Jan Swasthya Sahyog has been working in rural Chhattisgarh for the past 20 years. From an organization of a group of well-intentioned young doctors, willing to learn and work among the poorest in rural central India, JSS has come a long way. Through a service-based program, JSS has helped people in the care of their illnesses with treatment, as well as in maintaining health through preventive measures and health education. The primary objective of all our activities at JSS has been to address inequity. The strategy that we have chosen is of providing healthcare with focus on primary healthcare in the broadest sense of the term. The impact of the work is evident in the decline in premature mortality and avoidable morbidity, decreased indebtedness, social changes such as the empowerment of women, all while receiving rational care with empathy. While running a service delivery program, we have tried to understand the causes of poor health and then offer suggestions through training, writing, and lobbying.

The community health program has provided effective, low-cost care through more than 8,000,000 consultations to over 380,000 patients drawn from more than 2,500 villages from across Chhattisgarh as well as adjoining districts of Madhya Pradesh. This care spans across a comprehensive range of medical, surgical, and obstetric care unique in the region, which JSS ensures is affordable. In fact the bottom-line that no patient is denied care whether as inpatient or outpatient, irrespective of their paying capacity or ability to recover costs through insurance, is carried even a step further.

JSS has been working intensively in 72 villages in the forest and forest-fringe areas of the Achanakmar biosphere Reserve. Another 80 villages in the surrounding areas also access care from the JSS subcenters located in these village clusters. The work has consistently improved on itself, by adding layers to the various sub-programs, be it maternal and child health, women’s health, managing NCDs among the poor which include not only hypertension and diabetes, but also cancer; Sickle cell disease, mental health problems, epilepsy, COAD, contact dermatitis and more. The number and popularity of the ANC clinics are increasing with almost 14 clinics held each month to ensure that pregnant women from these remote villages do not have to travel more than 30 minutes to access quality Antenatal care. Similarly babies are followed up in the first 100 days of their life, with the rural crèches ensuring appropriate nutrition as also early child learning. The program is also a model site for care of post-partum mothers.

The inpatient services with 100 beds and an operation theatre complex (including 3 major operation theatres and a labour room, an Intensive Care Unit, a public health laboratory, a low-cost pharmacy stocking rational drugs, and radiology services) has provided high-quality services to more than 32,000 patients admitted for serious illnesses and 18,000 often life-saving surgical cases. Where necessary, JSS organises referrals for tertiary care necessary in some illnesses among the poorest, for example a 25 year old woman needing valve replacement for rheumatic heart disease.

Our service activities are evolving in the context of overall health and welfare system changes in the region. Where feasible JSS is linking services with the government, whether it be through the use of insurance schemes for poor patients (Ayushman Bharat and Deen Dayal Upadhyay Aushadhi Yojana), while advocating with the concerned authorities for
rationalised care packages for common problems encountered among the poor, including diagnostics (that often fall out of the realm of these packages and cause significant out of pocket expenses); back referrals to the Public Health system after appropriate diagnosis and initiation of treatment regimen such as for TB, Diabetes, Hypertension, Sickle cell disease; training of medical officers to ensure care for those patients being referred back to the public health system. JSS has also streamlined referrals with chosen institutions, such as AIIMS, Raipur (specifically for advanced Head and Neck surgery, Nuclear Medicine department requirements), Spine Foundation in Mumbai, AIIMS Delhi especially for Neurosurgery, Cardiac interventions, Pediatric Oncology, and high-level GI surgery. JSS has been able to expand its telemedicine work into psychiatry, infectious diseases, cardiology and rheumatology, with active contributions from specialist friends in India and abroad, and institutions such as CMC, Vellore, and AIIMS, Delhi.

We have augmented our clinical services with eye care and oral health, both of which are becoming increasingly popular. Similarly, our Clinical Laboratory has undertaken significant steps towards improving microbiology services. Quality improvement measures were implemented resulting in better practices and more reliable reporting of results. A new automated bacterial identification and AST reporting system (BACTEC) helped us deal with otherwise difficult to identify organisms. Another new automated blood culture system helped us improve the reporting of blood cultures and proved extremely useful for septic babies and adults as well as cost-effective in terms of consumables.

There is a general tendency to trivialize the problems of rural areas as relatively simple and consequently requiring minimal inputs and simple solutions in response. Our experience at JSS has taught us that simple people do not have simple problems and we wish to solve these with the appropriate complexity which they deserve. JSS is one of few rural centers that offer a wide spectrum of care, from preventative and social work in the periphery, to a rural HDU that can provide tertiary level expert care without the bells and whistles that unnecessarily adorn the urban centers that we have come to expect. This rural hospital HDU has successfully managed over 350 patients (2019 data) ranging from newborns to elderly, in conditions as diverse as neonatal respiratory distress syndrome, to snake bites, organophosphorus poisonings, severe pneumonias to sepsis and cardiac ailments. In doing so we are re-imagining what it means and what one truly needs, to provide equity. We are also demonstrating that it is silly to pit different aspects of care against each other – they are an inter-related spectrum where one strengthens the other. And not just the clinical spectrum but also the different elements of short-term and long-term change: prevention, clinical, training, research, technology, and advocacy.

The JSS community health program is looked upon as a national resource center and training site. We run training courses for village as well as mid-level health workers for both our own and other organizations. We now run a full-fledged School of Nursing for tribal and Dalit girls, that offers courses in both Auxiliary Nurse Midwife training as well as General Nurse Midwifery. This is soon going to be upgraded to a College of Nursing with recognized BSc Nursing degree courses. JSS also runs a Diplomate of the National Board (DNB) in
Family Medicine, a specialty which we believe to be the future bedrock of healthcare provision in this country. We have added General Surgery DNB as the second specialty in postgraduate training, as ‘true general surgeons’ are a dwindling breed, and need to be nurtured to care for the myriad problems requiring surgical interventions, be they diagnostic, therapeutic or palliative or rehabilitative in nature.

We have developed 32 health related technologies till now that are being used in several government and non-governmental healthcare organizations beyond our own use. Recent success has been with the JSS developed Electrophoresis apparatus used to confirm diagnosis of a common hereditary blood disorder called Sickle cell disease. This robust machine is now being used in several Public Health facilities in Eastern MP and the initial as well as recurring per test cost is only a fraction of the regular commercially available test. More broadly speaking, we have created a culture of embracing change appropriately. We are neither enamored nor dependent on the latest and greatest, nor do we fail to adopt methods that allow us to fulfil our aims better. JSS has therefore co-developed and deployed a custom patient-centered, electronic medical record system (Bahmnii), which is open source, an example of best of what is possible in similar settings. While it is continually being refined at JSS, this EMR is being used with suitable adaptations in several healthcare organizations in India and abroad.

Identifying the gaps in primary healthcare, whether technical questions or operational issues, through careful observation and documentation has helped us develop into a resource group for others. This aspect of JSS work has been recognized at the district, state, and central levels. Our focus areas include tuberculosis, non-communicable diseases, and maternal and child health, where we have introduced better documentation to be able to get robust data for analysis in the near future. Nutrition and under-nutrition is also a priority but is a cross-cutting theme within each of these areas.

JSS has been working on prevention and early management of young child under-nutrition through a community based intervention in the form of rural crèches (Phulwaris) for the last 13 years. This has included actual running and managing rural crèches, including laying down SOPs for how nutrition intervention, early child education and trainings of various levels of persons involved, should be done. JSS has advocated the issue of under 3 nutrition, using community data, at the state and national level repeatedly. This year PHRN (Public Health Resource Network) organized a meeting with several organizations working on child nutrition to advance the young child agenda at the national level and JSS was part.

The year also saw JSS start work on 75 new creches in Singrauli district of Madhya Pradesh to get off the ground. This was in collaboration with the district administration, NHM, Madhya Pradesh and using the CSR funds of NCL. Besides this, the ICDS department and Tribal department of Madhya Pradesh, have agreed on running 450 new creches in PVTG (particularly vulnerable tribal groups) dominant villages of 5 districts in Madhya Pradesh. This Project has been approved in principle and some processes started towards its implementation, with JSS in a pivotal role. We are working towards forming a consortium of organizations working on under three nutrition, where they can share their experiences and learn from each other.

In the past (2012), JSS has provided training and technical support to project AAM (Action Against Malnutrition) in running crèches(136) in Jharkhand, Chhattisgarh, Bihar and Orissa.
Similarly in 2013 the Chhattisgarh government launched ‘Phulwari Scheme’ for children between ages of 6 months and 3 years, aiming to curb malnutrition in 85 tribal development blocks of 19 districts, with 2,850 Phulwari centers.

JSS has built several regional and global partnerships including the Lancet commission on global surgery, the Lancet commission on NCDs among the poorest billion, the HEAL Fellowship at the University of California, San Francisco, and the Family Medicine Residency at Contra Costa County Hospital in the United States. JSS has also tried to advocate for better policies in important public health problems like falciparum malaria, hunger and health, tuberculosis and food, price control of essential drugs, and under-3 malnutrition, with some success thus far.

While we provide service and learn from our work, we are certain that for healthcare to reach the most marginalized, and even the middle class Indians across this vast nation, it is possible mainly through a strengthened public health system. It is towards this end that JSS started quality improvement initiative with the governments of MP and Chhattisgarh. Spanning eight districts, our focus has been to bring about improved maternal and newborn care through trainings, assuring supplies, getting the QI process to be embedded in the functioning of hospitals (District hospitals and First Referral Units), mentoring and supportive supervision. Changes have been slow to come, but are now seen definitively and we are looking at ways to make them sustainable. Much of this work has been accepted by the state government to be essential and hence significant components are now budgeted in the State PIP. Also, the Health department has requested (and achieved) financial support for some interventions (such as screening and management of Sickle cell anemia, continuum of care at the primary and secondary level in a block) from the District mineral Funds. This essentially means that external funding required for this initiative would be significantly reduced, besides there being ownership for the work.

And while we were doing assessments of these public health facilities, we started by doing our own facility’s (JSS at Ganiyari) internal assessment using the same National Quality Assessment Standards (NQAS) developed by the GoI. And pulled up our socks in areas where we were deficient, especially putting SOPs in place.

We have been able to develop JSS as a Resource center for rural health offering a legitimate, competent, and effective voice on the health problems of the rural poor. JSS draws on professional expertise and a culture of evidence and broader perspectives, while it is thoroughly grounded and rooted in the community.

JSS has co-petitioned the Supreme Court of India to help improve access to blood for people in rural areas. Blood, an essential and irreplaceable drug, is in severe short supply for people residing in rural areas, and many pay for this through losing their lives (women with Post-partum hemorrhage, road traffic accident victims, the many illnesses that require blood urgently such as severe malaria, sickle cell disease, sepsis, etc.). JSS has successfully advocated for nutrition supplementation as part of treatment of TB at the national and State level. JSS has also advocated for making sickle cell testing a part of antenatal care, as well as
for the management of this illness (seen commonly among tribals and backward castes), in public health facilities in Chhattisgarh and MP.

We have been strong advocates for the introduction of mid-level healthcare providers (similar to our Senior Health workers) to lead the primary healthcare team at the Health and wellness centers. The Government has finally approved GNM and BSc Nurses to be re-oriented and trained to become Bachelors of Community Health. We were also part of the curriculum development for this cadre.

We have developed training program for health workers who work in rural India so that they are able to address the health problems they face more effectively. Many modules are ready for learning online, while others are still under review. In addition, JSS has developed specific training programs on request from the State Health departments – For the care of the Sick Pregnant woman, Obstetric HDU training module, Induction training of ANMs and their ToT, Training of Medical officers in Acute undifferentiated fever, animal bites and other topics.

JSS has conducted observational research on selected questions. This includes the role of nutrition in susceptibility and course of illness of Tuberculosis, and the lessons from testing with CBNAAT for TB, especially extra-pulmonary disease. Both of these and other such topics have been published in peer reviewed journals. The hospital and the community program has served as a fountainhead of ideas for the resource center. Due to its unique position, JSS has been a site for the mentorship of young physicians, nurses, and other health professionals in their formative period.

Even in times such as these with COVID 19, JSS is actively engaged in awareness generation in program villages; ensuring non-COVID care not only from its referral center at Ganiyari and Health Subcenters in the villages it serves, but also by reaching out to patients with chronic illnesses (TB, Leprosy, Diabetes, Hypertension, Sickle cell disease, etc) using its database, through its health workers. We have also been able to contribute indirectly by training volunteers and NGOs in COVID management; helping people seek jobs under MNREGA; distributing ration packets to those in distress following reverse migration; and manufacturing and distributing masks.

The population we serve and work with has been increasingly marginalized and remained in poverty for generations. For greater participation and having a voice to raise their concerns, people need to be better nourished, better educated, have social support and security and be able live a life of dignity while being more aware of their rights (and duties) as citizens of this country. Through healthcare provision and more, JSS has been trying to do its bit of repaying the social debt. This would not have been possible but for the support received from our donor partners, individual donors, well-wishers and our staff. We look forward to moving ahead with enthusiasm and passion to serve the underserved.

Dr. Raman Kataria
Secretary
Jan Swasthya Sahyog
Our VISION

We wish to contribute to the health, happiness and well-being of the people by:

• Creating a system of primary healthcare which builds on a continuing and mutually enriching dialogue with the people and derives its strength and long-term sustenance from this.
• Providing appropriate rational and low-cost healthcare services delivered with empathy and love. We shall endeavor to make them holistic. Identifying problems during our work which demand scientific scrutiny, and working on them on a long-term basis.
• Being part of the process of development and rejuvenation of village communities by facilitating efforts to improve education, the environment and, the level of sustenance of the people.

We wish to contribute to the sphere of public health in India by:

• Adding to the discourse on public health in India by our experiences in rural Chhattisgarh and our technical, social, and political understanding of them.
• Doing research, which clarifies understanding, examines appropriate solutions which can then be applied by other groups.
• Providing our technical and training skills to people who need them.
• Generating technical literature appropriate to the practice of rural medicine.

Our MISSION

To develop a low-cost and effective health program that provides both preventive and curative services in the tribal and rural areas of Bilaspur and surrounding areas of central India. We strongly believe that access to healthcare should not be denied to anyone due to lack of money or due to discrimination on account of caste, sex, religion and social class etc.

VALUES we hold dear

We hold dear the following values:

• Honesty, integrity, respect for the poor and understanding of their problems. An unfailing commitment informs and permeates all our work.
• Compassion and respect for wholeness of human being.
**About US & our HISTORY**

**JAN SWASTHYA SAHYOG** was established in the year 2000 by a group of **socially conscious health and allied professionals**, many of whom underwent training together at the All India Institute of Medical Sciences, New Delhi. Not satisfied with a technocentric, hospital-based vision of tertiary healthcare, the group decided to base itself in a **rural area** and evolve a **people-centric, community-based model of primary healthcare**. The empowerment of village communities to prevent and treat illness, while at the same time offering the possibility to access high-quality, comprehensive care as a smooth continuum, has been central to the work of JSS.

**WHERE we work**

**Bilaspur district**, located in the state of Chhattisgarh in Central India, is home to rich natural resources such as India’s major coalfields and reserve forests and yet is considered ‘backward’ in developmental parlance. **Dwindling forest cover, small land holdings and predominantly unirrigated agriculture** that is subject to the vagaries of the monsoons allow, at best, a subsistence-level economy for the majority. Seasonal migration to other parts of India for work is an increasingly visible phenomenon of rural life. **More than 60%** of the people are either **divasis or dalits**, often the **poorest of the poor**. Unsubsidized healthcare is not possible for most in the district.

**Jan Swasthya Sahyog** provides services at **three different tiers** with an objective of addressing inequity in healthcare. In the forest and forest-fringe areas where we operate, it is of utmost importance to bring healthcare services at the doorstep of the population dwelling in those areas. **144 Village Heath Workers** trained by JSS are at the base in 72 villages. They form the **first tier** and are chosen by the village community from among them, and are supported by JSS.

At the **second tier** are **subcenters** that support clusters of up to 20-25 villages each, manned by a team of **4-5 Health Care Professionals**, comprising of Senior Health Workers and Auxiliary Nurse Midwives who have also been trained by JSS in clinical and community health skills. These in turn are supported by the **referral center at Ganiyari** at the **third tier**. The referral center hosts inpatient services with 100 beds and an operation theatre complex (including 3 major operation theatres and a labor room, a High-Dependency Unit, a public health laboratory, a low-cost pharmacy stocking rational drugs, and radiology services). The center has provided high-quality services to more than 32,000 patients admitted for serious illnesses and 18,000 often life-saving surgical cases. Where necessary, JSS organizes referrals for tertiary care.
AREAS of Work

01 TIER I & II: VILLAGE HEALTH PROGRAM

02 TIER III: CLINICAL SERVICES

03 HEALTH SYSTEM STRENGTHENING
AREAS of Work

04 AGRICULTURE & ANIMAL HEALTH

05 RESOURCE CENTER for Training, Innovation & Advocacy

06 BUILDING THE INSTITUTION
Primary care is being provided in 72 villages by Village Health Workers (VHWs). There are additional 6-7 neighboring villages that are poor and remote, where healthcare needs need to be catered to. These villages have been identified and added to the pipeline. There are 144 Village Health Workers, who form the primary team to provide health services in these villages. All the villages are divided into four clusters and three of them have Health and Wellness Centers (HWCs), where healthcare is provided by Senior Health Workers (SHWs). Apart from regular healthcare services, there are other health-related activities provided under various health programs such as village antenatal clinics, special disease control and prevention programs for malaria, women’s health problems, chronic disease care, tuberculosis, and Phulwaris (creches) for children under the age of three.
Illnesses handled by Village Health Workers range from communicable diseases such as malaria and tuberculosis, to non-communicable diseases like diabetes and hypertension to mental illnesses. There are a range of activities undertaken as preventive and curative measures.

**MALARIA** has been a cause for significant morbidity and premature mortality in the villages that JSS works in. It has been a focal point for the village health program since its inception. Over the years, we have been successful in bringing down its incidence through preventive measures such as making drug treated mosquito nets available for sale; distribution of nets to all pregnant women; screening in villages as well as at subcenters throughout the year. Other major activities from last year include refresher training for all our health workers and Senior Health Workers in malaria and dengue. New modules on acute undifferentiated fever were introduced this year for diseases like malaria, dengue, chikungunya, scrub typhus, viral fever etc. JSS supported Chhattisgarh state in planning and management of dengue and malaria. In collaboration with the state, we conducted training sessions for Medical Officers and specialists from 6 districts of Chhattisgarh.

**Deaths caused by the disease were zero in the last 5 years.**

Another major communicable disease in this area is **TUBERCULOSIS**. Out of a total of 40 patients (male 22, female 18) diagnosed in the previous year, 26 are currently on treatment. All the patients diagnosed are being treated and followed up. Given the communicability of the disease, family members and close contacts of the diagnosed patients were also screened and children are being given INH prophylaxis.

We feel that the number of new patients we saw in this period was very less and there is a need for active screening, for which we started discussions with the district collector to introduce an active screening program in the Lormi block of Mungeli district, which includes our program villages too. We have identified some 10-15 villages where we think a camp-based approach would be required to track more TB cases.

There were total 18 **LEPROSY** patients who were taking treatment from the program villages out of which 7 are taking treatment currently. We see poor compliance as an issue in completing the treatment of leprosy. Like TB, leprosy also requires active screening to diagnose new patients. Numbers show that the number of defaulters has gone up. We are still struggling with convincing defaulted patients to restart treatment for leprosy and our efforts continue.
We started monthly **WOMEN’S HEALTH SCREENING CAMPS** a few years back initially for gynecological problems, when we noticed that women were not comfortable reporting such issues on their own. Ever since, these camps are conducted in all three clusters and include screening women for the three major cancers and chronic diseases.

<table>
<thead>
<tr>
<th>Total camps</th>
<th>Total women screened</th>
<th>VIA +ve</th>
<th>Women with cancer</th>
<th>Women with</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cervical</td>
<td>Breast</td>
<td>Oral</td>
<td>HTN</td>
</tr>
<tr>
<td>31</td>
<td>1283</td>
<td>266</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(12 new)</td>
<td>(3 new)</td>
<td>(3 new)</td>
<td></td>
</tr>
</tbody>
</table>

**CANCER** screening for general patients is done at the subcenters. 9 new patients (4 male and 5 female) with various cancers were found in this period. Major cancers diagnosed in the community program are cervical cancer and breast cancer. Though tobacco chewing is prevalent among women, no woman was diagnosed with oral cancer. However, treatment was initiated for oral problems found other than cancer viz 5 cases of leukoplakia, 12 of tobacco pouch keratosis and 6 of Oral Submucous Fibrosis. We face poor compliance as a problem in all oral disease patients and we try to provide them the best of care by referral services to higher centers if needed.

Screening for **SICKLE CELL DISEASE** is conducted regularly at village level and as part of the antenatal clinic. The solubility test is used at the subcenters for screening. For those who are screened positive, an electrophoresis report confirms the disease (SS) or trait (AS) status of sickle cell patients within a week. In the previous year, we diagnosed 15 patients (4 male, 11 female) with sickle cell disease in the community. We continue our efforts to influence the Chhattisgarh government health system for providing hydroxyurea medicine for sickle cell disease patients diagnosed at JSS facilities.

The prevalence of **DIABETES AND HYPERTENSION** in the community program villages has been increasing by the year. 145 new persons (54 male, 91 female) were diagnosed with hypertension, with number of women outnumbering men. More than 1200 hypertensive patients are on treatment. 35 new diabetes patients (17 male, 18 female) were diagnosed during this year. 224 diabetic patients are receiving treatment either from JSS OPD or through subcenters.

We care for patients with **MENTAL ILLNESSES** such as depression, somatoform disorders, schizophrenia & some bipolar disorders. Number of new patients diagnosed with any major mental ailment are 23 in this period (10 male, 13 female).
We continued clinical services at three subcenters at Semariya, Shivtarai and Bamhani. These subcenters function as daily clinics manned by 4-5 Healthcare Professionals, who include 2-3 Senior Health Workers and 2-3 Auxiliary Nurse Midwives (ANMs) providing primary healthcare, with once a week doctor-based clinic, and a place for training of health workers, Daais (Traditional Birth Attendants), animal healthcare workers and agriculture workers. These subcenters also run animal bite care centers as well as level 1 newborn care centers used for transitional care of low birth weight babies before they are safe to go back home after discharge from the hospital. Focus was laid on quality intrapartum care at subcenter level during this period by training Auxiliary Nurse Midwives (ANMs) who are posted at subcenters.

During these 12 months, 5040 patients were seen in the subcenters on routine mobile clinic days. Approximately equal numbers of patients were seen on other days as well.

### New patients diagnosed in the village program

<table>
<thead>
<tr>
<th>Condition</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>54</td>
<td>91</td>
</tr>
<tr>
<td>Mental illnesses</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Diabetes</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Cancer</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Leprosy</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Sickle cell disease</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>RHD</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
50 peer support groups that meet monthly for chronic diseases such as hypertension, diabetes, epilepsy, mental illness and sickle cell anemia and 3 newly started groups for TB (2) and thyroid (1) with 978 participants.

Higher retention rate observed for diseases like hypertension, diabetes, and sickle cell disease with attendance estimated at 90%.

Support groups are facilitated by SHWs and about 25-30 VHWs are responsible for managing 4-5 groups each in their work area. Patient education is done in support groups; through awareness sessions in the community; and during village visits and OPD at the subcenter.

Some old age patients or those with disability who are unable to attend meetings are provided treatment at home by SHWs.

New Activity: Development of specific follow-up formats for hypertension, diabetes, sickle cell disease, epilepsy and tuberculosis with the objective of centralized record maintenance for better visibility of scheduled visits.
We have continued to conduct antenatal clinics every month at different village clusters to serve 72 villages and around 90 non-program villages. Women from over 160 program & non-program villages attend ANC clinics at 15 different locations. These clinics are conducted by our senior trained staff & are supported by a team comprised of lab technicians, ANMs & health workers from field.

Maternal and Child Health (MCH) workers are responsible for tracking high-risk pregnant women with the help of VHWs. The antenatal checks include lab tests and Hb count is one of them to rule out anemia. Only 0.47% of all the women tested had anemia last year.

Intrapartum care is provided at the referral center at Ganiyari and three Health and Wellness Centers (HWCs) of JSS, by two trained ANMs under the supervision of SHWs. Mothers with complications are identified and referred immediately to the referral center at Ganiyari where C-section, surgical facilities and blood is available round the clock.

Traditional Birth Attendants (TBAs) still play a part in conducting deliveries, especially in forest villages, where due to very poor roads and complete lack of means of transport women in labor cannot reach the hospital for delivery. JSS has been taking measures to identify high-risk mothers and emphasizing need for institutional deliveries for them. However, it is unfortunately still not possible to reach a facility in time in all cases. Therefore, training Traditional Birth Attendants (TBAs) is still very much a need. We continued training around 110 TBAs in three batches from our program villages. They are trained in identifying high-risk mothers, conducting normal delivery using standard practices, identifying various complications and arranging referral for complicated mothers. All TBAs are given safe delivery kits developed by JSS to conduct safe delivery at home. The kit is also used in the public health facilities by ANMs/staff nurses where consumables are not available.
In April 2015 we started post-partum mother and child care program. This was initiated for providing post-natal care for mothers and newborns up to 42 days after delivery. It aimed at early identification and treatment of infections and reducing maternal and infant deaths. Post-natal visits are conducted by Maternal and Child Health (MCH) workers. The sex ratio in this period was 1021. Number of children born with a birth weight less than 2.5 kg was 158, out of which 30 were provided sleeping bags on rotation basis for 6 months. The weights of these babies were less than 2 kg at the time of birth. The sleeping bags are helping these low birth weight (LBW) children gain weight faster by preventing heat loss.

Total child deaths we faced in this period were 39 (under 5 years) and 3 maternal deaths. The top three causes of deaths were low birth weight, birth asphyxia and pneumonia for children. Out of 3 maternal deaths, one happened at home due to delay in referral with low hemoglobin and the second death happened at a public health facility due to HELLP syndrome and the third was diagnosed with leptospirosis and also had pre-existing heart disease.
JSS began a crèche program (Phulwari program) in the year 2006 in response to high levels of malnutrition in children under three years of age. In most households, both parents go out to work during the day, leaving young children in the care of their older siblings or at times with their elderly grandparents. We felt that the most important cause for malnutrition was no person being available to feed the child several times during the day. Eating twice a day like adults do, is not enough for young children. They need to be fed at least five times during a day.

Our Phulwaris serve three main purposes that of
(i) providing nutrition;
(ii) offering a safe & healthy environment for at least 8 hours a day; and
(iii) ECE (early child education) by means of age appropriate activities and toys.

After the initial setup of the Phulwari, the cost per child in the Phulwari works out to nearly Rs. 31/- per child per day.

We continued our efforts in advocating the issue of under three nutrition in various forums. Few activities worth highlighting are:

• Participation in a national level advocacy meeting organized by Public Health Resource Network (PHRN) for organizations working in this area to make the child care agenda more comprehensive.

• Urged district administration of Singrauli district in Madhya Pradesh for running 75 Phulwaris using District Mineral Fund (DMF) and other CSR funds in mine affected areas. Proposal approved by the National Health Mission (NHM), MP and community processes started in the month of January 2020.

• Agreement with tribal department of Madhya Pradesh to start 450 new Phulwaris in PVTG dominated villages of Anuppur, Sidhi, Mandla, Dindori and Shahdol districts to be run by JSS through a consortium of organizations working in malnutrition or food security in these districts.

• 75 Phulwaris running successfully in Pushprajgarh block of Madhya Pradesh under the project PHNI (Pushprajgarh Health and Nutrition Initiative) for the last 2 years

In the coming year, we also wish to form a consortium of organizations who are working on malnutrition in various parts of India to share experiences and eventually advocate the issue of under three nutrition at the national level.
SELF-HELP GROUPS

JSS continued to work with the women’s self-help groups which were formed in the year 2012. Their aim was not solely financial but also organizing women to have a voice on issues that affect their lives. We now have 99 SHGs in all and 1116 women are associated with these groups.

This year, we formed two federations of SHGs in two districts namely Bilaspur and Mungeli and all the SHGs were divided into 8 clusters. At the cluster level, a cluster meeting has been started. 2-3 members from each SHG attend the meeting on behalf of the SHG to decide or plan new activities to be taken up by SHGs and for sharing information with other SHGs in that cluster. In addition to that, we have continued our routine monthly meeting of all SHGs, in which one of the agendas is to make women aware about different health issues. A list of such health-related topics has been prepared and all the SHG supervisors are trained on these topics during their monthly meeting. This has helped in increasing the footfall of women attending health-related activities such as examining for cervical/breast cancer in women’s health camp, checking BP regularly by VHW etc.

Till date, about 78 SHGs have been linked to banks, so that they have access to various schemes of state and central government to increase livelihood activities in the SHGs. In this period, we could introduce new livelihood activities in some SHGs which include animal husbandry, preparation and distribution of liquid soap, preparing plates from paper and tree leaves, poultry, group farming (paddy, vegetable cultivation), making mango pickle, making phenyl etc. A total of 27 SHGs have been involved in livelihood activities which include soap making, detergent making, fishery, animal husbandry, vegetable cultivation, cloth trading, forest produce, Sattu preparation etc. This year we have had success in forming a cooperative of some SHGs. This will help in procuring various products prepared by SHGs and making them available for marketing in the nearby cities.
The referral center at Ganiyari has been supporting the first two tiers in treating patients with more complex healthcare problems. The 100-bedded hospital provides preventive, curative and diagnostic services through an outpatient clinic, the inpatient wards, surgical operative services, and pharmacy, radiology and laboratory services. It has been serving intensive care patients from more than 2500 villages and neighboring towns of Chhattisgarh and eastern Madhya Pradesh, catering to a population of over 1.5 million for over 20 years now. The center provides over 65,000 consultations and performs around 2500 (major and intermediate) surgical procedures per year.
Out-patient services were provided to 60,362 patients through the referral center and 5040 patients at subcenter OPDs. They included healthcare for important illnesses that need high secondary, and sometimes tertiary level care spanning in the fields of medicine, surgery, obstetrics and gynecology, and childhood illnesses. Currently there are 10 designated out-patient clinics including a dental clinic, eye clinic and a clinic for leprosy patients.

Specialties, where we do not have in-house expertise have been brought to our patients by means of Telemedicine consultations. We offer consultations in psychiatry, infectious diseases, cardiology and rheumatology, with active contributions from specialist friends in India and abroad, and institutions such as CMC, Vellore, and AIIMS, Delhi. These specialties have a designated weekly clinic. Telemedicine not only fulfills the purpose of getting consults but also enables our doctors to widen their knowledge & skills and to keep up with newer methods and updates from other corners of the world.

Major illnesses seen during this year included sickle cell disease, hypertension, diabetes, tuberculosis, leprosy, cancer and illnesses requiring surgical care including congenital malformations as depicted in the bar chart. By following the stringent license requirements and meticulous records, we continued to provide morphine for pain relief and palliative care. We used both oral (Nearly 30,000 tablets of different formulations) and injectable morphine (about 200 injections) over this period.
The emergency room (ER) with 6 beds provided round the clock emergency services through the year. Currently, the ER is manned by a team of nurses, junior and senior residents with bedside X-ray and ECG facilities. It is well-equipped with monitors for 5 beds and one separate procedure bed.

During this period we saw 2995 patients in the ER coming from over 10 districts of Chhattisgarh and 8 districts of Madhya Pradesh. Nearly half of them were new to JSS and the other half were already registered and had urgent problems. While we saw various types of emergencies in this period including respiratory failure, cardiac failure, strokes, acute myocardial infarction, acute abdomen, trauma, electrocution, burns, neonatal respiratory distress, epileptic seizures etc., it is worth highlighting that we saw 284 cases of animal bites/stings, a problem seen predominantly in rural areas (includes snake bite, bee/wasp stings, scorpion stings or unknown). Fortunately, we could save every one of them, who reached the emergency room well in time. We also cared for 82 cases of acute poisonings in our ER.
The 100 bedded inpatient service includes beds for common and important illnesses that merit inpatient care for surgical, medical and childhood illnesses. The past year saw 4553 patients. Inpatient services are equipped for providing intensive, step down and routine care, with designated areas for intensive care, newborns and pediatric patients, tuberculosis and other communicable illnesses, post-surgery and post-delivery patients and chemotherapies. New operation theatre, surgical ward, HDU and NICU are under construction presently. During this period 4123 patients (2188 under the PMJJAY-Ayushman Bharat scheme and 1935 under the DeenDayal Anyodaya Upchar Yojana of MP) could avail benefit of the state financing schemes for their inpatient care (nearly 70% of inpatients), some of which were also for day care procedures/interventions. However, we continued to face challenges of finding appropriate packages for many patients, especially in the specialties of medicine. Thus, many patients could not get the benefit of the scheme or did not have sufficient documents for entitlement to the scheme which are purported to be universal. Also, we encountered a significant rejection rate for the packages, many of the reasons being irrational. However, we continue our efforts in providing high-end quality services at affordable rates. For instance, Tenofovir, an antiviral drug used for treatment of hepatitis B was made available to patients for 530 rupees a month from August 2019 after procuring drug directly from divisional supplier at Nagpur. Similarly, we were able to bring down cost of Tab Pancreatin used for treating chronic pancreatitis from Rs 3800 per month to almost Rs 1550 per month after procuring the generic version from LOCOST pharmaceuticals. We also successfully explored investigations like serum ceruloplasmin, urinary copper; Hepatitis B viral load at AIIMS Delhi and scrub typhus, leptospirosis diagnosis, bacterial and fungal cultures, and immunohistochemistry at AIIMS Raipur at much lower costs. We could make CT and MRI services available at a cheaper rate to our patients by negotiating with different facilities locally.

We were able to provide special attention towards specific problems like rheumatic heart disease, congenital malformations, diabetes mellitus, sickle cell disease, cancers, leprosy, falciparum malaria during this period through better recording/monitoring, augmented laboratory support, trained nursing and counselling personnel for it, and plans to clearly improve follow up of these patients.

During the year, we registered 1231 new patients of commonly seen Non-Communicable Diseases (NCDs) - diabetes and hypertension. There were also about 457 new cancer patients diagnosed. Major types of cancers diagnosed were oral (145), breast (49), cervical (66), gastric (29), ovarian (25), sarcomas (15), lymphomas (24). While 80% of them underwent some treatment at JSS, including surgery or chemotherapy, in only 28% was this done with curative intent. At the same time, we also diagnosed 440 new tuberculosis patients, a significant number of which are extra-pulmonary tuberculosis patients. Obviously, the under-nutrition among these patients continues to be the same, about 85% of the patients were found to moderate to severe under-nutrition. Following up with NCD patients to ensure compliance with medications and explaining the care in detail are very important. To be able to implement this more effectively, non-clinical staff involved in the screening and follow-up process were trained in counselling and management of NCD patients.

At the Ganiyari center, we could diagnose 130 new Sickle cell disease patients. Most of the sickle patients are now part of disease-based support groups, which helps ensure improved compliance. Surprisingly, at the hospital, we only saw 10 malaria patients in these 12 months. Physiotherapy care for OPD as well as inpatients is an established service and it is also because few nurses have been trained in physical therapy by our inhouse physiotherapist. Both among outpatients and inpatient services women outnumbered men.
The surgical and obstetric wing of the hospital comprises of an operation theatre complex including 2 major operation theatres, 2 minor OTs and a labor room. Between April 2019 and March 2020, 2316 patients underwent major and intermediate surgical procedures spanning various surgical specializations including general surgery, obstetrics and gynecology, pediatric surgery, urology, oncology, neurosurgery, orthopedics, ENT and plastic surgery. Major procedures that were performed in the last year include gastrectomy, laryngo-pharyngectomy & gastric pull up, excision of choledochal cyst & Roux-en Y hepaticojejunostomy, Snodgrass urethroplasty, hemi mandibulectomy with neck dissection, truncal vagotomy & gastrojejunal anastomosis, total thyroidectomy to name a few.

Overall, there is a high burden of patients with infections, non-communicable illnesses, deficiency disorders and maternal health services, many of which often need surgical intervention. The current surgical services are being utilized efficiently; even then there is a lot more needed & possible. To meet this demand, we initiated construction of a new operation theatre along with an ICU for surgical patients and neonates and a surgical ward.

This OT complex will also have an endoscopy suite. The ground floor of the construction is ready now. Along with the infrastructural development, we also started a DNB program in General Surgery in June 2019. Two resident doctors from this program are thus a part of the surgical team now. This program will hone their surgical skills and will help us serve more patients, who are in need of surgical care.

The obstetric department conducted 909 deliveries last year. We have been able to ensure round the clock emergency C-Section services. This has helped improve maternal & newborn outcomes. Awareness about maternal health and entitlements in Public health facilities is being spread with the help of the Village Health Workers. A monthly ante-natal clinic is also run at 15 centers under the community program. Out of the total deliveries one-third require operative intervention (LSCS). JSS plays a crucial role here, since not many public health centers are equipped to perform c-sections. Out of the total LSCS performed one-fourth are emergency LSCS, often life-saving for the mother or baby or both. Other obstetric emergencies that are also commonly attended to at JSS include obstructed labor, antepartum and postpartum bleeding, eclampsia and HELLP syndrome, retained placenta and incomplete abortions.
The high dependency unit started functioning from February 2016. Initially a team consisting of a doctor and 4 nurses underwent training for ICU care at MGIMS Sewagram. This team was trained in basics of intensive care and started the ICU activity under supervision of the senior doctors at JSS. Followed by this, training and mentoring by various consultants at Ganiyari and on remote forums helped build the skills and competencies for running this ICU. Over last 3 years, we have been able to admit and provide care to over 1400 patients with a broad range of conditions such as myocardial infarction (thrombolysis); ventricular tachycardia (cardioversion); bronchiectasis (respiratory failure); septic shock; Guillain-Barre syndrome; oleander poisoning; respiratory failure due to pneumonia and post measles bronchopneumonia; Acute Respiratory Distress Syndrome (ARDS); diabetic-ketoacidosis; hemorrhagic shock requiring massive blood transfusion; intestinal obstruction with gangrene and sepsis; perforation peritonitis with sepsis and early ARDS; febrile neutropenia; sepsis DIC; post-operative care for neonatal surgeries – TEF, Exomphalos major; aspiration pneumonia; and snake and scorpion bites, including ventilation where required.

During the reporting period, we saw a wide variety of cases from adult, neonatal, pediatric, obstetric, medical and surgical specialties. Some notable lives saved included several poisonings, including middle aged female with adrenal crisis and septic shock after rapid steroid taper; a 2 month infant with failure to thrive with sepsis secondary to pneumonia; a middle aged man following distal gastrectomy and GJA for chronic gastric outlet ulcer complicated by post op leak, malnutrition and delirium. The HDU now has 5 functional ventilators (3 adult and 2 pediatric/newborn). We have found ‘proning’ to be especially helpful for managing ARDS patients.

Improvements in the ICU during previous year have included interdisciplinary rounds with our nurses which improves communication as well as their already excellent skills. We have now developed a standard curriculum to cover with the DNB family medicine resident who covers the ICU. The residents are appreciative of this experience as it improves their skills in managing and stabilizing sick patients.

The nursing team has been playing a crucial role in running the intensive care services. They are also taking up new roles like respiratory therapists, physical therapist, ventilator assistant and ICU technicians. Based on the ICU experience, nursing team presented a poster in one of the conferences too. We are also involved in helping to improve the critical care capacity of nearby public-health facilities and conducting a training on setting up obstetric ICUs in district hospitals of some districts of eastern Madhya Pradesh where facility based maternal deaths remain frightfully high.
A major responsibility of the medical records department at JSS is maintaining patient related data securely in paper and electronic form (facilitated by an open source electronic medical records system we developed).

Documenting individual patient problems in a specific way is crucial for individual patient care as well as for understanding problems in the community. The department plays a crucial role in maintaining records, which act as primary data for finding trends and problems and then looking for suitable solutions. Patient case files from major programs such as cancer, diabetes, tuberculosis etc. are sorted based on each of these illnesses for easy tracking and patient follow-up.

To ensure treatment compliance, colleagues from the medical records department contribute by sending out telephonic/postal reminders and sometimes home-visits, where they try to understand the hindrances in getting care and providing solutions if possible. At times they support patients with accommodation options, transportation.

The department has been instrumental in helping patients access government schemes, even fighting for the patients’ rights on their behalf and ensuring appropriate referrals and support at the referral facility.
The laboratory, radiology and pharmacy played a crucial role in supporting all the patients for their clinical care.

**LABORATORY** supported a total of 45,962 patients for their 2,21,161 (number of) investigations during this year. These included investigations under the subsections of microscopy, biochemistry, hematology, serology, microbiology and others. Most lab services are available 24x7 throughout the year. We have also been able to collaborate with AIIMS Raipur for some of the special investigations like microbiology, investigations for Scrub and Leptospirois and also for specific histopathology and immunohistochemistry. At the same time, we are also in the process of revamping our laboratory infrastructure by reorganizing the laboratory area. The operations of the laboratory are also being restructured.

We now have a full-time **MICROBIOLOGIST**, who is contributing in that respect. Quality improvement measures were implemented resulting in better practices and more reliable reporting of results. A new automated bacterial identification and AST reporting system (BACTEC) helped us deal with otherwise difficult to identify organisms. Another new automated blood culture system helped us improve the reporting of blood cultures and proved extremely useful for septic babies and adults, as well as cost-effective in terms of consumables.

The **PHARMACY** had 440 formulations dispensed, all under essential drugs. Continuous availability of all medicines without any stock outs, and at prices much lower than any other pharmacy was ensured through rational prescriptions, use of high-quality generics and bulk procurement from the wholesale market or LOCOST, passing on these benefits to the patients.

The digital **RADIOLOGY** unit performed over 9000 X-Ray studies including contrast studies. It also supported doing ECGs and ultrasounds. 95% patients have their radiology films on the EMR alone and this helps save costs & environment.
Ayurveda services offered at JSS have several functions. They include an out-patient clinic, a pharmacy, yoga and use of Ayurveda in our village program.

The out-patient clinic runs thrice a week along with other OPD clinics. Health issues such as digestive problems, jaundice, joint pain, urinary tract infections or burning micturition, urinary stones, mouth ulcers, piles, cough, asthma, headache, frequent cold, lactational inadequacy, wounds, intestinal worms, ringworms, dysmenorrhea, menorrhagia, pain and unpleasant smell in gums, and weakness are treated in the clinic. We have seen that patients prefer Ayurvedic treatment for itching, frequent cold, sinusitis, joint pains among others. Patients with jaundice, urinary tract infections, urinary stones, lactational inadequacy etc. are also referred from other clinics.

The Ayurveda pharmacy prepares medicines for the treatment of many of the aforementioned health problems inhouse. 62 different formulations of churna, vati, tel, kshar and avaleh were prepared last year.

Ayurveda is also used in our village health program. The aim is to train village level health workers in using local herbal medicines. We have been conducting such training sessions more regularly for the last two years. In one monthly session, they learn all about one herbal medicine. Last year 10 new medicines were introduced to them. They are also encouraged to plant these in their backyards so that they are easily available. Apart from growing medicinal plants, they are also involved in preparing a formulation called vyaghri haritaki avaleha used to treat cough. They prepared around 500 kgs of the medicine last year.

Other activities involve:

- Teaching and conducting daily yoga sessions for the students of JSS Nursing School and the village level health workers for improving fitness
- Performing panchkarma procedure (ayurvedic process of detoxifying and purifying the body). The department now offers a complete panchakarma program too.
While we provide service and learn from our work, we are certain that for healthcare to reach the most marginalized, and even the middle-class Indians across this vast nation, it is possible mainly through a strengthened public health system. It is towards this end that JSS started quality improvement initiative with the governments of MP and Chhattisgarh. Spanning eight districts, our focus has been to bring about improved maternal and newborn care through trainings, assuring supplies, getting the QI process to be embedded in the functioning of hospitals (District hospitals and First Referral Units), mentoring and supportive supervision. Changes have been slow to come, but are now seen definitively and we are looking at ways to make them sustainable. Much of this work has been accepted by the state government to be essential and hence significant components are now budgeted in the State PIP. Also, the Health department has requested (and achieved) financial support for some interventions (such as screening and management of Sickle cell anemia, continuum of care at the primary and secondary level in a block) from the District mineral Funds. This essentially means that external funding required for this initiative would be significantly reduced, besides there being ownership for the work.
Project iGUNATMAC (Quality Improvement in Maternal and Newborn Healthcare services) was started in 2016 in six selected districts in Madhya Pradesh and two in Chhattisgarh. The objectives of this project are to build and enhance capacity of facility teams to apply quality standards through a process of training, mentoring and supportive supervision; to strengthen systems and processes in selected public health facilities so as to achieve quality standards set out in the GoI’s Quality Assurance guidelines; to improve accountability mechanisms in the facilities; to enable action to strengthen the continuum of care from community to facility; and to undertake advocacy to scale up initiatives for quality assurance in non-intervention facilities in both states.

Based on our assessments done while starting the project, we realized that clinical practices and basic processes in the maternity wing required significant improvement. We also realized that in order to improve practices and systems, training alone is insufficient to institutionalize improvements. Towards that, we devised on-site mentoring visits. These mentoring visits serve as practice sessions and checking adherence to protocols along with training. Mentoring and support visits focus on the identification and resolution of problems and helping to optimize the allocation of resources, while promoting teamwork. It focuses on working with the health staff in identifying and correcting problems, proactively improving the quality of service, and using data for decision-making. It is an immersive process with brainstorming and hand holding. This exercise is supplemented by Dakshata Training, a three day skilled birth attendant training adopted by GoI. It focuses on correct clinical practices, preventing possible complications during childbirth and if complications still occur, then, how to manage them systematically at Staff Nurse and Medical officer level. Staff nurses are very happy with this training but involving doctors including the gynecologists in the training has been challenging. A key advantage of Dakshata training is that it provides guidelines to doctors and nurses who work in remote areas with limited resources to provide appropriate care and if necessary take a call for timely referral. This can enable better management of patients before they can be referred to a higher center and hence reduce risk of morbidity. From April 2019 to March 2020, JSS had targeted a total of 12 Dakshata trainings, 2 for each district (Anuppur, Dindori, Mandla, Shahdol, Sidhi, Umaria). The candidates were from all health facilities which are delivery points including PHC,CHC and DH. Out of 12 planned trainings, 10 trainings were conducted but the last two got cancelled due to COVID-19 pandemic.

Since the number of staff to be trained is quite large, and it is difficult for external trainers (from iGunatmac) to conduct regular training, we initiated the Dakshata Training of the Trainer (TOT) workshop to create a pool of good local, government trainers at the district level.

Not only nurses but also medical officers have been trained through programs such as a two week training program of Clinical Observership and Training for Assistant Medical Officers at our Hospital and community program at Ganiyari; an obstetric HDU training for Gynecologists, Medical Officers and Staff Nurses that goes hand in hand with our effort of supporting the development of obstetric HDU at one of the iGunatmac intervention hospitals. Numerous other trainings such as sickle cell disease training or acute undifferentiated fever training were also conducted last year (see Training for Quality Improvement).

Last year, we included a few new activities and did some differently. We spent more time in our mentoring visits in facilities where clinical practices needed more improvement and increased our focus towards building a culture of quality by teaching QI methods like 5S to facility teams and improving teamwork through team building exercises.
Lessons from these MDRs have inspired us to develop additional training modules for the care of sick pregnant women. The modules include care for a pregnant woman with severe anemia, altered mental status, jaundice, malaria, sepsis and septic shock, obstetric hemorrhage, and others. The MP government has 4 CMEs (3 days) for Obstetricians, medical specialists, Anesthetists and medical officers to cover these topics.

When we mentor the nursing staff, we aim to improve nursing care and nurse-led practice in the facility. However, improvement in the overall quality of care is possible only when the facility staff works as a team. Maternal death review helps us to build accountability of the facility team, especially doctors, allied departments like a blood bank, laboratory, pharmacy, and facility administrators.

We continued to support the state driven MDR sessions by providing expert opinion and continuous advocacy and also work with facilities to improve the quality of facility-level MDRs. As opposed to our initial involvement of leading the reviews, in 2019-20, we handheld the process to conduct maternal death reviews remotely. We provided one technical expert and coordinator to strengthen the state’s maternal death review at the district level. This transition was possible after a workshop conducted for health officials, specialists, and medical officers from different districts including non-intervention areas on how to run an MDR. Real case-based scenarios were used and a specialist team of the facility i.e. Gynecologist, Physician, Anesthetist, and lady medical officer were asked to come together to work on the team culture and action plan preparation. In addition to the workshop, we also started Continued Medical Education for specialists i.e. Gynecologist, physicians, and anesthesiologists.

A positive outcome of advocating with the MP Government in the year 2018, to be involved to review the maternal deaths in detail was seen last year. For the first time, the maternal health department of Madhya Pradesh started conducting in-depth maternal death reviews with facility teams.
Anuppur is one of the peripheral districts of MP, bordering Chhattisgarh and a lot of the sickest patients coming to JSS arrive from here. According to the 2011 census, 47.9 percent of the population belongs to the Scheduled Tribes category. It has 4 blocks. Pushprajgarh is the largest Block with 268 villages. Estimated population in 2018 was 2.3 lakhs, with 96.3 percent rural population. It mostly has a tribal population, with very limited means of income. It is divided into 8 sectors in terms of health administration. Karpa and Tithi-Jaithari Sectors are most backward in terms of road, water, electricity, and communication. Health facilities and outcomes are extremely poor in these two sectors. Number of home deliveries are very high. Both these sectors also have high infant and maternal mortality (many of these deaths are not even recorded).

Our goal in this area is to improve the quality of primary healthcare in 12 subcenters, 1 CHC and 1 PHC in this area with special focus on maternal and newborn care. We believe that when both infrastructure and quality of care available to people improves, it will in turn improve the number of Institutional Deliveries in this area, and also help reduce Maternal and Newborn mortality and morbidity. With that in mind, we came up with the following focus areas for improving primary healthcare services through facility strengthening; strengthening community processes; improving access and ambulance services in 2 sectors; making Pushprajgarh CHC Cesarean Section active.

It was important for us to consider the 4 components so that we build a connection or say a chain of healthcare from grassroots to facility level. Through the process of strengthening community processes we could work with ASHAs, intervene in VHND, see and advocate for the challenges that they face. For facility strengthening, we make an effort to work with local administration and make the facilities capable enough to provide services for minor ailments, treatment for seasonal diseases like malaria, scabies, diarrhea, conduct deliveries and bring health services closer to people. Through this we have also been able to work closely with ANMs, understand their challenges and work hand in hand to some extent. Improving access and ambulance services in these 2 sectors further brings health services closer to people. If CHC Rajendra Gram becomes a Cesarean Section active facility then the whole block of Pushparajgarh will be able to avail this facility on time and it will indirectly reduce maternal mortality and infant mortality in this area.

With availability of sufficient HR and slow improvement in supply of essential drugs we have seen an increase in patient load and improvement in care. Presence of ANM mentors in the facility and recent availability of 2nd ANM has made it possible for a health staff to be in the subcenter 24x7. Intervention in community processes and advocacy with district administration for availability of ambulance when required, has improved delivery load and care in sub health centers. When we had started work in 2018 only 3 subcenters were functioning as delivery points. Today out of 12, 6 sub health centers are functioning as delivery points, and 4 other subcenters are fully functional with their infrastructure remarkably improved.
We have seen an increase in the number of deliveries in 5 health centers in the second half of the year. Availability of consumables and better health facilities being functional 24x7, has had a huge impact on case and increased the no. of institutional with quality care deliveries.

The nutrition initiative in Pushparajgarh is focused on the under-3 child. In these remote tribal hamlets – 75 creches (Phulwaris) have been started and functioning with support from the State and DMF (District administration). These are being run on lines similar to the JSS Phulwari in Achanakmar area, except that they are being run through Women SHGs – thereby increasing accountability locally. Warm clothes including caps and socks were also distributed to the children in these creches to help keep them warm during the winter.
We run a project for screening, diagnosis and management in eastern Madhya Pradesh in collaboration with National Health Mission, Madhya Pradesh. The state has the highest burden of sickle cell disease. The Sickle Cell Anemia Control Mission, Eastern Madhya Pradesh is working on the disease in Anuppur, Shahdol, Umaria, Sidhi, Dindori, & Mandala districts. The project has three major components – namely screening, sickle patient management, and strengthening the system. Active screening is done of pregnant women (door-to-door), school going children, and 1st blood relative of positive patients. Door to door screening of pregnant women, school going children & family members of the positive cases is being done by the project management unit in the Anuppur. If a pregnant woman is found positive (sickle trait or disease) then the husband is also screened. This screening is a very intensive process involving 3 team members per team (1 ANM, 1 Lab Technician, 1 Resource Person). The resource person plans daily screening and makes resource arrangements (screening consumables, data collection, vehicle arrangements etc.). ANMs do the pre-screening counselling, sample collections and ANC checkups & Lab technicians do all the tests. Each team collects an average of 60+ samples daily. There are five such teams.

<table>
<thead>
<tr>
<th>Sickle Cell Disease – Anuppur District, Madhya Pradesh (649 villages)</th>
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<tbody>
<tr>
<td><strong>Type</strong></td>
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<td>-----------------------------------</td>
</tr>
<tr>
<td>Pregnant women samples</td>
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<tr>
<td>% of ANC Samples/ all cases</td>
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<tr>
<td>School Children screened</td>
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<tr>
<td>% of School Children/all cases</td>
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<tr>
<td>Family Member &amp; Other screened</td>
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<tr>
<td>% of family members / all cases</td>
</tr>
<tr>
<td>Total Screening</td>
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<tr>
<td>% of all screened samples</td>
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</tbody>
</table>

In Anuppur out of 8 targeted facilities 5 facilities (1 DH & 4 CHC) are providing treatment to sickle patients in OPDs & IPDs. Other than these 5 facilities, 5 patient support group meetings are conducted every month in Anuppur, Kotma & Pushprajgarh Block. In these meetings, more than 450 patients receive treatment, counselling & regular checkup every month. 2 patient support group meetings are being conducted in Dindori district where 150+ patients are receiving their counselling, regular checkup, physical examination & treatment. Shahdol, Anuppur, Dindori, & Mandala provide Hydroxyurea & plain folic acid 5mg with pain killers to patients for the management of the disease. Umaria & Sidhi districts have been a challenge in terms of availability of hydroxyurea, where patients with sickle cell disease are unable to receive treatment. So, patients belonging to these 2 districts are unable to receive treatment.

In addition to this, we have also been supporting the blood banks in collecting and maintaining stock of blood in Anuppur district. We have also developed manuals for doctors, lab technicians, and awareness leaflets and posters for patients and the community. We also use an ‘App’ created by JSS called OPENCHS to collect data. Along with our efforts, we also conducted numerous training sessions for doctors and lab technicians. A total of 64 lab technicians and 73 doctors from 18 facilities in 6 districts have benefitted from the training program. As a result, these facilities now screen and treat sickle cell patients, making treatment accessible, which was otherwise only available in big cities or nearby states.
04 AGRICULTURE
& ANIMAL HEALTH
The problem of ill-health is inextricably linked to the problem of food availability. Many rural communities rely on their land to provide them with calories, nutrition and possibly a small income. Hence, the agriculture program was started in the year 2003, with a focus on promotion of System of Rice Intensification (SRI) technique and organic cultivation to increase yield that would ensure food security and a steady income. JSS conducted a training and workshop at the state level in Chhattisgarh state with the agriculture department. The program later on focused on conservation of seed varieties. Seeds of rice and millets were collected from the community and conserved. In 2007 around 52 seed varieties were conserved and currently close to 400 varieties of rice, 16 varieties of wheat, 6 varieties of raagi, seeds of Kaang, Kosra, Jowar and certain vegetables are being preserved. This year 500 farmers from villages, where JSS has its village program and also in areas from where there is a patient flow have been given seeds comprising of rice, millets and vegetables. A new initiative this year is cultivation of Raagi (finger millet) to promote the millets for nutrition in the community. This aims to improve the nutrition of the community of small and marginal farmers. We have asked NABARD to fund the project and in principle they have approved the same. The project will aim to increase the area, production and productivity of millets by use of organic inputs and to offer forward linkages for consumption and marketing. The focus will be on demonstration of yield potential of millets in uplands under intensive organic agronomic practices like SCI practice in Finger Millet and introduction of tools for line sowing and inter-cultivation. Active women SHG’s and the villages and farmlands with potential for millets will be identified under the project. The output so obtained will be subjected to processing and sold through retail outlets and B2B route for better price realization for farmers. There will be programs to promote consumption. The project also includes use of graders; this will allow the SHG members to buy other millets locally and grade them and sell it in the open market. Since the graded millets will fetch better price in the market, they will be another stream of revenue for the SHGs. There has been a major increase in the number of people who have been doing organic farming using the SRI method of paddy cultivation. Over 600-750 farmers have practiced this technique each year. Not only this, there has been an increase in Ragi cultivation in this period.

Since cattle is an integral part of farming and thus a rural household, need for preventing and treating these animals was articulated. JSS has trained persons from the community as Animal Health Workers (AHW) workers, and each AHW treats an average of 3-6 cases daily. 4621 animals were treated in 2019-2020. The majority include bulls, goats and cows. Other animals included buffaloes, hens, cocks, dogs and pigs. Common cases that we encountered on the field were cold – flu in animals, diarrhea, pneumonia, hemoprotezoal infections, metabolic disorders, reproductive problems in female animals, among others. Hemoprotezoal diseases, heavy tick infestation, renal and hepatic failures, acute poisoning, and advanced cases of acute diarrhea and pneumonia in neonates are usual causes for mortality. About 60 animals were also treated in ambulatory clinics or in the nearby villages by our veterinary doctor, which includes serious cases and surgeries.
Trainings are an integral part of all our programs, since they help improve quality of services. Such trainings are being done for VHWs, SHWs, MCH workers and nurses, Phulwari workers and Phulwari supervisors, TBAs, animal health workers and agriculture workers. These sessions help them learn new things and refresh topics. We use a one-and-a-half-day residential training strategy for most cadres since this gives enough time for training; reviewing their work; distribution of drugs, consumables; repair of equipment etc.

### Intramural Training

<table>
<thead>
<tr>
<th>Target Group</th>
<th>Frequency of training</th>
<th>Number of batches</th>
<th>Total Number of trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHW</td>
<td>Once a month</td>
<td>5</td>
<td>144</td>
</tr>
<tr>
<td>SHW</td>
<td>Once a month</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Phulwari supervisor</td>
<td>Once a month</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Phulwari workers</td>
<td>Once a month</td>
<td>4</td>
<td>132</td>
</tr>
<tr>
<td>TBAs</td>
<td>One a month</td>
<td>3</td>
<td>108</td>
</tr>
<tr>
<td>MCHWs and Nurses</td>
<td>Once a month</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>SHG supervisors</td>
<td>Once a month</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Animal health workers/Agriculture</td>
<td>Once a month</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>workers</td>
<td>Training of nurses (Hospital)</td>
<td>Once a fortnight</td>
<td>35-40</td>
</tr>
<tr>
<td>Training of doctors</td>
<td>Thrice a week</td>
<td>-</td>
<td>15-20</td>
</tr>
</tbody>
</table>

### Topics Covered

- **Village Health Workers**
  - Stomach ache, Hypertension, Water purification and diarrhea, Fever, Animal Bite, TB, neonatal care, Burns among others
  - Prolonged Obstructed labor, Pregnancy Induced Hypertension (PIH), High Risk Pregnancy, Causes of hypothermia in neonate and prevention, Pneumonia, Blood-loss during pregnancy among others

- **Daai Training**
  - Post-partum hemorrhage, 2nd and 3rd stage of labor and neonate resuscitation, bleeding during pregnancy, Identification of sick child among others

- **Maternal and Child Health Workers**
  - Sickle cell disease (Pain crisis), workshop on data rectification of NCD, AUF, Animal Bite, Diabetes, Epilepsy, Stroke and physiotherapy in related conditions, TB program, maternal healthcare improvement among others
Extramural Training

In this period, we conducted 21 extramural trainings which includes the training of nurses, medical officers, assistant medical officers, specialists from public health facilities and from non-governmental organizations. More than 500 participants have been trained in these trainings.

In some cases, need for training was identified by JSS. To give an example, after we saw an increase in rare causes of tropical fever namely scrub typhus and leptospirosis along with a dip in malaria cases, this was notified to IDSP (Integrated Disease Surveillance Program). As a result, a request came in from the state health department, based on which training was conducted on “Acute Undifferentiated Fever – Approach and Management” in 5 batches in Raipur and Janjgir districts with 250 participants in all with continued support on WhatsApp for diagnostic and management difficulties. We were also a part of a state level research study on febrile illness titled "Scrub typhus and leptospirosis in rural and urban settings of central India: a preliminary evaluation".

<table>
<thead>
<tr>
<th>Training Target Group</th>
<th>Number of Sessions</th>
<th>Topics Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Medical Officers and Medical Officers (50 participants)</td>
<td>1-day Training</td>
<td>Acute Undifferentiated Fever</td>
</tr>
<tr>
<td>ASHA Workers and Supervisors (30 participants)</td>
<td>3-day Training</td>
<td>Maternal and Child Health Program Activities</td>
</tr>
<tr>
<td>Medical Officers - Divisional Level Training (110 participants)</td>
<td>1-day Training in two batches</td>
<td>Dengue</td>
</tr>
<tr>
<td>Medical Officers and District Hospital Specialists (150 participants)</td>
<td>1-day Training in three batches</td>
<td>Acute Undifferentiated Fever, Japanese Encephalitis</td>
</tr>
</tbody>
</table>
As part of IGUNATMAC – a collaborative work with the State Governments to improve quality of maternal and newborn health in public health facilities of Madhya Pradesh and Chhattisgarh, we conducted six different types of trainings for ASHAs, nurses, gynecologists, and medical officers among others.

### Training Details

<table>
<thead>
<tr>
<th>Training Details</th>
<th>Training Target Group (total participants from the res. group)</th>
<th>Duration</th>
<th>No of batches</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dakshata (a three-day skilled birth attendant training)</strong></td>
<td>Auxiliary Nurse Midwives (22), Senior Nurses (106), Doctors (4)</td>
<td>3 days</td>
<td>10 (in six districts of MP)</td>
<td>134</td>
</tr>
<tr>
<td><strong>Dakshata Training of the Trainer</strong></td>
<td>Gynecologists (1), Medical Officers (4), District Public Health Nursing Officer (1), Staff Nurses (16)</td>
<td>5 days</td>
<td>1 (in the district)</td>
<td>22</td>
</tr>
<tr>
<td><strong>Assistant Medical Officer Induction</strong></td>
<td>Assistant Medical Officers (9)</td>
<td>15 days</td>
<td>1 (at JSS)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Obstetric HDU training for Gynecologists, Medical Officers and Staff Nurses</strong></td>
<td>Gynecologist (1), Lady Medical Officer (1), Staff Nurses (8)</td>
<td>10 days</td>
<td>1 (at JSS)</td>
<td>10</td>
</tr>
<tr>
<td><strong>Sickle Cell Training</strong></td>
<td>Staff Nurses (20)</td>
<td>1 day</td>
<td>1 (in the district)</td>
<td>20</td>
</tr>
<tr>
<td><strong>ASHA Training</strong></td>
<td>ASHAs (90)</td>
<td>1 day</td>
<td>3 (in the district)</td>
<td>90</td>
</tr>
</tbody>
</table>
DNB Residency Program

The three-year DNB Family Medicine course, recognized by the National Board of Examinations, is running successfully in its 6th year. Fresh incumbents to the course could not be recruited this year as the National Board is restructuring the program. Starting last year we now also offer a DNB program in General Surgery. JSS believes in producing ‘specialist generalists’ who can provide the critical access to preventive and curative services needed in rural areas. Family medicine residents are broadly trained in the outpatient and inpatient aspects of Medicine, Surgery, Pediatrics, and OBGYN. We also believe that strong acute care training is important to manage sick patients and residents also rotate through the emergency department and ICU. Since a large majority of the cases require surgical intervention, JSS serves as a learning platform to hone their surgical skills with close supervision & mentoring and this will in turn help in serving more patients.

Learning takes place through formal lectures, seminars, case discussions and Journal Clubs besides bedside teaching during patient rounds. Essential skills such as in BLS, ALS and ATLS, PACS, and point of care ultrasound are also imparted. We have been fortunate to have visiting guest faculty from AIIMS, Delhi (Prof. Peush Sahni), Safdarjung Hospital (Prof. Ameeta), Maulana Azad Medical College (Dr. Anurag Mishra and his team), University of Pennsylvania (Prof. Lily Prakash). Prof. Dhaneria, Head of Clinical Pharmacology and Dean AIIMS Raipur has also been a regular guest faculty. We also have visiting specialists in Orthopedics, Urology, Plastic Surgery and Neurosurgery. Last year we have had fellows from the Contra Costa Regional Medical Center, fellows from the HEAL initiative, who spent short periods of time with us but made considerable contributions by teaching and also streamlining processes and designing clinical protocols.
School of Nursing

Rural India, where the majority of our population lives, suffers from grossly inadequate infrastructure and manpower for provision of health care. As the country takes major steps towards addressing this inequity, a vital constraint is the non-availability of trained health professionals, specifically doctors and nurses. Such health professionals would best be trained in the milieu of the population and healthcare set ups they are likely to serve and should belong to that population. Towards this end Jan Swasthya Sahyog started training of nurses initially as Auxiliary Nurse Midwives (ANM) beginning 2011. This was followed by starting of a General Nurse Midwives (GNM) program in the year 2013 with 25 students each.

In addition to preparing our students to provide clinical care, the JSS School of Nursing trains students in critical thinking, problem solving, and leadership. We believe educating nurses will help to provide appropriate, rational, and low cost healthcare services that are delivered in a holistic and compassionate way.

Nurses are an integral and necessary part of a collaborative healthcare delivery system. By training them in the principles and practices of nursing, JSS hopes to not only fill the gap in healthcare providers, but to drastically improve the wellbeing of entire communities of providers and patients. We also believe that higher nursing education provides opportunities for nurses to become part of the process of development and rejuvenation of village communities through the facilitation of efforts to improve education, environment and the level of sustenance. Registered qualified nurses can become competent and effective nurse teachers and administrators in hospitals and the community.

Both the ANM and GNM programs train nurses from Scheduled Caste and Scheduled Tribes in the Bilaspur and Mungeli district. These programs are recognized by the Indian Nursing Council and fully supported by the Department of Tribal Welfare, Government of Chhattisgarh, with tuition, board, books, uniform etc. completely free of cost to our students. We had a 100% pass rate in both the programs last year. After their training, roughly 30% of the students joined our hospital, while 60% of the student have secured Government positions. The remaining 10% have joined other private hospitals.
JSS has been working on developing and manufacturing health related technologies for people with limited resources in the field. Some of the technologies produced during this year included safe delivery kits, spacer for puffs, easy to read thermometer, ORS, UV drums, breath counters, newborn sleeping bag with heat sink, electrophoresis machine (at $1/10^{th}$ of the market cost and which further brings down the per test cost to $1/8^{th}$ of the market cost without compromising on the quality of tests.), hand washing stations, chuna namak and drug box for TB patients. Most of the technologies are used either by patients or health workers in the community. This year too, the government of Madhya Pradesh has purchased electrophoresis machines developed by JSS for six districts namely Anuppur, Sidhi, Mandala, Dindori, Umaria and Shahdol to be used at the district hospitals and community health centers.

We have started working on developing a mini refrigerator that can be run on a small solar powered battery to preserve insulin injection in rural areas where availability of electricity is an issue. Many patients find it difficult to store insulin in the villages we work in. This year amid the Covid-19 pandemic, we also produced some personal protective equipment like face shields and masks. Ten government and non-governmental organizations have purchased some of these technologies this year.
Bahmni - E-medical Records System

Bahmni an easy to use, complete, open source Hospital Information System (HIS) and Electronic Medical Record (EMR) system was co-developed by JSS and Thoughtworks. The development started from 2012 with an objective of creating a robust platform for recording patient information for improving individual patient care and also allowing programmatic learnings. Bahmni enables easy data recording and retrieving, reducing considerable time of the users in managing patient visits and improving quality etc. It is not restricted to only storing patient registration records but also offers a variety of other features such as:

❖ **Clinical Services** – module for capturing, maintaining and accessing clinical records right from out-patient visits, admission related data, lab and radiology investigation results, clinical proformas and discharge summaries for follow-up advice. It also has several disease-specific templates for diabetes, tuberculosis, sickle cell, some cancers for instance which act as an SOP to reduce chances on missing important examination points. A highlight is integrated open source PACS that allows better quality radiology images available almost immediately on the end user screens, without the need for printing. This accelerates diagnosis and reduces cost and environmental hazards due to X-ray film printing.

❖ **Laboratory** – this module enables managing patients’ orders, samples and tests. This is linked to the clinical module, thus making all patient related information available for clinicians at one place. It also reduces data transmission errors and saves considerable time in generating and delivering reports.

❖ **Reporting** – offers customized reports based on the data captured. They help in collating data for better analysis to take a retrospective look at work done, for quality improvements and for observational research. Users can also customize date ranges and the format.

❖ **Billing, accounting and inventory management** – a digitized billing system that helps maintain patients’ financial records and generate standard accounting reports increasing transparency and easier auditing. The inventory management system helps maintain records of drug stocks and makes the ordering process much faster and easier with better inventory control.
Overall, digitalization of records has helped healthcare providers improve efficiency and quality of patient care, reduce errors in clinical encounters and advocate for issues related to public health.

The system now has most functionalities necessary for carrying out present processes in the hospital. In the previous year, we focused on continuing to use existing features with additional customizations. New changes included creation of additional information, collection templates and reports to record and analyze specific information. Some of these templates are related to referral information for patient from community program, studying spectrum of burden of medical complications in pregnancy, & streamlining labor room information (birth template).

A couple of new reports were also created such as one for regular compilation of census information from various units like – IPD and OPD and patient characteristics, a report for QI for general topics including patient flow management; and for specific programs like diabetes, sickle cell disease, pain management and tuberculosis.

An upgrade of the inventory and billing module from OpenERP 7 to Odoo 10 was planned last year. It will be helpful in making new features and reports functional in the billing/inventory application. The product release with new integration took place in the month of August 2019. The implementation is planned in the next few months after learning from other hospitals.

Bahmni has been successfully implemented in numerous hospitals across multiple countries. Several healthcare centers in remote rural areas in India working in areas similar to JSS are using it with a few customizations. These include SEARCH, Gadchiroli, Lok Biradari Prakalp Gadchiroli, Ashwini Gudalur Adivasi Hospitals to name a few.
Based on learnings from its program/activities, JSS continued to participate in a range of advocacy issues at various levels for improving policies and programs for the health of poor people with some success. The areas of advocacy included:

- Screening, diagnosis and management of people with sickle cell disease: The state of Madhya Pradesh is willing to take this forward in 5 districts of eastern Madhya Pradesh besides Anuppur, where JSS successfully demonstrated running such a program successfully over last 2 years, including sickle patient support groups. The availability of Hydroxyurea and pain medications including Tramadol in the list of drugs available at the CHC and DH in MP played a major role in the success of this.

- Phulwaris for under-three child's nutrition and early childhood education: We represented at state level committees in both the states of Chhattisgarh and Madhya Pradesh. This program has already taken off in Singrauli district and may also get replicated in a few other tribal districts of Madhya Pradesh.

- Maternal and Child health: This was one major focus area over the previous year. With the help of our learnings from working on the ground in the JSS work area and also with the quality improvement program, we tried advocating around multiple issues for health system strengthening in public health facilities. This included improvements in care provision, supply chains, referrals, prescriptions and death audits, laboratory services, blood availability, and training of various cadres of health personnel.

- Blood availability: Besides representing in various fora, we filed a petition in the Supreme Court of India for a better policy around improving blood availability in rural areas.

- Communitizing care of patients with chronic illnesses: We helped organize patient support groups and their federations for advocating for their own care in a rights-based mode. Such federations were facilitated for people with hypertension and sickle cell disease. The federation came up with some demands rising from basic needs of tackling the illness, to be raised at different levels of administration. This included availability of lab investigations at CHCs, standard training and instruments including BP machines to be made available for Mitanins (ASHA workers) for providing better care to all the hypertensive patients in the state and one-month medicine prescription for all patients either from government subcenters or PHCs free of cost and availability and prescription of hydroxy urea for people with sickle cell disease.
Human Resources & Networking
Infrastructural Development
Appreciation
Our Support System
There has been a growing network of people who are visiting, working and are interested to learn at/from JSS. Over last 6 months we have had global health fellows from the Health Equity Access and Leadership (HEAL) Fellowship program at UCSF and at Contra Costa Regional Medical Center (CCRMC) Global Health Fellowship. There have been interns and post-graduate students visiting from AIIMS Raipur, MGIMS Sewagram, St Johns Bangalore, CMC Vellore and a group which is a part of the Gurukul program run at MAMC New Delhi. So many young minds with fresh ideas is encouraging and brings more vitality to the work of JSS. Collaboration with AIIMS, Raipur for better patient care including certain high-end investigations and for research has continued this year.

Training of nurses and doctors in critical care with the development of protocols and SOPs for several conditions was done this year.

The first Dr BR Chatterjee memorial oration was delivered on August 18th 2019 at the Training hall on the Ganiyari campus. The oration was attended by several friends, supporters and well-wishers of JSS. We were fortunate to have Dr Bavaskar; a renowned researcher on problems of rural people, speak on the challenges faced as a Rural health Practitioner, Researcher and Advocate. Among the various things he talked about including his pioneering work in the identification and management of scorpion bites, his zeal and passion for his work with very limited resources was truly inspiring.

Our Founding President, Dr. Biswa Ranjan Chatterjee studied Medicine at the Medical School in Bankura and later the National Medical College, Kolkata. He then began research in immunology, basic microbiology and bacteriology at the Indian Institute of Medical Research and later joined a fellowship at the Baylor University College of Medicine, Houston. He was a world renowned leprologist and Microbiologist, having trained and researched at the Johns Hopkins School of Public Health and Hygiene, Baltimore. He then set up a unique Leprosy Field Research unit in the rural heartland of our country in Purulia. From here he made several important contributions to science and art of leprosy management for over three decades. He was honorary member Director of the Gandhi Memorial Leprosy Foundation, Wardha and was long associated with the Central Leprosy Teaching and Research Institute, Chingleput, the Central JALMA Institute of Leprosy, Agra, and the ICMR's Expert Committee on Leprosy. He was conferred the Padma Shri in 1985. A much acclaimed Book: A window on Leprosy, was edited by Dr. Chatterjee and brought out on the Silver Jubilee of the GMLF. His better half, Mrs. Renu Chatterjee, supported him in all respects through his sterling career as an academic, researcher and social worker. Their son, Dr. Biswaroop Chatterjee is a founding member of JSS, and Dr. BR Chatterjee was a fatherly figure to all of us at JSS.
This year saw completion of a block for library and documentation center which is now functional.

Enhanced surgical facilities are coming up at a fast pace with the ground floor of the two new high dependency wards completed and furnished. One operating room and endoscopy suite are nearing completion, while a surgical ward on the first floor is coming up. We are planning renovation of existing inpatient facility and laboratory in a phased manner. The work for corridors in the outpatient and inpatient buildings has been started. Laboratory building work has also started with the objective of completing ground floor before the start of rainy season. (July 2020)

A sewage treatment plant has been completed in December 2019 and operationalized since.

We are in the process of developing a small (25 kW) solar energy generation plant (on grid) with support from Central Mines Planning and Designing Institute through their Bilaspur Regional Office to explore a more sustainable and self-sufficient source of power. We intend to expand this, in the coming years based on this initial experience.
Last year, JSS was recognized and felicitated for its contribution in the care of patients with sickle cell disease on the World Sickle Cell Day – 19th June 2019 by both the State Department of Health in Raipur and at the District level in a program held at the Medical College in Bilaspur.

JSS also received a state government award - ‘Chhattisgarh Rajya Alankaran’ Award for Innovative efforts for Social, Economic and Educational development by Govt. of Chhattisgarh, Nov 2019 (Pt. Ravishankar Shukl Samman). We were also appreciated separately by the Additional Chief Secretaries of the Govt. of Chhattisgarh and Madhya Pradesh (vide their letters on the next page).

Major appreciations received so far include:

1. Letters of Appreciation from the Additional Chief Secretaries of the Govt. of Chhattisgarh and Madhya Pradesh, Jan 2020
2. ‘Chhattisgarh Rajya Alankaran’ Award for Innovative efforts for Social, Economic and Educational development by Govt. of Chhattisgarh, Nov 2019 (Pt. Ravishankar Shukl Samman)
4. Jamnalal Bajaj Award for use of Science and Technology for Rural Development for year 2017, Oct 2017
5. Dhanvantari Samman 2017, By IBC 24 News channel, August 2017
6. Mukhyamantri Kshay Poshan Yojna—Felicitation by Department of Health for contribution to the RNTCP program and care of Tuberculosis program in the state of Chhattisgarh, July 2017
7. Galaxy CSR Social Award, for Consistent and Commendable Efforts in towards Societal and Community Development, March 2017
8. ‘Tuberculosis Champions’ award in Institutional category, 2014, By PTCC (Partnership for Tuberculosis Care and Control), Sept 2014
9. Acharya Institute Award for best health effort for poor patients, 2014
10. Chhattisgarh Ratna Award for Art, Literature, Culture and Social Development Award for year 2012 by Chhattisgarh Small and Allied Industries Group
11. Appreciation letter by the Governor of Chhattisgarh. 15th July 2005.
Our most treasured award/appreciation remains the smiles on the faces of the people we strive to serve and this is the source of renewal of energy and enthusiasm of our team.
The work of Jan Swasthya Sahyog has been supported through the years by generous contributions from individual well-wishers, as well as from grants from various Trusts and organizations. Our work would not have been possible without this support. Major supporters of our work in the year 2019-2020 have been the following:

- Association for India’s Development (AID)
- Department of Health and Family Welfare, Govt. of Chhattisgarh
- Directorate of Health Services, and NHM of Madhya Pradesh
- Friends of Jan Swasthya Sahyog, U.K.
- Friends of Jan Swasthya Sahyog, U.S.
- Galaxy Surfactants Ltd
- Hospital für Indien
- India Development Service
- Jiv Daya Foundation
- MacArthur Foundation
- ML Outsourcing Pvt. Ltd.
- Mohan Lal Seth Charitable Trust
- Narmada Hydroelectric Development Corporation (NHDC) Ltd.
- Sud Chemie, New Delhi
- Surabhi Foundation
- The Tata Trust, Mumbai
- Tribal Welfare Department, Govt. of Chhattisgarh

We have received donations from many individuals and well-wishers this year. Several of them have contributed more than once and through the years and supported us not only monetarily but also to boost our morale. Jan Swasthya Sahyog gratefully acknowledges the support it has received.

The team at Jan Swasthya Sahyog comprises of 19 physicians including two pediatricians, two public health specialists, a pediatric and a general surgeon, an obstetrician, an anesthesiologist, an ayurvedic physician, 6 DNB residents (4 Family Medicine & 2 General Surgery Trainees). Together with 105 nurses, laboratory technicians, field program officers and trainers and other support staff, we have 345 full time staff members in Bilaspur and in addition 74 staff in Madhya Pradesh working to improve health care at primary and secondary level. JSS is also associated with 144 Village Health Workers, 7 Senior Health Workers, 125 Phulwari workers, 120 traditional birth attendants, 16 coordinators, a veterinary doctor, and 12 animal health workers and agriculture field animators. Besides this, JSS has a large peer group support including those from academic institutions, people’s organizations and the media.
OUR WORK through PATIENT STORIES
A 24-year old, married woman came to the OPD in June 2016 with complaints of loss of appetite, fever and weight loss over a period of 4-5 months. She weighed hardly 22 kgs and her BMI was extremely low at 9.7. Along with her weight she also lost her husband. He left her, after she kept worsening even after undergoing treatment at a local clinic in her village. Being a daily-wage laborer, most of his income was spent on the treatment. He didn't know any better.

At JSS, she was diagnosed with TB Abdomen. Medication was started and an effort was made to improve her nutrition. There was slight improvement. However, on the next follow-up visit, her BMI had dropped to 8.8 - which is considered incompatible with life as per medical literature. This was an outcome of a fast she had observed during a festival. Two steps forward, one step back. She was admitted again and her condition improved. Medication was taken regularly and attention was paid to the diet. Results could be seen slowly over time. The last time she was here, she had come with her husband and had recovered fully. Her weight was almost twice as much as it was during her first visit two years back at 40 kgs and her BMI 17.7.

The before and after pictures speak for themselves.
**Undernutrition and Diabetes Mellitus**

A 12-year old child came to JSS all the way from Shahdol, Madhya Pradesh, with the problem of frequent urination, increased thirst and hunger and with the hope that doctors at JSS might be able to help him. His problem was a complex one for he was diagnosed with Type 1 Diabetes Mellitus (DM), an illness that is very difficult to manage. A condition, where the pancreas produces low or little insulin due to which glucose cannot be metabolized leading to high blood sugar levels. Having Type 1 DM is a terrible problem in itself but in his case, undernutrition made the condition even worse. Treatment requires multiple injections of insulin per day along with adequate nutrition. When he first came to the OPD, his BMI was barely 10.9, which translates to being severely underweight. His father is a farmer and supports a family of 4. It is very difficult for the family to make ends meet. Although it has not been established medically, as to what causes this illness, it is clear that lack of information about the disease, food insecurity and inadequate medication have contributed a great deal in making it much worse.

When the treatment started, before increasing the doses of medication, it was important to improve his nutrition. A diet plan was worked out along with the treatment plan and we could see weight gain and growth after a month. We used an insulin pen so that it is less painful and slightly easy for the family to use, since blood sugar will have to be managed based on food intake. The family was given information on how to use it and adjust doses as per food intake. However this twelve-year-old child is so tired of the constant insulin shots and having to stay in the hospital that he defaults from treatment leading to recurrent episodes of Ketoacidosis. This results in very high blood sugar and too little insulin to deal with it. We have been in touch with the district hospital to ensure that required doses will be provided. But there are challenges such as there not being enough supply at times and then there is also the problem of food insecurity. This is a battle at many levels that the family has to fight. In rural India, providing treatment is not always enough. There is so much more to it.

**Childbirth and its Complications**

**Uterine Rupture-Adherent Placenta-Massive Hemorrhage**

A 36-year old, mother of 4 children (two of whom were alive) presented to the labour room of JSS Hospital at 6 AM with labour pains since previous night. She had had 2 previous normal deliveries and two caesarean section deliveries. She was found to be severely pale and in shock (BP – 70 systolic) with source of bleeding per vagina. She was immediately shifted to the operating room; blood was arranged and fluid resuscitation started. Ultrasound examination on the table was suggestive of a transverse lie and possible uterine rupture. Foetus was unviable. Under ketamine anaesthesia, an emergency laparotomy was performed; a dead foetus was removed from the peritoneal cavity and large amount of blood was evacuated. The uterus had ruptured and the placenta was densely adherent to the uterine wall (placenta accreta). A subtotal hysterectomy was performed and with ongoing blood transfusion, her blood pressure picked up. Her postoperative course was initially turbulent, but then stabilized. She was fine and discharged home on the 6th postoperative day though she had lost her baby.
The work that JSS has been doing in the program villages would be impossible without the support and cooperation of all the health workers involved. While the VHWs form the base of our three-tier community program, we acknowledge every worker of ours to be a warrior, who strives to bring the most needed healthcare to every person. One such incident exemplifying this, took place during the monsoons in 2019 when a young girl’s life was saved by timely intervention of our Daai karyakarta (TBA) just in time. On the fateful night, Aarti (name changed), a 16-year-old girl from one of our program villages, in the forest of the remotest Bamhani cluster, was bitten by a Krait (a poisonous snake) in her sleep. It was around 9:30 pm and the family members called out for baiga (a faith healer), who came and did some jhaad-phoonk. The family was sure of the treatment being provided to Aarti and thus everyone went to sleep peacefully again. The next day too, the baiga was there for Aarti’s treatment as her condition was getting worse and while all this was going on, one of our Daai karykarta, Bisahin Bai, came to know of this. She took no time to reach Aarti’s place and examined her. Aarti was unable to open her eyes and her speech was already slurred. Bisahin Bai realized the gravity of the situation at once and advised the family to take her to Bamhani subcenter. The advice was ignored by Aarti’s family and they insisted on carrying on with the baiga. Bisahin Bai understood that this might be the last chance to save Aarti and she fought with the family members asserting the need to take Aarti to the center. It took a great deal of persuasion on her part to convince the family to accompany her to the subcenter.

Unfortunately, it was around that time of the year, when the Maniyari river usually gets flooded with water due to rains. Thus, it wasn't possible to carry Aarti on charpai (jute cot) and cross the river. Just at that moment, Bisahin Bai identified two members of the Bamhani subcenter staff going towards the center on a motorcycle. She stopped them and made Aarti sit in the middle on the bike, who was then taken to the subcenter speedily by our staff. She was administered anti-snake venom instantly and further referral was needed to JSS, Ganiyari. Thanks to the public transport vehicle for health parked in Bamhani that Aarti reached JSS in time. There she was taken care of in the HDU requiring ventilator for less than 48 hours. On the third day the girl was sitting up on her bed without any oxygen and eating! This could not have happened without the prompt action and advocacy of Bisahin Bai for Aarti’s treatment. It is worth mentioning that Daai workers receive most of the training in pregnancy care and delivery related work with topics of general importance being taught infrequently. But it was her presence of mind and brave decision of going against the family that made this possible. Despite her efforts in the best interest of the family, she later received bitter words from Aarti’s family for having kept her in JSS for two days. Nevertheless, Bisahin Bai and all workers like her remain the pride of JSS and continue to serve the community with full zeal.
A 40-year-old lady from a remote tribal hamlet of eastern MP (230 km from Ganiyari) presented to the Emergency room of JSS with a massive anterior neck mass, audible stridor and respiratory distress. She was evaluated to have papillary carcinoma of the thyroid with lung and bone metastases (pathological fracture of left femur). Social constraints had limited her accessibility to any formal medical care prior.

Laryngeal involvement in thyroid papillary carcinoma is very rare and is generally associated with multi-visceral involvement, as in our case. Due to her stridor and tracheal compression by the massive tumor, airway maintenance was very problematic. We decided on an urgent Tracheostomy (a hole in her wind pipe), though we were apprehensive that the trachea may be difficult to reach for the procedure of creating the window. Hence, we were prepared for a much more complex and difficult procedure to remove her neck thyroid cancer and even her larynx (voice box), for which we took her consent. The patient finally ended up with a total thyroidectomy with total laryngectomy and right posterolateral neck dissection with limited central nodal clearance. The immediate post-operative course was relatively smooth except for transient hypotension and lobar pneumonia which improved with appropriate management.

This case raised some important questions for us to reflect on. Should a rural hospital be limited to a pre-determined complexity or just like the community that they serve, adapt to adversity? Both the modes have their own pitfalls. According to the first ideology, a difficult tracheostomy or total laryngectomy is not the domain of a rural hospital. But, with the resource limitations facing this tribal population (financial, knowledge, accessibility), would they ever be able to afford care elsewhere? Or, would we have been righteous in offering comfort as the best palliation? We do not know the answers but aligning the ethics of surgery with the patient’s best interests, must be done.
# JAN SWASTHYA SAHYOG
## STATEMENT OF ACTIVITIES
### FOR THE YEAR ENDED MARCH 31, 2020

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Schedule</th>
<th>Year Ended March 31, 2020 (Rs.)</th>
<th>Year Ended March 31, 2019 (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INCOME</strong></td>
<td>X</td>
<td>50,137,309</td>
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<tr>
<td>Receipts from activities</td>
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<td>4,475,574</td>
<td>4,296,106</td>
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<tr>
<td>Donations</td>
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<tr>
<td>Grants Received</td>
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<tr>
<td>Interest Income</td>
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<td></td>
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<tr>
<td><strong>Total Income</strong></td>
<td></td>
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<td>176,915,865</td>
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<tr>
<td><strong>EXPENDITURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drugs &amp; Consumables</td>
<td>XI</td>
<td>35,562,502</td>
<td>34,198,325</td>
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<tr>
<td>Administrative Expenses</td>
<td>XII</td>
<td>22,782,380</td>
<td>19,807,657</td>
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<tr>
<td>Research &amp; Development Expenses</td>
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<td>609,572</td>
<td>510,358</td>
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<td>Manpower Cost</td>
<td>XIII</td>
<td>96,999,563</td>
<td>82,310,723</td>
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<tr>
<td>Community Welfare Expenses</td>
<td>XIV</td>
<td>11,785,848</td>
<td>11,804,548</td>
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<tr>
<td>Depreciation</td>
<td>IV</td>
<td>4,741,830</td>
<td>4,386,360</td>
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<tr>
<td><strong>Total Expenditure</strong></td>
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<td>172,482,095</td>
<td>153,017,850</td>
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<td>Excess of Income Over Expenditure</td>
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<td>23,895,014</td>
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<tr>
<td>Add: Depreciation for the year transferred to Capital Fund</td>
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<td>4,741,830</td>
<td>4,386,360</td>
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<tr>
<td>Less: Addition to Fixed Assets (including WIP)</td>
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<td>(14,841,359)</td>
<td>(8,594,431)</td>
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<tr>
<td>Transferred to Reserve and Surplus</td>
<td></td>
<td>1,790,378</td>
<td>19,689,943</td>
</tr>
</tbody>
</table>

Notes On Accounts: As per our report of even date

For VED JAIN & ASSOCIATES
CHARTERED ACCOUNTANTS
F.R.No: 001082 N

For, JAN SWASTHYA SAHYOG
(Chandni Chakraborty)
Secretary

For, JAN SWASTHYA SAHYOG
(Dr. Surabhi Sharma)
Treasurer

(Swarnjit Singh)
Partner
M.No.: 80388
Place: New Delhi
Date: 20/11/2020
UDIN: 2080288AAAAMUS3YN
Founders:

Dr. Anurag Bhargava
Dr. Raman Kataria
Dr. Yogesh Jain
Dr. Biswaroop Chatterjee
Dr. C. Sathyamala

Dr. Madhavi Bhargava
Dr. Anju Kataria
Dr. Rachana Jain
Dr. Madhuri Chatterjee

Executive Committee:

Dr. Saibal Jana, President
Dr. Anurag Bhargava, Vice president
Dr. Raman Kataria, Secretary
Dr. Surabhi Sharma, Treasurer
Dr. Biswaroop Chatterjee, Member
Dr. Pramod Upadhyaya, Member
Dr. Regi George, Member
Dr. Sara Bhatacharji, Member
Dr. Sunil Kaul, Member
How can you contribute?

Life and death; chronic hunger; pain and disease. With no means to access medical attention outside of JSS, the beneficiaries of our work need your committed support, as an individual or as an organization. Support can come in many forms. From contributing your time and skills to offering financial donations, you can choose to contribute towards subsidizing patient health care, supporting our infrastructural needs, training local staff, or increasing our research and technology.

Personal donations are highly valued. All donations made in India are eligible for Income Tax benefits under the provisions of Section 80 (G). We also accept contributions from overseas. U.S. donations can be made through AID or Friends of JSS (FOJSS) and are tax-deductible under section 501(c)(3) of the IRS code.

Donations can be made through our website at:
http://www.jssbilaspur.org/make-a-donation/

Continuous support from well-wishers and friends is what keeps us going. A heartfelt thanks for joining with us to stand up against injustice and contributing towards reducing inequality in healthcare.
Jan Swasthya Sahyog

Registered Office:
S-295 Greater Kailash Part II, New Delhi – 110069

Health Center:
Village & P.O. Ganiyari – 495112, Bilaspur District
Chhattisgarh State, India

Outreach Centers:
Village Semariya & Village Shivtarai, Dist. Bilaspur
Village Bamhani, Tehsil Lormi, Dist. Mungeli

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Email: janswasthya@gmail.com I Website: www.jssbilaspur.org