

Negative Pressure Unit for Metal Illness

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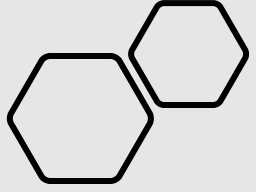
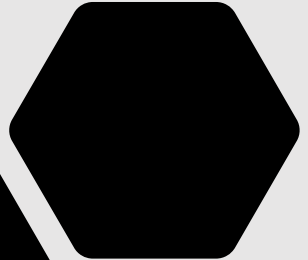
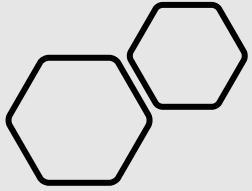


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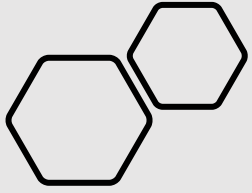




Problem Statement

Many patients with mental illness in 2020 were confirmed COVID-19 which shows the necessity of NPU(negative pressure unit) for psychiatric patients.

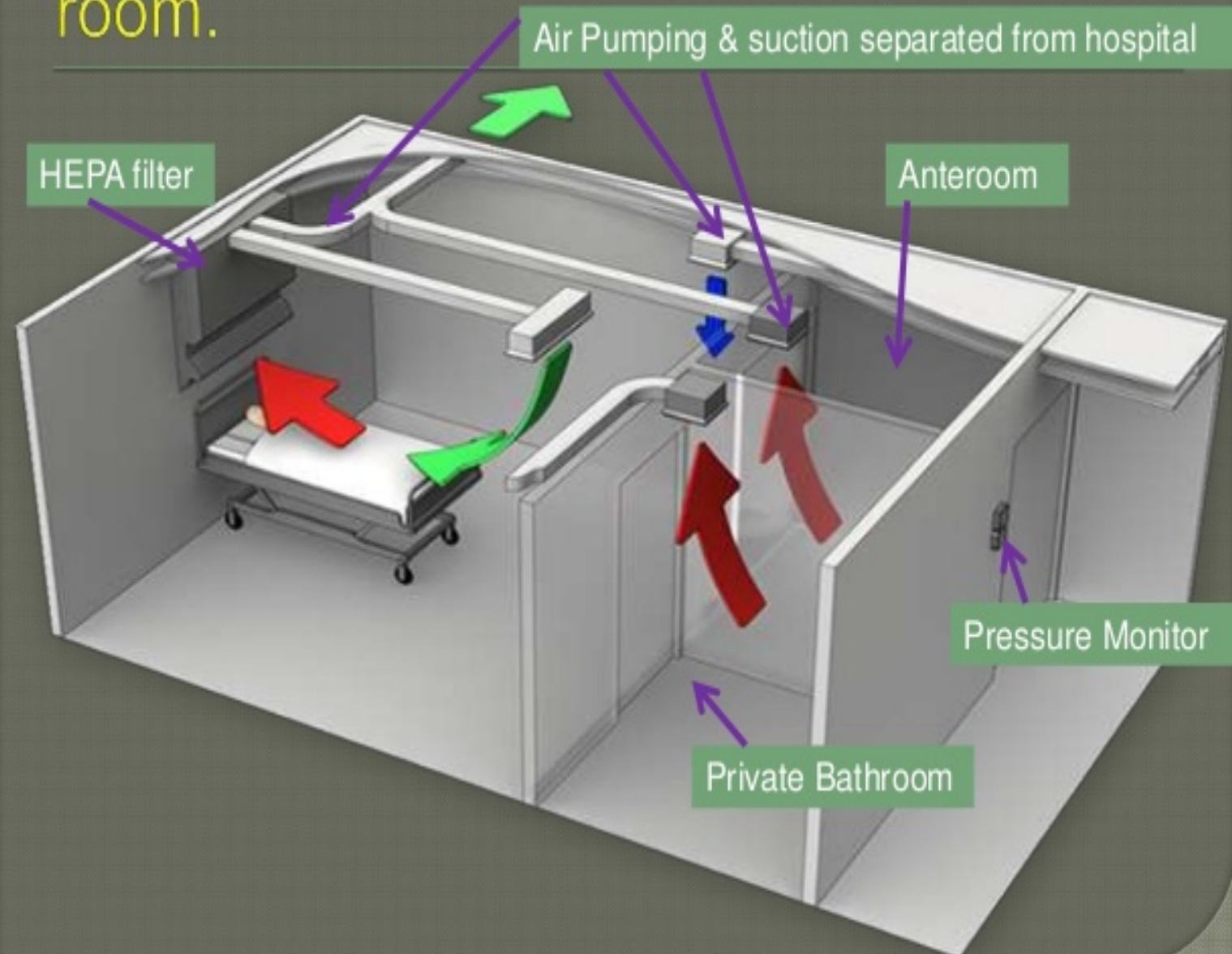


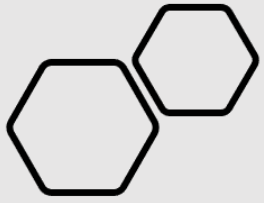


Background
Information

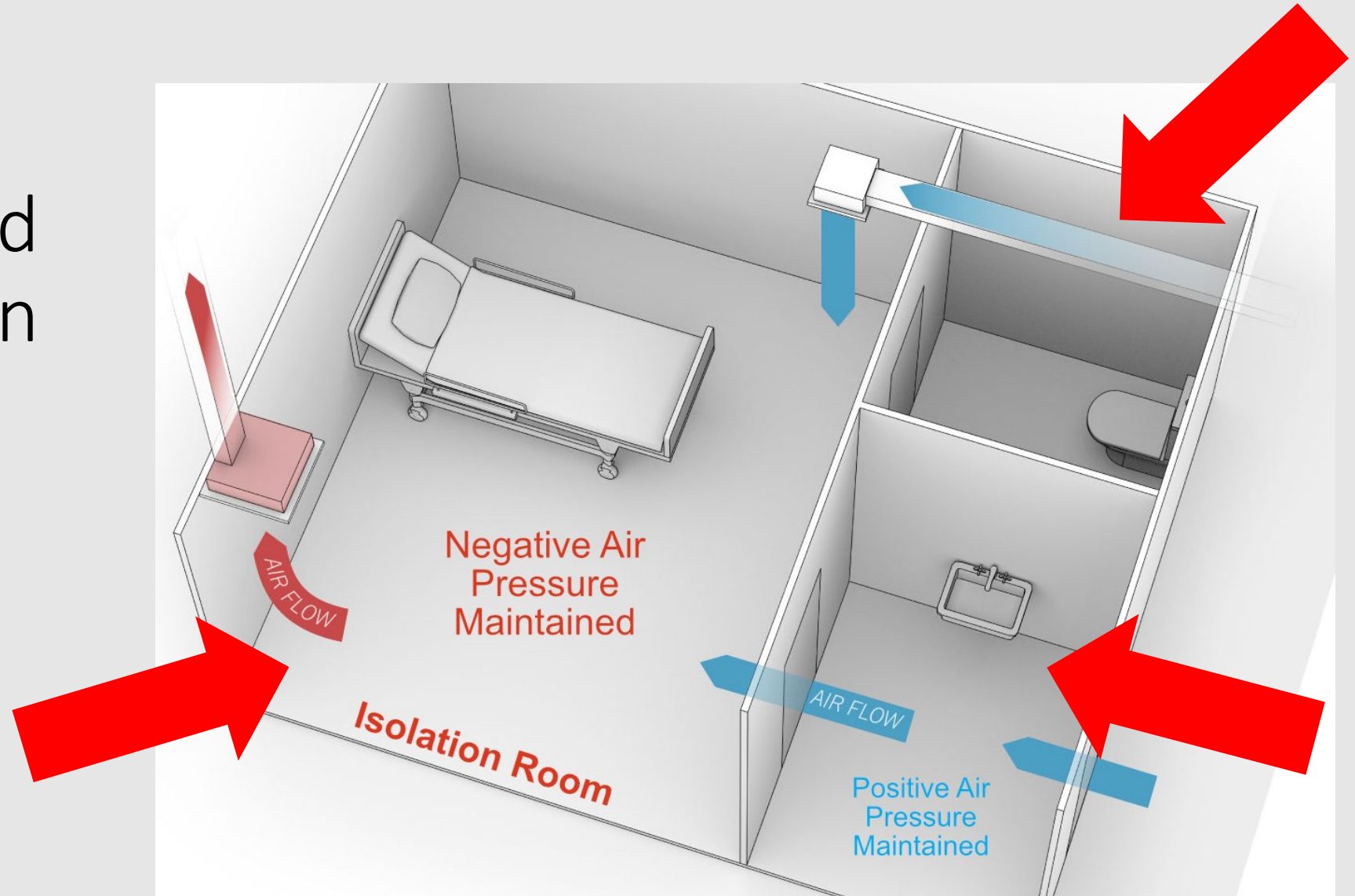
NPU?

Negative pressure airborne isolation room.



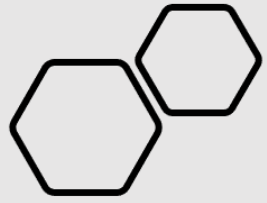


Background Information

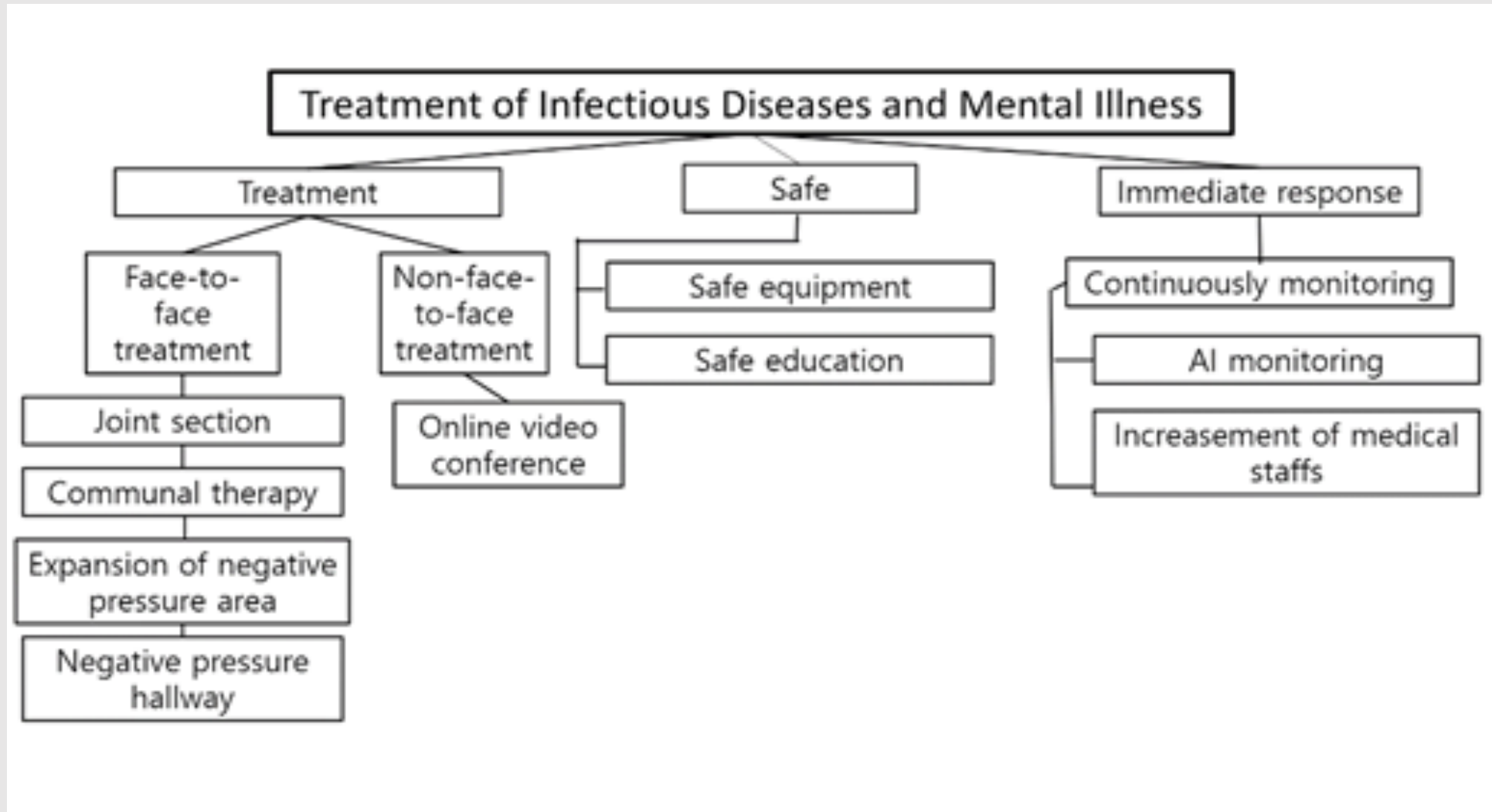


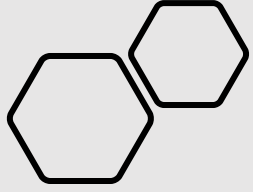
Design Plan

- Group therapy
- Safety
- Immediate Response



Design Plan



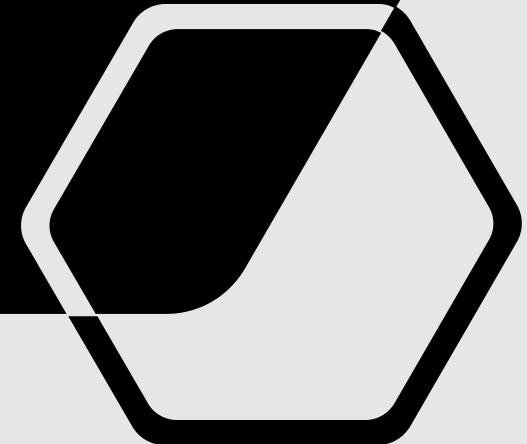
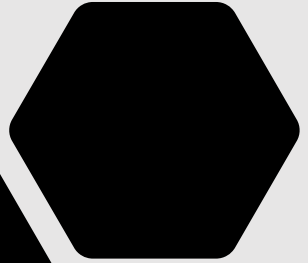


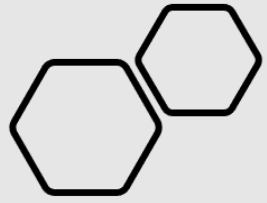
Design Plan

- A room for group therapy (0~100)
- The room is safe (0~100)
- The room can provide immediate response to emergencies (0~100)



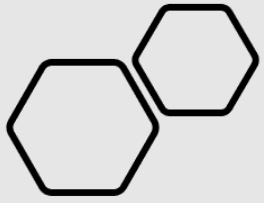
A safe place for group therapy and immediate response.





Design Plan

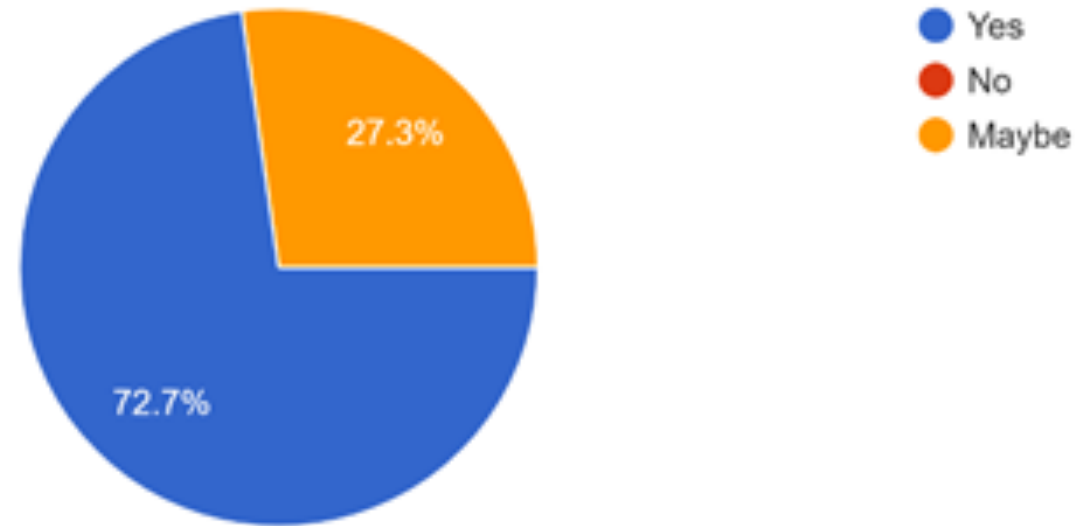
Mean Function	1	2	3	4	5
Provide a safe place to gather	Negative pressure hallway	Communal NPR	Strict equipment	Patient-only elevator	Online video conference
Emergency Response	Additional staff	Monitoring Station	AI monitoring	Regular virus diagnostic check	-

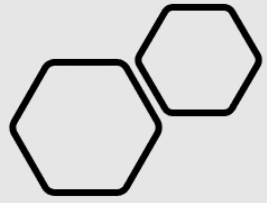


Design Research

Do you think this design effectively prevents the spread of respiratory diseases? 이 설계가 호흡기 관련 질병의 확산을 효과적으로 방지할 수 있다고 생각하십니까?

응답 33개

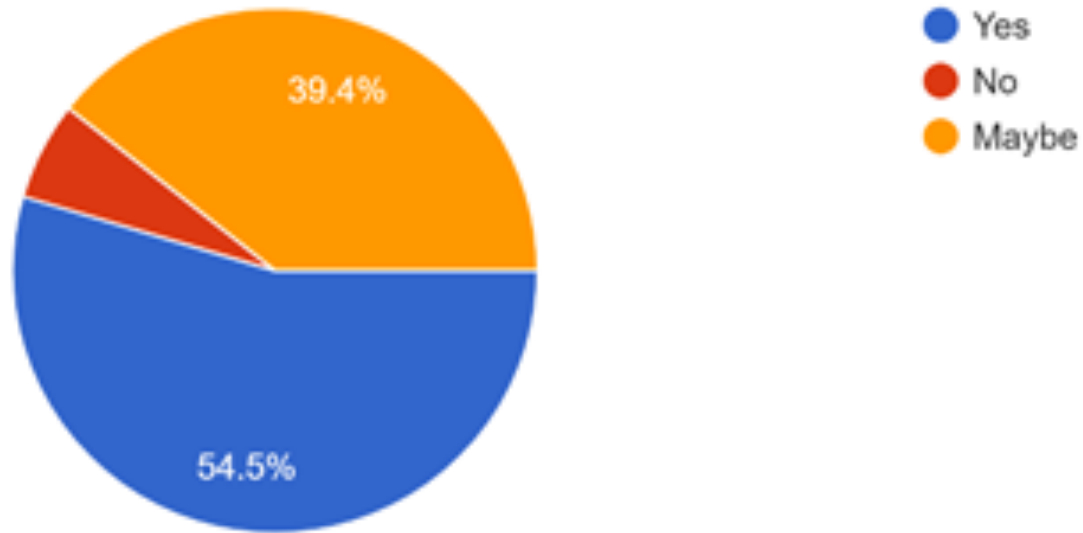


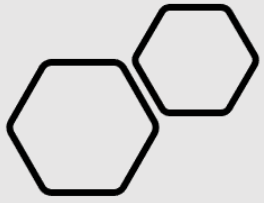


Design Research

Do you think this design is appropriate for the co-treatment of mental patients? 이 설계가 정신질환자들을 위한 공동 치료에 적합하다고 생각하십니까?

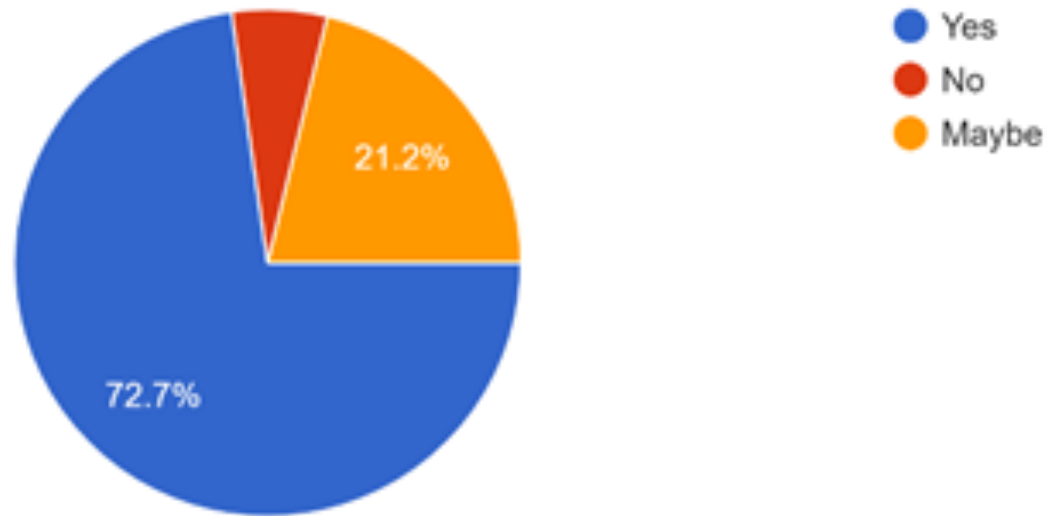
응답 33개



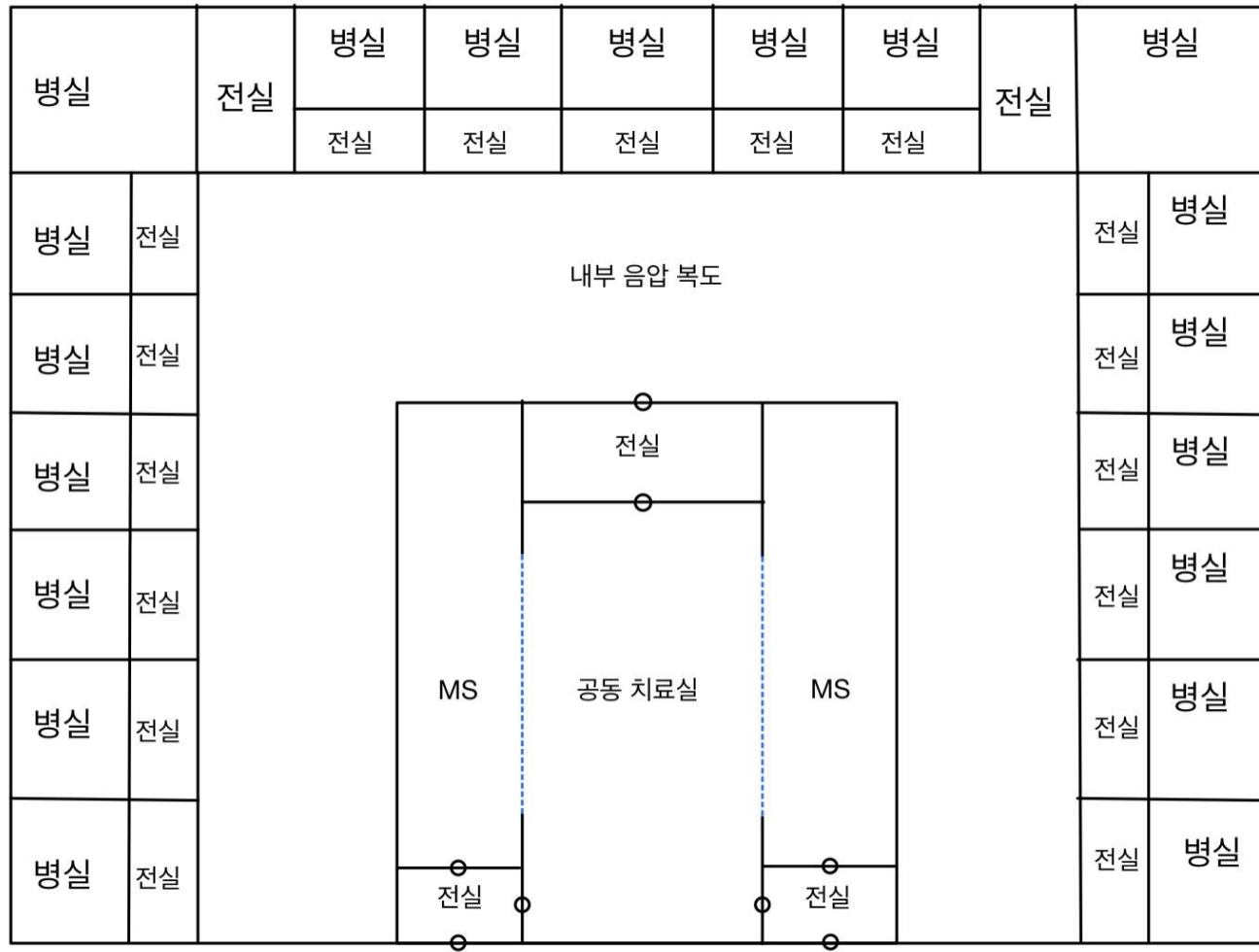


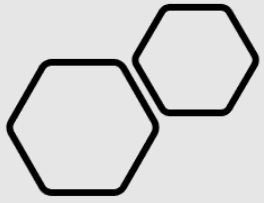
Design Research

Do you think this design is appropriate for effective management and rapid response of patients with mental illness and shared care ... 공간에서의 응급 상황에 빠르게 대처할 수 있다고 생각하십니까?
응답 33개



Description and Evaluation of Design Alternative

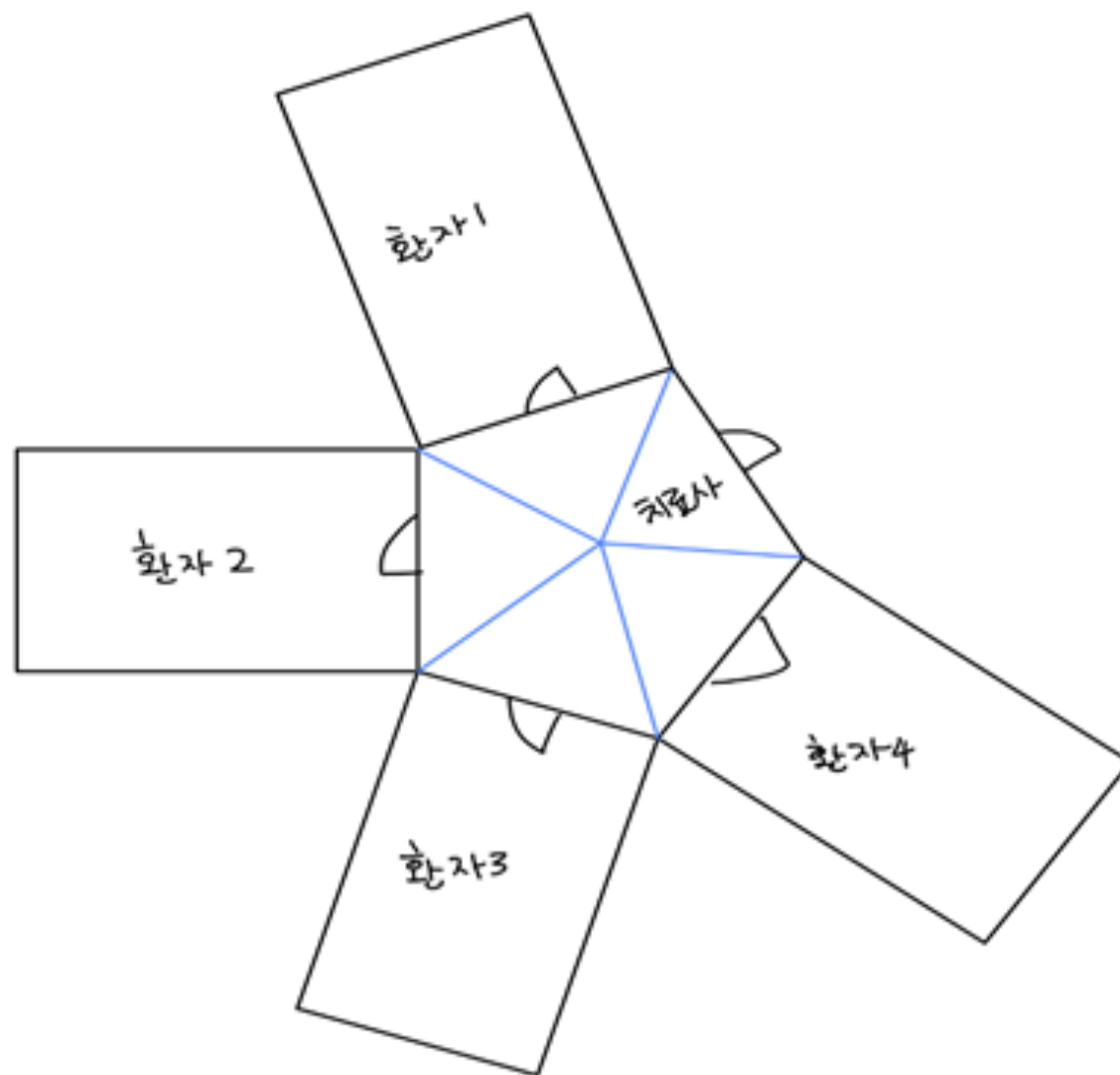




Design Research

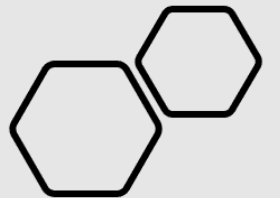
- Time Limit
- Strict equipment for staff
- Regular virus diagnosis

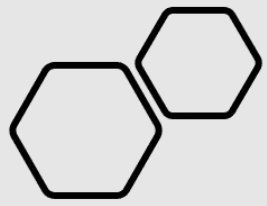
Description and Evaluation of Design Alternative



Description and Evaluation of Design Alternative

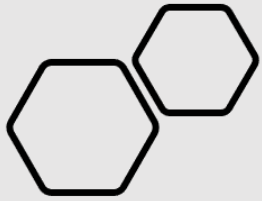
Online Conference



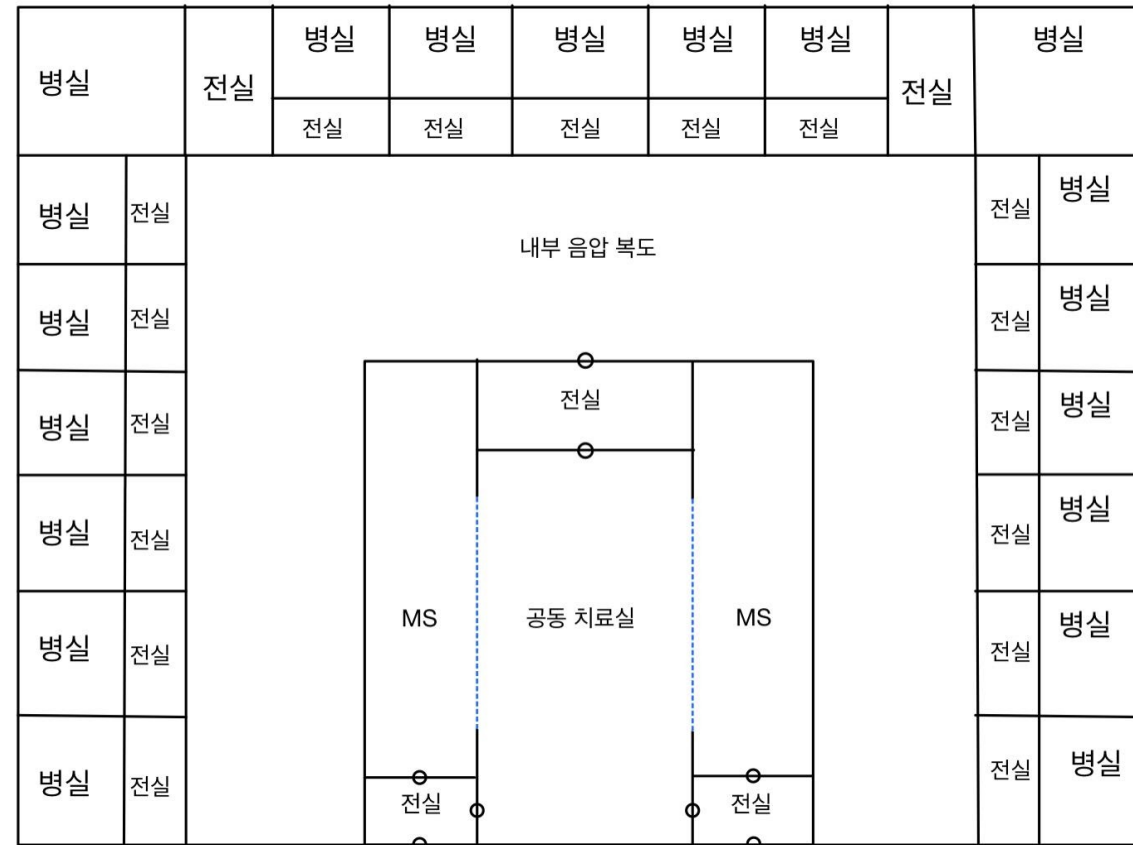


Description and Evaluation of Design Alternative

Design	Metrics	Possible treatment of mental illness	Safe place for group treatment	Immediate response for emergency	Rank
Whole unit negative pressure environment		100	100	Immediate	1
Glass wall for group treatment		50	100	Slow	2



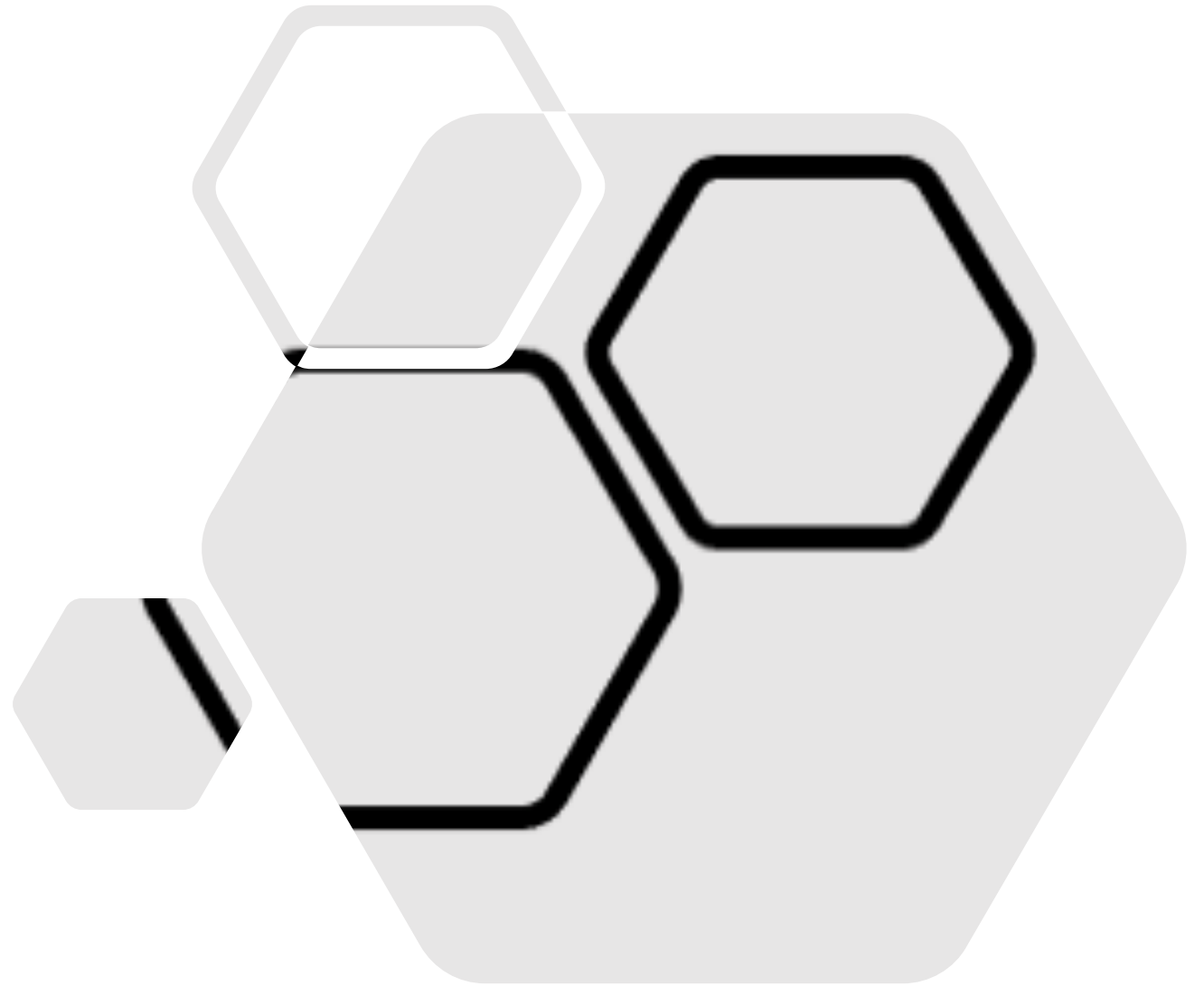
Final Design



○ 입구

Final Design

Safe join treatment space for the treatment of mental illness for mentally ill people who are infected with respiratory diseases such as COVID-19.



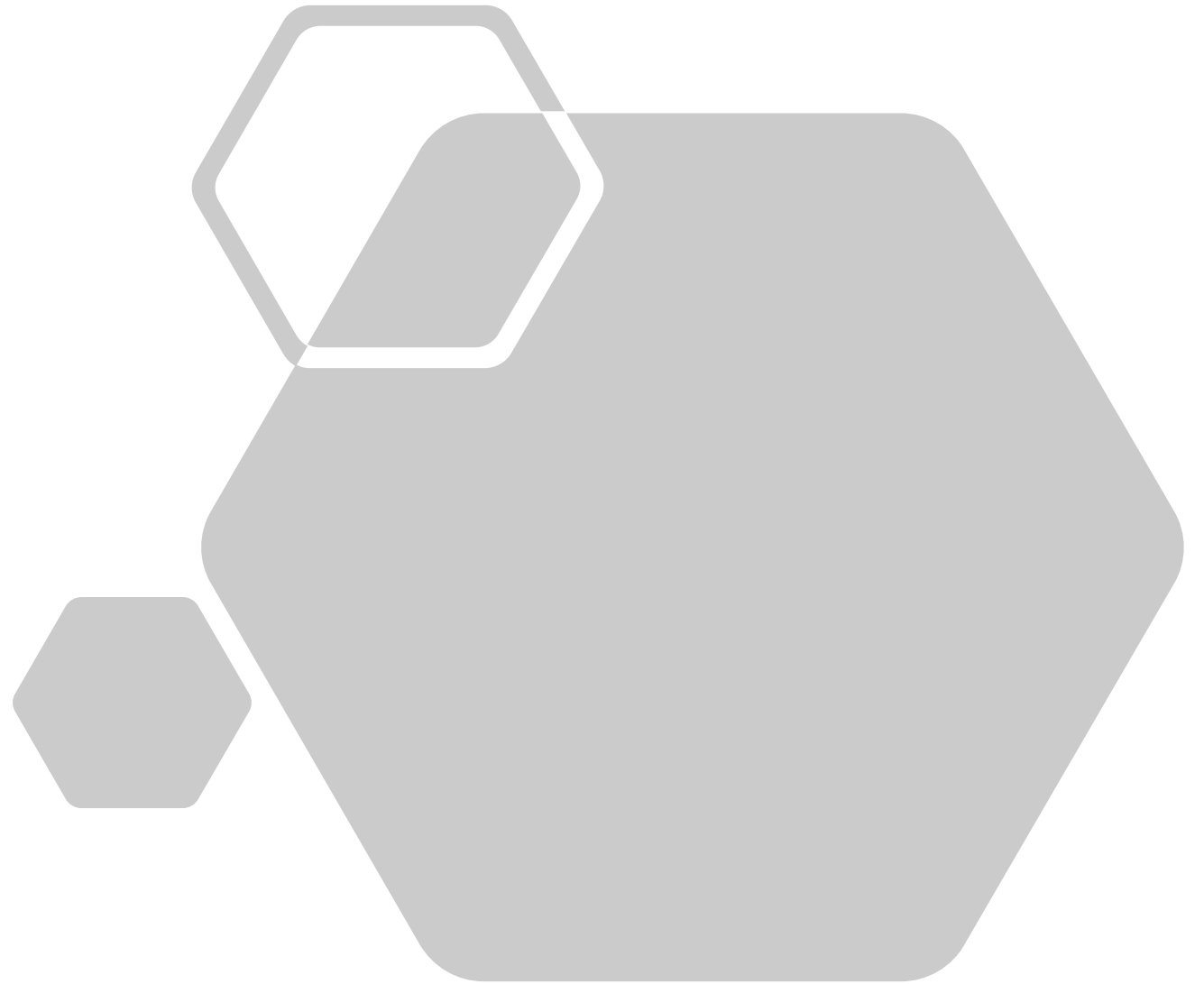
Final Design

Different from the existing negative pressure ward because of the existence of communal treatment space and MS.



Final Design

MS – Monitoring Station for
staffs to response to
emergencies in the communal
treatment space.



Final Design

The movement of patients from their room to the communal treatment space will be held one by one with the help of staff with wearing all equipments.



A decorative graphic consisting of several hexagons. At the top left, two small white hexagons with black outlines are positioned. To their right is a large, solid black hexagon. Further to the right is a large white hexagon with a black outline. A black line connects the bottom of the solid black hexagon to the left side of the large white hexagon. The text 'Thank You!' is centered on a dark gray, rounded rectangular background on the left side of the image.

Thank You!

https://www.youtube.com/watch?v=x1z1FNI1v4A&ab_channel=Haewi