

# JE Newsbriefs

*A periodic update on Japanese encephalitis (JE) disease, JE vaccines, and PATH's JE Project*

## In this issue:



- [JE outbreak in India spurs accelerated vaccine introduction](#)
- [WHO committee reviews safety and efficacy of SA 14-14-2 vaccine](#)
- [Bi-regional JE meeting provides recommendations](#)
- [Vaccine spotlight: Intercell's IC51](#)
- [JE control highlighted in BBC World documentary](#)
- [Adaptable posters aim to strengthen JE awareness](#)
- [Online network provides data-sharing tools](#)
- [WHO meeting yields recommendations for JE control](#)
- [Partner profile: PATH/WHO surveillance and laboratory coordination](#)
- [Who's who at the JE Project: Dr. Mansour Yaïch](#)
- [JE resources](#)

In the past few months, we have seen tragedy and triumph with regards to public awareness of Japanese encephalitis (JE) and progress toward introducing a safe and effective vaccine. An outbreak of JE has claimed the lives of more than 1,500 people—mostly children—in Nepal and India (particularly in the state of Uttar Pradesh). Wide coverage of the outbreak in international media has increased the public's awareness of the devastation wrought by JE and has strengthened interest in developing strategies to bring the vaccine to those who most desperately need it.

We are at a critical point in our efforts, and decisions made in the aftermath of this outbreak may have a significant effect on improving immunization programs in the developing world and making JE vaccine available. In response to the outbreak, the Indian government made a historic decision last month to introduce JE vaccine in affected states. PATH teams in New Delhi, Hyderabad, and Seattle are working closely with the government and the World Health Organization (WHO) to develop a strategy for bringing these plans to fruition.

I traveled to Uttar Pradesh last month to lend support and witness the outbreak firsthand. The loss felt by families and communities there is beyond words. Our trip also took us to Sarawak, Malaysia, where a JE immunization program has been successfully implemented, and children (*pictured above*) are healthy, happy, and protected. The contrast between a community without an immunization program for JE and a community that has overcome the disease was a profound reminder—of our mission to bring this same hope to children everywhere.

Dr. Julie Jacobson, Project Director, and the JE team  
[jeproject@path.org](mailto:jeproject@path.org)

## JE outbreak in India spurs accelerated vaccine introduction

In the wake of a JE outbreak that has claimed the lives of more than 1,300 Indians in the state of Uttar Pradesh—the majority of whom were children—the Government of India has taken significant steps toward introducing an effective vaccine and avoiding future outbreaks. The Indian government, with technical support from PATH and WHO, is developing a strategy to rapidly procure the JE vaccine and introduce it into routine immunization programs to protect at-risk populations. The country plans to vaccinate children in India's highest-risk states before next year's monsoon season begins—a period when JE is most prevalent due to heavy rains and standing water. Subsequently, the program will be expanded in phases nationwide to all endemic states.

The outbreak this year has significantly raised awareness of JE around the world and has renewed the call for strategies to introduce a safe and effective vaccine. To provide up-to-date news on the outbreak, as well as other issues regarding JE and JE vaccines, we have launched a new web page with links to online news publications: [http://www.path.org/projects/japanese\\_encephalitis\\_project\\_news.php](http://www.path.org/projects/japanese_encephalitis_project_news.php).



*An unconscious patient with Japanese encephalitis is treated at Baba Raghav Das Medical College in Gorakhpur, Uttar Pradesh.*

### WHO committee reviews safety and efficacy of SA 14-14-2 vaccine

The WHO Global Advisory Committee on Vaccine Safety (GACVS) recently acknowledged the excellent safety and efficacy profile of the SA 14-14-2 vaccine and identified it as a priority for prequalification. A relevant statement from the committee's July meeting as well as the full report from the July 15, 2005, *Weekly Epidemiological Record* may be accessed at: [www.who.int/vaccine\\_safety/topics/japanese\\_encephalitis/live\\_attenuated/June\\_2005/en/index.html](http://www.who.int/vaccine_safety/topics/japanese_encephalitis/live_attenuated/June_2005/en/index.html).

### GACVS reviews inactivated vaccine

In other vaccine evaluation activities, the GAVCS also reviewed the inactivated mouse-brain vaccine for JE and found no new acute safety concerns despite recent concerns in Japan over vaccine safety.

## Bi-regional Japanese Encephalitis Meeting provides recommendations for continued progress

The Bi-regional Japanese Encephalitis Meeting, held in March 2005, provided a forum for interaction among representatives from most JE-endemic countries, as well as partners from many organizations working on JE control. Since the meeting, activities have progressed to implement the meeting's recommendations:

- **JE surveillance should be encouraged and integrated with other surveillance networks wherever possible.** The extent of surveillance may vary in individual countries based on the stage of vaccine implementation and JE control. The WHO JE surveillance standards provide a useful reference document.
- **Laboratory support for JE surveillance should be strengthened.** A reference laboratory that would provide validation panels for quality control purposes should be established, commercial JE ELISA diagnostic kits should be evaluated in the field as the next step toward increasing their availability, and laboratory training manuals should be developed. A JE laboratory working group has been established to address these recommendations.
- **Disease control measures should focus on immunization.** These efforts should be supported by strong surveillance systems to assist decision-making, communication, reporting of adverse events following immunization, and case management. The meeting's consensus on immunization strategy

was to initiate activities with campaigns in high-risk populations and then introduce vaccine into routine EPI programs.

- **Advocacy for JE should be increased at global, national, and regional levels.** Advocates should urge the Global Alliance for Vaccines and Immunization (GAVI) to consider JE vaccine as a justifiable investment and an important vaccine for Asia in the next round of funding. Advocacy is also needed to move away from JE control based on vector control and to move toward the use of vaccine as the only reliable tool for JE control.

The complete meeting report may be viewed online at [http://w3.whosea.org/LinkFiles/Japanese\\_Encephalitis\\_JEREPORTFINAL.pdf](http://w3.whosea.org/LinkFiles/Japanese_Encephalitis_JEREPORTFINAL.pdf).

### **Vaccine spotlight: Intercell's IC51**

Clinical trials are underway for the IC51 JE vaccine candidate manufactured by Intercell. Following a successful Phase 2 study in the United States, Intercell initiated Phase 3 trials in September 2005, which will test the vaccine's safety and immunogenicity in nearly 5,000 adult subjects throughout the United States, Europe, and other countries.

The IC51 vaccine is inactivated and uses the SA 14-14-2 virus strain. Intercell is focusing on making the vaccine available to adults from developed countries traveling to endemic environments (such as expatriates, military personnel, and tourists). Whereas the current vaccine for this use requires a three-dose regimen, IC51 is administered in two doses, and a single-dose primary schedule is being explored. Trials that compared this vaccine to JE-VAX, the mouse brain-derived inactivated vaccine, showed higher potency, as well as greater persistence of antibodies two years after immunization.

While Intercell's JE vaccine trials to date have focused on immunization in adults, the company is working with a manufacturer in Asia (Biological E) and is in discussion with PATH to coordinate future development and ultimately provide the vaccine for adults and children in endemic areas.

### **Partner profile: PATH/WHO surveillance and laboratory collaboration**

Building upon the strength of an existing partnership, WHO and PATH recently joined forces to enhance surveillance activities and laboratory capabilities in countries of the Southeast Asia and Western Pacific regions. In close collaboration, WHO and PATH will work toward a common objective of improved JE control. The Southeast Asia region already has added encephalitis to its roster of reportable diseases and has begun collecting data.

Surveillance activities in both regions will be strengthened through the implementation and review of WHO Surveillance Standards in at least two countries, in addition to practice-oriented technical guidelines to be drafted and introduced in countries with limited surveillance experience. The partnership will also sponsor national workshops with a focus on integrating surveillance into existing country-specific activities aimed at JE control.

A network of 30 laboratories will be established throughout both regions, and up to three laboratories with advanced diagnostic capabilities will be designated to serve as regional reference facilities. To ensure quality control of diagnostic and testing activities, the partnership aims to draft and publish a JE laboratory manual along with data management software.

### **JE control highlighted in BBC World documentary**

A JE-focused episode of the BBC World's *Kill or Cure?* series aired in November and featured footage from the recent outbreak in India, as well as PATH's partners in Asia who are working to eradicate the disease among endemic populations. The episode is now available for online viewing at [www.rockhopper.tv/home.php?zid=2&sec=11&id=26](http://www.rockhopper.tv/home.php?zid=2&sec=11&id=26).

The JE film is the third in a series of *Kill or Cure?* installments produced by Rockhopper TV and made in collaboration with PATH: episodes on cervical cancer and *Haemophilus influenzae* type b (Hib) aired in October.

## New adaptable posters and pamphlet aim to strengthen JE awareness

To raise awareness and knowledge of basic clinical information about Japanese encephalitis, PATH recently created posters and a fact sheet for field use. Provided in a generic format, these materials will allow for distribution of updated and accurate information in clinical settings. The posters aim to educate parents about the immediate need for health care if their child develops symptoms of JE and about JE prevention by immunization. The fact sheet was developed to help clinical health workers answer parents' questions.



The posters and fact sheet were designed to be easy to adapt and translate for use in a variety of environments. Local language and terminology may be added, and the documents' pictures may also be replaced with locally appropriate images, including different logos for local use. These materials are available at [www.childrensvaccine.org/html/v\\_enceph\\_links.htm](http://www.childrensvaccine.org/html/v_enceph_links.htm).

## Online network provides enhanced tools for sharing surveillance data

With the launch of the Japanese Encephalitis Prevention Network (JEPN) in August, public health officials in Asia have a new way to share information on surveillance activities, vaccine resources, research, and news updates throughout the region. PATH launched this web portal to help countries track data about the disease, record outbreaks, and exchange information on control strategies. The network is coordinated through technical support from Voxiva in New Delhi, India, and may be accessed online at [www.jepn.org](http://www.jepn.org).

JEPN serves as a resource for data-driven tools, including maps, graphs, and verbal reports, as well as a platform for information sharing across 18 Asian countries and with partners, including WHO. Sri Lanka and Thailand have the most information available on the site; at the time of project launch, data were unavailable for some countries. If your organization would like to submit surveillance data for inclusion in the online network or create a JE worksite, contact the appropriate country administrator. If you do not have an account and would like to request one, please send an e-mail to [register@jepn.org](mailto:register@jepn.org) describing your position in public health and why you would like to join JEPN.

## WHO meeting provides key recommendations for JE control

The 11<sup>th</sup> meeting of the WHO South-East Asia Regional Office (SEARO) Technical Consultative Group held last June in New Delhi recommended the following:

- Countries should consider establishing national JE surveillance and take steps to integrate it into the acute flaccid paralysis surveillance infrastructure.
- By the end of the first quarter 2006, all countries should expand monthly reports to SEARO by including data on encephalitis.
- SEARO should establish an accredited meningitis/encephalitis regional laboratory surveillance network to be integrated with current polio and measles laboratory networks by 2007.
- GAVI should consider the investment case for financing JE vaccine in Phase 2.



### Who's who at the JE Project: Dr. Mansour Yaïch

Mansour Yaïch, Vaccine Development Manager, is responsible for establishing and implementing the project's vaccine development agenda. Streamlining the process to move JE vaccine candidates through regulatory approval by health authorities, Dr. Yaïch's responsibilities are wide-ranging—from initiating clinical trial activities and establishing partnerships with vaccine manufacturers to negotiating contracts and selecting service companies.

Coordinating these elements and overseeing their implementation is a delicate balance that draws upon Dr. Yaïch's experience in the pharmaceutical industry, where he tackled the complexities of vaccine development and clinical trials across four continents before joining PATH in October 2004. At Sanofi-Pasteur, he served for eight years as Global Clinical Regulatory Officer and Project Team Leader for several new viral and bacterial vaccine candidates. Previously, he spent one year in the experimental virology unit at the Pasteur Institute, honing skills in molecular biology and cellular virology. Outside of the lab, Dr. Yaïch developed a drug-testing unit specializing in pediatric infectious disease at the Clinical Pharmacology Unit of General Infant Robert Debre Hospital in Paris.

Though his duties and frequent travel for the project keep Dr. Yaïch very busy, he still finds time to reflect on the rewards of his demanding position. Such advances as the recent commitment by the Government of India to vaccinate children at high-risk for JE before next year's outbreak season or the initiation of clinical trials for promising vaccine candidates highlight his experiences. "Just knowing that you are making a difference is the reward," Dr. Yaïch says. "We are seeing results. A neglected disease is now gaining awareness."

Dr. Yaïch is based in the PATH office in Ferney, France. He holds a PhD in pediatric pharmacology and pharmacogenetics from the Paris Faculty of Medicine.

## **JE resources**

### **JE Project web site**

Check out the "Resources" section of the website.

[www.JEproject.org](http://www.JEproject.org)

### **PATH Children's Vaccine Program, JE resources**

[http://childrensvaccine.org/html/v\\_enceph\\_links.htm](http://childrensvaccine.org/html/v_enceph_links.htm)

### **"Saving Asia's Children," PATH *Directions* newsletter**

[www.path.org/files/ER\\_directions\\_fall05.pdf](http://www.path.org/files/ER_directions_fall05.pdf)

### **Japanese encephalitis online training module (AIM series)**

<http://aim-e-learning.stanford.edu/en/vaccines/je/index.html>

### **Japanese Encephalitis Prevention Network**

[www.jepn.org](http://www.jepn.org)

### **CDC Japanese encephalitis home page**

A comprehensive overview of the disease.

[www.cdc.gov/ncidod/dvbid/jencephalitis/index.htm](http://www.cdc.gov/ncidod/dvbid/jencephalitis/index.htm)

### **WHO Position Paper on JE**

[www.childrensvaccine.org/files/JE\\_position\\_paper\\_WHO.pdf](http://www.childrensvaccine.org/files/JE_position_paper_WHO.pdf)

## **Preformatted PubMed searches:**

### **General Japanese encephalitis search**

[www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=search&db=pubmed&term=japanese+encephalitis](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=search&db=pubmed&term=japanese+encephalitis)

### **JE vaccine search**

[www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=search&db=pubmed&term=japanese+encephalitis+vaccines](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=search&db=pubmed&term=japanese+encephalitis+vaccines)