H1VE

Hive focuses on this option and providing with makeshift wards. The wards are designed in a way to be easily removed or assembled in less time. These pods or wards can be attached together as per the required number, thus making them modular. The design considers the technical seriousness required for isolations.
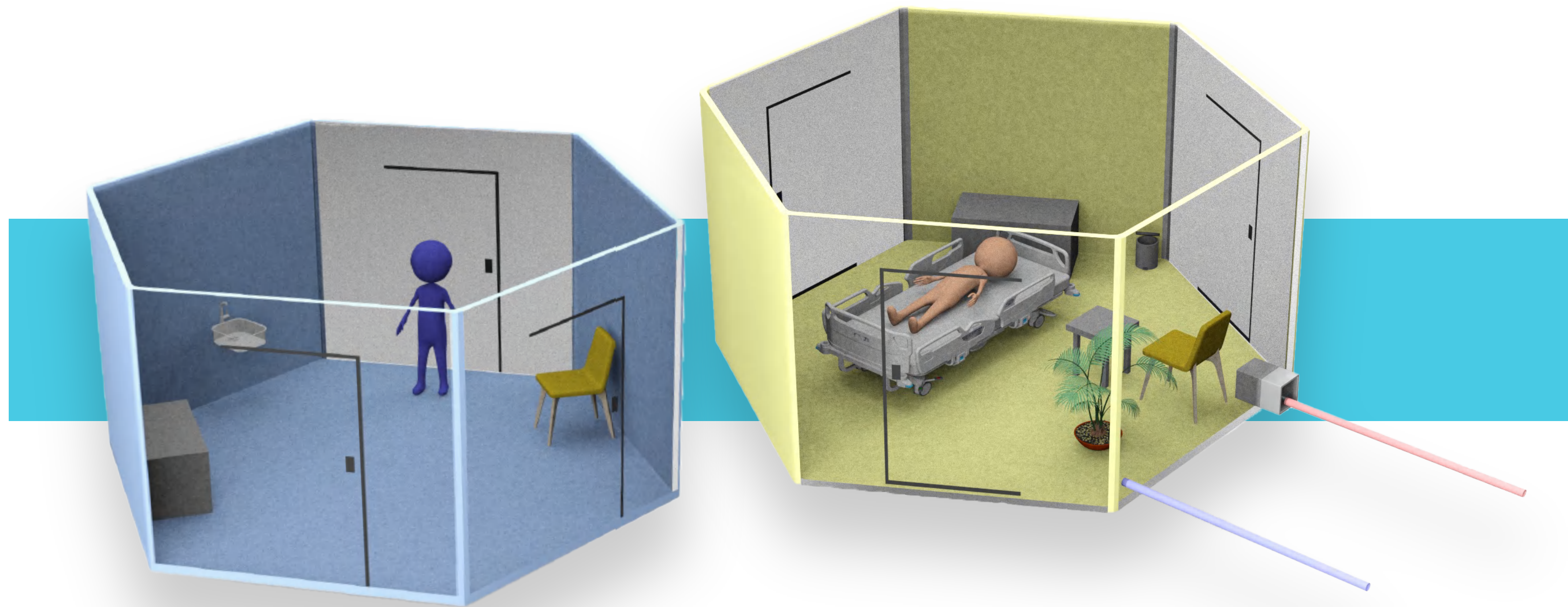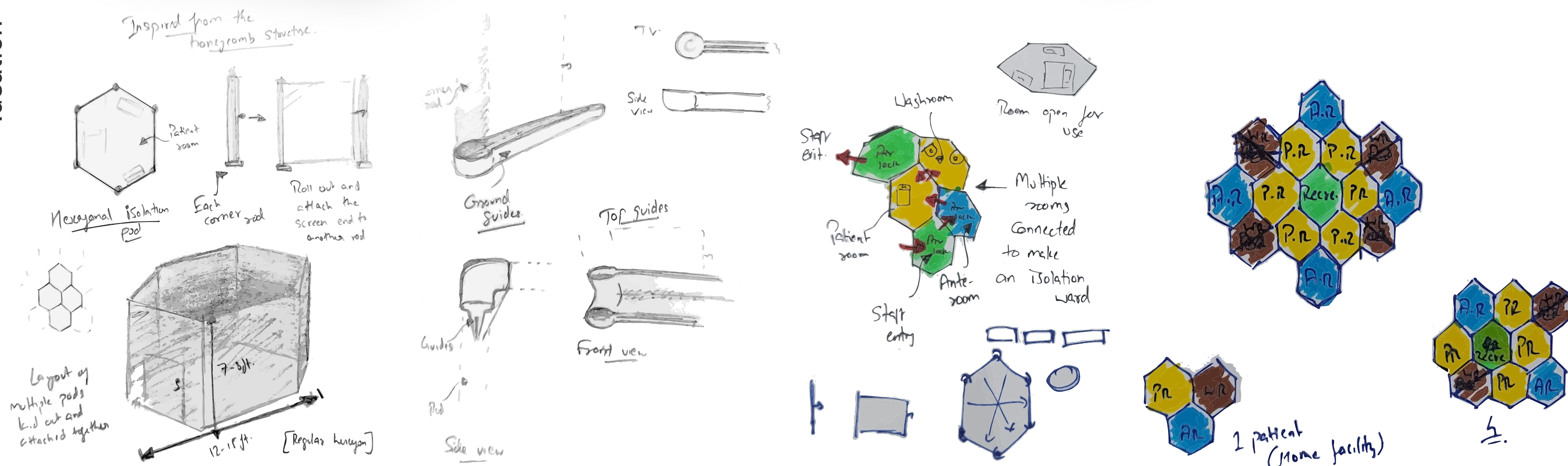
Why Hexagon?

We tried to approach to the solution by looking it from a broader perspective considering the large amount of people in the distinctive areas.

It is understandable that conventional designs tend to point towards more square structures to simplify build while reducing the amount of material.

However, this significantly compromises on real life amenities required during building of psychologically sound isolation cells since a square has only three usable sides to build additional modules.

The ideation to the hexagonal module is to undercut the limitations on the square module with 5 accessible sides which allows plenty of amenity modules to be connected while ensuring the continuity of modules as and when required.

**Minimisation of the amount of used material**

Minimal cost **Minimal weight**

Flexibility of extension

Clinical environment

Inspired from the honeycomb structure.

Hexagonal isolation pod

Each corner rod

Roll out and attach the screen end to another rod

Patient room

Layout of multiple pods kid cut and attached together

7-8ft.

12-15ft.

[Regular hexagon]

Ground guides

Guides

Rod

Side view

TV.

Side view

Top guides

Front view

Washroom

Room open for use

Stair exit

Air lock

Multiple rooms connected to make an isolation ward

Patient room

Air lock

Ante-room

Stair entry
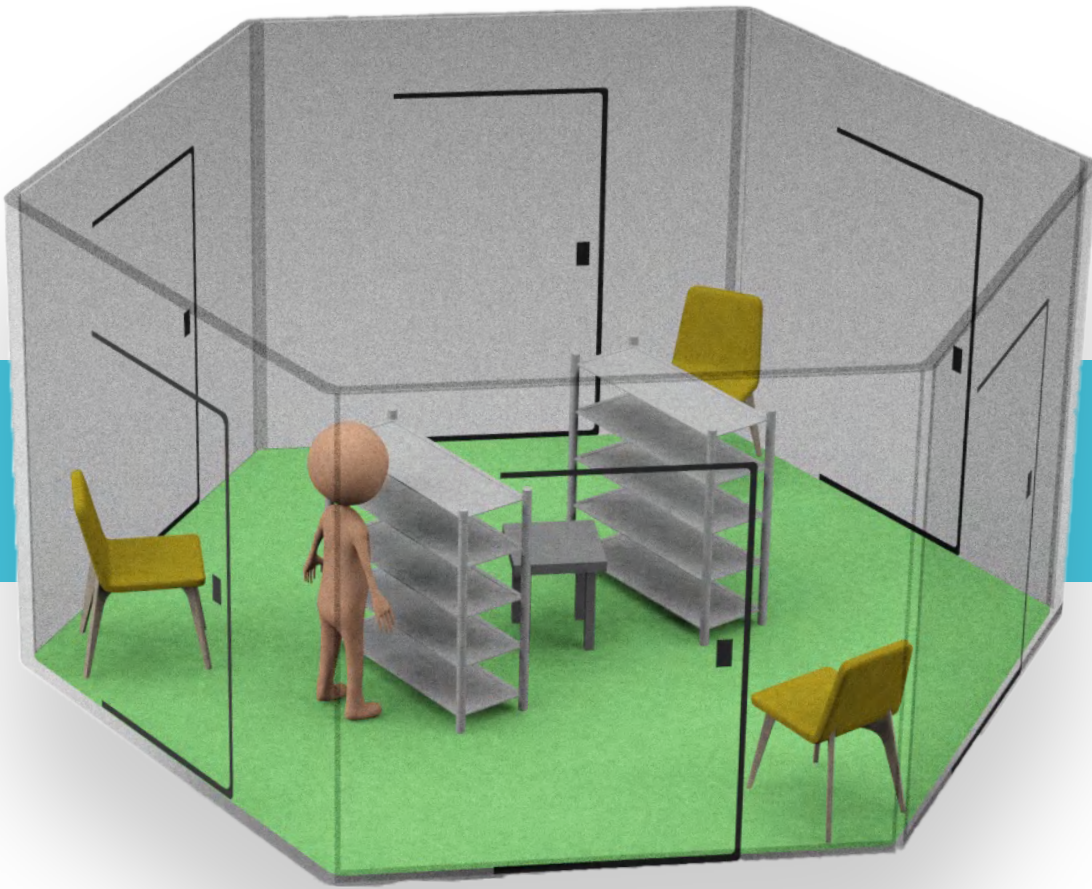
P.R

Recre.

A.R

1 patient (home facility)

Isolation rooms

- Control of the quantity and quality of intake or exhaust air.
- Diluting infectious particles with large air volumes.
- Enough breathing space and area for the circulation.
- Maintaining different air pressures between adjacent areas.
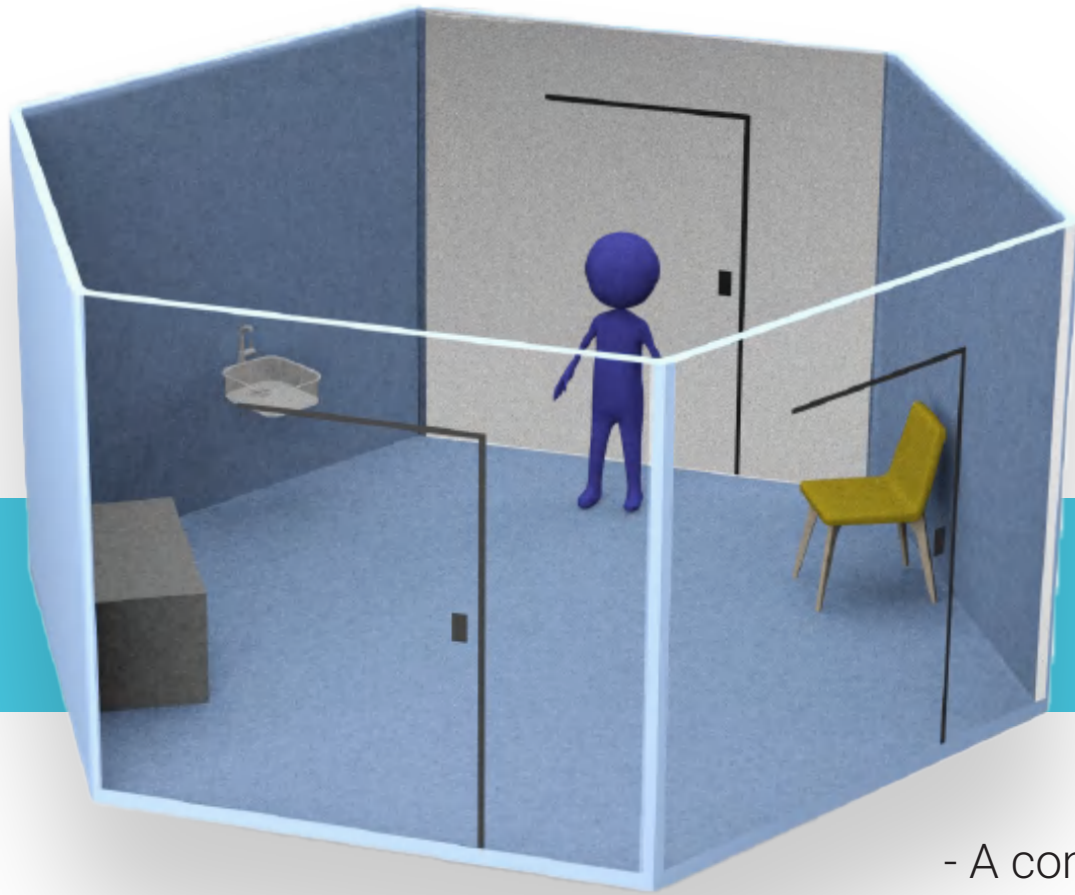
Anteroom

- A controlled area to the transfer of supplies, equipment and persons without contamination impacting on the surrounding health care areas.
- A barrier against the potential loss of pressure.
- Controls the entry or exit of contaminated air when the anteroom door is opened
- A controlled area where the personal protective equipment (PPE) or clothing can be donned or removed prior to entry/exit of the isolated contamination area.
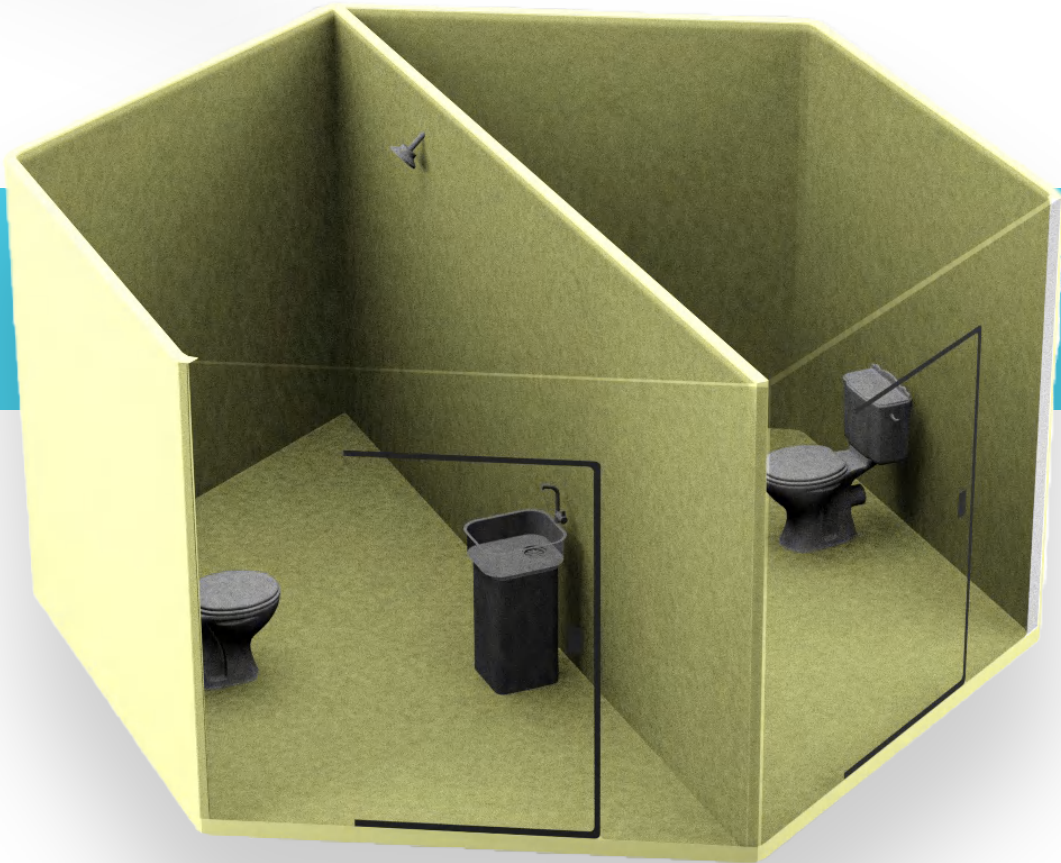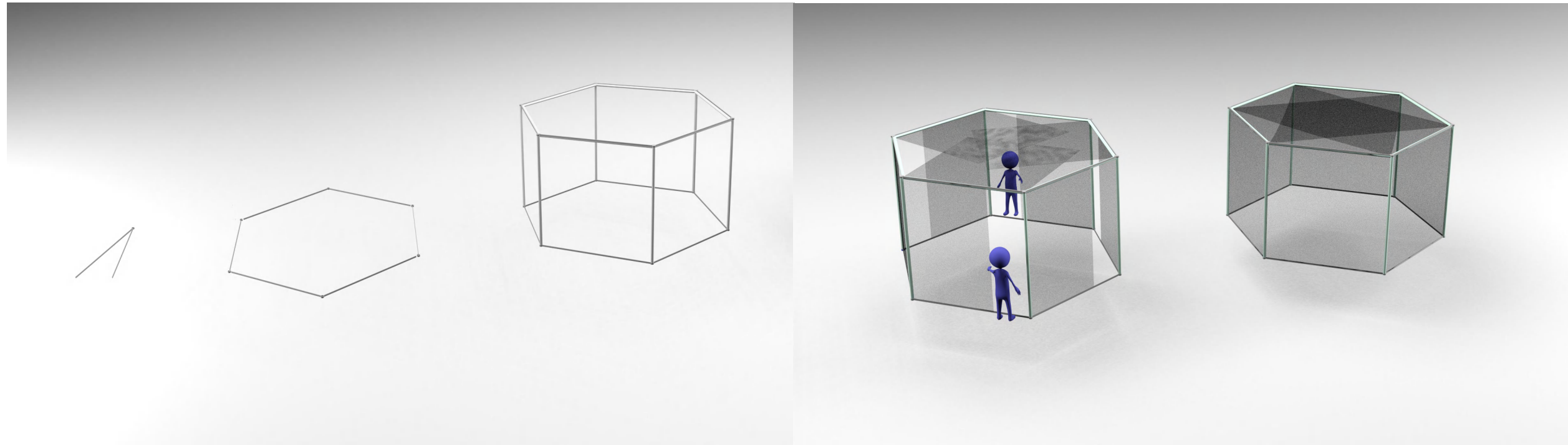
Washrooms

- Separate cells for washrooms attached to each isolation room
- Divided into two individual isolated washrooms to be shared between two patients in less severe regions
- Waste from each such washroom is collected at a common place, treated and then disposed of.
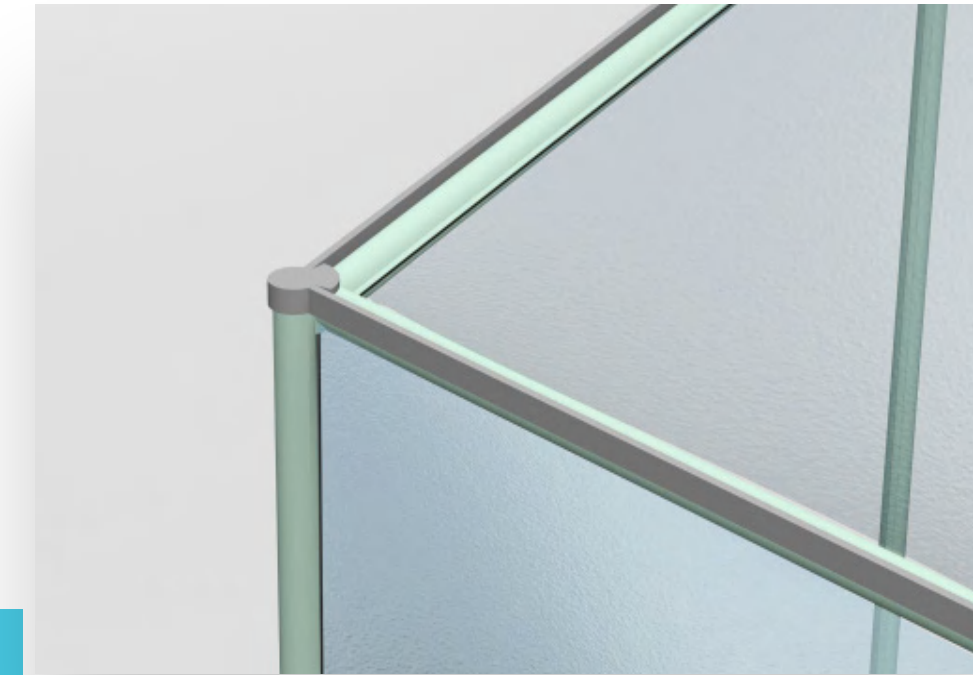
Recreation rooms

A separate cell for the purpose of entertainment of the patients.
- Connected to all the rooms.
- Facilities for reading, music, television, games and other activities can be provided to make patients feel comfortable.
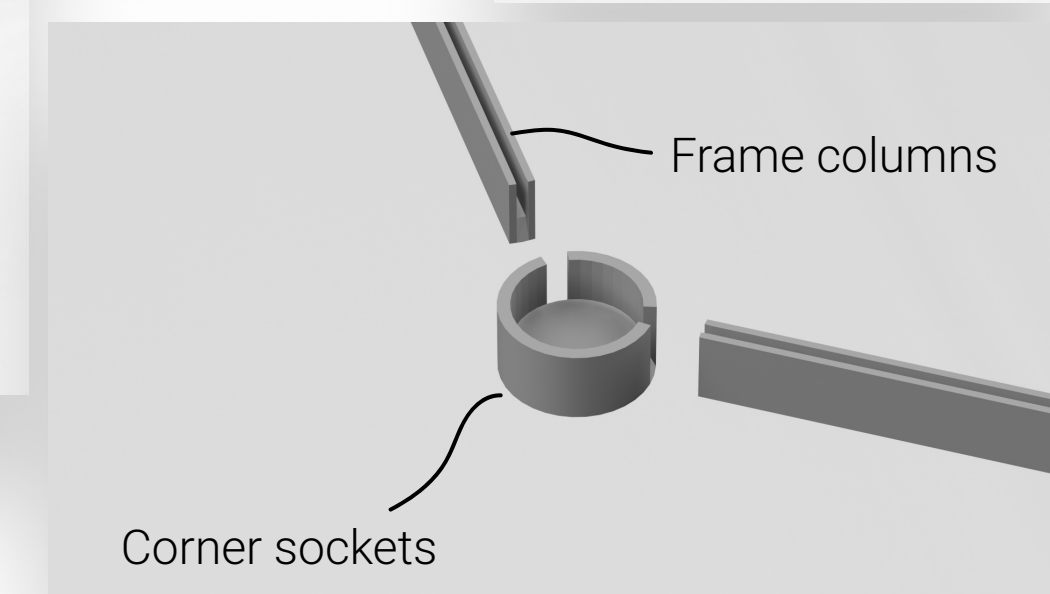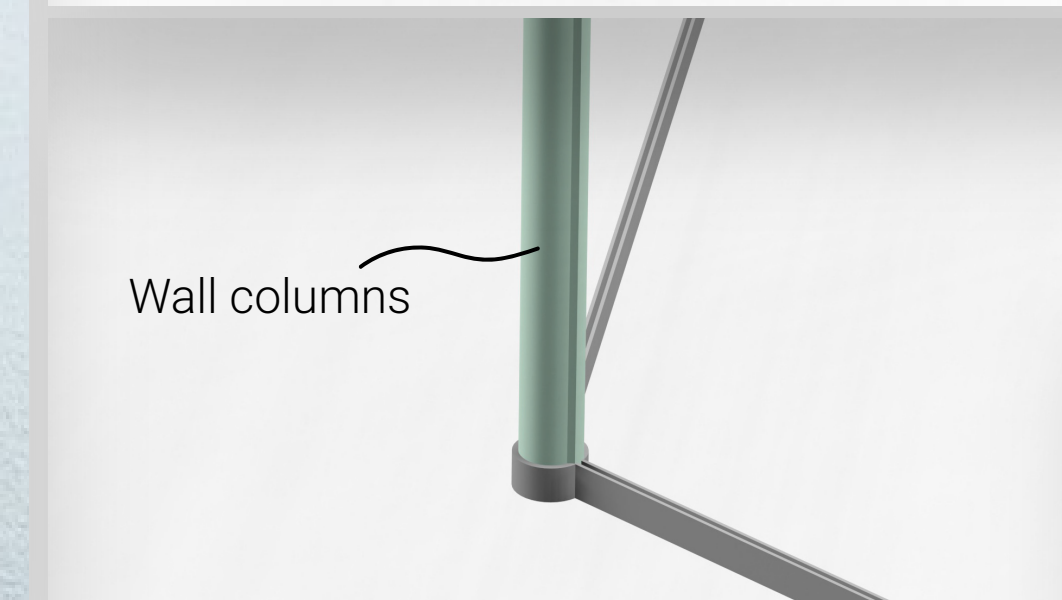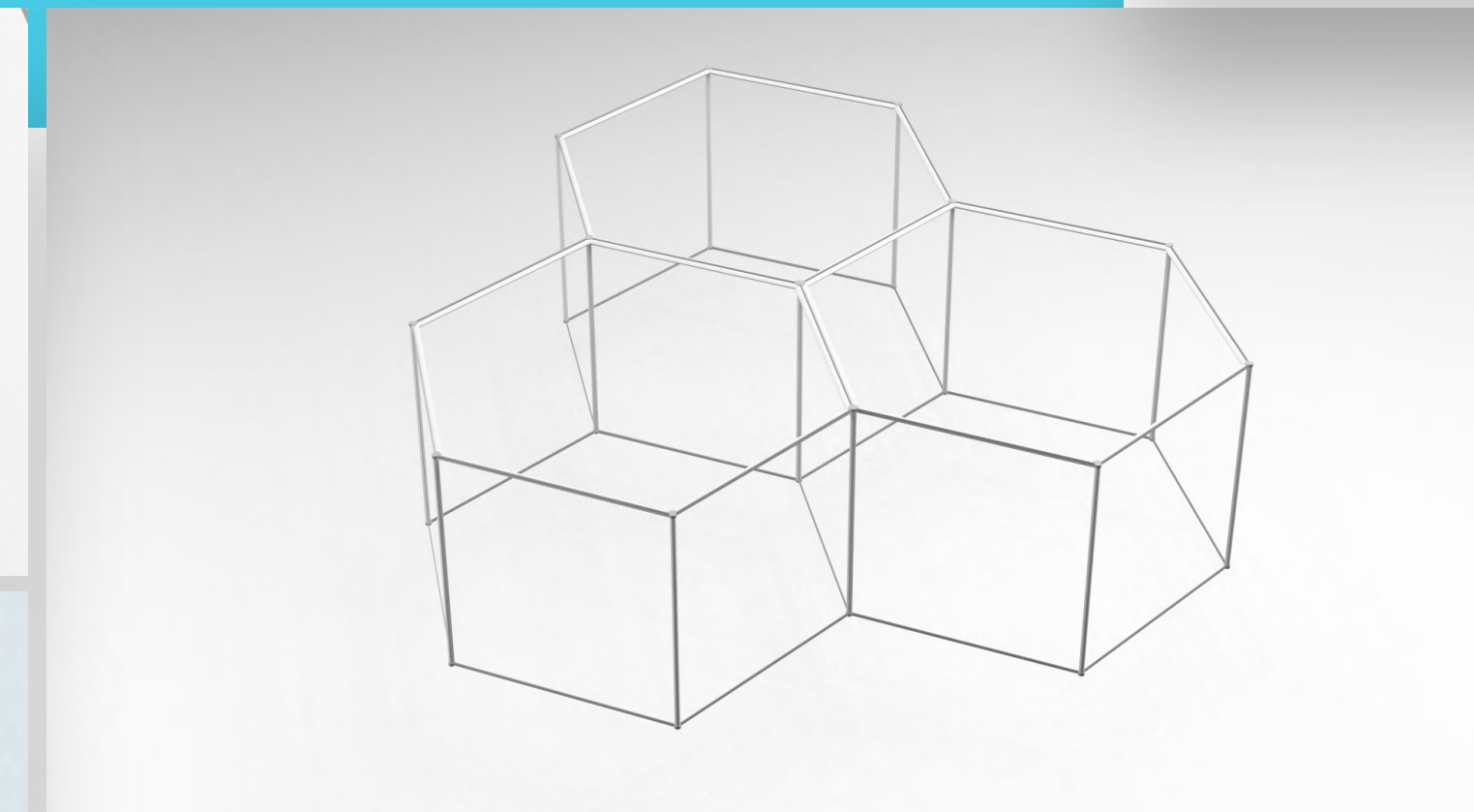- To avoid gathering, maximum of three patients allowed at a time.

Setting up

Modularity

Assembly   Framing

Functionality

6 CM
SPRING TORSION MECHANISM
RUBBER FLAP
PVC SHEET
7CM
(3M LONG)
2M
3M
THIN ALUMINIUM BAND GETS SEALED INTO THE RUBBER FLAP

6CM
SPRING TORSION MECHANISM (FOUND IN MEASURE TAPE)
RUBBER FLAP
THIN ALUMINIU BAND
UPVC COATING (5MM THK.)

120
120
120

PVC sheets

Wall columns

Frame columns

Corner sockets
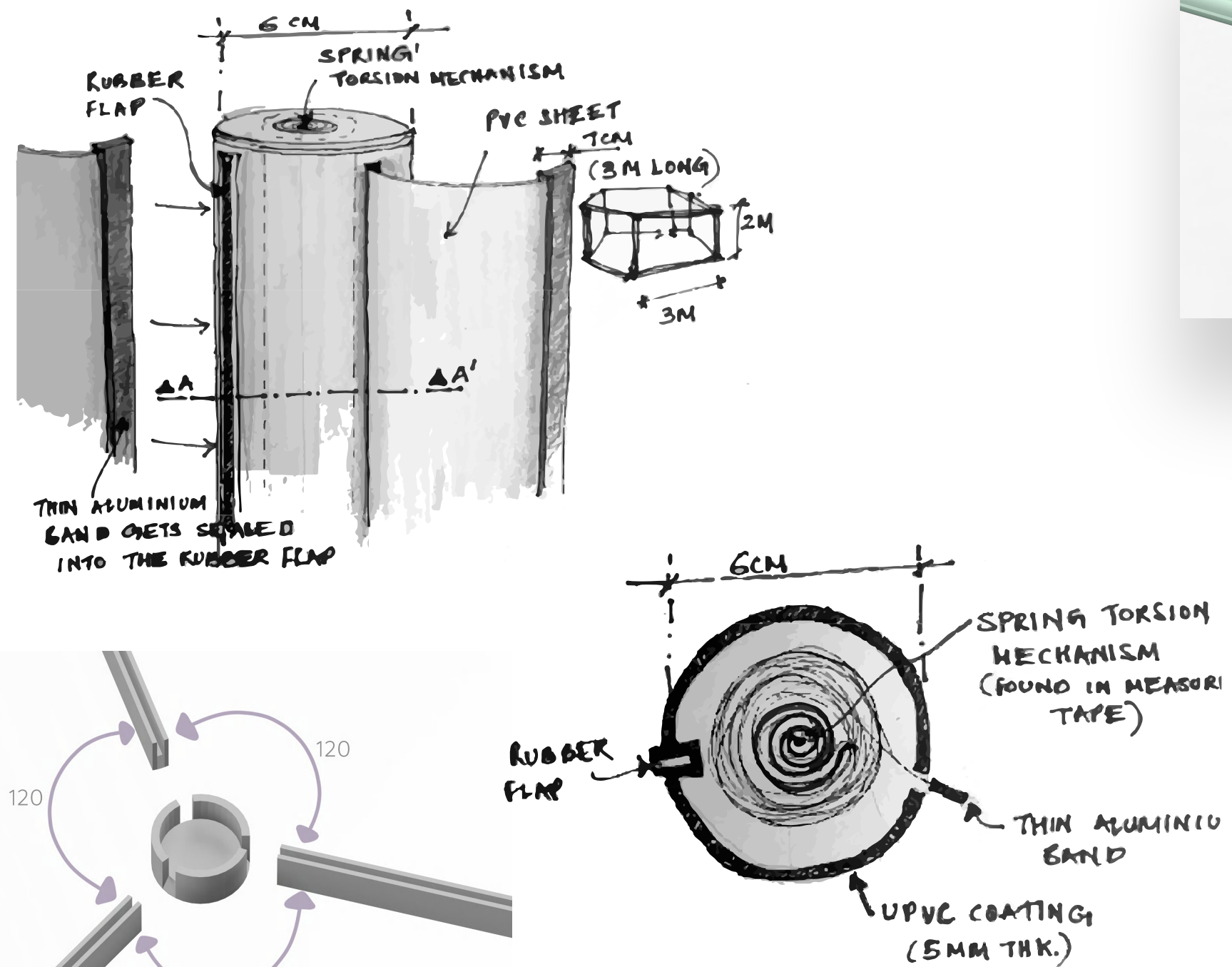
Since the isolation here is served through makeshift wards, the air circulation units also have to be as simple and efficient as possible.
Negatively pressurised rooms are used for the purpose of air circulation here. A negatively air pressurised room does not allow any contaminated air to exit the room to the outside area which is at a higher pressure (as compared to the room).

Air circulation system

HEPA filter

Exhaust
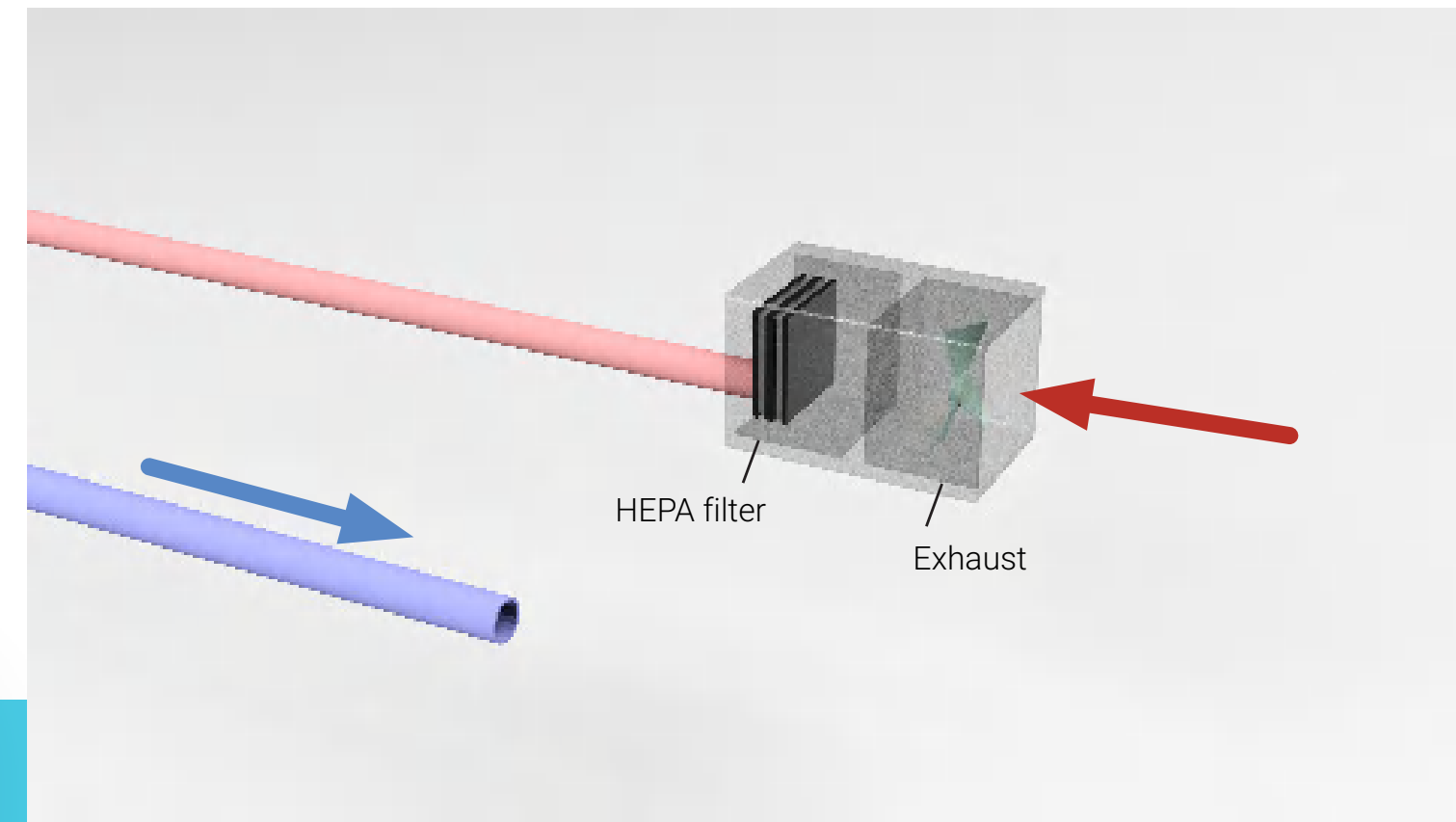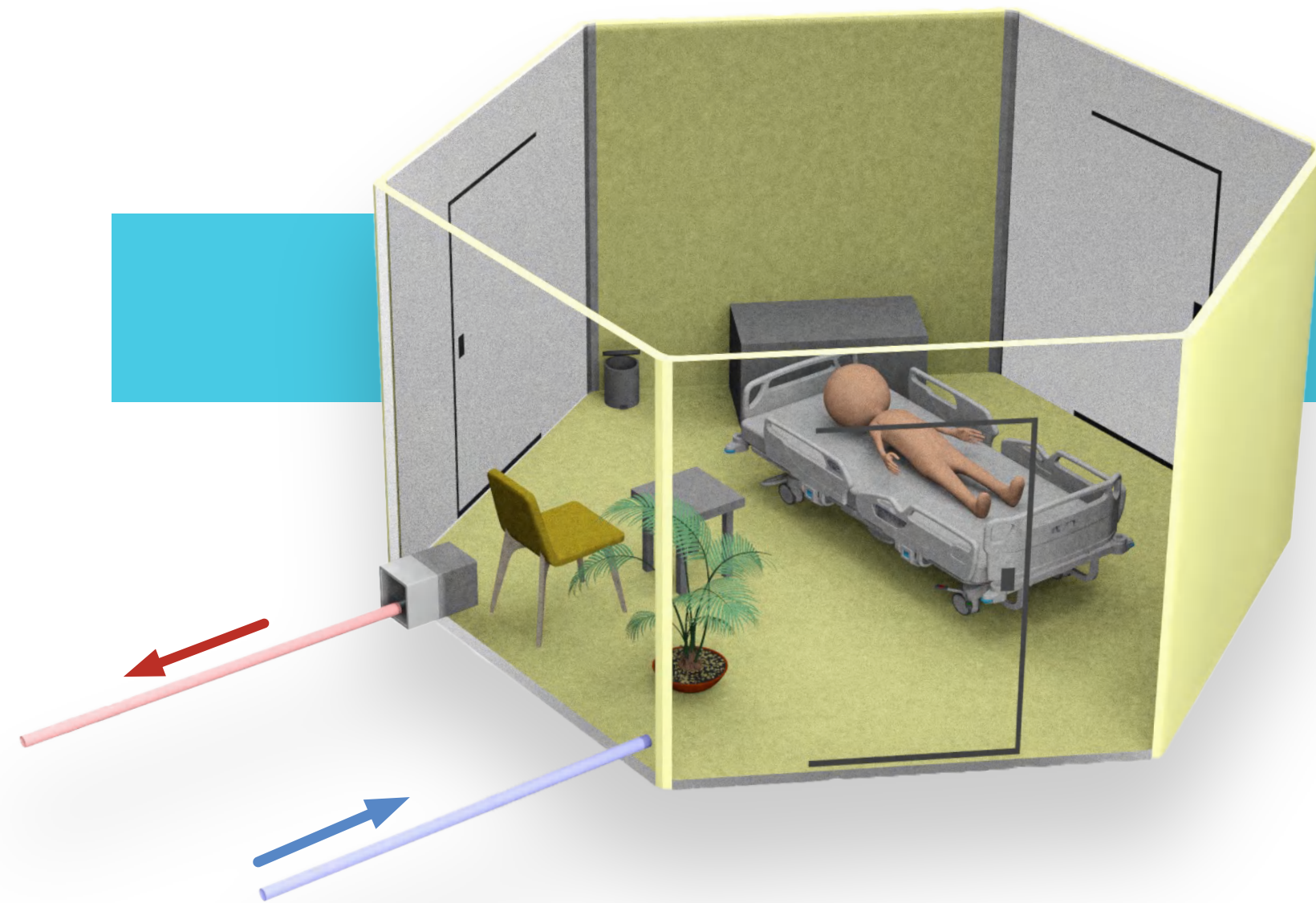
**Negative air pressure**

HEPA filter
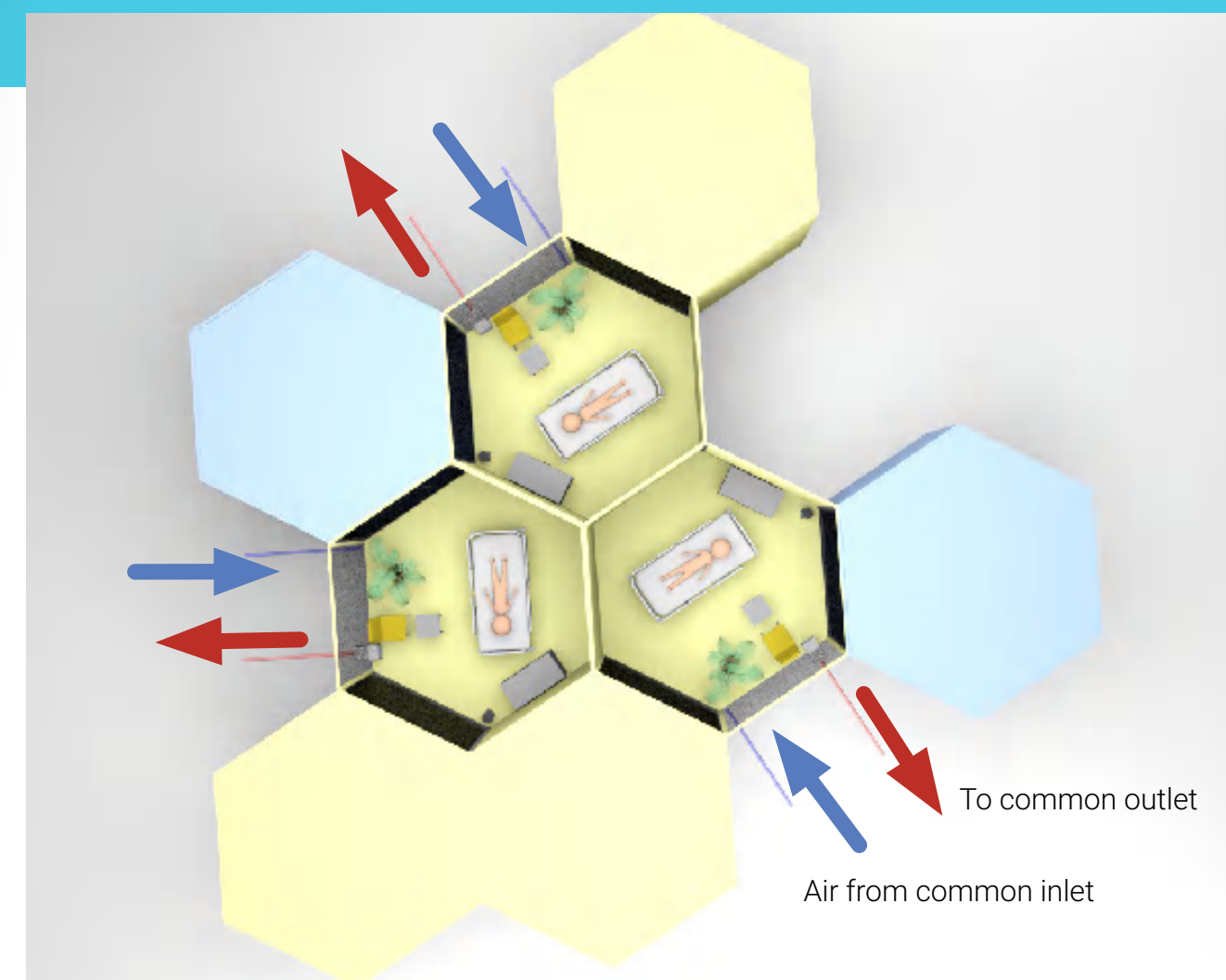
The used up air from the patient room is treated using the HEPA filters on the way out. The HEPA or High efficiency particulate air filters are high efficiency filters (efficiency of atleast 99.95%) which are generally used for purposes of contamination control in the medical field.
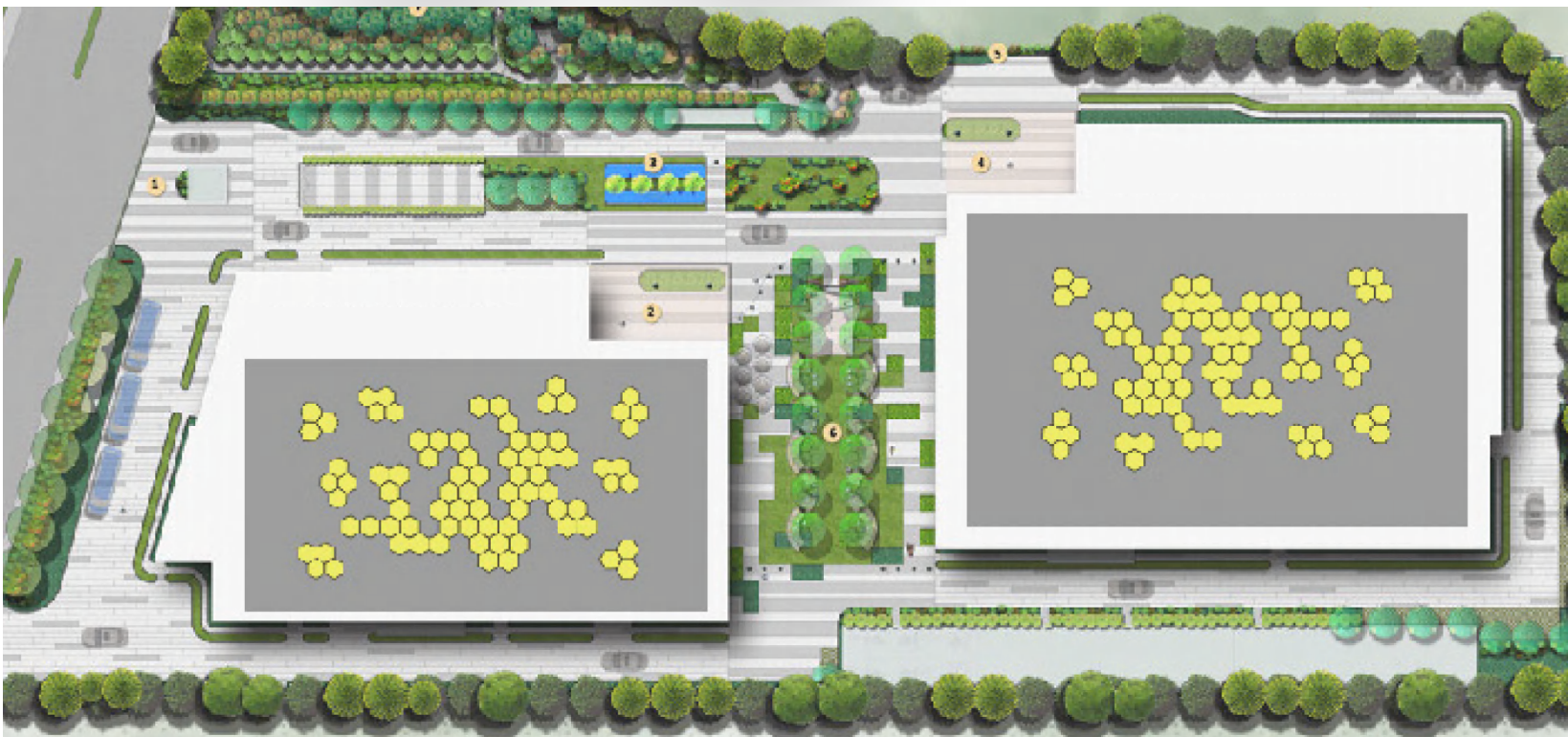
To common outlet

Air from common inlet

The air circulation of each room is controlled at a common place which can be set up by the authorities at the particular place.

Layout

The modularity of the structures helps in stacking the rooms in any order and in a more multidirectional way to utilise maximum space available.

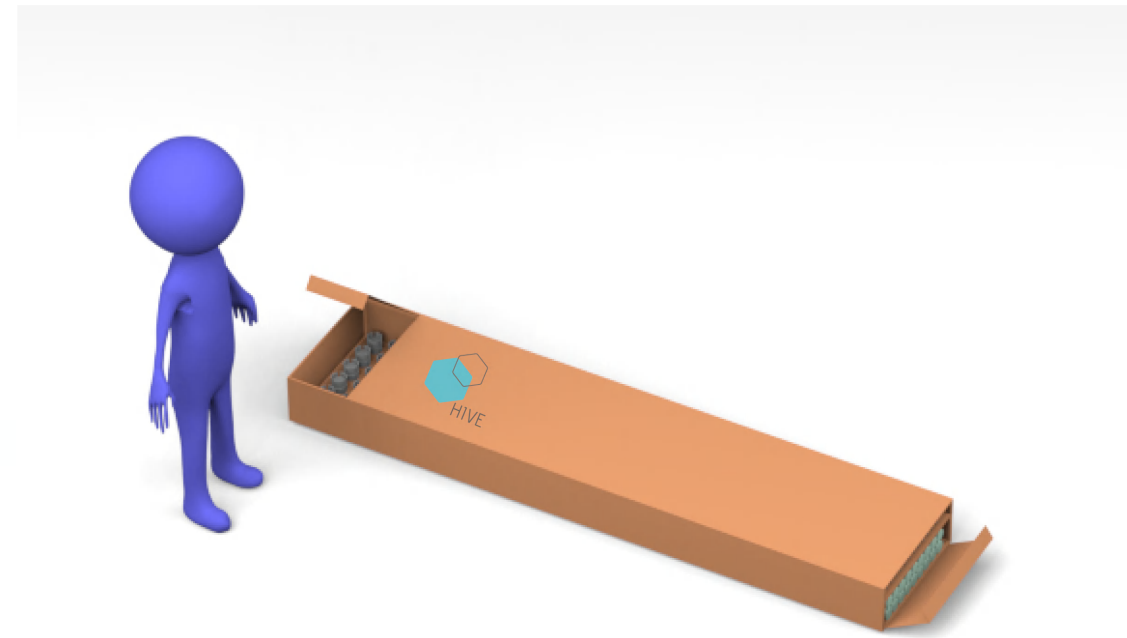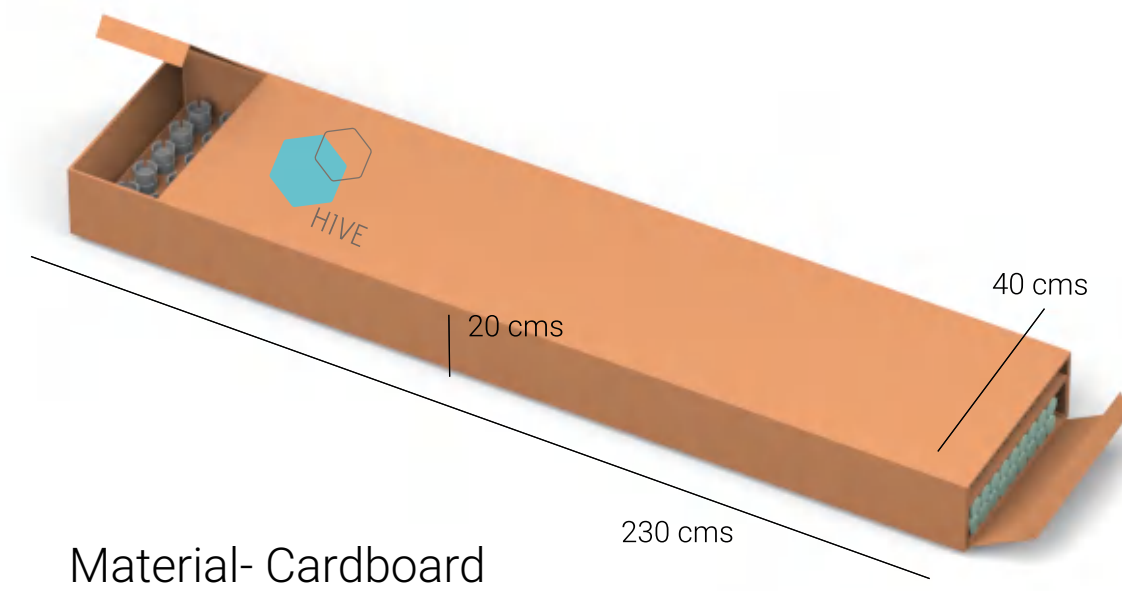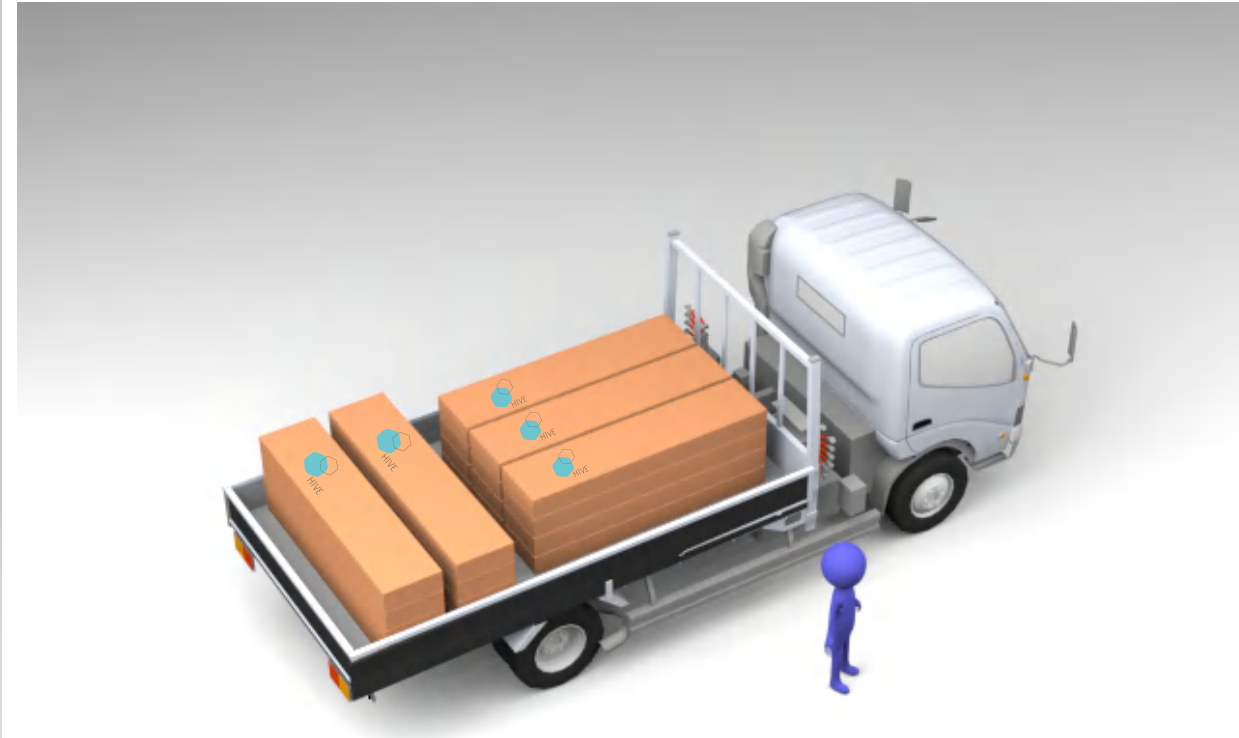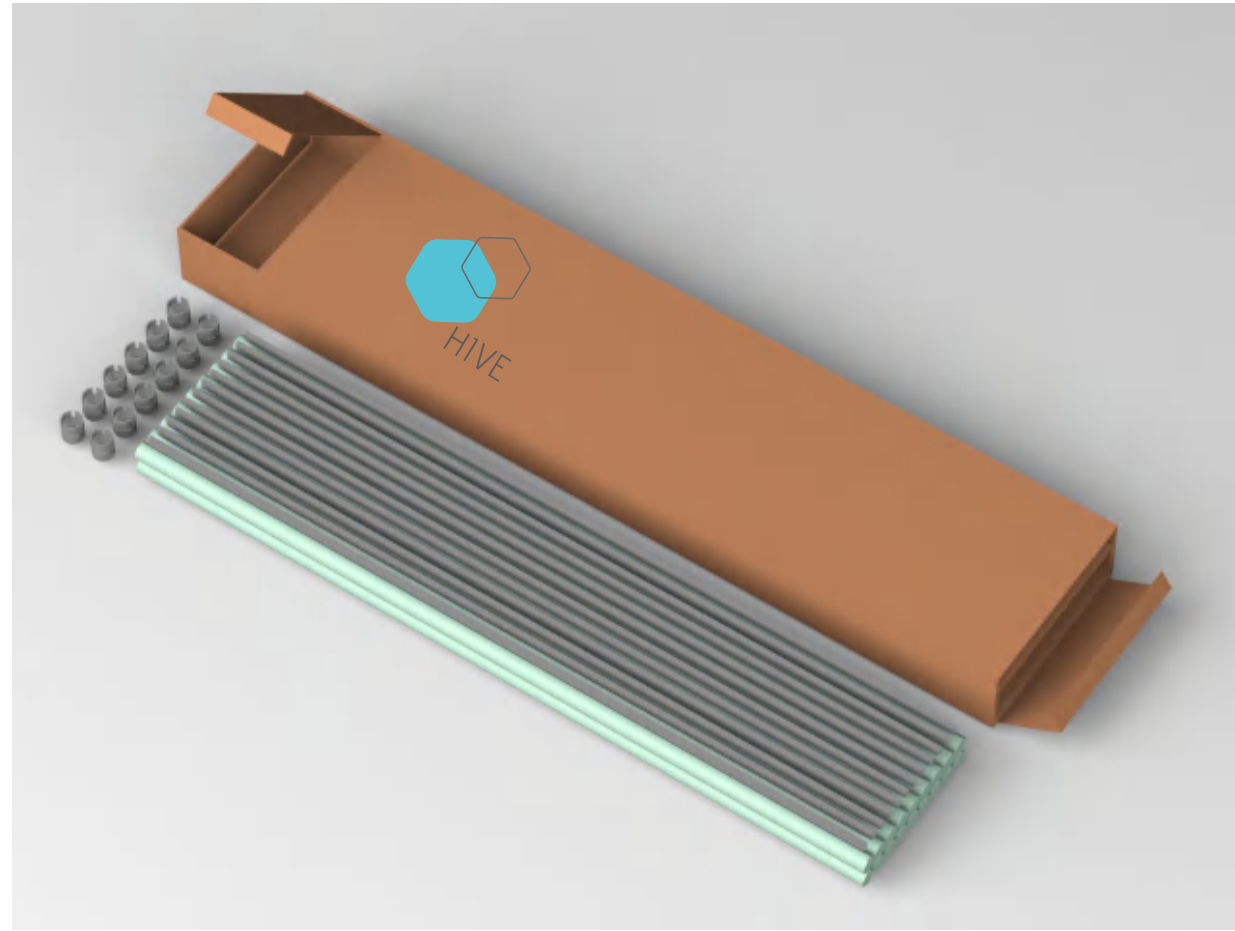Isolation room   Recreation room   Anteroom   Gate   Washroom
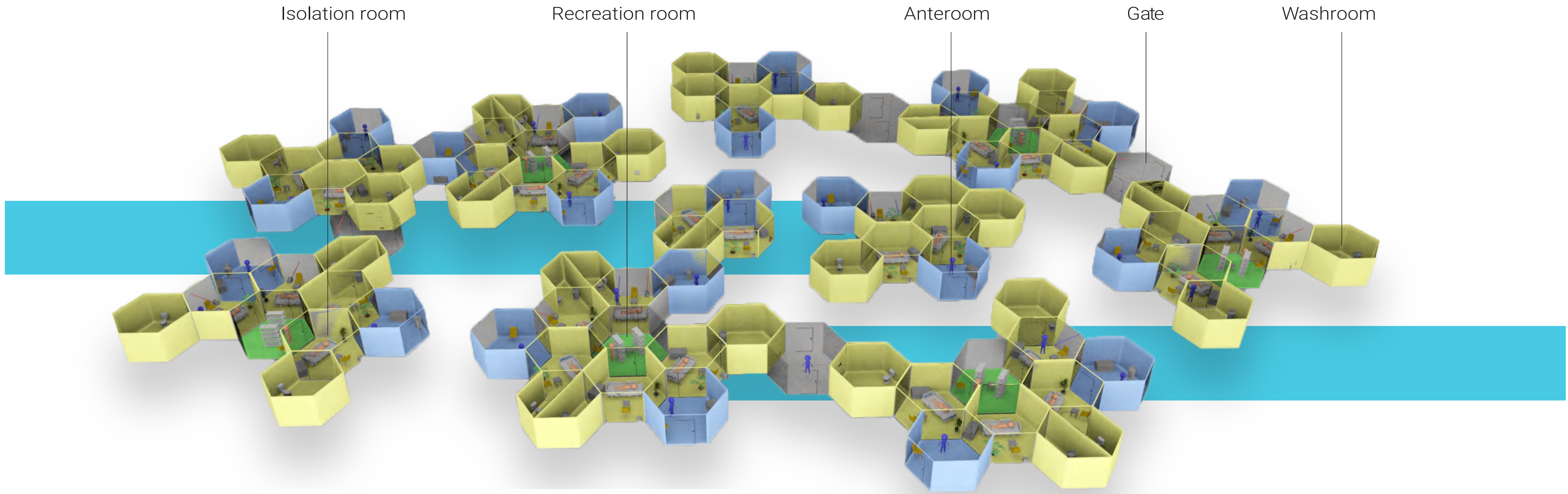
Hives in use

Auditoriums

Hospitals   Party halls

20 cms

40 cms

230 cms

Material- Cardboard