D-MOSS: An operational dengue fever forecasting system

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Dengue is the fastest-growing mosquito-borne viral infection in the world today. It is present in over 150 countries, and approximately 40 percent of the world’s population now live in countries where dengue is a daily risk.

Our Vision: To see D-MOSS become a key factor in reducing dengue fever worldwide.
Objective:
To develop a system that gives health officials advance warning of likely outbreaks of dengue fever
Dengue fever forecasting in Vietnam

Districts (100,000 people)

Cases

Exceedance probability
How the forecasts work on the ground

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<tr>
<th></th>
<th>Community level warnings</th>
<th>Actions by district level Ministry of Health staff</th>
<th>National level planning of resources by the Ministry of Health’s General Department of Preventative Medicine</th>
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<tbody>
<tr>
<td>1 week to 1 month</td>
<td>Sleep under a mosquito net</td>
<td>Alert communities that there is a chance that there will be an outbreak of dengue via a range of media</td>
<td>Plan the allocation of resources for provincial level dengue control at a national level</td>
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<td>Wear light coloured clothes which cover exposed areas of skin</td>
<td>Spraying in communities forecast to have a high chance of an outbreak of dengue</td>
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<td>Cover water containers</td>
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<td>Reduce the amount of standing water</td>
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Forecast lead time for a dengue outbreak

1 week to 1 month
3 weeks to 2 months
5 to 6 months
Dengue fever forecasting system in Vietnam

- Attributed reductions in dengue fever cases
- Estimated reduction of 15% in both dengue cases and dengue control resources
- Benefit : Cost ratio of at least 30:1
- Winner of eight awards including UK IT Industry “Emerging Technology of the Year”

"D-MOSS’s accurate forecasts have helped us to save resources"
Project team