2022 UIA YEAR OF DESIGN FOR HEALTH

Next Generation of Stroke Rehabilitation Centres

International Ideas Student Competition

INTERNATIONAL UNION OF ARCHITECTS

PUBLIC HEALTH GROUP

novell redesign

Organisers

Public Health Group of International Union of Architects (UIA-PHG)
with
NOVELL Redesign Team

Sponsors

International Union of Architects (UIA)
Australian Health Design Council

Jury Members

Chair: John Cooper, Architect (UK, UIA Region I)
Fani Vavili-Tsinika, Professor Emeritus, Aristotle University of Thessaloniki,
UIA Council member, UIA Representative (Greece, UIA Region II)
Philip Patrick Sun, Architect (USA, UIA Region III)
Jane Repin Carthey, Architect (Australia, UIA Region IV)
Innocent Okpanum, Architect (South Africa, UIA Region V)

Alternate Jury Members

Alternate Chair: Pei Ing Tan, UIA Secretary General,
UIA Representative (Malaysia, UIA Region IV)
Henning Lensch, Architect (Germany, UIA Region I)

Organising Committee

Competition Manager: Warren Kerr, Architect (Australia, UIA-PHG)
Coordinator: Fei Qi, Architect (China, UIA-PHG)
Maryam Banaei, Post-doctoral Researcher (Australia, NOVELL Redesign)
R. Chandrashekhar, Architect (India, UIA-PHG)
Nirit Pilosof, Architect (Israel, UIA-PHG)

UIA-PHG Administration/Technical Committee

A. Ray Pentecost (Director)
Zhipeng Lu (Coordinator)
Cynthia Lockledge (Secretary)
Uran Sokoli (Website Manager)

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INTRODUCTION

1. Definition of Health

Health, as defined by the World Health Organization (WHO), is “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity,” and “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition” (WHO, n.d.).

2. 2022: UIA Year of Design for Health

To respond to recent global health crises, including the COVID-19 pandemic and other devastating disasters, the UIA General Assembly in July 2021 declared "2022: UIA Year of Design for Health." This commitment urges all UIA Member Sections to encourage architects and their clients to use evidence-based design to promote health in buildings and cities, and promotes “Design that protects health, design that develops Better Health, and design that restores health once it is impaired.” The notion of Protecting, Developing, and Restoring Health is aligned with the WHO’s definition of health and can include two directions: (1) a project that protects, develops, and restores the physical, emotional, intellectual, or spiritual health of the parties; and (2) an approach to design that protects, develops, and restores the health of the parties, regardless of the building or project type (Pentecost, 2022). Therefore, Design for Health should be a fundamental component imbedded in every project, for every practice, and at any scale.

3. The NOVELL Project

To fulfil the mission of the UIA Year of Design for Health, the UIA[1] and its Public Health Group[2] are collaborating with NOVELL (Neuroscience Optimised Virtual Environments Living Lab)[3] Redesign Team to organise this international student competition.

NOVELL is a collaborative healthcare innovation project led by the Florey Institute of Neuroscience and Mental Health in Melbourne, Australia. This project aims to establish an evidence-based platform for rethinking how stroke rehabilitation facilities are designed and integrated into new models of care and redevelop and protect patients’ health and wellbeing. The project considers current best practice guidelines and applies rigorous user co-design, research, and evaluation approach to generate new knowledge and important evidence for future health design.

This competition aims to encourage architecture and design students interested in design for health, and to advance new ideas and futuristic concepts to solve current challenges identified by brain-injured (stroke) patients, family members, and medical staff. We believe that buildings and surrounding environments have potent influences on these vulnerable individuals and their caregivers.

[1] https://www.uia-architectes.org/en/
[2] https://www.uia-phg.org/
[3] https://www.novellredesign.com/

This idea competition is about designing a rehabilitation centre for 30 stroke survivors. We seek creative and ambitious designs to meet stroke survivors' needs during their recovery. The NOVELL Redesign research project has proposed several "Aspects of Design" that can improve stroke survivors' experience in rehab. Competitors are required to address the ***NOVELL Aspects of Design***[1] in their projects.

This single-stage student ideas competition is organised and will be conducted per the *UNESCO Standard Regulations for International Competitions in Architecture and Town Planning* and *the International Union of Architects (UIA) Best Practice Recommendations*[2]and has been reviewed by the UIA International Competitions Commission.

4. Organisers and sponsors

The UIA and its Public Health Group and the NOVELL Redesign Team are the competition organisers. Members of the Public Health Group Administration will serve as the technical committee. This competition is sponsored by the UIA Council and the Australian Health Design Council (AHDC). AHDC is a not-for-profit, non-governmental organisation that provides a forum for all professionals involved in the Australian health design sector. Its mission is to share knowledge, develop expertise, foster research, and enhance health facility planning, design, and management skills.

5. Disclaimer

The intention of this competition is educational and to bring awareness towards design for health. The organisers, the technical committee, and the sponsors do not have any real-world construction project or budget to apply the design ideas.

REGULATIONS & COMPETITION INFORMATION

1. Eligibility

The competition is open to full-time university architectural students from all over the world. Multidisciplinary teams are encouraged. However, only architectural students can serve as team leaders or authors. Full-time university students from other disciplines, including interior design, landscape architecture, urban design, urban planning, medicine, neuroscience, psychology, and others, can be co-authors or team members acting as specialists.

All team members (authors, co-authors, specialists) must be enrolled as university students by the time of the project submission to the competition website. Each team may have 1 to 5 university students, with 1 or 2 advisors. Having an advisor for this competition is not mandatory. Advisors must be named as consultants.
A student or team of students is only allowed to submit one proposal. Regarding team projects, the student is only allowed to join one team. An advisor is only allowed to serve one proposal/project.

Students, associates, employees, and family members of jury members and people involved in the preparation of this competition are not allowed to participate in the competition.

[1] See the definition of NOVELL Aspects of Design in the "Program" section under "2. Parameters to consider."
[2] https://www.uia-architectes.org/wp-content/uploads/2022/02/2_UIA_competition_guide_2020.pdf

2. Jury

The following international jury will evaluate the entries:

1. John Cooper, Architect, UK, UIA Region I, Jury President
2. Fani Vavili-Tsinika, Professor Emeritus, Aristotle University of Thessaloniki, UIA, Council member, UIA Representative, Greece, UIA Region II
3. Philip Patrick Sun, Architect, USA, UIA Region III
4. Jane Repin Carthey, Architect, Australia, UIA Region IV
5. Innocent Okpanum, Architect, South Africa, UIA Region V

Alternate jurors:

1. Pei Ing Tan, UIA Secretary General, UIA Representative, Malaysia, UIA Region IV
2. Henning Lensch, Architect, Germany, Region I

3. Prizes

The prizes will be arranged as follows:

1st prize: 5,000€+ a certificate
2nd prize: 3,000€ + a certificate
3rd prize: 2,000€ + a certificate
4th prize: 1,500€ + a certificate
5th prize: 1,000€ + a certificate

Honourable Mentions: a certificate

NOVELL will invite the prize winners to become co-researchers at the NOVELL Redesign.

4. Calendar

01 August 2022	Competition launch
15 November 2022	Deadline for questions
15 December 2022	Deadline for answers
15 March 2023	Deadline for registration
15 April 2023	Deadline for submission of entries
15 May 2023	Announcement of results
TBA	Exhibitions
TBA	Award ceremony

5. Official Language

The official language of the competition is English. Entries must be submitted in the official language.

6. Registration

Participants will be required to register on the official competition website (https://uia-competitions.org/2022/07/27/register-next-generation-of-stroke-rehabilitation-centres/) and fill the required information. Registration will request the following information:

- Information of all student participants and advisors
- Contact person and contact address
- A declaration that competitors fulfil the eligibility requirements

Some relevant reference documents are available therein. The competition brief is available on the website for download without registration.

Once registration is completed, each registered applicant will receive a secret random User Identification Number generated by the system. This number will be sent to the applicant via email. The same information will be then sent to a dedicated email address owned by the UIA. The system will store this information and keep it not accessible until after the Jury has appointed the winning entries. This e-mail system is managed by a third-party company. Nobody will be able to access the data until the email account will be assigned to a user once the jury has signed the results thus allowing access to the information.

Modification of team information
Applicants may list as many team members as they want (up to 5 student participants and up to 2 advisors/consultants). Moreover, team members can be added or removed after registration is closed. The team leader cannot be changed. Modification can only be done at the time of submission of entries but the information provided separately from the submission of entries.

7. Questions and answers

Competitors may ask questions regarding the competition online at the competition website (https://www.uia-architectes.org/en/competition/next-generation-of-stroke-rehabilitation-centres/) until the indicated deadline. Eligibility questions will be continuously answered until the indicated deadline. Questions about the competition brief and the task will be published all together on 15 December 2022.

8. Deliverables

(1) Project documents

Project documents must be submitted anonymously and not bear any indication of the authors and related organisations/universities. The panel must contain all the necessary graphic information to explain the project in the best way possible. Also, the designers' intentions must be clearly articulated, and findings of research should be provided.

Panels

- Up to four A1 landscape-orientated panels (A1 dimensions 841 x 594 mm)
- Maximum size 50 MB for each panel
- JPG format
- Language: English only

Graphics (all in metric system)

- Site plan and analysis, scale determined by the authors
- Plan(s), scale 1:100
- Section(s), scale 1:100
- Elevation(s), if any, scale 1:100

- One "Stroke Survivor's Space"[1] plan, scale 1:50
- One "Stroke Survivor's Space" section, scale 1:50
- Perspectives (renderings, sketches, and/or photos of models)
- 3D floor plans of the rehab ward and "Stroke Survivor's Space" (renderings, sketches, and/or photos of models)
- Diagrams and/or other presentation tools and notes to explain the idea and responses to the "NOVELL aspects of design."

Report

- The anonymous report should describe the idea and concept of the design and how the design addresses the main aspects design of the competition. The report should be in English, no more than 500 words.
- Integrate this report content into the A1 panels

(2) Authors' identification

Authors' identifications information should be entered on the registration website. The information includes the names, majors, and universities of the authors, co-authors, and advisors, the composition of the team, the leader/contact person, and contact information (email, phone, and address).

The effective composition of the author team may differ from registration by involving more or fewer team members. The primary registered competitor must still be a member of the team.

9. Submission and Anonymity

All the files should be compressed (zipped) into ONE zipped folder/file. Only one zipped file is allowed to be uploaded to the submission system.

Participants must ensure anonymity while submitting their entries. The names of the competitors (students, advisors, schools, and their countries) should not be indicated on any part of the submitted Materials.

Submission is strictly via the UIA competition platform http://uia-competitions.org. The User Identification Number provided at the time of registration will enable participants to submit their entries on this secure online form. Documents will be compressed as uploaded in zip format. Each entry will be named as follows: User Identification Number.zip and should not exceed 200 MB.

Technical support

In case of technical issues, applicants can contact the UIA Secretariat via competitions@uia-architectes.org

10. Reasons for Disqualification

The following factors will be considered for the disqualification.

- Entries submitted after the deadline;
- Entries that do not respect the conditions for anonymity;

[1] For "Stroke Survivor's Space" or "SSS" see the "Program" section.

- Entries that violate the rights of third parties;
- Entries that were published or displayed at a public venue before the announcement of the results

Entries that do not meet the requirements outlined in this document shall be reported to the jury by the Competition Manager. The jury shall decide whether to disqualify the entry.

11. Evaluation

(1) Preliminary Examination

The competition organising committee will examine the entries to assess their compliance with the submission rules before being formally delivered to the jury. The entries will be checked anonymously to ensure the following:

- submission before the deadline
- compliance with the requirements
- completeness of the requested deliverables

(2) Evaluation process

The jury will meet virtually through interactive video conferences such as Zoom. During the evaluation sessions, the jury will evaluate all entries according to the set criteria. Jurors will not have access to the entries and preselect individually entries before the jury session.

(3) Evaluation criteria

The following are the Evaluation Criteria in no particular order of importance.

- Creative approach
- Quality of architectural design
- Innovation regarding how the built environment supports stroke survivors' experiences
- Addressing the NOVELL Aspects of Design
- Adequacy of the proposal/program
- Feasibility and functional aspects
- Pertinence over an overall concept

The jury will have the right to expound the above criteria during the evaluation process.

12. Jury decisions

The jury decisions are sovereign, irrevocable, and unappealable.

The mere submission of an entry implies tacit acceptance by the competitor (who may be *individual students or teams of students*) of all conditions and rules outlined in these regulations and the results of the competition.

13. Copyright/Authors' rights

The authors will retain their copyright and right to publish their projects and designs. No design, whether or not awarded a prize, may be used wholly or in part by the competition organisers, the sponsor, or third parties without the explicit agreement of its authors.

By submitting an entry, competitors guarantee that they are the original authors of the project.

14. Publication rights

The UIA and the Australian Health Design Council reserve the right of the first publication. Before the competition's results are officially announced, competitors are not allowed to publish their projects in any form (website, book, magazine, journal, social media, and others). Publishing before the result announcement will violate the anonymity rules and be a reason of exclusion.

15. Announcement of winners

All prize winners will be informed by email. The announcement of the result will be published on the UIA website.

16. Exhibition

The winning projects will be displayed on the competition website. The award ceremony will take place at the 2023 UIA World Congress of Architects in Copenhagen, Demark.

PROGRAMME

Survivors of stroke can spend a month or longer in a rehabilitation facility, often followed by months or years of ongoing care at outpatient facilities or home healthcare support. Rehabilitation offers many stroke survivors the opportunity to learn how to adapt to the challenges due to brain injury, including problems with speaking, thinking, moving, planning, etc. Rehabilitation also optimises survivors' recovery by practicing new skills, helping them and their families resume life at home.

In the following description, 'stroke survivor' is used as the preferred terminology for a person who is an inpatient in a rehabilitation ward.

1. Task Description

This competition is looking for innovative and ambitious designs that better meet stroke survivors' needs as they recover. Competitors who come up with new and out-of-the-box ideas are most likely to be successful.

(1) Stroke Survivor's Space (SSS)

Although indoor spaces, especially stroke survivor's rooms, are very important components, this competition challenges you to go beyond "bedrooms" in inpatient stroke rehabilitation facilities. It can be either a comprehensive proposal considering private and public spaces and indoor and outdoor environments, or a very focused, creative approach that solves a specific design problem for stroke survivors or related care.

As mentioned, "bedroom" is essential to the survivors. However, in your proposal, the rehab "bedroom" may not be a room anymore! Specifically, not a "BED-room" as it is seen as a default to lay on a bed! This space for stroke survivors can be a space for resting, receiving treatment, entertaining, doing daily activities, etc. In this competition, we ask for ambitious designs for the "Stroke Survivors Space (SSS)" in rehabs.

Stroke survivors usually stay a long time in rehab. NOVELL researchers have reviewed the research on single versus multi-bedrooms in people with stroke and older adults (Shannon et al., 2020). The findings show that although single-rooms are associated with higher levels of privacy and are beneficial for infection control, they are also associated with lower activity levels, less sense of support and engagement, and increased falls (Shannon et al., 2020). In rehabilitation, patients need rest, but they also need to engage in thinking, social, and physical activities daily to help their brains heal. They also need opportunities to develop independence, regain decision-making control, and prepare them for returning home. We challenge you to achieve the privacy and sense of control of a single room, as well as the supportive benefits of multi-bed rooms in designing the SSS for this project. In this competition, we are not looking for a single or shared bedroom; we are looking for SSS that supports stroke survivors' recovery.

Competition entries are required to design a stroke rehabilitation centre for **30 stroke survivors**. Competitors should consider other important components, such as the nurse's station (also called "multidisciplinary professional hub"), dining space, activity space, gym, therapy spaces, and outdoor environments. Indeed, stroke survivors should have easy access to those spaces with

supervision. Entries should also address the design aspects described in "2. parameters to consider."

The competitors are encouraged to develop a detailed space program based on the required components with the consideration of local traditions, culture, and needs.

(2) Site Considerations

Competitors should select a site appropriate for stroke rehabilitation facilities in their local areas. Research evidence has indicated that outdoor environments are essential to people's physical, psychological and social health.

The site can be either a green- or a brown-field. The Stroke Rehabilitation Centre can be a free-standing new building, a section on a floor of a hospital/clinic, or a reuse/renovation of an existing building.

Justifications and analyses about why the site is selected should be addressed in the proposal.

2. Parameters to consider

NOVELL Aspects of Design

Three core aspects of design, including empowerment, communication, and levels of risks, have emerged as part of NOVELL Redesign, which should be considered and addressed in competition entries. These core concepts are explained in the following.

- The adaptability and versatility of the SSS
- Stroke survivor's personal control over the SSS
- Stroke survivor's personal control over social and interpersonal experiences
- Stroke survivor's integration with the community and the real world from the SSS
- Stroke survivor's access to a positive and stimulating environment from the SSS
- Stroke survivor's sightlines to 'see' key spaces either physically or in a technologically mediated way

Empowerment

Stroke survivors should feel personal control over the space and should be able to choose between spaces within the SSS. Every SSS should have easy access to private space/s where stroke survivors can spend time with family and friends. This helps stroke survivors feel respected, maintain their dignity and supports their choice, flexibility, and social activity. Stroke survivors also need to be well informed and orientated to other spaces and activities available outside the SSS. They should be provided with relevant and up-to-date information about where else they are free to go in the building and outside the building. Communication and information provision is vital so that stroke survivors and their families always know what is available to them and what will be happening next in their care.

Communication

In SSS, stroke survivors should have the opportunity for communal/social interaction, as this can bring incidental activity and practice. However, they should also feel personal control over the space and over their social and interpersonal experiences. The presence of other stroke survivors, or the ability to connect with others in some way (in real life or via technology), can help promote social interaction, a feeling of being supported by their peers, and learning about others'

successes. As previously mentioned, every SSS should allow privacy, including private space/s to spend time with family and friends. Auditory privacy could also help support high-quality interactions with staff, which can be an important form of incidental speech and language practice. Having other people around (other stroke survivors, visitors, or staff) can also help to improve safety, as can a visual connection with other people, e.g., sightlines between stroke survivors and staff. The visual connection can also help to reassure stroke survivors that they are being looked after and improve the legibility of the hospital spaces important for their care and relaxation.

Level of risks

SSS should be adaptable and versatile, providing appropriate levels of risk for a range of stroke survivors and their stages of the rehab journey. When in the SSS, stroke survivors should be provided with opportunities to engage in a positive and stimulating environment that suits their desired level of risk to promote incidental activity and practice the social, physical, and functional skills they need when they return home. It is important that SSS do not make stroke survivors feel cut off; they should feel a connection to the outside world and be encouraged - in line with their abilities - to spend a lot of time outside their bed, to remain active and participate in an incidental activity.

3. Space programme

Following are the required spaces with approximate sizes. The rehab centre's maximum floor plan area is 1,600 square meters (sqm). Please note that the competitors are encouraged to further develop the programme, using appropriate programming methods such as Willie Pena's Problem Seeking Approach. The spaces can be tailored and adjusted according to the local situations.

- Stroke Survivor's Space or SSS for 30 stroke survivors with bathrooms/ensuites (approx. 900 sqm)
- Multidisciplinary professional hubs or nurse stations (approx. 10-15 sqm)
- Gymnasium (approx. 100 sqm; could include: parallel bars, exercise bike, cross trainer, Pilates reformer, moto med, exercise stairs, exercise steppers, treadmill, plinth areas (typically curtained off) for individual exercises/treatment, hand wash basin, storage, and staff area for the write up)
- Therapy space: occupational therapy room (approx. 20 sqm)
- Staff hub including office, toilets, and lounge (approx. 40 sqm)
- Patient lounge space or shared Stroke Survivors Space (approx. 30 sqm)
- Patient dining space or shared Stroke Survivors Space (approx. 50 sqm)
- Storage including bulk and drugs, and cleaner room (approx. 60 sqm)
- Additional spaces related to local traditions, culture, and treatment methods.
- Total: Maximum 1,600 sqm

The list of daily activities of stroke survivors at rehab is listed below. However, the competitors are encouraged to conduct research, interview stroke survivors, and/or invite them to advise or evaluate your design approaches.

- Waking up, taking a shower, and dressing (independently or with assistance)
- Having breakfast (in bed or in the dining room)
- Having morning or afternoon therapy sessions in therapy rooms, gym, or outdoor therapy within the hospital

- Having lunch (in bed or in the dining room)
- Spending free and personal time (in bed or the lounge)
- Having dinner (in bed or in the dining room)
- Free and personal time (in bed or the lounge)
- Getting ready for bed, washing, and dressing (independently or with assistance)
- Other activities related to local traditions and culture

REFERENCES

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