

Hispanic American health link in the Upper Amazon

Summary

Health care for people living in remote and inaccessible areas of the Upper Amazon in Peru is provided by a system of small health outposts and health centres in the forest. These have neither telephones, nor grid electricity. The health workers are very isolated. They have no means of communicating with colleagues or hospitals in towns and have to travel long distances to get help.

In collaboration with the Catholic University of Peru, the Madrid Association of 'Engineers without Frontiers' (ISF) has installed a series of VHF radio systems across an area of the Upper Amazon. Each system is powered by solar PV technology and has a radio transceiver connected to an on-site computer that allows both voice and data communication. Between them, the systems are supporting the health care of about 50,000 people. Health workers in 39 sites are now able to speak to colleagues, send emails and access information from the internet through intermediaries in Lima, the capital.

The ability to communicate has dramatically improved the efficiency of health care in the Upper Amazon. Urgent evacuation of patients can be organised more quickly and a hospital notified of a patient's transfer, allowing them to be prepared. Access to medical information and experts in Lima is giving health workers the chance to ask for advice and improve their diagnoses and treatments. It has also improved the epidemiological surveillance in the area and has provided them with a chance to study through distance-training courses.

The organisation

The Madrid Association of Engineers without Borders (ISF) is funded by public money from the Spanish Ministry of Foreign Affairs, the regional government of Madrid, the City Council of Madrid, and from contributions from universities, professional engineering associations, and private companies.

ISF runs water, agriculture, information technology and solar energy projects in many developing countries. It is currently working in Peru, Nicaragua, Panama, El Salvador, Brazil, Tanzania and Bosnia.

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Context

The isolation of health workers in the forests of the Upper Amazon is a big problem. Without means of communication they have to travel long distances to attend meetings, to file reports, or to get second opinions. The average round trip to the nearest hospital to collect drugs takes 4 or 5 days.

Whilst the solar powered VHF radios will not deliver drugs as such, they can help make the process much more efficient. Prescriptions can be sent in advance, and then collected at a convenient time. Similarly, evacuations can be co-ordinated more effectively, with outposts sharing vehicles and journeys where possible. A preliminary study has shown that 48 tonnes of CO² will be saved each year in trips that health workers no longer have to make.

Technology and use

The project has trained technicians to install all components of the communication systems in the field. Each site is given a VHF radio transceiver, a solar PV system to power batteries for the transceiver, a laptop computer and a small solar lighting system.

Low consumption email servers have been set up at six of the sites and these each act as a hub for a group of other health posts. The servers are based at five of the health centres and at the provincial hospital in Yurimaguas. They connect with a central server in Lima five times a day via phone lines that have been donated by the Peruvian government. (Appropriately enough the lines were given by OSPITEL, the Peruvian telecommunications industry's governing body.)

The server in Lima is permanently connected to the internet and acts as intermediary between the EHAS network in the Upper Amazon and the world wide web. Incoming and outgoing email is stored at this central server and passed to health posts and centres during one of the five daily phone calls. A second server in Lima has been set up at the Ministry of Health to act as a back up to the main project server.

The health workers are now able to email the EHAS office in Lima to ask questions about diagnoses or treatment. Facilitators at the Lima office use medical databases or journals to prepare a reply and may also confer with medical staff.

In the other direction, EHAS is using the system to send out a daily publication called PAD (from the Spanish for 'Question a Day'), which the project has written as a training tool. PAD covers a range of different issues relevant to health care in rural areas.

EHAS has also developed some medical training courses that can be sent to the health workers by email and downloaded for off-line study. The courses cover prevalent childhood and maternal health issues, such as malaria, dengue fever, breast-feeding, first aid, tuberculosis, depression and nutrition.

Management, finance and partnerships

The ISF has collaborated with universities in both Spain and Peru. The Universidad Politecnica de Madrid was involved in early research and design. The installation was carried out with the assistance of the Universidad Catolica del Peru. Medical staff from the Alto Amazonas provincial authorities and the Universidad Peruana Cayetano Heredia are providing professional advice now that the installations are up and running.

To begin with, ISF managed the project in collaboration with the Peruvian universities, the local authorities and the communities. Ultimately the aim is that the health authorities and communities should take over responsibility for the project and manage it on their own.

The project estimates that savings on transport costs (thanks to the fact that fewer patients and health care workers will need to travel out to hospitals) will cover the maintenance costs of the system within two and a half years.

The Ashden Award has been used to help establish an EHAS foundation which will work to promote similar projects elsewhere in Latin America.

This report is based on information provided to the Ashden Awards judges by ISF, and findings from a visit by one of the judges to see their work.

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