

Bristol-Myers Squibb

Delivering Hope™

Hepatitis Awareness, Prevention and Care



Bristol-Myers Squibb



The mission of the Bristol-Myers Squibb Foundation is to help reduce health disparities by strengthening health care worker capacity, integrating medical care and community-based supportive services, and mobilizing communities in the fight against serious disease.

Delivering hope

Around the world, Bristol-Myers Squibb's social responsibility programs seek to make a difference by delivering hope and addressing health disparities.

In the fight against serious disease, the company's Foundation focuses specifically on ways to help reduce health disparities by helping strengthen health care worker capacity, integrating medical care and community-based supportive services, and helping mobilize communities. The Foundation engages partners in government, academia and civil society in programs to support innovative and comprehensive public health responses while helping to improve health outcomes. Nowhere is this effort more apparent today than in the fight against HIV and AIDS in Africa and hepatitis in Asia.

While about 350 million people worldwide are estimated to be infected with hepatitis B virus (HBV), three-quarters of them are in Asia, with an estimated 93 million in China, 30 million in India and about 1.2 million in Japan. Many of those infected die from long-term consequences of the disease, including liver cirrhosis and liver cancer. Worldwide, an estimated 170 million people are infected with hepatitis C virus (HCV), with the disease burden especially high in Southeast Asia. At this time, no vaccine is available to prevent HCV infection.

The challenges are significant. With less access to health care, to education or prevention programs, and because they are more often affected by the social stigma related to their disease or their own status, millions experience health care disparities and remain at risk. To realize and sustain health gains, comprehensive interventions are required, integrating awareness, disease education, prevention and medical care while also addressing social health factors. The Bristol-Myers Squibb Foundation's groundbreaking work in Africa has created proven models to consider. Focusing on

vulnerable populations of women and children living in resource-constrained areas and affected by HIV/AIDS, the Bristol-Myers Squibb Foundation experience since 1999 has provided new insights, models and tools to address such major health care challenges in innovative ways, including community-based treatment, education and support. The Foundation is now drawing on those lessons learned in the battle against hepatitis.

Support focuses on four areas: creating greater awareness of hepatitis and addressing the stigma associated with the disease; prevention, especially among groups most at risk; disease education and management for lay and professional health care workers; and operational research to develop data and additional demonstration projects to generate lessons that can be shared, adapted and applied in the future.

These efforts are helping to develop a portfolio of projects that aim to effectively raise the profile of the disease in Asia, inform health policy and national programs, build capacity for institutions as well as the potential for community responses, and target prevention in the hardest-hit populations including children, blood donors and health care professionals.

In many rural communities, lack of viral hepatitis awareness hinders prevention efforts. The Foundation therefore is seeking to increase awareness among the general population and lay health care workers about hepatitis B and C. In addition, programs in China and India identify children as important entry points for building family and community awareness. And in Japan, the Foundation supports an initiative to increase awareness and testing and to reduce stigma associated with HBV.

Since 2002, Bristol-Myers Squibb and the Bristol-Myers Squibb Foundation have provided nearly \$3 million in grants in China, already benefiting more than 700,000 people directly, more than \$1.25 million in India and about \$450,000 in Japan.

Awareness and destigmatization

The ability to break through lack of knowledge and misunderstanding about hepatitis is seen as the first step in breaking the cycle of the disease and its ripple effects on populations affected.

In India and China, the Bristol-Myers Squibb Foundation supports a number of projects by non-governmental organizations (NGOs) to break down these barriers, increase awareness and understanding and create specific tools and approaches to help mitigate effects of the disease through better education and training.

These awareness and destigmatization programs focus on providing accurate information about hepatitis to the community. Priority areas and populations that are poor, most vulnerable, or already disproportionately affected by the disease are targeted beneficiaries.

In India, “B-Rodh,” a program conducted by the HOPE Initiative, focuses on students and their families in 1,000 urban and rural schools in the state of Uttar Pradesh, where about a third of the population lives below the poverty line while the state’s infant and maternal mortality rates are above the national average. This “child-to-community” approach identifies children as channels to take health messages to their families and communities. Even in this difficult environment, there is hope – and an opportunity to target students as instruments of social change.

One teacher’s reaction to the Bristol-Myers Squibb Foundation-funded program is typical of the feedback received to date. S. Malik, principal of the Modern Public Inter College in Lucknow, notes in applauding the effort: “The health awareness program was praiseworthy and the students have started taking

precautions against this disease.” Hemlata, a student at St. Mary’s Inter College, agrees, observing: “The programs conducted in our school were interesting as they provided us with practical information on health issues. The message now goes to the parents through us.”

A second program in India, based at the Christian Medical College of Vellore, initially targets 15 mission hospitals to increase awareness among health care workers and surrounding schools utilizing technology and distance learning by linking them to senior medical experts in the field. The program focuses on teachers in schools and universities as well as on medical institutions and advocates for vaccination of school children. The aim is to develop capacity at participating mission hospitals to carry out public awareness campaigns about HBV in localities across India.

In China, though a partnership with the China Foundation for Hepatitis Prevention and Control (CFHPC), populations who are benefiting include primary school children and their teachers in two hard-hit provinces in western China. The CFHPC is focusing on students in several counties in Gansu and Ningxia, where infectious HBV rates are higher than in most other parts of China, primarily as a result of lack of knowledge about this viral infection, poor sanitation and fewer health care resources. In Guyuan City, the project area in Ningxia, with an infection rate estimated at over 65 percent, of greatest concern are children between ages 5 and 10 who have not benefited from infant vaccination programs. In Gansu, HBV incidence ranks second in the nation. Information about hepatitis comes mainly from teachers, who themselves require more knowledge about hepatitis treatment and support.

The Foundation-sponsored program expects to reach nearly 500 schools, more than 125,000



The HOPE Initiative in India mobilizes for HBV awareness through a “child-to-community” approach.

primary school students and more than 6,000 teachers. Schools in Beijing also are being targeted to gain additional learnings and help spur nationwide awareness efforts. Bristol-Myers Squibb has worked alongside the CFHPC since 2002, partnering on a number of hepatitis awareness and prevention projects.

Says Madam Wang Zhao, CFHPC deputy director: “In rural locations of western China, lack of HBV knowledge results in great economic burden to local families and society. With the support of the Bristol-Myers Squibb Foundation, thousands of people, including women of reproductive age, medical workers and primary school students, have already benefited from hepatitis education. We appreciate the responsibility the Bristol-Myers Squibb Foundation has taken to share hepatitis prevention and control with China’s government.”

In addition, Bristol-Myers Squibb China provided funding to the CFHPC for a University Poster Design Competition in some 100 colleges to enhance hepatitis disease awareness among young students. The theme of the posters was “Care about Liver, Care about Health.” Winning entries are being used widely in various hepatitis prevention and control programs.

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Christian Medical College of Vellore in partnership with 15 other Mission Hospitals (2007-09): Develops a special tele-link network and distance education programs at the College, in south India, and at Christian mission hospitals across India, to increase HBV awareness among health care workers, teachers and students.

The HOPE Initiative (2007-10): The B-Rodh project targets school children, their families and local health care providers through 1,000 schools in Uttar Pradesh, India, to raise HBV awareness and general health education using a “child-to-community” approach to change existing attitudes and practices.

China Foundation for Hepatitis Prevention and Control in partnership with Gansu Centre for Disease Control (CDC), Ningxia CDC & Beijing CDC (2008-10): Creates greater HBV awareness and new prevention programs initially to reach hundreds of primary schools and thousands of students and teachers in hard-hit areas of western China and in Beijing, and through them, their families and communities.

China Foundation for Hepatitis Prevention and Control (2006): Students from 100 Chinese universities participated in a poster design competition to raise HBV awareness around the “Care about Liver, Care about Health” theme, with winning entries used in prevention and control programs.



Hepatitis prevention

Once people become more aware about hepatitis infections, the next step is to create programs that encourage prevention, a cornerstone that is embedded in all grants.

The grants target specific at-risk populations, often in areas disproportionately affected by the disease.

For example, a Shanghai Charity Foundation program in China that focuses on health care worker training includes elements to teach 1,800 health professionals about self-protection and occupational hepatitis B prevention. It also provides vaccinations for some 1,800 health care workers most at risk.

In Tripura, in northeastern India, aboriginal groups make up about a third of the population. And while in the state overall, hepatitis B prevalence hovers at around 4-5 percent, among aboriginal populations, it is 12-15 percent. Especially at risk are newborns and children under 10.

In the Chinese provinces of Gansu and Shaanxi, mother-to-child transmission of hepatitis has remained a concern, with most hepatitis B carriers infected as infants. And while vaccination is an effective way to prevent infection, immunization rates of children vary greatly across China, in part because awareness among childbearing women in rural areas remains sub-optimal. The China Foundation for Hepatitis Prevention and Control developed a program in 2006 to help prevent mother-to-infant transmissions and increase vaccination rates, focusing on women, ages 15-49, in six poor counties.

The result? An independent evaluation concluded that HBV-related knowledge among both local health care providers and women of reproductive age improved significantly and that educational interventions improved the rate of timely administration of the first dose of the hepatitis B vaccine to newborns by over 90 percent. What's more, the rate of vaccination of children with three doses rose from about 75-80 percent to over 90 percent in two of the counties studied.

This rural women's project built on earlier health education efforts under a Foundation-funded Rural Childhood Hepatitis Vaccination project. That pilot included education of patients and health care providers, free screening of women 18-35 years of age, free vaccinations of uninfected women and their newborns and counseling of women infected with HBV.



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Hepatitis Foundation of Tripura (2007-10): Using a corps of 1,000 volunteers, creates community-based interventions to support early detection of hepatitis B, enhance awareness among the general population, and build capacity and training about the disease among local health care providers and community health volunteers. The project offers daily education sessions for local communities about hepatitis and runs weekly HBV vaccination clinics in 26 locations throughout the state. Health camps and community outreach programs support immunization programs. The grant also has helped open four new hepatitis B clinics in underserved areas.

China Foundation for Hepatitis Prevention and Control, Gansu CDC & Shaanxi CDC (2006-08): Created educational interventions among rural women of reproductive age in Gansu and Shaanxi provinces to increase awareness of hepatitis B as well as vaccination rates for newborns and children. The project was the first of its kind looking at community-based education as a way to help prevent mother-to-children HBV infection transmission.

Shanghai Charity Foundation & Shanghai CDC (2007-10): A component of a grant for migrant workers as nursing aides educates health care and medical workers in high-risk areas and provides vaccinations, including for those responsible for waste management.



The Hepatitis Foundation of Tripura, India, operates weekly HBV vaccination clinics.

“To our utter surprise one of the schoolteachers stood up and declared that she would sponsor the cost of vaccinating 100 poor children from that area. . .”

Other campaigns also are working. In 2002, the Hepatitis Foundation of Tripura (HFT) first launched an HBV awareness and immunization campaign using community volunteers – teachers, government officials, medical doctors and other professionals. But their activities were ad-hoc, the HFT reports, until 2007 when the Bristol-Myers Squibb Foundation supported more structured community outreach and mobilization campaigns.

HFT’s Dr. Pradeep Bhaumik tells of the interventions’ impact in the village of Bhagalpur, 20 kilometers from the capital of Tripura. Earlier in 2008, two people from the village died of jaundice. HFT was invited by local officials to provide education about hepatitis and the jaundice that might result. It used resources provided by the Bristol-Myers Squibb Foundation to support a community awareness event. Some 400 people packed into the village’s community center. Dr. Bhaumik says, “To our utter surprise one of the schoolteachers stood up and declared that she would sponsor the cost of vaccinating 100 poor children from that area. This is the first time we experienced such an initiative from a teacher, who was using about a quarter of her salary for a month for this cause.” That same day, after the presentations, people started requesting vaccinations with 640 people (including some 371 children) vaccinated. “The experience,” he adds, “indicated a spreading ray of hope and confidence that, yes, we could do it and that we will do even better in the future.”

Operational research

Bristol-Myers Squibb Foundation programs not only provide a service to beneficiaries, but many also serve as demonstration models that offer replicable lessons, and generate data to add to the body of knowledge and inform public policy.

Every grant from Bristol-Myers Squibb carries a monitoring and evaluation component, where results are assessed by grant recipients and independent third parties. Conclusions and recommendations are proactively shared widely to inform similar efforts in the future.

For instance, as early as 2002, the Foundation supported a two-year vaccination education program by the China Foundation for Hepatitis Prevention and Control (CFHPC) in six rural counties in northwestern and central China, an area that encompassed some 2.4 million people, by focusing on local health care professionals and physicians. China's leading health experts trained representatives of health departments, centers for disease control, local medical schools and hospitals. Those trained, in turn, educated 2,000 local doctors and health care professionals. These doctors then educated their patients, encouraging them to have newborns vaccinated and to receive proper follow-up care. Prior to this program, the vaccination rate among newborns in the six counties was 30-40 percent. At the program's conclusion, the rate had risen to 90 percent or more. Its success and the lessons learned informed the Chinese Ministry of Health and were used in other provinces.

Based on this model, the CFHPC engaged key opinion leaders to develop a comprehensive strategy to combat the escalating health challenge of hepatitis B infection, supported by another Bristol-Myers Squibb Foundation grant. This "White Paper" outlined the current and emerging health challenges of HBV infection, projected consequences for individual patients, communities and the nation as a whole, as well as described the need for aggressive interventions to prevent an escalating health crisis. The paper stated the importance for all stakeholders – policy makers, health administrators, health care professionals, counselors and private caregivers – to take full advantage of dedicated programs offered to prevent further infection. Also, a CFHPC advisory board developed guidelines for prevention and intervention programs with



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China Foundation for Hepatitis Prevention and Control (2002-05): Vaccination education program in six rural counties in northwestern and central China trained more than 2,000 local physicians and health care workers, resulting in vaccination rates for newborns rising from 30-40 percent to more than 90 percent in some areas. A public health strategy on hepatitis B awareness efforts was developed to assess how to proceed in China.

National Liver Foundation and the Federation of Bombay Blood Banks (2007-08): Counsels blood donors in Bombay who may test positive for hepatitis B or C but do not receive follow-up care and support. Results of this pilot are expected to inform a new nationwide strategy and policy to help blood donors testing positive for hepatitis.



Vikram Raghuvanshi, iStockphoto

“It is heartwarming to know that you have made a positive change and touched lives that were falling apart. . .”

the logistics of confirmation testing and counseling donors. Initially, confirmation testing and counseling will be supported for some 4,000 HBV positive donors and some 1,200 donors who test positive for HCV. And counseling to partners or spouses and HBV vaccinations will be offered where appropriate.

Dr. Piyush Sharma of the National Liver Foundation relates a story to illustrate how such programs can help restore hope. Geeta and Mahesh (not their real names) decide to enjoy their one-year courtship period before their marriage to get to know each other better. But, at a blood donation camp, they discover that Geeta’s blood is not acceptable; she tested positive for hepatitis C. In a traditional society like India’s, this was reason enough to call off the marriage. Instead, National Liver Foundation counselors supported by a Bristol-Myers Squibb Foundation grant counseled the couple, their parents and other relatives so they could better understand Geeta’s situation and what could be done. She also received psycho-social and medical counseling.

“It is heartwarming to know that you have made a positive change and touched lives that were falling apart,” Dr. Sharma writes. “The help extended by the Bristol-Myers Squibb Foundation is invaluable. It has allowed us to look into the lives of many Geetas and Maheshs and reassure them regarding their future. It has replaced despair and doubt with hope and reassurance.”

a focus on research and education of rural as well as urban health care providers.

More recently, in India, a Foundation grant to the National Liver Foundation and the Federation of Bombay Blood Banks hopes to help develop new operational approaches that can be incorporated into health and societal practices for blood donors on a nationwide basis. A demonstration project aims to counsel blood donors in Bombay who may test positive for hepatitis B or C, but nevertheless do not currently receive follow-up support and counseling.

Routine testing at blood banks and community blood donation drives often collect samples that test positive for hepatitis B and C. And while these donations are discarded and therefore do not enter the blood supply, donors of infected samples are not told about their status and therefore receive no follow-up care and support. Thus, opportunities are missed for early detection, proper management and prevention for this group and those at risk of infection. The grant supports the creation of counseling protocols and a referral system. In addition to improving awareness about hepatitis B and C among the 200,000 blood donors in Bombay’s 40 blood banks, the project will deliver a training manual for medical social workers and physicians on pre- and post-donation counseling on hepatitis B and C. It also will explore



Disease education and management

Health care workers, both lay and professional, are critical players in the fight against hepatitis.

Since rural populations often are at the greatest disadvantage in accessing health care resources, efforts that can enhance their resources through additional training and education have the potential to make a real difference in their lives. In addition, new approaches to encourage early testing to detect disease are required. Health care workers play a pivotal role in all these areas. The Bristol-Myers Squibb Foundation has supported development of such resources and programs and the creation of innovative approaches for training and for disease education and management.

For example, in India, it is well recognized that local health care workers are often the most important sources for care, knowledge and awareness of a variety of health issues. However, liver disease and HBV awareness among these workers requires significant improvement with new approaches needed. Similarly, in China, according to the China Foundation for Hepatitis Prevention and Control (CFHPC), better training of rural health workers could make a significant difference in improving vaccination rates and helping increase awareness among women of childbearing age. In addition to rural areas, there are challenges elsewhere that require better disease education and management. In China's biggest cities, migrant workers, who often seek to become nursing aides in large cities like Shanghai, represent an opportunity for targeted training in HBV. And in Japan, where HBV and HIV/AIDS have been on the rise, there is an urgent need for early detection. However, due to the stigma associated with these diseases, people at risk tend not to take tests early enough.

Better equipping a vanguard of rural and lay health care workers to fight hepatitis is a top priority in both India and China. As part of a program of bringing "science to the society," a grant to India's Liver Foundation, West Bengal, focuses on capacity building and awareness regarding liver disease and hepatitis B among health workers. Primary beneficiaries are the "Rural Health Care Practitioners (RHCP)," lay community health workers who already are first responders to health needs in villages. A Foundation-supported program is training them in the basics of primary health care, mainstreaming HBV education and awareness in their training. Other beneficiaries are professional health care providers and paramedics.

Partha Mukherjee of the Liver Foundation shares a story about one small village – Massanjore – where the population is mostly poor and depends on untrained paramedics. "We opened a health care facility and organized RHCP training, which created a sensation in the local community and around the state of Jharkhand, which borders West Bengal," he says. "We also started free clinics three times a week, seeing an average of 50-60 patients a day. One day, during a training session, an old lady walked in, a stick supporting her every move. She went up to the doctor to thank us for providing this training. She said that she had come a long distance to convey a simple message. 'We have long ceased dreaming,' she said, 'but will this good last?' Our job, working with our partners, is to make certain it does. Today we have four program offices already training 150 RHCPs in three villages and are serving about 1,800 people at that new center in Massanjore."

Partha also explains how that good work will endure. "Our Liver Foundation aims to make people aware of liver health so that they can prevent hepatitis," he writes. "Year after year,

lay health care workers offer their services to the rural poor around the clock. And even though they are untrained, in a crisis they are the most dependable healers for villagers in need. The Liver Foundation has organized training to build their health knowledge. They feel honored by the training. Ultimately, the Bristol-Myers Squibb Foundation came, joining with us, not only funding us but also guiding us all along in our journey.”

Training is ongoing to build capacity among village health care workers in China as well. The Bristol-Myers Squibb Foundation is partnering with the CFHPC on a new project to provide comprehensive training about hepatitis to 1,900 rural medical workers in Ningxia and Fujian provinces. Both provinces today are among those with the highest incidences of HBV infection in China. This project targets village and township health practitioners who are certified after just a short term of training and have little access to continuing medical education. A survey in Fujian indicated that less than 50 percent of village medical workers know how to correctly administer the HBV vaccine. The project aims to increase their knowledge so they can improve the understanding of HBV infection among women of childbearing age and increase the rate of first dose HBV vaccinations for home deliveries. In addition to the medical workers, it is expected that some 195,000 women will benefit directly.

Migrant workers in Shanghai, this time because of their potential role as health care workers, are also being empowered in the battle against hepatitis. A grant to the Shanghai Charity Foundation aims to increase awareness, knowledge and skills among migrant



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Liver Foundation, West Bengal (2007-10): “Science to Society” program coordinates improvements in awareness and capacity building among rural health practitioners, prioritizing HBV education and advocating against unnecessary and unsafe injections. The program also runs sessions in colleges and health facilities.

China Foundation for Hepatitis Prevention and Control, Ningxia CDC & Fujian CDC (2008-10): Provides comprehensive HBV knowledge and education to 1,900 rural medical workers in Ningxia and Fujian, aimed at improving the understanding of HBV among women of childbearing age and increasing the rate of first dose vaccinations for home deliveries. This program also enlists village women leaders as an educational channel to reach young women.

Shanghai Charity Foundation & Shanghai Nursing Association (2007-10): Creates awareness programs for high-risk groups in Shanghai by training 10,000 migrant workers serving as nursing aides in hospitals as well as local health care workers.

Japanese Foundation for AIDS Prevention, Japanese Ministry of Health, Labor and Welfare & Osaka Prefecture Government (2007-09): Establishes a testing room in Osaka for two diseases – HBV and HIV/AIDS – as a demonstration project to foster early detection and treatment while utilizing new approaches to reduce stigma and develop best practices.



Home care: The Christian Medical College's community nurses in Vellore, India.



workers who serve as nursing aides in the city's 400 hospitals. This training will not only help migrant workers obtain basic knowledge of HBV prevention, but also will develop their health care skills, positioning them for better job opportunities as lay nursing workers. Trained migrant workers also are expected to promote HBV awareness and prevention among their families and communities. Says Kitty Xia, executive deputy secretary general of the Shanghai Charity Foundation: "There are millions of migrant workers in Shanghai and most of them have little education. The need for job training for these newcomers is urgent and preventing infectious diseases among them is really challenging. I am proud of this initiative's ability to combine job training and hepatitis B prevention. We have done it through our love, care and devotion. What's more, most trainees have found jobs as nursing workers and their understanding of hepatitis B has been greatly enhanced."

And in Japan, the Bristol-Myers Squibb Foundation and Bristol-Myers KK have partnered with the Japanese Foundation for AIDS Prevention, the Japanese Ministry of Health, Labor and Welfare, the Osaka Prefecture government and other NGOs to create a pilot voluntary counseling and testing (VCT) program – a Test Room – offering both HIV/AIDS and HBV testing services. Located in

Osaka, Japan's second largest city, this demonstration project is a drop-in center and the first to partner with government and NGOs in Japan to prioritize HBV VCT. It also offers outreach and educational services to high-risk groups. Testing best practices for early detection and education, partner NGOs have provided counselors in HBV, and the Osaka government has assigned a doctor on-site dedicated to HBV testing and counseling.

"In rural locations of western China, lack of HBV knowledge results in great economic burden to local families and society."





Bristol-Myers Squibb
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