THE CHALLENGE of providing quality healthcare to rural parts of Southeast Asia is defined by our ability to access the many small, remote communities in the vastly varied surroundings. The quality of the roads and unpredictable nature of the environment mean that any solution must be able to adapt to all conditions. Flexibility is key.

There is also the need to create a medical facility that is sterile, durable, easy to clean and maintain. Retrofitted shipping containers and mobile buses are an option, but can be costly and a logistical nightmare when they are constantly moving between communities.

Our proposal takes the concept of the large container, and breaks it down to a scale that is compact in comparison, with more manageable forms that are more efficient and offer greater flexibility.

The design focuses on the concept of individual, self-contained, fully-functional pods that work together to form a larger entity. This notion can be realised at any scale, but at its core, four small pods can open up to create a healthcare facility with a waiting area, consult space, procedure room, bathroom and kitchenette.

The Pop-Up Health Pods are simple to erect and dismantle, and their design also incorporates the use of local materials and labour. No matter how long the stay, this healthcare facility will have a lasting positive effect wherever it goes.

The Pods are flexible enough to work together in any combination and at any scale. They combine to create different spaces to suit the needs of the patients and carers.

Each pod has internal dimensions of 1200mm width x 2400mm length x 2400mm height. The scale of each pod means they can be transported individually by motorbike along narrow roads. Four pods can unfold and combine to create up to three and a half times more space.
Amenities Pod

One half contains a small kitchen area for staff, including sink and under bench cupboards. The other side has a WC and sink for hand washing, as well as a small bench for changing babies. Wall mounted shower hose connection is possible if necessary. Water collection storage (held under the floor of the pod system) is to be connected to plumbing fixtures on site and disconnected before transport.

Consult Pod

To be used for storage of loose pieces of the building structure, fabric and plant equipment during transport. The consult pod offers the flexibility to be used as needed e.g. storage of medical information leaflets and non-secure provisions. Once assembled the pod creates a semi or fully enclosed consultation room.

Procedures Pods

Two separate pods join together to form a fully enclosed sterile space that is twice the area of the individual parts, providing enough space for a lightweight examination/surgical table. It contains fixed joinery along the inside of each pod, with the first pod housing a hand basin for wash up, services such as light, gases and water, and storage space. The second pod contains storage space as required, allocated bench space for a write up area and a lockable temperature controlled drug store. Pods contain openings in the walls and ceilings to allow for natural ventilation and dirty air purging.

1. The four Pods are can be transported to site via flatbed truck, Ute or motorcycles.

2. The Pods are arranged on site in the desired layout. They sit above the ground by retracting the stilts built into the structure cavity.

3. Panels fold and slide out, locking into place to create a combination of fully-enclosed, semi-enclosed and open spaces.

4. Once completely unfolded, the four pods will form a fully operational, self-contained, sterile medical facility.

5. The columns supporting the roof are also extracted from the top portion of the structure cavity. The roof's structural framing is then attached.

6. Finally, the roof and exterior walls are clad in locally sourced and manufactured materials using local labour.
ROUPHAIH-RUD

mobile healthcare facility for southeast asia

front elevation 1:100

rear elevation 1:100

typical section through procedure and consult rooms

floor plan 1:50

POP-UP HEALTH PODS

mobile healthcare facility for southeast asia

MOVED TO CARE COMPETITION BUILDING TRUST INTERNATIONAL
Sustainable power generation - Through the use of roof mounted solar panels. Power is created and stored for all facility requirements.

Passive ventilation - All pods are fitted with operable window panels that allow for passive purging of stale air, a matter of high priority.

To facilitate air movement through the pods, the roof design allows for air to flow freely between the pods and roof elements, creating natural air convection and expelling hot humid air vertically.

Water catchment from roof

Recycled local drum

Natural gravel filter

Water stored in a bladder below the structure will be processed within the catchment points before use throughout the facility.

The design of the roof allows for these water catchment points that feed into the under floor bladder where water is stored for facility use. Water is filtered at point of catchment before storage.