CONGRESS '19

# EAHM

BELGIUM - GHENT

**INNOVATIVE HEALTHCARE STRATEGIES**

**11 > 14 SEPTEMBER 2019**

# THANKS TO OUR SPONSORS

# HEALING ARCHITECTURE

# Mr. Philippe Blua
## EAHM President
Welcome by the theme chair

**Mr. Gunther De Graeve**

**Managing Director DESTRAVIS,**
**CEO international Academy for Design & Health**
A healing city starts with a healing care environment

# Healing architecture

**Gunther De Graeve**

CEO, International Academy for Design And Health

Managing Director, Destravis Group

**12 September 2019**

# What is healing architecture?

## Approach

1. Architecture and its relation to health

2. Healthy design and our community

3. Healthy design for buildings

4. Healthy design for healthcare facilities

5. Process for healthy design

# How does architecture define its relation to health?

# History of architecture



**Marcus-Vitruvius-Pollio,**
Roman architect and writer of De Architectura.
Ten Books on Architecture,
written approximately 20-30 BC

# History of architecture

It is the only text on the subject of architecture to survive antiquity. It was also one of the first texts in history to draw a

**connection between the architecture of the body and that of the building**.

Vitruvius believed that an architect should focus on three central themes when preparing a design for a building:

- **firmitas (strength)**
- **utilitas(functionality)**
- **venustas (beauty**

# History of architecture

But the theory of *venustas* (or beauty) is a very complicated one. Vitruvius thought that a timeless notion of beauty could be learnt from the 'truth of nature', that nature's designs were based on universal laws of proportion and symmetry.
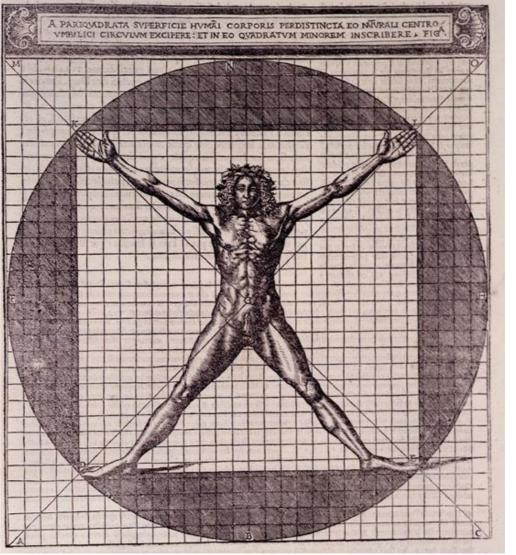
He believed that the body's proportions could be used as a model of natural proportional perfection. He wrote of the way ancient scholars examined many examples of 'well shaped men' and discovered that these bodies shared certain proportions. He showed that the 'ideal' human body fitted precisely into both a circle and a square, and he thus illustrated the link that he believed existed between perfect geometric forms and the perfect body. In this way,

**the body was seen as a living rulebook, containing the fixed and faultless laws set down by nature.**

# History of architecture

So it followed, according to Vitruvius, that an architect's designs must refer to the unquestionable perfection of the body's symmetry and proportions.

**If a building is to create a sense of eurythmia - a graceful and agreeable atmosphere - it is essential that it mirrors these natural laws of harmony and beauty.**



Vitriuvian man

# History of architecture

However, there is no link drawn between the
**sense of eurythmia and our state of mind to foster health wellbeing**

…there is absence on the mater of Health and wellbeing,  and on sustainability as a whole…

….in fact, there is no mention in regards to an **overarching ethical responsibility for Architects.**

Medical doctors swear and oath…

Architects can and are legally not obliged to avoid harming overall health and make lasting negative impact.

# Conclusion on Ancient History of architecture

Vitruvius' work is incomplete, he should have written the eleventh and twelfth book of architecture:

**11th The book of ethical responsibility of architecture**

**12th The book on how architecture should be having a healthy impact on the natural environment**

As such his theory should have been complete as:

- **firmitas (strength)**
- **utilitas(functionality)**
- **venustas (beauty)**
- **Sanus (healthy)**

# Conclusion 1

We need to undertake research (both Evidence based and Practice based) and define :

- **The ethical responsibility of architecture**

- **The architectural theory on the healthy impact of the built environment**

Consider Design as a whole including Town planning, Infrastructure planning, engineering, interior design, industrial design, landscape design, manufacturing, etc.
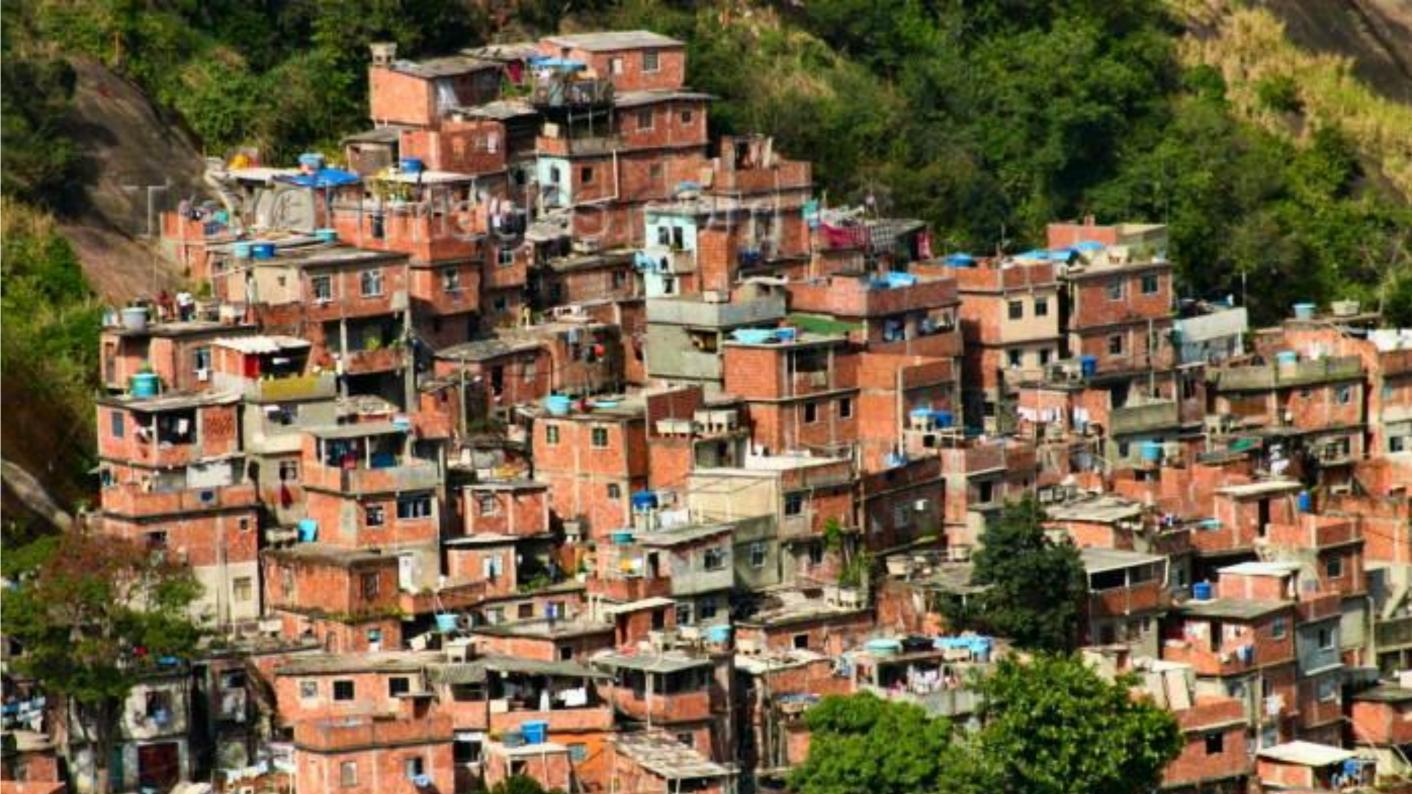
# Healthy design and our community

**30% of diseases are related to medical, biological conditions.**

**70% are related to our environmental conditions.**

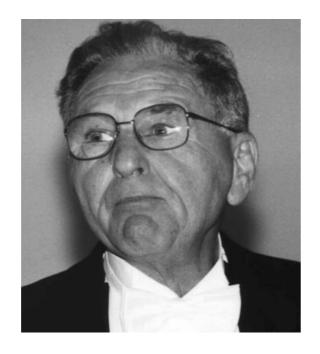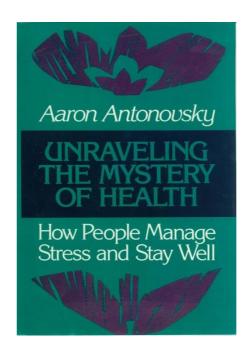**OUR NATURAL AND BUILT ENVIRONMENT**

**In developed countries, healthier environments could significantly reduce the incidence of cancers, cardiovascular diseases, asthma, lower respiratory infections, musculoskeletal diseases, road traffic injuries, poisonings, and drowning.**

World Health Organisation, Fact File

**Aaron Antonovsky : salutogenesis**

**Latin salus = health**
**& Greek genesis = origin.**
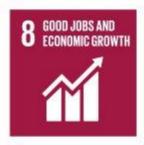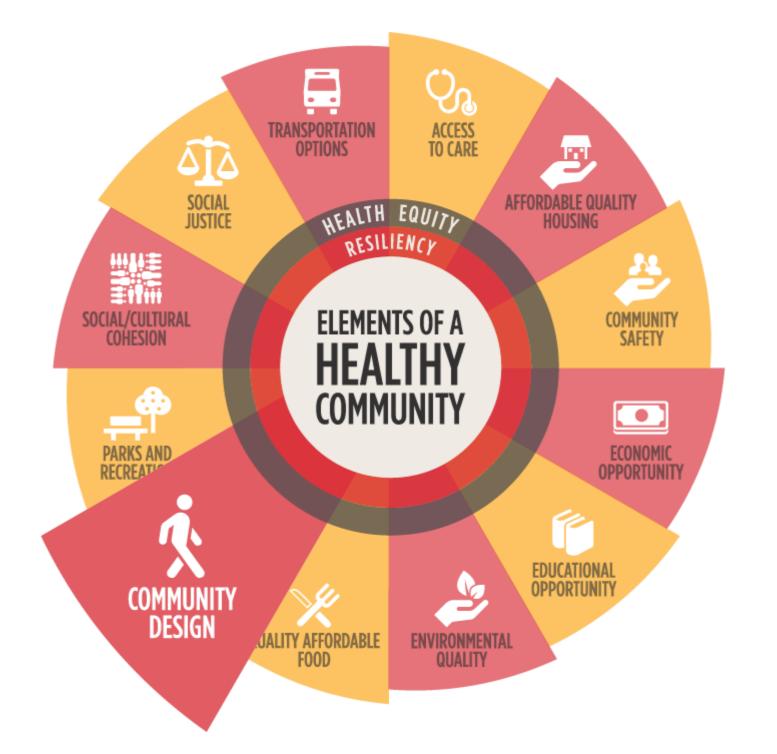
growing forests for health

www.nhsforest.org

# EVIDENCE OF BENEFITS

Current page search

There is mounting research evidence which backs up the case that the NHS Forest will help sites to realise the following, proven health, social, environmental and financial benefits:

The research articles below provide evidence of the NHS Forests's benefits in the following fields:

| ACCELERATED PATIENT RECOVERY | COMMUNITY HEALTH |
| --- | --- |
| SOCIAL COHESION | IMPROVED AIR QUALITY |
| REDUCTION IN NOISE | GLOBAL TEMPERATURE |
| REDUCED WATER FLOODING | REDUCED CARBON EMISSIONS |
| HEALTHCARE PREVENTION | FLOODING PREVENTION COSTS |
| REDUCED ENERGY COSTS | REDUCED MAINTENANCE COSTS |
| VALUE FROM LEISURE | |

**What we do**

**Get involved**

**Who runs the NHS Forest?**

**Sustainability and Evidence**

Benefits of green space

Evidence

Biodiversity

Pollinating

**Sites and Supporters**

**Green Health Routes**

**News & events**

Subscribe to NHS Forest

Design & Health
International Academy for Design and Health

DESTRAVIS
GROUP

fig. 6.4-13


fig. 6.4-14


fig. 6.4-15
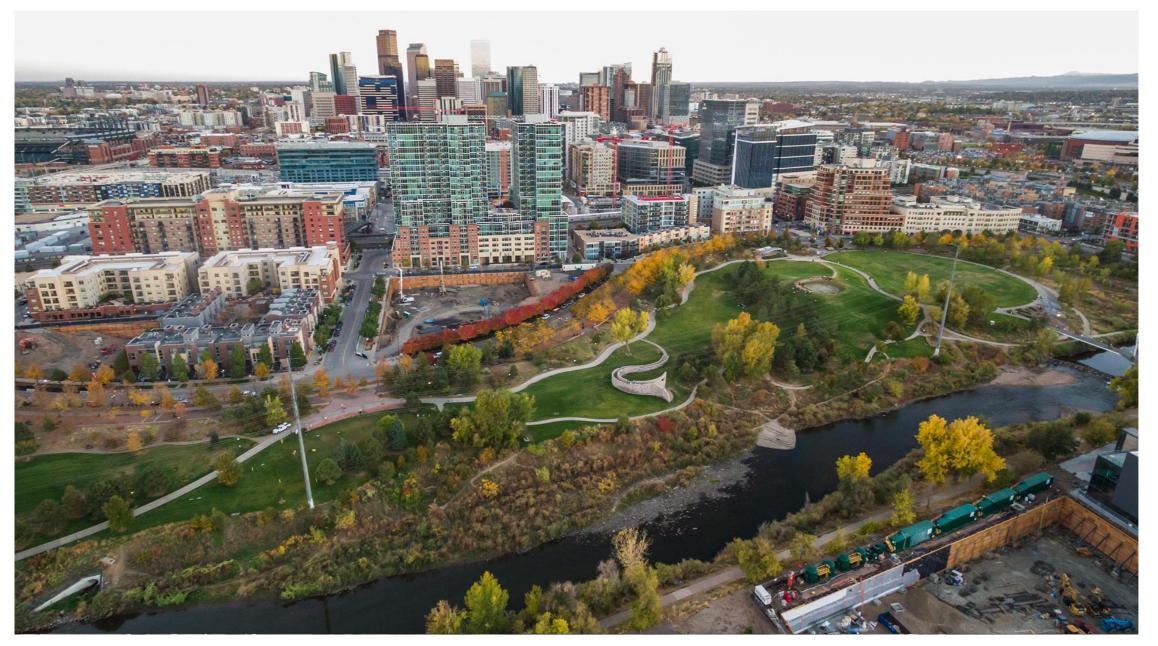
Commons Park, Denver
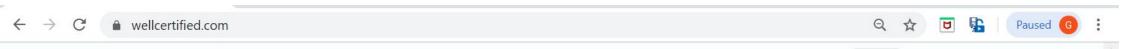
# Healthy design of buildings

**MATERIALS** and well-designed ventilation systems that promote good indoor air quality

**SOUND INSULATION** and good double glazing to promote quiet and tranquil home environments

**LIGHT** is optimised with generous access to daylight and sunlight and well-designed supplementary electric lighting

**RESILIENCE** designed in, with homes able to adapt and respond to changing occupant requirements and future climate change

**COMFORT** ensured, using passive design to prevent both overheating and excessive heating costs

**SENSORS** that monitor indoor conditions and increase resident awareness

**BEDROOMS** that promote healthy sleep, relaxation and respond to circadian rhythms

**COLOURS** that promote balance, wellbeing and relieve stress and anxiety

**SYSTEMS** are energy efficient and low-emission heating, cooling and ventilation systems with simple and user-friendly controls

**SECURITY** is built in: home environments are safe and secure

**STORAGE** and space provision to promote stress-free functional living

- fabric/envelope
- internal layouts/ interior design
- systems
- interface with neighbourhood
- strategy overall concept

**CONNECTED** to local amenities, public transport, and pedestrian routes to the wider community

**LIVING SPACE** that provides stimulating environments for social engagement and play

**WINDOWS** and layouts that maximise views out and natural ventilation opportunities

**QUIET SPACE** provides settings for focused work, privacy, thinking, relaxation and reflection

**KITCHENS** that promote positive family interaction and encourage healthy eating

**LAUNDRY** provision to avoid moisture, mould growth and pollutant build-up within the home

**FLOURISHING** is enabled: homes not only allow people to be physically and mentally healthy, but also provide opportunities to restore, uplift the spirit, and make people happy!

Design & Health — International Academy for Design and Health
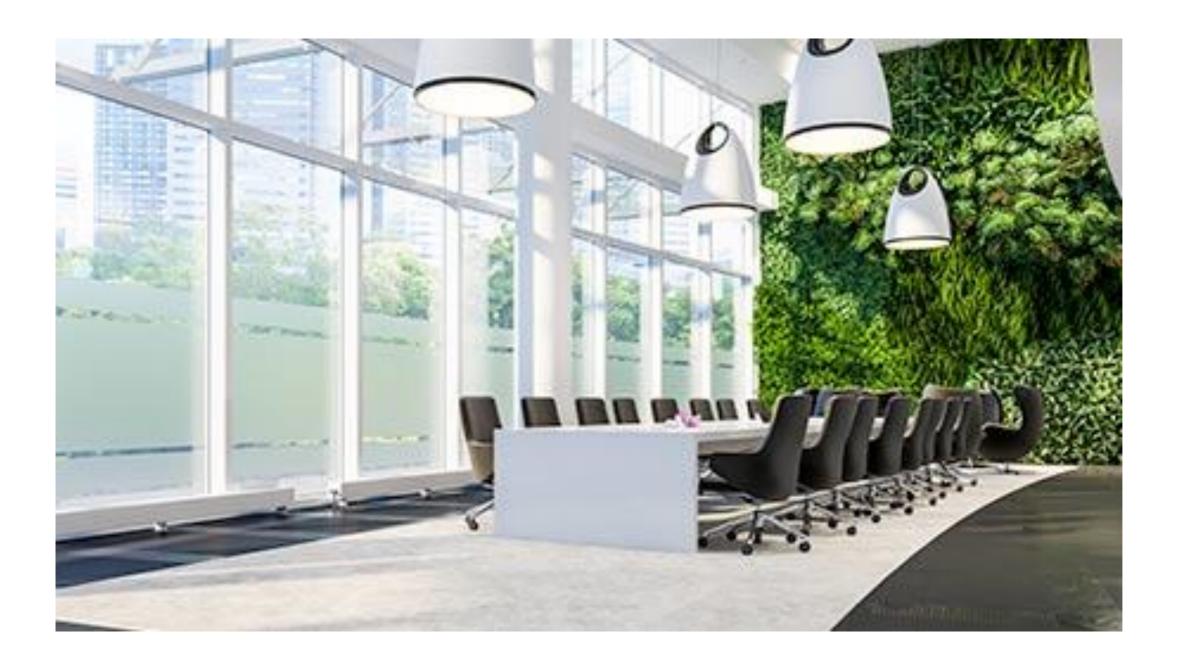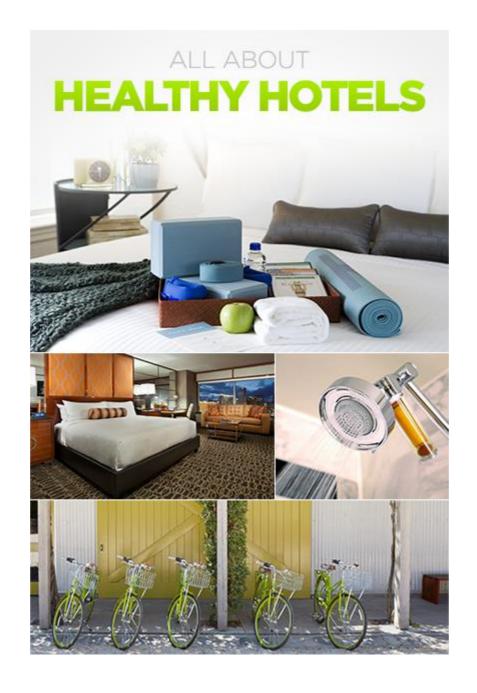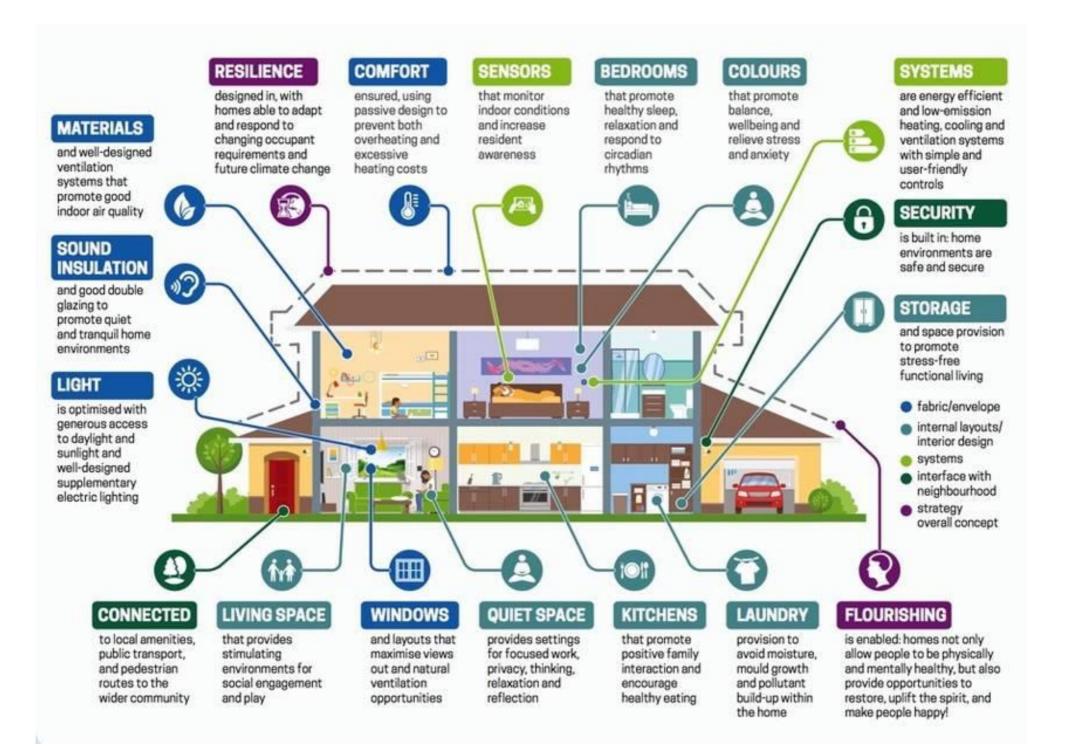
DESTRAVIS GROUP

Lavazza Museum, Turin

# Healthy design of healthcare facilities

Patients with visual access to natural light and nature stayed in hospital for a shorter time with better outcomes.

*Ulrich 1984*

Patients having care provided in a healing and environmentally accommodating setting are more likely to be discharged earlier and with better health outcomes
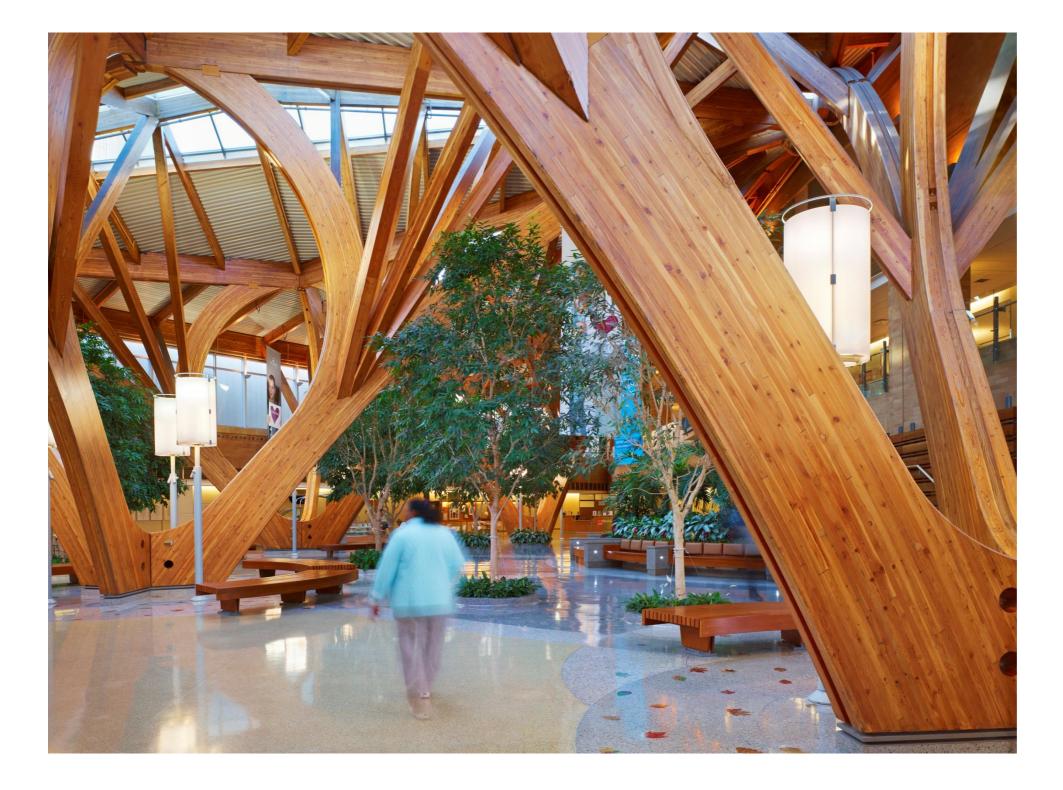
*Hays (1996)*
*Beauchemin and Hays (1998)*
*Walch et al (2005)*

Above: Gold Coast University Hospital

Above: New Royal Adelaide Hospital

DESTRAVIS GROUP

2010 : 120 sqm per bed for hospital based care

**2019 : 175 sqm per bed for hospital based care**

**45% increase !?!?**
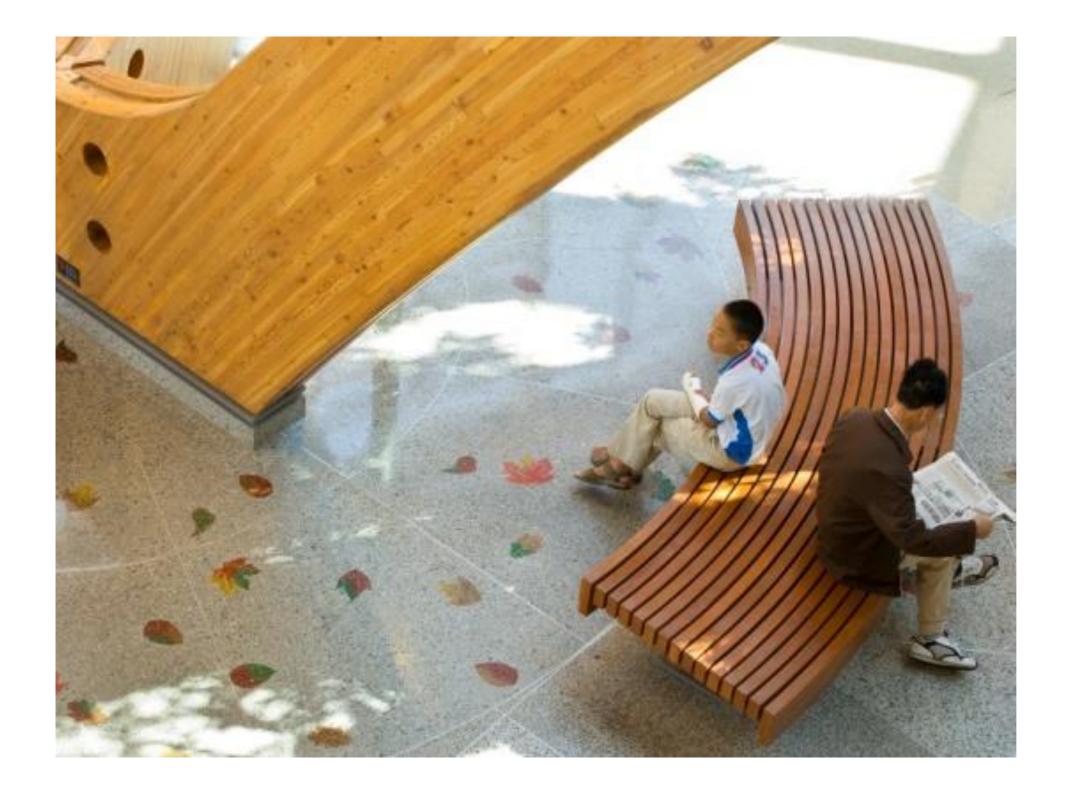
Alexandra Health Polyclinic, Singapore

1  Kiss & ride zone
2  Ingang publiek
3  Ingang personeel
4  Ingang spoed & delivery
5  Parking (2 verdiepingen)
6  Spirituele tuin
7  Technische lokalen, energie-
   opwekking, afvalbewerking
8  Uitbreiding zorgcomplex:
   revalidatiecentrum
9  Uitbreiding zorgcomplex:
   service-wonen
10 Uitbreiding zorgsite:
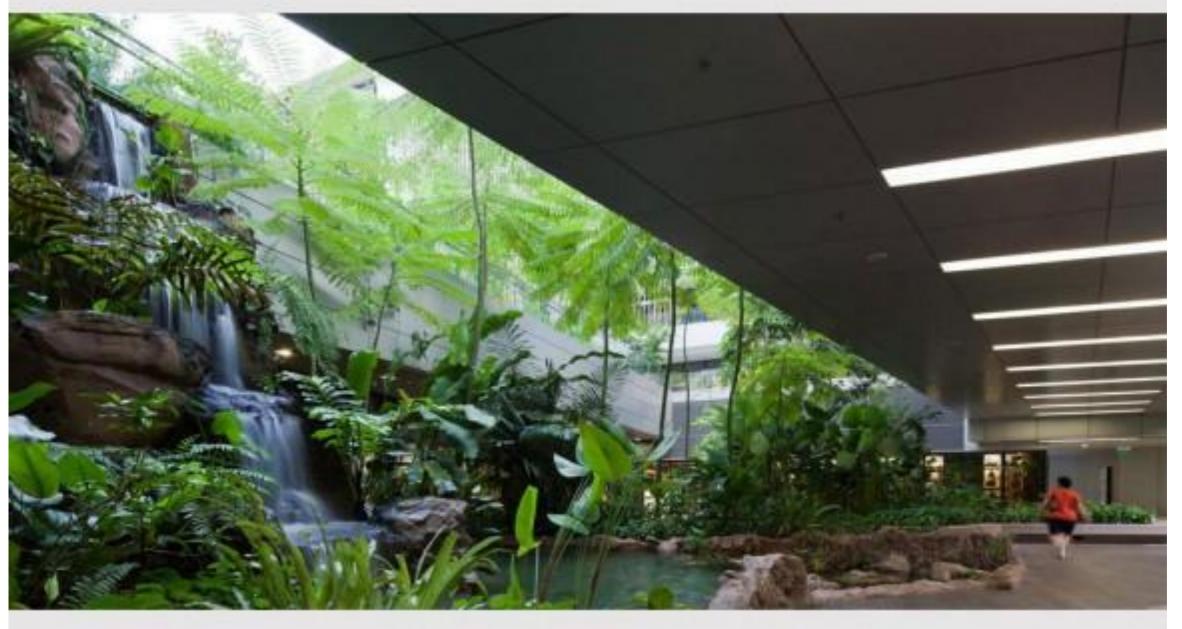11 Uitbreiding ziekenhuis
12 Parkzone
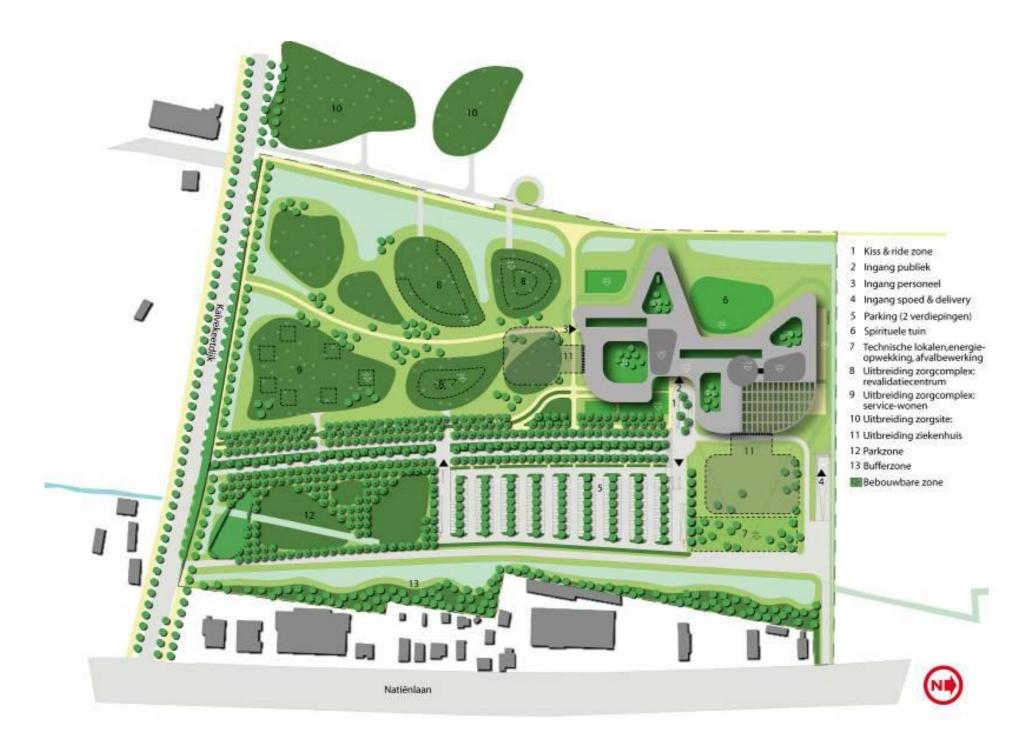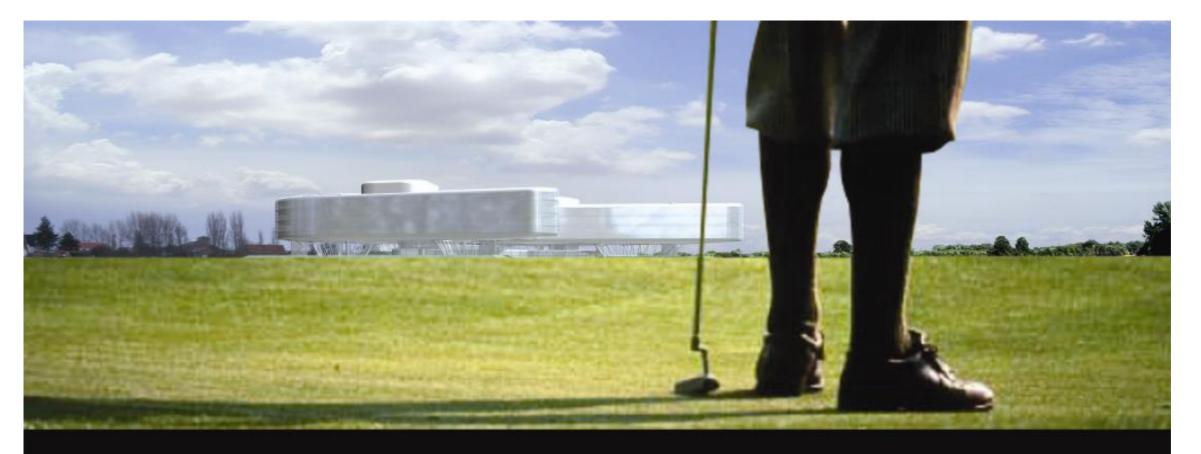13 Bufferzone
▇  Bebouwbare zone

Kalvekeetdijk

Natiënlaan

Suave, mari magno turbantibus aequora ventis
e terra magnum alterius spectare laborem

Lucretius - De Rerum natura - Liber II - verzen 1-2

'Tis sweet, when, down the mighty main, the winds roll up its waste of waters, from the land to watch another's labouring anguish far

# Healthy design process

**Consumers Patients clients**

**Architect**

**Carers**

**Health provider**

**Education provider**

*Our success; our process*
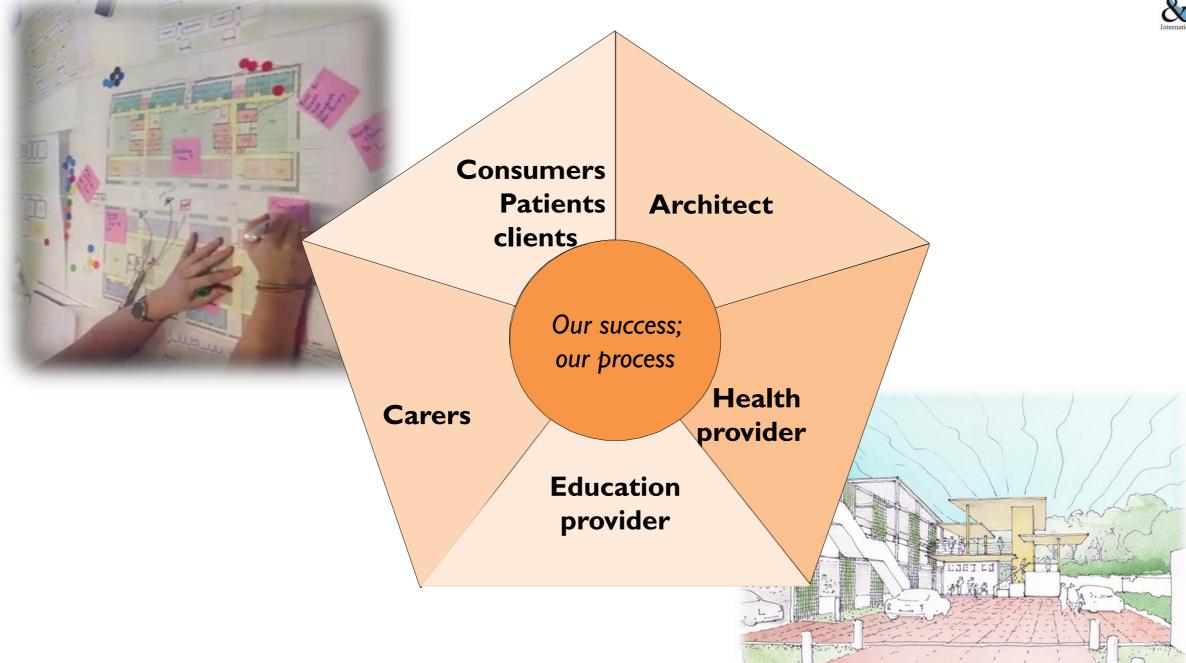
**Site selection and Test Fit**

- Suitable site to support and provide amenities
- Hospital campus as per recommendation of the COI

**Model of Service Workshop 1**

**Model of Service Workshop 2**

**Co Design Workshop 1 – 4$^{th}$ Nov - Scope Validation workshop**

- Operational parameters
- Operational principles
- Design parameters
- Design principles
- Evaluation Test-fit

**Model of Service Workshop 3**

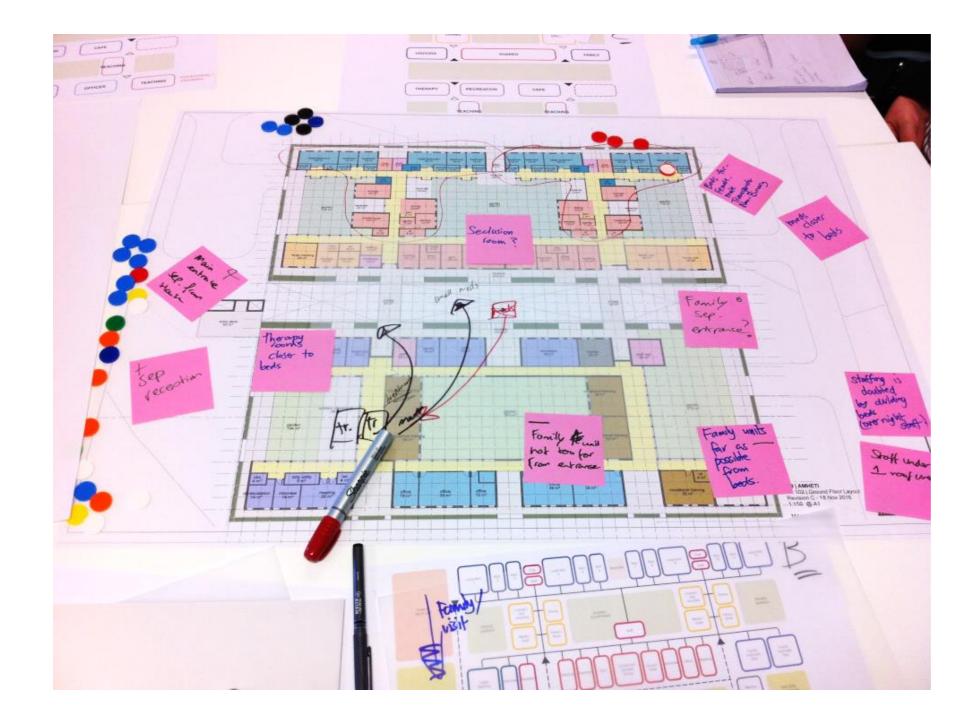**Co Design Workshop 2 – 21$^{st}$ Nov- Design workshop**

- "Day in  life" scenarios: patient, staff, educator, support. emergency
- Testing of Patient cohorts
- Testing of treatment period/cycle
- Operational modes –day-night-weekend-evenings

**Co Design Workshop 3 - 5$^{th}$ Dec–Review and Evaluation workshop**

- Review design versus "Day in Life"
- Review patient cohorts
- Review treatment period/cycle
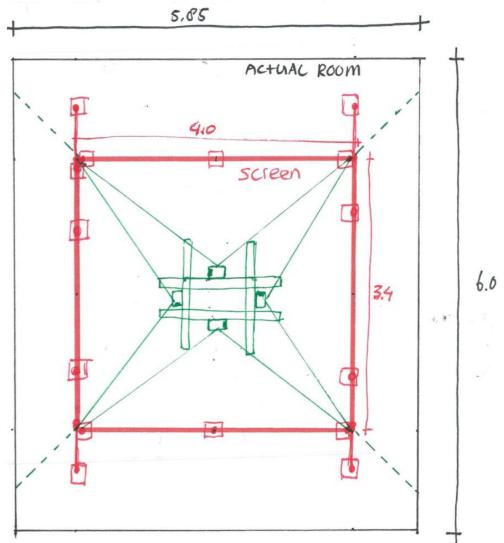- Review operational modes –day-night-weekend-evenings

- Understand

Design team explained the intended design of the space to create an understanding of the use of the room. The main focus was to reflect on the following questions.

- What would you want in this room?
- Would you change anything to make it better?
- How would you use this room?

- Observe
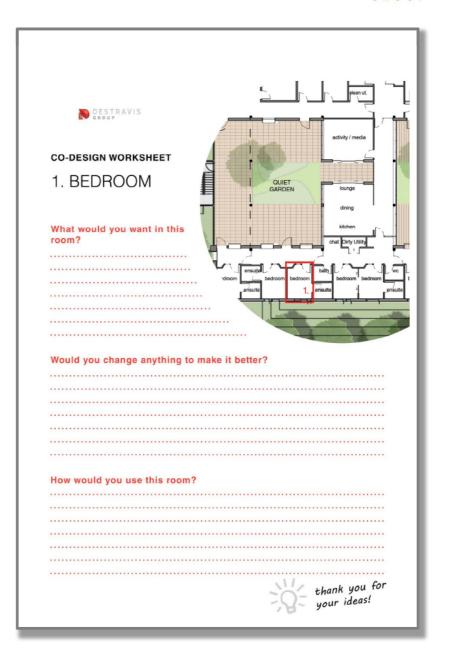
Participants observe the space and reflect on intended design. Questions were asked at the Design Team.

- Reflect

Participants share reflections, exchange findings with each other and project team.

- Capture

Participants captured their feedback on worksheets that were handed to them at the beginnin gof the workshop. Each room had a separate worksheet with the set questions.



CO-DESIGN WORKSHEET

**1. BEDROOM**

What would you want in this room?

Would you change anything to make it better?

How would you use this room?

thank you for your ideas!

# Conclusion 5

Helping participants feel supported

Acknowledge this is a complex process and tough issues can challenge participants

Matching consultation to different stakeholders

Develop a shared language

Acknowledge expertise

Demonstrate how your input will contribute to the end result

# The current approach to healthcare is not sustainable, both ethically and financially

# Takeaway conclusion

1. To demand that **architects** practice and apply the **Science of healthy design**

2. The develop a **Design Science that allows health** outcomes **to be** calculated and **measured**, thus enabling a healthy build environment index

3. To articulate/demonstrate the **commercial value** of healthy environments that **score high** on the build environment **index**

4. **Leverage** the commercial value **as a catalyst for** healthy (urban) **renewal**

5. Consider non-healthy as non compliance and **unethical**

To foster Salutogenic design to promote health and wellbeing by creating physical environments that support health promotion and thereby healthy societies.

**Ghent, Belgium 14-18th April, 2020**

# Design & Health

**13th WORLD CONGRESS & EXHIBITION**

**FIRST ANNOUNCEMENT**

## Call For Papers

International Academy for Design and Health

www.designandhealth.org
editor@designandhealth.org

**Design &Health**
International Academy for Design and Health

## Congress Theme – Less is more

### Day 1 – Healthy City

**Streams: Healthcare in the Community, Acute Care, Mental Health and Clinical Research.**

Day 1 will consider how we design a healthy city? How would this impact community care, acute care, mental health and clinic research? What would be the outcomes of reducing the burden of disease at different levels? How could the design of a health city prevent a reliance on health care?

The healthy city can be strongly research-led, however, we will feature case studies and practitioners talking about their work and the outcomes in practice.

### Day 2 Theme – Global Perspectives

**Streams: Europe, South America, South Pacific, North America, Asia, South East Asia and Africa & Middle East.**

Day 2 looks to our Global Chapter regions regarding their localised health issues. Representatives will be called on to provide regional perspectives and regional health innovations, addressing local issues.

The content will include research, case study and practical points of view to demonstrate how regions have responded in individualised ways.

### Day 3 – Digital Industries

**Streams: Digital Innovation, Digital Success, Digital Industry and Digital Benefit Realisation**

Day 3 will assess how the impact of digital technology has created a huge transformation in healthcare including:
- a change in various models of care - community care, acute care, mental health and clinical research
- how patients access care
- assistance in the prevention and treatment of disease

This theme is aimed at anticipating and focusing on clinical innovation and the effects of built environment so that we can be prepared for it, as we look to other industries for inspiration.

For example, the airline industry has changed dramatically due to advances in technology. This has resulted in new airport designs. We will assess who and what are the digital innovators, digital success stories from industry operators, digital benefit realisations for technology providers – or other upcoming or emerging technology providers, as well as links between technology and government.

© VISITFLANDERS

# Design & Health
## 13th World Congress

## TIMETABLE

**15th July, 2019**
First Announcement & Call for papers

**15th September 2019**
Deadline for Abstract of papers

**11th October, 2019**
Authors notified of decision of papers

**11th October, 2019**
Preliminary Programme and Registration opens

**21st October 2019**
International Academy Awards open for entry

**1st December, 2019**
Deadline for Early Bird, Speaker Registration and Final Manuscript

**February, 2020**
Final Programme

**14-18 April, 2020**
13th World Congress

**May, 2020**
Selected papers to be published on Resource Library

## You're Invited – WC2020 Design Competition

The competition encourages applicants to not only consider the influence of design on health and wellness (salutogenis); but also to apply the research and advance the cause through your personal work and through this project.

In inviting you to join our design competition, the International Academy for Design and Health encourages you to become empowered about creating change through designing healthy spaces and improving wellness, despite any formal requirement or legislation for you to do so.

The Topic for the Design Competition is:
How to design a healthy city that doesn't require a hospital because it is founded on wellness and preventative principles
In addressing this topic, please consider:
- We do not want you to design the entire city, just one building block or component.
- You can design individual building blocks that impact or help the people of the city.
- Your building block can be as small as an individual healthy room, all the way through to a healthy community through urban planning.

**Find out more & register on our website – submissions close 31 October 2019**
Submissions can be under a single name, a formal organization, or an informal group.
Submissions can be multi-disciplinary or may take a single focus.

# Thank you

**Mr. Antone Malone**

**Director of Research for the French Hospitals Federation**

How integrated care impacts future health organisations

# Structures, cultures, and the quest for Integrated Care

**Antoine MALONE,**
**Director of Research, FHF**
**PhD Student ENAP**

September 2019

# OUTLINE

- **Dimensions of integration**

- **Culture and values**

- **Integrated care in France : FHF's « Responsabilité populationnelle » project**

  - **General Design**
  - **Key concepts**
  - **Structural integration**
  - **Clinical integration**

- **Integrated care and the future of hospitals**
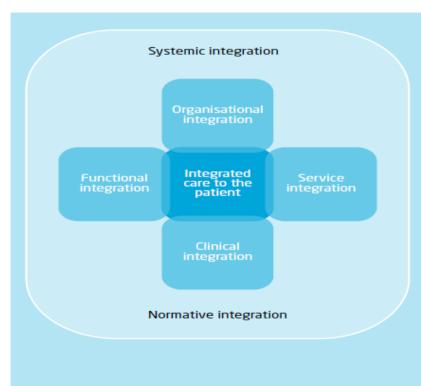
# Integrated care ?

*"In many health systems, integrated care is seen as a possible solution to the growing demand for improved patient experience and health outcomes of multimorbid and long-term care patients*

WHO, 2016

# Dimensions of integration (Curry and Ham, 2010)

**Figure 1** Fulop's typologies of integrated care (from Lewis *et al* 2010)



- Organisational integration, where organisations are brought together formally by mergers or through 'collectives' and/or virtually through co-ordinated provider networks or via contracts between separate organisations brokered by a purchaser.

- Functional integration, where non-clinical support and back-office functions are integrated, such as electronic patient records.

- Service integration, where different clinical services provided are integrated at an organisational level, such as through teams of multidisciplinary professionals.

- Clinical integration, where care by professionals and providers to patients is integrated into a single or coherent process within and/or across professions, such as through use of shared guidelines and protocols.

- Normative integration, where an ethos of shared values and commitment to co-ordinating work enables trust and collaboration in delivering health care.

- Systemic integration, where there is coherence of rules and policies at all organisational levels. This is sometimes termed an 'integrated delivery system'.

Source: Adapted from Fulop *et al* (2005)

# New types of organizations

**What is an ACO?**

Accountable Care Organizations, (ACOs) are groups of hospitals, providers and community partners who come together, along with a health plan, to improve patient outcomes and reduce health care costs by delivering highly coordinated care.

In an ACO we will help our patients:

Avoid unnecessary trips to the ER

Better manage medications

**Patients**

Address Social Determinants of Health

Reduce preventable hospital admissions

*Accountable Care Organizations* (USA)

NHS Vanguards

Bringing health and social care together around the country

Vanguards and ACS (UK)

Centre intégré de santé et de services sociaux

Québec

Integrated health and social services centers (Quebec, Canada)
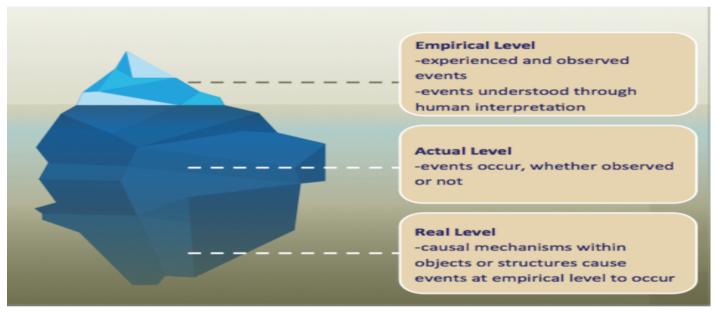
INTEGREO
DES SOINS INTÉGRÉS
POUR UNE MEILLEURE SANTÉ

« Integreo », Belgium

# Beneath the surface : Professional norms and culture



Source : Fletcher, 2016

*Things that are hidden from plain view* explain *the shape of phenomena and their outcomes*

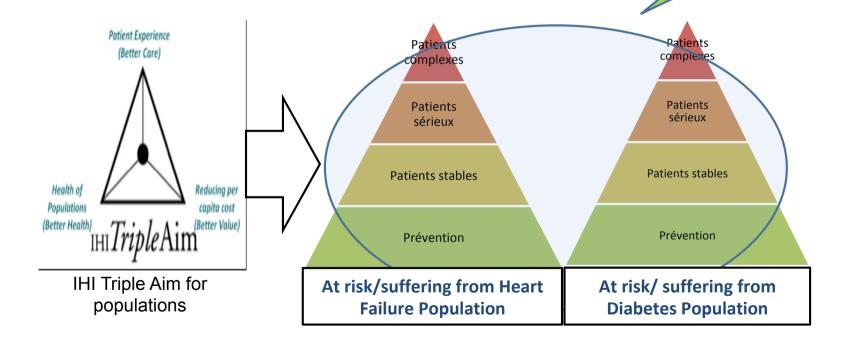# Towards clinical integration in five regions

- Clinical integration – as opposed to organizational integration – is key in the French context

- Five volunteer Territorial hospital Groups (GHT)

- Each GHT is tasked with building an ecosystem comprising all the necessary resources and key actors to fulfil the needs of a given population -independent providers (Doctors, nurses, other health professionals), community resources, etc.

- Population between 170 000 and 400 000, a large general hospital, several smaller local hospitals, long term retirement homes, etc.

- Model primarily built on intrinsic motivation of healthcare professionals : the primary goal is to improve health of populations and care of patients

- Key concept : « **Responsabilité populationnelle** » : shared accountability of all towards patients and populations

# The Group's architecture

- The choice to work on two common conditions allows to create a learning collaborative between 5 territories
- The method (2 common conditions, shared methodology, shared baseline clinical programs, shared indicators) allows for a robust proof of concept

**2 common conditions for the five territories**



IHI Triple Aim for populations

Patients complexes
Patients sérieux
Patients stables
Prévention

**At risk/suffering from Heart Failure Population**

**At risk/ suffering from Diabetes Population**

The « Pionniers de la Responsabilité populationnelle » Group

**FHF head office**

**FHF Data**

-Cornouaille

-Aube-Sézannais

- Douaisis

- Deux-Sèvres

- Haute-Saône

**Operation al support**

**Management support**

**IT and Data support**

**Medical and clinical support**

**Methodologic al support**

**Total population:** +-1.4 million

**Total health services spending's :** +-3Md€

# « RESPONSABILITE POPULATIONNELLE »

*« Responsabilité populationnelle is the idea that all healthcare providers of a given territory share an accountability towards the well-being of their populations, and the quality of care for their patients »*
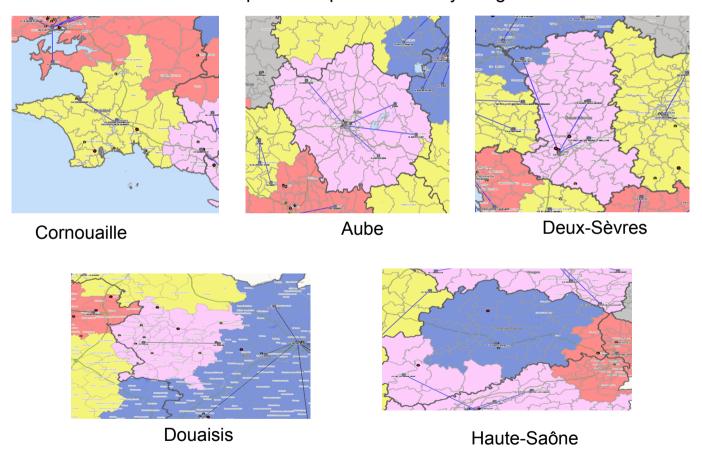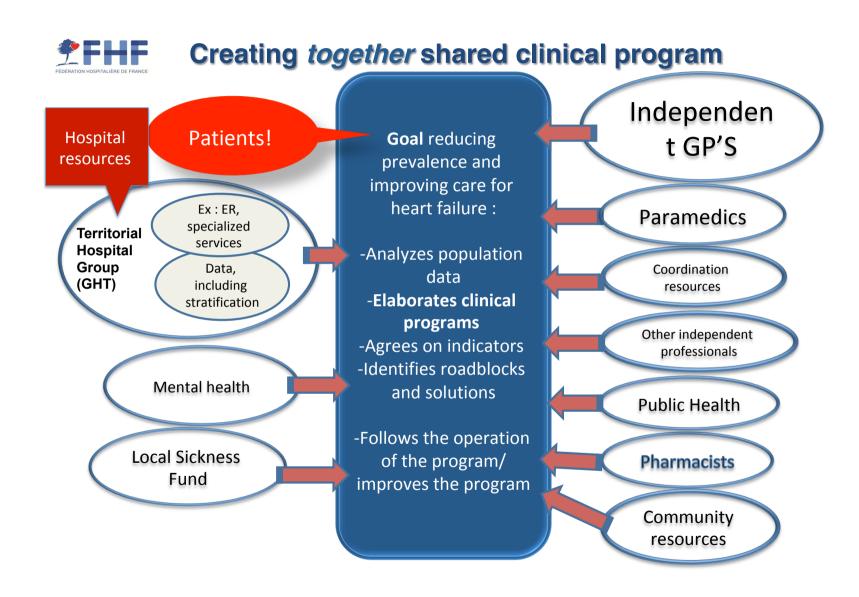
## Accountability ? ACO's vs. France

| | USA | FRANCE |
|---|---|---|
| Target population | People contractualy linked with the ACO | Every resident of a territory |
| Objectives of accountability | Reduce costs, improve outcomes | Improve outcomes |
| Drivers of accountability | Financial incentives | Professional norms |
| Actualization of accountability | Through contracts | Through sharing patients and co-design of clinical programmes |

# Structural integration

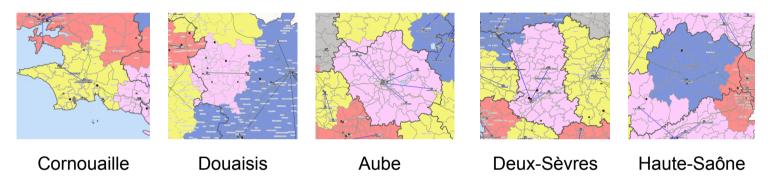From « Territorial hospital Groups » to clinicaly integrated health networks


Cornouaille


Aube


Deux-Sèvres


Douaisis


Haute-Saône

# Creating *together* shared clinical program

**FHF**
FÉDÉRATION HOSPITALIÈRE DE FRANCE

Hospital resources

Patients!

**Territorial Hospital Group (GHT)**

Ex : ER, specialized services

Data, including stratification

Mental health

Local Sickness Fund

**Goal** reducing prevalence and improving care for heart failure :

-Analyzes population data
-**Elaborates clinical programs**
-Agrees on indicators
-Identifies roadblocks and solutions

-Follows the operation of the program/ improves the program

Independent GP'S

Paramedics

Coordination resources

Other independent professionals

Public Health

Pharmacists

Community resources

# Creating population health data analytics in France

Using hospital data to « create » territories and populations



| Cornouaille | Douaisis | Aube | Deux-Sèvres | Haute-Saône |

| Number of diabetes patients found* | | | | |
|---|---|---|---|---|
| 10 445 | 11 233 | 14 303 | 15 713 | 7 032 |
| **Number of heart failure patients found*** | | | | |
| 8 303 | 5 355 | 8 241 | 10 386 | 5 033 |

*Numbers at 15-01-2019

Identifying « statistical » population → Identifying « real » persons → Including real persons in clinical programs

# Common baseline clinical programs

- National guidelines for diabetes and heart failure not followed by practitioners, and not practical in terms of actual work conditions

- Need to find proven guidelines for our two populations

- Need to adapt these guidelines to the French context, with expert clinicians and learned societies

# Running clinical meetings

- Need for a robust methodology so that the meetings produce what is expected : shared clinical programs

- Partnership with Quebec's National Institute for Excellence in Healthcare and Social Services (INESSS)

- Training for 20 clinicians and health professionals on the « COMPAS+ » methodology : teams of four *conductors* per territory
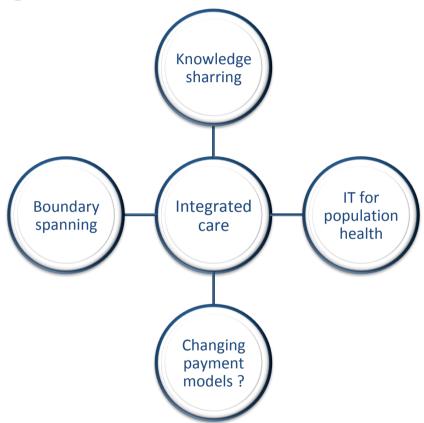
# Integrated Care : changing our organizations



Knowledge sharring

Boundary spanning

Integrated care

IT for population health

Changing payment models ?

# THANK YOU FOR YOUR ATTENTION

# WISHING YOU
# AN INSPIRATIONAL TOUR

# SAFE TRIP BACK TO THE MEET & GREET CENTER