

The Architecture of Healing

RSMS is a leading healthcare design firm that has been working closely with healthcare providers for over a decade, building strong ties with clients and continuously adopting to the latest best practices in healthcare, says

Manu Malhotra, Founder Partner at RSMS Architects, in an interview with **Elets News Network (ENN)** while sharing an insights into hospital design process and key differentiators that guide methodology and process at RSMS.



What are the focus areas for RSMS in the healthcare sector?

RSMS Architects focuses on constantly updating, innovating and improving past projects and past experiences. We approach every project with a fresh mind, seeking to find out better practices adopted across the fields of healthcare and construction and integrating the same into the existing template of our experience. We have tried to achieve this by constantly interacting with healthcare professionals across diverse specialities and services to understand various points of concern that they face. Another focus area of ours is to understand the different challenges of working in new environments. Taking advantage of working in a diverse country such as ours, we have honed our skills to understand different mindsets, construction technologies, design sensibilities and economic models. Included to this information bank are the relevant local bye-laws, geographic and climatic data. This helps us to quickly derive ideas and working solutions custom designed for each project.

What role do architectural structures play in ensuring the well being of a patient?

Spatial design has the ability to alter the users' state of mind. Patients entering healthcare facilities are usually under mental and physical stress. In order to create a recuperative atmosphere, we try to create an environment which best mirrors the nor-

mality of the world outside the facility. Family spaces form important areas of our hospital designs as does the material palette, which reflects visual as well as haptic warmth and comfort to offset the mechanical and often intimidating features of diagnostic-treatment areas. Colour, as much as material, is important in this aspect and the palette of architectural finishes in a hospital should include warm and vibrant colours in patient zones and visitor zones.

Another feeling that often overwhelms the patient is one of isolation, which can lead to depression. One way to avoid this is to have a sensory connection between the interior and exterior. While optimising the space to provide the best ergonomic comfort, we introduce healing courtyards, terrace gardens, playing areas for children and so on. These form vitally important buffer spaces in the facility while providing much required soothing respite.

Architectural fenestration is a very important part of hospital design as well. Studies have shown the presence of natural daylight in patient areas leading to a reduction in patient stay duration by as much as 25 per cent. Staff productivity has also been known to increase by 8 per cent. The increased productivity leads to better patient care and boosts staff morale. To derive the best curative benefits of sunlight, we carefully select the glass that we use based on building orientation, aesthetic appeal, size and function of the fenestration in order

to provide an abundance of sunlight with minimal heat gain.

Which important elements do you think are important from an architectural point of view that should be incorporated in the design of a hospital building?

At RSMS, the design of healthcare facilities revolves primarily around patient safety, care and comfort. The threat of infection is one of the major causes of concern in hospitals and often the reason for this is the cross-proliferation of caregivers, patients, attendants, family, non-medical staff, etc. Hence, one of the primary design elements that we incorporate into our designs is the clear segregation of traffic zones. Multiple entry points, while unavoidable in large facilities, need to be properly planned with demarcated routes, control points and signage. We incorporate these things into our design.

Staff travel distances are minimised both from staff stations to patients as well as staff stations to areas such as utility rooms, and equipment bays. Visual connectivity plays an important part here in cutting down treatment response times drastically. Our designs aim to provide the best possible visual connection between caregiver and patient while maintaining the privacy and sanctity of the patient's personal space.

Way-finding is another important aspect of circulation planning which we focus on at RSMS. To the unassuming visitor, hospital departments with technical sounding terminologies can be intimidating as well as confusing. We simplify the circulation planning in order to keep visitor routes between departments minimal, clear and direct. Added to this, the design of good signage both within and outside the building can be a key factor in ensuring easy way finding.

We carefully consider departmental adjacencies for each project both horizontally as well as vertically. While this can often seem simplistic and routine, the fact is that departmental adjacencies vary largely, due to factors such as building reg-

ulations, bed mix and type of setup (based on specialities addressed).

Room Data Sheets that incorporate a whole range of information including service requirements, finish materials and environmental factors such as lighting and temperature control are very useful to ensure that the design addresses critical issues of each area of the hospital. We prepare these sheets with careful study. These sheets help to fine tune the design at both micro and macro level, while customising several factors to suit end user flexibility & facility management in a later day.

What do you suggest hospitals should do to reduce their carbon footprint?

It is the responsibility of healthcare providers as well as healthcare architects and designers to ensure that not only the patients who are undergoing treatment within a healthcare facility are provided with a safe and healthy environment, but also the world in general needs to be ensured of a better future. Keeping this in view, hospitals should adopt the best practices and technologies that minimises their carbon footprint.

Cooling and heating loads of a hospital are enormous compared to buildings in most other sectors. This is due to the need of airtight sterile environments within most departments of the hospital which negates the possibility of natural ventilation. In order to keep cooling loads down, shading devices, specialised glass designed for high reflectivity and minimal heat gain, the use of green refrigerants as well as high reflectivity or low absorptive exterior finishes can be adopted to keep out heat.

Besides, healthcare facilities should also provide efficient water usage systems that are both clean to use and rely heavily on recycled water intended for non-human usage such as irrigation, cooling tower make-up, flushing and so on. Technology is constantly evolving, and water-less and water-efficient sanitary fixtures are the order of the day. The recharging of ground water is another

RSMS follows a 'biophilic design model' which means that the company focuses on the interconnections between nature on the one side and the user triad of patient-caregiver-attendant.

er vital feature that is important both in term of short-term and long-term benefits to the facility, as well as to society as a whole.

The harnessing of solar energy for heat as well as power is an important ecological consideration. While we are harnessing solar energy as an important source of water heating in all our projects, we are constantly incorporating newer technologies to use solar energy for lighting and power generation as well. This proves vastly economical for the user in the long run, due to large savings on running costs, and additional incentives and encouragement provided by governments.

What kind of technology do you use while designing of healthcare building?

At RSMS Architects, we use Building Information Modelling or BIM as a vital tool in understanding and solving design problems as well as understanding how our buildings will work, even before they are built.

The body of a hospital, much like the human anatomy is made of a maze of service lines, the majority of which like the human body are below the surface, unseen by the naked eye. HVAC ducts, piping and conduiting for various services such as water supply, fire fighting, electricity and medical gas all need to be designed into a tight fit in order to provide ease of construction as well as ease of maintenance. Like parts of a jigsaw puzzle, our design methodology uses BIM to work this myriad array of services into ceiling spaces, service shafts and service cores. ☺