor wounds & some RTIs
16. Lindane Lotion- external application- scabies
17. Betadine Lotion- external application- skin infections, minor wounds
18. Mala-D- oral contraceptive
19. Furazolidine- antibiotic- diarrhoea
20. Amoxicillin- antibiotic- respiratory and urinary infections and other infections
21. Becadexamin (multi-vitamin/B complex)
22. Vitamin A- night blindness- also to all malnourished children
23. Dicyclomine- colicky pain, menstrual pain.

Annexure 3 : List of drugs with Senior Health Worker/ANM for Medication Continuity for Chronic Illness: (the VHW drugs are not given to her- but she can access them from VHW during field visits).

Annexure 4 : Chronic Illness in all four HWC areas taken together (from which in proportion to population Bamhani figures are derived)

Hypertension: 695 patients
Tuberculosis: 629 patients
Leprosy: 63 patients
Diabetes: 55 patients (No active surveillance, opportunistic surveillance)
Cancer: 130 patients
Sickle cell: 124 patients
Mental Illnesses: 143 patients (its increasing when we started making groups of these illnesses)
Epilepsy: 180 patients
RHD: 46 patients (No active surveillance, opportunistic surveillance)
Asthma: 93 patients (No active surveillance, opportunistic surveillance)
Thyroid: 40 patients (No active surveillance, opportunistic surveillance)
Arthritis: 34 patients (No active surveillance, opportunistic surveillance)
Air Borne Contact Dermatitis: 47 patients

Pregnancies- 730
Live births- 767 (some twins ,perhaps some inclusion from other areas too)
Still births- 4
Deaths- 225