Pandemic Resilient Design – The New Architecture of Care

Roland F A McMorran BA(Hons). Pst Grad Dip.
Director, Architectonicus & Metamorphosen Wellness

Biography:
Roland trained as a creative. Working with autism and behaviours that challenge, he noticed the power of creativity and living in the moment. Studying wellbeing he began specialist arts activities for nursing support communities. Now focused on developing evidence based frameworks for holistic environmental design, he led the Pilot Programme 'Good Brain Gang', testing Metamorphosen's 'Aria Di Casa' physical environmental, and 'Chi' staff team social environmental, models. GBG positively transformed mood, behaviours and independence for those taking part. He proved the theory of the model which is now the basis for the highly successful 'The Ness Centre, Dementia Hub' in Teignmouth.

Article:

The recent COVID-19 pandemic has laid bare the vulnerable, even naïve approach to the care home environment, that has been espoused by some of the largest care companies on the globe.

The hotel model of design, and of care, is licking its wounds after England and Wales see over 20,000 excess care home deaths during March and April alone. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31199-5/fulltext

Staff teams sharing the same entry points, sharing the same corridors, the same 'viral super highway' hand rails, doorways, the same air. It isn't a surprise therefore that *"once COVID-19 enters a care home, it moves quickly" in fact "By the time the first patient displays symptoms, up to half the residents might already be infected"*

Comas-Herrera, Assistant Professorial Research Fellow at the Care Policy and Evaluation Centre and lead of LTCcovid points out that: " *"COVID-19 has*

been hugely disruptive; it has affected all aspects of care", she said. Isolating residents may mitigate the spread of the virus, but it is associated with morbidity of its own. Care homes are built for communal living and staffed accordingly. The lack of supervision places isolated residents at increased risk of injury, particularly from falls, and their mental health might suffer. People with dementia often stop eating if they are depressed, which can hasten death. Besides, it is no small task to persuade people with dementia to stay in their rooms and maintain physical distancing. No-one wants to see caregivers resort to restraining or sedating residents."

Adelina Comas-Herrera is describing the primary fault with the standardised care environment – it is binary, and inflexible. You are either alone, or exposed to everyone. There is no rationale within the existing model of built environment for the formation of meaningful community. Moreover there is little consideration for facilitating easy access to the causes of wellbeing, or the reduction of proven drivers of stress. Comas-Herrera explains that the mental health effects of being locked down in your bedroom, alone, is a cause of death in itself.

However, there is a remedy. The answer is not more expensive than the existing dominant model of design. Since it is based on human nature, and rich seams of research into the causes of wellbeing and stress, we are able to successfully propose a means of tackling not simply the issue of pandemic resilient care, but also ensure maximum engagement with the causes of wellbeing and positive mental health, regardless of lock down.

"Care home residents represent around a third of the total number of reported deaths from COVID-19 in England and Wales, which is in line with several countries of similar income levels. "Even nations who have done well to control the overall epidemic, such as Germany and Norway, are seeing a high proportion of deaths among people in long-term care","

We have a unique opportunity to reflect on and transform the future of care. In our work we seek to respond positively to research into optimal human function in order to achieve increased productivity, lower stress, and improved behaviours from both staff and residents alike. This is possible by

designing to make life easier for staff, and the environment entirely supportive of their role, while ensuring wellbeing assets are as easy as possible to engage with for residents at all times, minimising stressors.

We draw on meetings with leading global experts such as Professor Sandra Black, Professor Rose-Mary Droes, Professor Ute Leonards and leading professionals such as Mike Rungie and Dr David Sheard. We have visited leading environments of care in Australia, North America and The Netherlands. Our study of research documentation includes fields such as positive psychology, the senses, neuro-psychology, neuro-science, wellbeing, positive and negative affect, cognitive bias, anthropology and much more… However we will keep focused here on positive approaches to pandemic resilience and infection control.

There is a characteristic in natural patterns called fractals. Put simply, the closer you look, the more you see, and in reverse the more you zoom out, the larger and more rational the pattern element becomes. This characteristic is extremely pleasing to the human mind – you are never facing boredom, you are never facing a vacuum of interest, meaning and immediate possibility. When we navigate out doors, we see large options, a hill, a field, a woodland, a lake. We approach one of these, and new options of interest reveal themselves, perhaps a hut, a chair, fishes, birds, particular plants, and the closer we engage with these, the more they too reveal. Endless meaningful interest, on macro and micro levels, continuously, at every scale imaginable. The nursing/support community environment can and must be like this, and such an approach is achievable through a cluster model of design.

Such a cluster model means that a single residential support environment is made up of clusters of, for example, 10 residents. Each cluster is a self-contained community, with no corridors, rather rooms open onto a participatory, engaging, semi open plan space that delivers the full spectrum of wellbeing assets, tailored to the needs, interests and abilities of the residents and staff team. Each cluster includes out door, green space, (balconied winter gardens above the ground floor) that is directly visible from the bedrooms, directly connected to the activity space at its widest point.

Yes, there are shared spaces beyond the cluster communities, shared with the wider nursing support community. But each cluster is not reliant on these wider communal spaces for effective functioning or access to wellbeing assets. Should a lockdown occur in response to a pandemic each cluster is able to entirely seal itself off. It has its own dedicated care team who are able to access the cluster via a unique entry point, it is able to perform its own cooking / food reheat within the cluster. Laundry too is able to be entirely separated on a by cluster basis. Therefore, regardless of infection in any one cluster, the rest of the nursing home remains entirely separate and safe, just as a separate building is safe on a street.

Due to the semi open plan nature of the participatory active space, the staff team are able to passively control it, easily identifying and working with the individuals who need support as and when it is required. They set up the cluster activity space to optimally serve the people living on their cluster, co-creating a system that encourages, when required, good social distancing while still allowing optimal interaction with the causes of wellbeing, such as positive social connection with others (even if at a distance), engaging with nature, taking notice, the meeting of sensory needs, learning, exercise and so forth.

Let's imagine an even more extreme scenario, where even on the cluster, the individual rooms are locked down. Even then, through open doors individuals can still see interesting surroundings, they can still see 'the things of daily life' going on, and even be given a nominal space outside of their own room, within the cluster, to carry out meaningful activity, giving the chance to enjoy a change of environment, even if only a small one.

We foresee therefore a huge leap forward in Pandemic Resilience orchestrated by excellent evidence based design. Rather than continuously hike around a corridor based, public transport style, environment 'checking up' on people, exposed, and exposing, all to a continuous risk of cross infection. The dedicated care team work within a controlled environment which they become expert at using to the benefit of the community they support, in whom they also become expert at working with. Beyond

pandemic resilience, this heightened ability to seal off localised pathogen outbreaks, while sustaining optimal quality of life, is meaningful on a yearly basis for issues such as Norovirus, Flu and more.

At times of heightened risk, your care team need not breath the same air, share the same door handles and walk ways, W.C. and entrance halls. Using a fractal approach to design, alongside countless other evidence based approaches we transform not just pandemic resilience and responsive infection control but the experience of receiving and giving meaningful, outcomes focused care and support itself.

Our model of design and architecture allows for zero cross contamination of pathogens from each cluster of residents and their support teams, to any other. The building model naturally creates sealable 'social bubbles', each self contained cluster having everything they require for high quality of life, maintenance of an optimal immune system (access to out-doors, exercise, meaningful activity and the ingredients of good wellbeing), regardless of quarantine from the rest of the building.
These healthy living hubs allow for a fractal approach to life, whereby the shrinking of accessible areas does not reduce the opportunity to engage in the full range of wellbeing assets required for optimal health.

Working with fire engineers we have been able to ensure the fire safety of the proposed spaces. In fact, it is the all round safety of the cluster space, for residents and staff teams, that plays a key role in the environment as launch pad to positive wellbeing.

The outcomes of such an approach are tremendous, and include reduced and prevented development of challenging behaviours, reduced symptoms of depression, improved positive social behaviours and so forth. Sense of safety is derived from a sense of agency over a given area, alongside environmental and social accessibility of the space.

This ties into body schema and peri-personal space – the sense that a place is a part of you. Agency can be defined as making a change that is lasting – remains as it is when you next find it. Spaces and things over which we have

high agency become, psychologically, akin to our own bodies. So a private space, over which one has full agency, leads gently onward to a space, shared with just 9 others and the support team. This external shared space, I have some, but less agency over. So the sensation, that is both visual and sensory, of moving from my private room, to the cluster community space is not overwhelmingly reductive, its not like entering an essentially confrontational corridor space, but rather like entering a wonderful activity style living room where there is room to sustain a small handful of peoples interests – a fascinating space that is geared to meet every wellbeing need. Private leads to semi private, leads to public, with spaces that are easy to read in terms of their social context through both their scale, fit out and your graduated ability to affect lasting change in those spaces.

Furthermore, between each space typology you maintain buffer zones, that further cushion the change between each. This is of crucial importance to maximise social and environmental accessibility. The 'buffer zone' is a low stress, defensible space, which gives time to dwell, survey the range of opportunities on offer, and build a sense of motivation. This ties into positive use of cognitive bias, a range of which, in brief, mean that intention, motivation and appreciation of potential value of non abstract opportunities can positively build. This supports an individual to make the most positive choice for themselves, out of the ones on offer to meet sensory and wellbeing needs. An example would be the following: In my room I am safe and secure, but I do wish to do things. However leaving my room can be a little daunting, perhaps I am feeling some depression, but peeking out of my door I can see someone heating some food, I can see a view of a garden, a couple of people are doing something at a table. I see that just outside my room there is a space that is my own, my chair is there, and some things that belong to me, I think I'll step out of my door and get a better view of what is going on. I am now in this 'semi safe' buffer space, not in my previous place of safety, but not yet 'out of it' either. I could just stay here watching, but now I've come this far those two people do look like they are having a good time, I think they are making something, one of them looks up and smiles at me – I think I'll go over – if I'm not interested I can always go on to the garden, I can see more of it now, there are some flowers – I could pick some. It's about building motivation through that fractal opening of opportunity from safe

way points. Life is constantly opening up to you. There are no places of isolation.

Our model delivers wellbeing assets fractally at every level, it optimises social accessibility of all spaces, delivers no excess ‘fat’ in terms of waste spaces – rather the opposite – due to the focus on evidence, every space provided fullfills a clear, palpable function. The building becomes a tool for optimising wellness of staff, residents and user groups, ensuring enhanced engagement with clinical interventions, while ensuring the best possible pandemic resilience and infection control. It is a sort of real life Optimus Prime, able to transform at will to meet the needs of residents and management alike – ensuring the highest and safest quality of life possible. Each inclusive, participatory cluster is different, reflecting the interests and needs of all its stakeholders, primarily those of its residents, but also of its core support team and associate volunteers. Every time you enter a cluster it will be a rich and friendly learning and discovery experience.

This model is the polar opposite to the mind numbing uniformity and individuality crushing of the existing 'care home', 'we know best' institutional experience. Clusters are able to learn from each other, try different approaches and share best practice… a healthy collaborative competivity is naturally engendered. To support this process we have developed an evidence based framework for development and support of positive wellbeing, positive psychological affect, positive identity development etc. giving approaches to the delivery of support, daily patterns, habits and staff team behaviours. This empowers the team with a rational understanding of how they alter the immediate experience and longer term outcomes for the people they work with. It means the team see the day, and their behaviours as tools that can be used to uplift and transform the lives of the residents they work with.

Getting back to the architecture, due to the geometry of the spaces, the model can be arranged in multiple and diverse layouts, ensuring a good fit on almost any scale of site.

For a full report on the early development of the model please do get in touch with us or join our subscribers to stay in the loop. We will forward you a PDF of the report document 'The Architecture of Care'. Either contact roland@metamorphosen-wellness.com or you can also read more about our work, and join our list of subscribers at (for architecture:) architectonicus.co.uk or dementiaarchitects.co.uk and (for consultancy & workshops:) metamorphosen-wellness.com