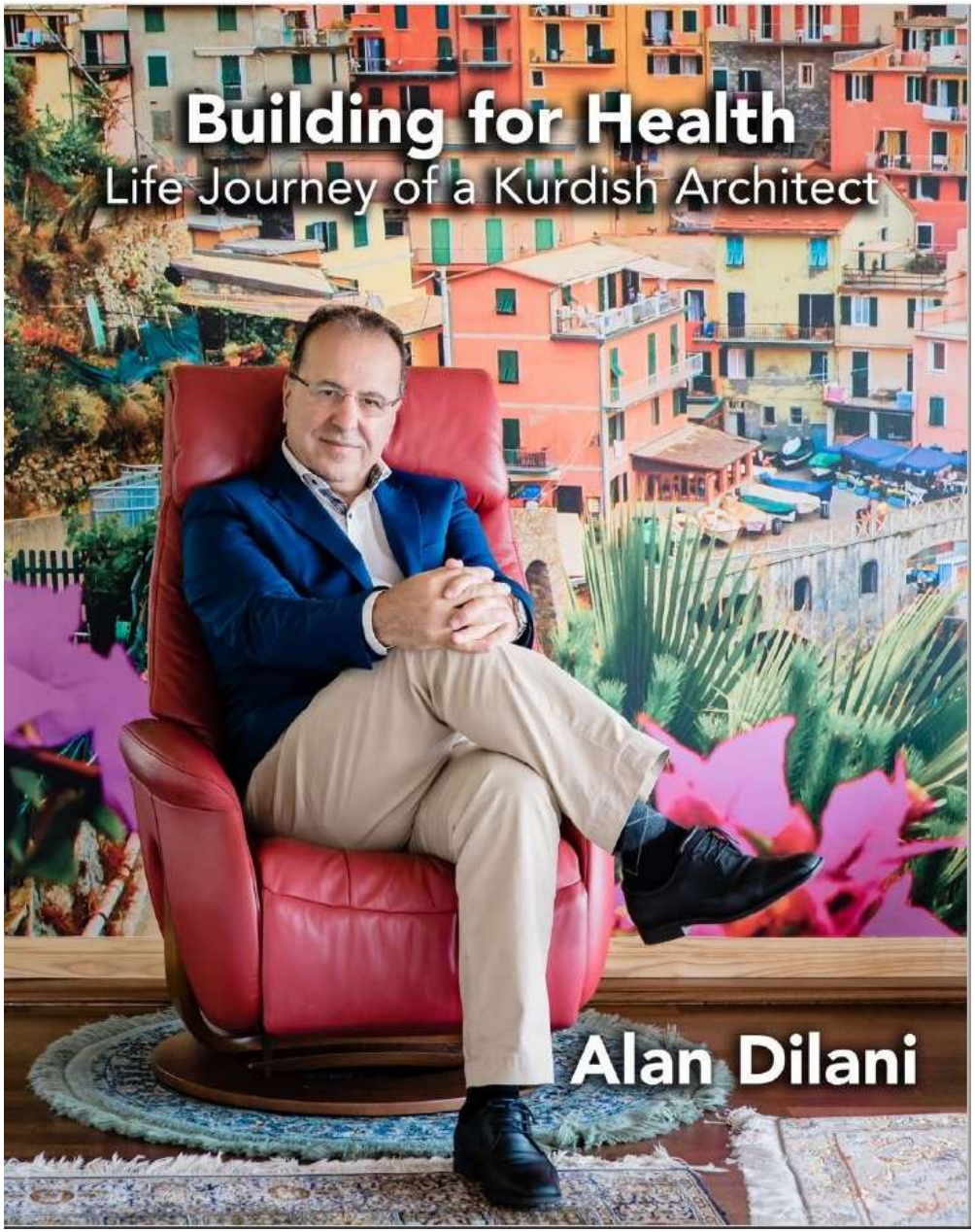

Design & Health International Academy Awards

Design & Health UNIMAS UNIVERSITI MALAYSIA SARAWAK

Kuching, Sarawak, Malaysia 28 Sep-02 Oct. 2026

Design & Health

15TH WORLD CONGRESS & EXHIBITION

The Science of the Salutogenesis, Theory and Application

健康本源学，建筑与健康

阿兰·迪拉尼

Prof. Alan Dilani, PhD. Architect / Public Health

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Design & Health Global Events Map

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World Congresses

- 1st Trondheim 1997
- 2nd Stockholm 2000
- 3rd Montreal 2003
- 4th Frankfurt 2005
- 5th Glasgow 2007
- 6th Singapore 2009
- 7th Boston 2011
- 8th Kuala Lumpur 2012
- 9th Brisbane 2013
- 10th Toronto 2014
- 11th Hong Kong 2015
- 12th Vienna 2017
- 13th Milano 2024
- 14th Singapore 2025
- 15th Sarawak, Malaysia 2026
- **16th Sydney, Australia 2027**

International Symposiums

- Sydney 2010
- Toronto 2010
- Brussels 2010
- Melbourne 2011
- Cape Town 2011
- Helsinki 2012
- Singapore 2013
- Beijing 2014
- Brazil 2018
- Milan 2019

Chapter Events

- Chile 2018
- Dallas 2018
- Melbourne 2018
- Upcoming Shenzen 2019
- Upcoming Brazil 2019
- Upcoming Brisbane 2019
- Upcoming Singapore 2020

The Participants of World Congress & Exhibition on Design & Health in Kuala Lumpur 2012





Minister of Health Singapore, Mr Ong Ye Kung



Dr Julio Frenk former Minister of Health and Dean of Harward Public Health with Lord Nigel Crisp the former NHS director with Dr Alan Dilani the president of Academy



Minister of Health Singapore and Director of Health Singapore



Minister of Health Malaysia, Tan Sri Dato' Sri Liow Tiong Lai with Alan Dilani



Welcome speech by Minister of Health Malaysia, and below inauguration



Launching gimmick by Minister of Health Malaysia, Tan Sri Dato' Sri Liow Tiong Lai with Alan Dilani



Minister of Health Hong Kong, Dr. Ko Wing-Man and Minister of Health Vietnam, Dr. Pham Le Tuan in Hong Kong



Ministerial Panel discussion with several Health Minister



The partners of World Congress Design and Health



Milano Italy, 2024



Gala dinner in City Hall of Vienna



Academy Awards Gala dinner in City Hall of Vienna

Welcome to

Kuching City, Sarawak, Malaysia



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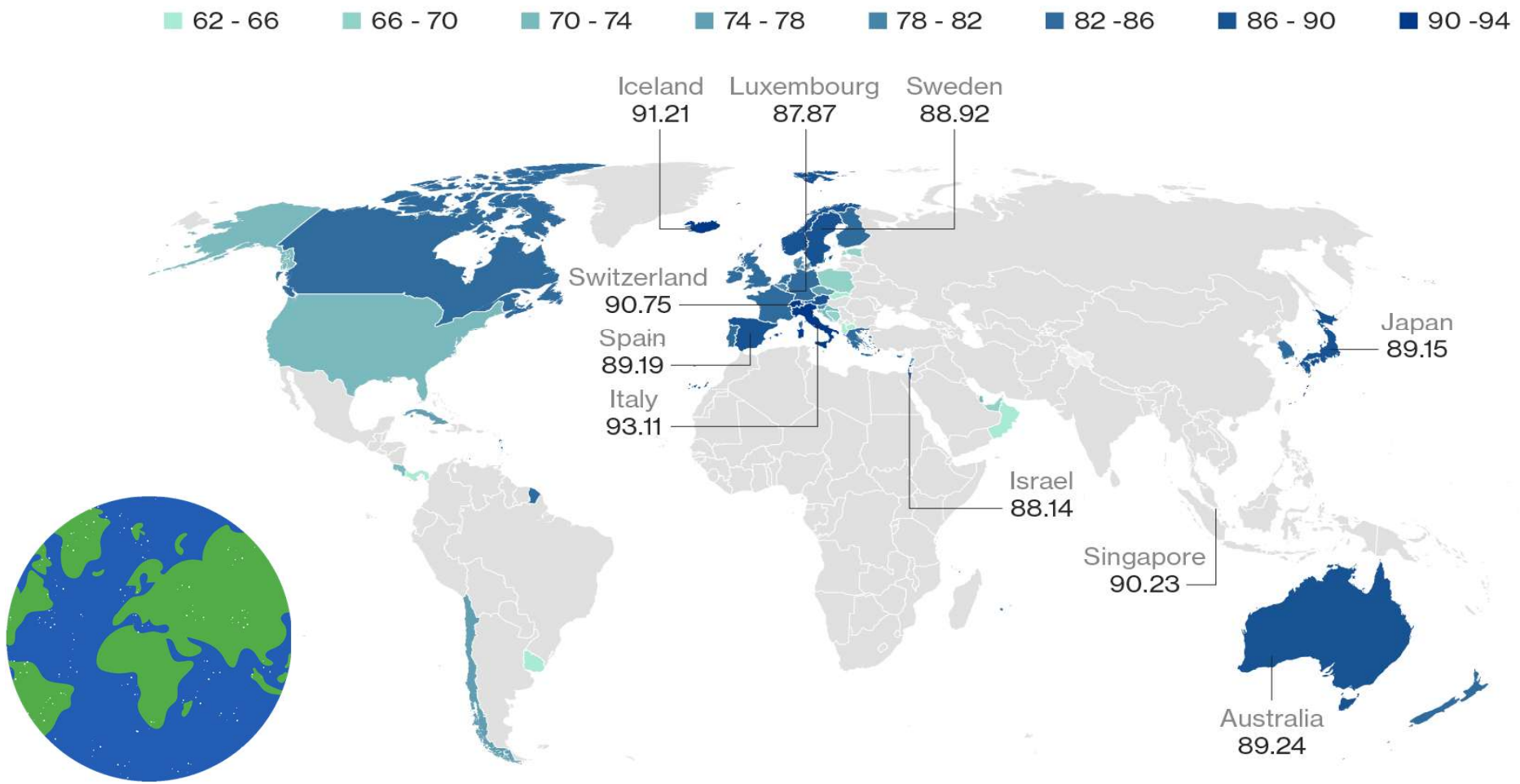
World Health Organization

Global Action Plan

"To make our neighborhoods and cities healthier, so it's easier for everyone to avoid the common causes of long-term diseases like heart disease and diabetes."

Fifty Healthiest Countries

- Singapore and Cyprus are the only non-OECD countries to rank in top 20
- Israel is the highest ranked country in the Middle East, Chile in Latin America and Slovenia in Eastern Europe



Sources: World Health Organization, United Nations Population Division, World Bank

Bloomberg

Bloomberg 2017 Healthiest Country Index

Rank	Country	Health grade	Health score	Health risk penalties	Rank	Country	Health grade	Health score	Health risk penalties
1	Italy	93.11	97.44	−4.33	26	Belgium	80.96	86.03	−5.07
2	Iceland	91.21	96.20	−4.99	27	Slovenia	80.81	86.65	−5.83
3	Switzerland	90.75	94.96	−4.21	28	Denmark	80.36	85.02	−4.66
4	Singapore	90.23	94.11	−3.88	29	Chile	77.18	82.53	−5.35
5	Australia	89.24	93.88	−4.64	30	Czech Rep.	75.76	81.82	−6.06
6	Spain	89.19	94.14	−4.95	31	Cuba	74.23	79.13	−4.90
7	Japan	89.15	93.69	−4.54	32	Lebanon	74.03	79.55	−5.51
8	Sweden	88.92	93.78	−4.85	33	Costa Rica	73.14	77.16	−4.01
9	Israel	88.14	92.47	−4.33	34	U.S.	73.05	78.25	−5.21
10	Luxembourg	87.87	92.90	−5.03	35	Croatia	72.88	78.16	−5.28
11	Norway	86.81	91.61	−4.81	36	Qatar	71.78	77.33	−5.55
12	Austria	86.34	90.78	−4.44	37	Brunei	70.21	75.14	−4.92
13	Netherlands	85.83	89.94	−4.11	38	Estonia	69.24	75.67	−6.43
14	France	85.59	90.93	−5.34	39	Poland	68.92	75.34	−6.42
15	Finland	84.80	89.58	−4.78	40	Bahrain	68.73	74.20	−5.46
16	Germany	84.78	89.40	−4.62	41	Maldives	67.90	71.82	−3.92
17	Canada	84.57	89.53	−4.96	42	Bosnia & H.	67.83	72.91	−5.08
18	Cyprus	84.52	89.17	−4.65	43	U.A.E.	67.30	73.56	−6.26
19	New Zealand	84.48	89.95	−5.47	44	Macedonia	65.64	69.96	−4.32
20	Greece	84.28	88.17	−3.89	45	Uruguay	65.40	70.86	−5.45
21	Portugal	82.97	88.24	−5.27	46	Slovakia	65.10	70.54	−5.44
22	Ireland	82.52	88.53	−6.01	47	Barbados	64.14	68.55	−4.41
23	U.K.	82.28	87.21	−4.94	48	Oman	62.89	67.79	−4.90
24	S. Korea	82.06	87.67	−5.61	49	Panama	62.39	67.13	−4.73
25	Malta	81.27	86.42	−5.15	50	Albania	62.01	66.72	−4.71

Sources: World Health Organization, United Nations Population Division, World Bank

Note: Health grade (X) = Health score (A) - Health risk penalties (B)
A: Health score metrics: 1. mortality by communicable, non-communicable diseases and injuries; 2. life expectancy at the defining age of birth, childhood, youth and retirement; 3. probability to survive neonatal, into young adulthood and retirement stages; B: Health risk penalties: 1. behavioral/endogenous factors such as high incidences of population with elevated level of blood pressure, blood glucose and cholesterol, prevalence of overweight, tobacco use, alcohol consumption, physical inactivity and childhood malnutrition, as well as mental health and basic vaccination coverage; 2. environmental/exogenous factors such as greenhouse gas emissions per capita and percentage of population with access to improved drinking water.

Most recent data used. Of the more than 200 countries and regions evaluated, 163 had enough data to be included in the final outcome; The top 50 are displayed.

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Bloomberg

1. **Monaco** – 87.01 years
2. **Hong Kong** – 85.83 years
3. **Macau** – 85.65 years
4. **Japan** – 85.08 years
5. **Liechtenstein** – 84.92 years
6. **Switzerland** – 84.52 years
7. **Singapore** – 84.39 years
8. **Italy** – 84.35 years
9. **South Korea** – 84.26 years
10. **Spain** – 84.19 years
11. **Malta** – 83.98 years
12. **Australia** – 83.87 years
13. **Andorra** – 83.86 years
14. **French Polynesia** – 83.84 years
15. **Sweden** – 83.82 years
16. **San Marino** – 83.73 years
17. **Norway** – 83.70 years
18. **Israel** – 83.53 years
19. **France** – 83.49 years
20. **New Zealand** – 83.30 years
21. **Canada** – 83.18 years
22. **Gibraltar** – 83.18 years
23. **Iceland** – 83.10 years
24. **Guernsey** – 83.10 years
25. **Ireland** – 83.02 years
26. **Luxembourg** – 82.89 years
27. **Netherlands** – 82.71 years
28. **Finland** – 82.68 years
29. **Belgium** – 82.61 years
30. **Portugal** – 82.60 years
31. **Slovenia** – 82.47 years
32. **United Kingdom** – 82.45 years
33. **Germany** – 82.34 years
34. **Austria** – 82.75 years
35. **Denmark** – 81.71 years
36. **Channel Islands** – 82.60 years
37. **Bermuda** – 82.55 years
38. **Qatar** – 82.35 years
39. **Isle of Man** – 82.00 years
40. **UAE** – 81.98 years
41. **Greece** – 81.95 years
42. **Maldives** – 81.80 years
43. **Czech Republic** – 81.70 years
44. **Chile** – 81.60 years
45. **Kuwait** – 81.50 years
46. **Puerto Rico** – 81.40 years
47. **Thailand** – 81.30 years
48. **China** – 80.80 years
49. **Costa Rica** – 80.50 years
50. **USA** – 77.00 years

The list of the 50 healthiest countries in the world for 2024 considers factors such as life expectancy, access to healthcare, diet, environmental conditions, and lifestyle habits.

(The Facts Institute(World Population Review

Here are the top 30 from the rankings based on global health index measures:

These countries typically have strong public healthcare systems, high standards of living, and a focus on preventive healthcare measures.

Countries like Spain and Italy benefit from Mediterranean diets, which contribute to their high life expectancy and overall health, while others like Singapore and Japan have **efficient healthcare systems and promote healthy lifestyles**

(World Population Review)(Time Out Worldwide) CEOWORLD magazine

1. **Singapore**
2. **Japan**
3. **South Korea**
4. **Taiwan**
5. **Israel**
6. **Norway**
7. **Iceland**
8. **Sweden**
9. **Switzerland**
10. **Netherlands**
11. **Luxembourg**
12. **Germany**
13. **Hong Kong**
14. **Finland**
15. **Denmark**
16. **Italy**
17. **Belgium**
18. **Malta**
19. **France**
20. **Austria**
21. **Australia**
22. **Ireland**
23. **Slovenia**
24. **New Zealand**
25. **Spain**
26. **Czech Republic**
27. **Cyprus**
28. **Costa Rica**
29. **Canada**
30. **United Arab Emirates**

Top 50 healthiest countries in the world for 2024, based on factors like life expectancy, obesity rates, access to healthcare, diet, and **environmental conditions**:

1. **Singapore**
2. **Japan**
3. **South Korea**
4. **Taiwan**
5. **Israel**
6. **Norway**
7. **Iceland**
8. **Sweden**
9. **Switzerland**
10. **Netherlands**
11. **Luxembourg**
12. **Germany**
13. **Hong Kong**
14. **Finland**
15. **Denmark**
16. **Italy**
17. **Belgium**
18. **Malta**
19. **France**
20. **Austria**
21. **Australia**
22. **Ireland**
23. **Slovenia**
24. **New Zealand**
25. **Spain**
26. **Czech Republic**
27. **Cyprus**
28. **Costa Rica**
29. **Canada**
30. **United Arab Emirates**
31. **United Kingdom**
32. **Portugal**
33. **Greece**
34. **Kuwait**
35. **Chile**
36. **Qatar**
37. **Bahrain**
38. **Saudi Arabia**
39. **Lebanon**
40. **Estonia**
41. **Lithuania**
42. **Poland**
43. **Croatia**
44. **Latvia**
45. **Serbia**
46. **Oman**
47. **Slovakia**
48. **Montenegro**
49. **Argentina**
50. **Uruguay**

These rankings are largely determined by healthcare systems, public health policies, and cultural factors like diet and exercise habits that contribute to the overall well-being of these nations
(CEOWORLD magazine) (World Population Review).

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LOMA LINDA
United States
ICARIA
Greece
SARDINIA
Italy
OKINAWA
Japan
NICOYA
Costa Rica
BLUE
ZONES

Blue Zones are regions in the world where people live significantly longer than average, often reaching ages of 90 or even 100, while maintaining a high quality of life. These areas have been studied for their unique lifestyles and practices that contribute to longevity. There are five well-known Blue Zones:

1.Okinawa, Japan – The population here, particularly the women, live longer than anywhere else on Earth. Their diet, rich in vegetables and soy-based foods, along with a strong sense of community, plays a key role in their longevity.

2.Sardinia, Italy – This island has an unusually high concentration of male centenarians. The local diet is rich in whole grains, vegetables, and a moderate amount of wine. Physical activity through farming and social bonds also contribute to their long lives.

3.Ikaria, Greece – This small island in the Aegean Sea has very low rates of dementia and chronic diseases. The Ikarian diet, which is similar to the Mediterranean diet, focuses on olive oil, vegetables, and moderate alcohol consumption. Their relaxed pace of life and strong community connections are also key factors.

4.Nicoya Peninsula, Costa Rica – The inhabitants of this area have a lower rate of middle-age mortality and higher life expectancy. A traditional diet of beans, corn, and tropical fruit, combined with water high in calcium, helps maintain bone health and longevity.

5.Loma Linda, California, USA – The only Blue Zone in the U.S., home to a community of Seventh-day Adventists. They live about 10 years longer than the average American. A vegetarian diet, regular exercise, and a focus on spirituality and community are central to their lifestyle. These regions emphasize plant-based diets, regular physical activity, strong social bonds, and low levels of stress (World Population Review) .

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Italy's Struggling Economy Has World's Healthiest People

Photographer: Wolfgang Kaehler/LightRocket via Getty Image

POLITECNICO
MILANO 1863

DIPARTIMENTO DI ARCHITETTURA,
INGEGNERIA DELLE COSTRUZIONI
E AMBIENTE COSTRUITO



World Health Organization

A generally accepted definition of Health according to WHO:

"Health is a state of complete physical, psychological and social well being; not only the absence of illness!"

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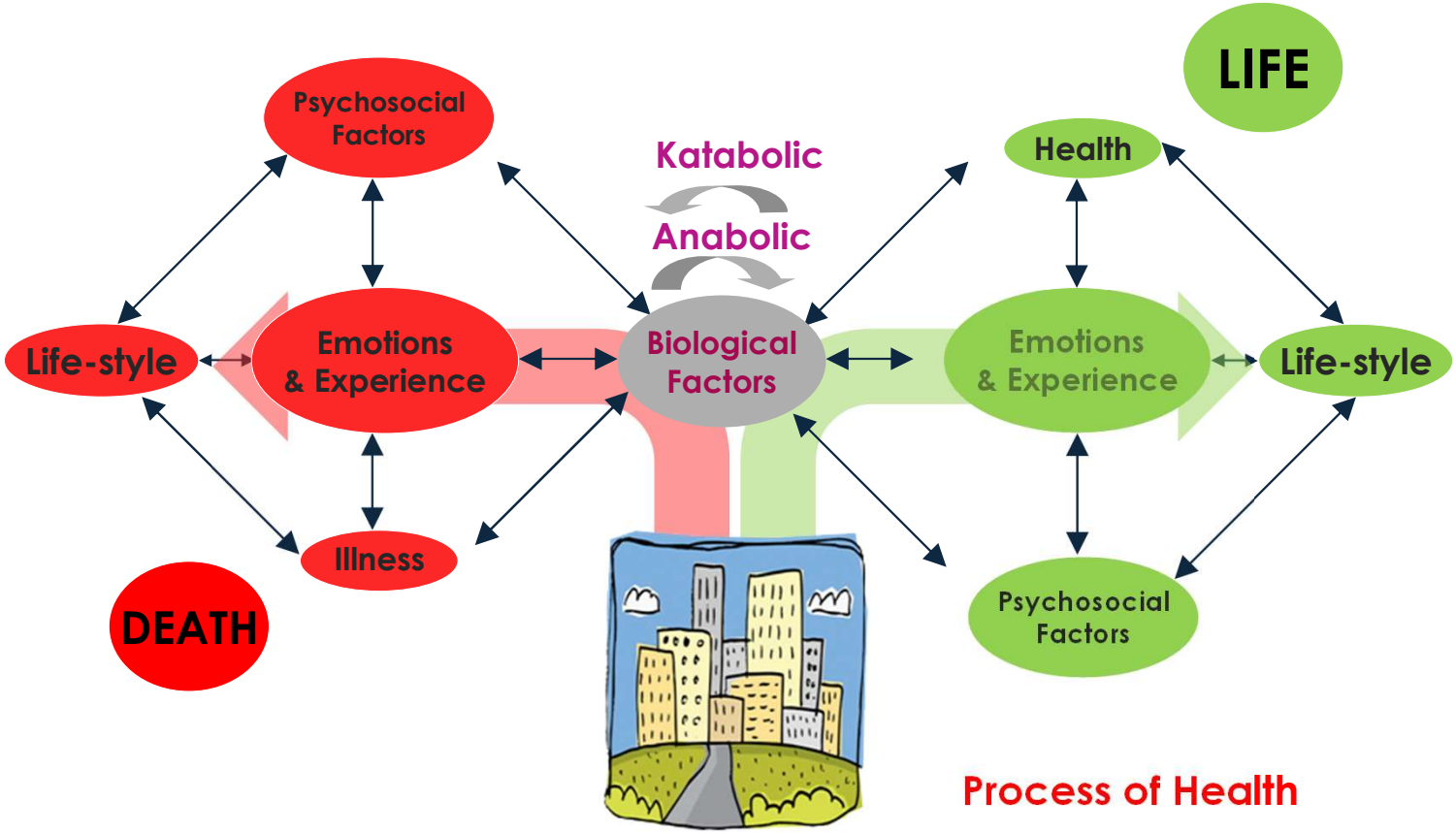
Process of Disease



Sickness <<<<< Factors

Factors >>>>> **Health**

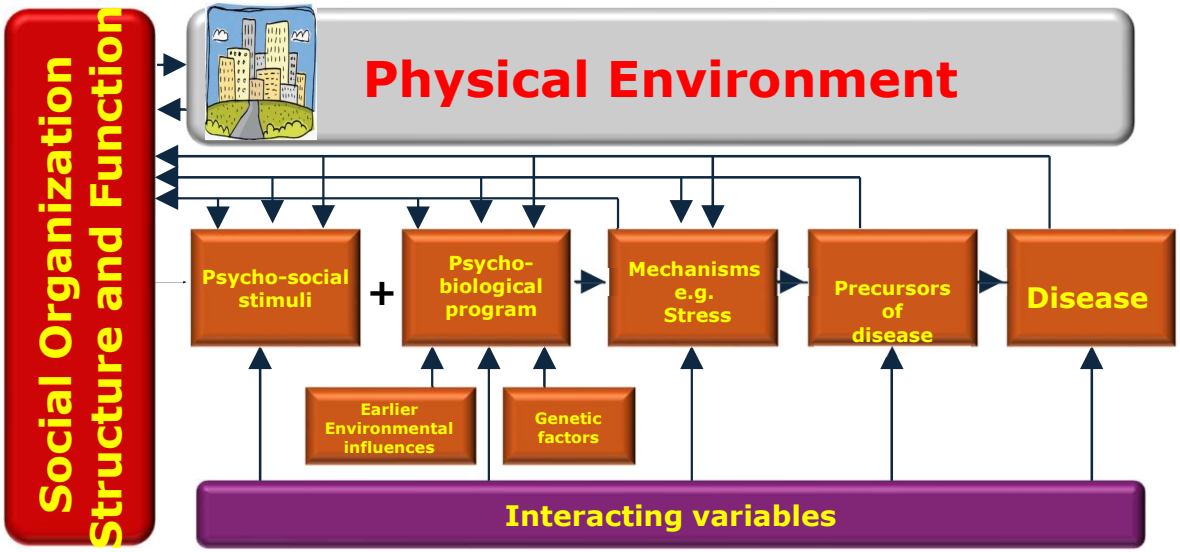
Pathogenic

State of Well-being

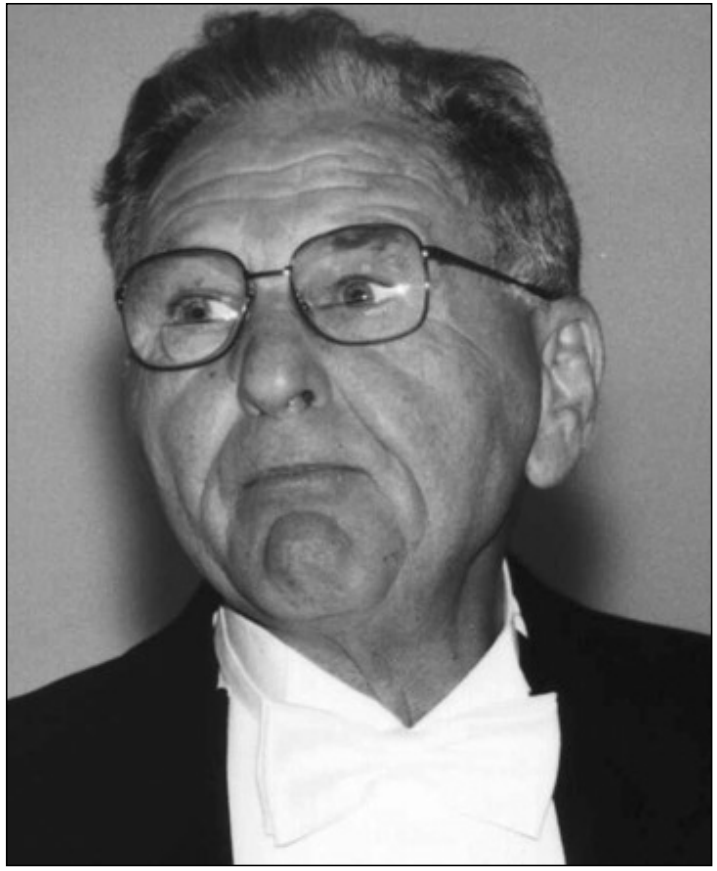
Salutogenic

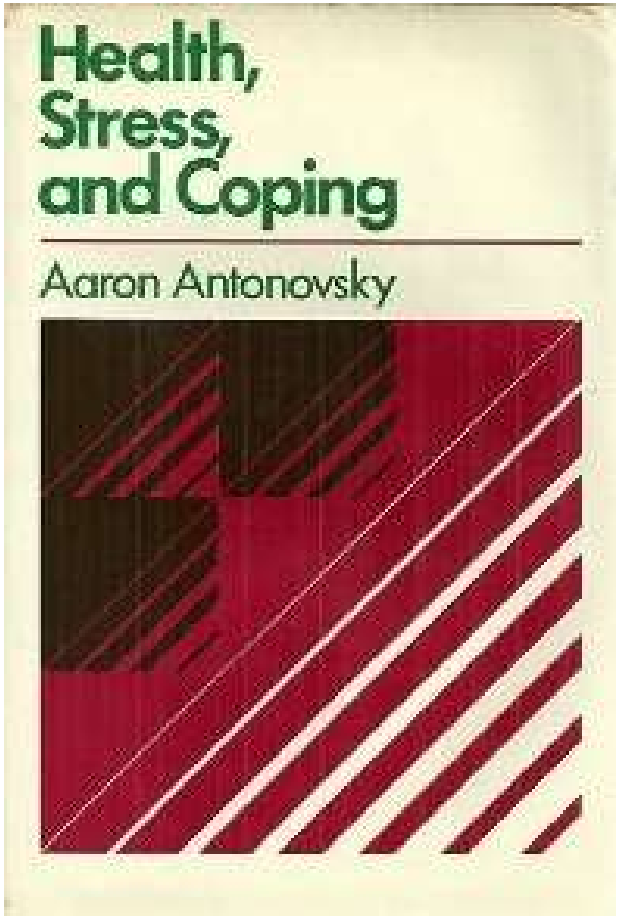
Stress

Theory Model for Psychosocially Mediated Disease



L. Levi, 1972





Theory of Health and Salutogenesis

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SALUTOGENESIS = SALUS + GENESIS

HEALTH **ORIGIN**

“ Salutogenesis is an approach focusing on factors that support human health and wellbeing ”

Antonovsky – How people manage stress and stay well (1976)

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Theory of Salutogenesis

Aaron Antonovsky's health theory of Salutogenesis in contrast to the Pathogenic orientation of Healthcare, suggests that we shall look for wellness factors instead of risk factors.

Health care and medical science has been focused for factors that cure diseases and factors that lead to disease.

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Salutogenic theory focuses on the guide to health promotion through healthy lifestyle by focusing on **"STRESS" reduction** and as well as coping with factors that causes **"STRESS"**.

According to Antonovsky (1976

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Studies on "SALUTOGENESIS“ primarily addressed the fields of health psychology, behavioral medicine, and the sociology of health.

"SALUTOGENESIS“ has also been adopted in the medical fields for preventive healthcare services delivery and healthcare architecture.

The meaning of this concept was a dominant concern of Antonovsky (1976)

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Salutogenesis

A proactive approach to health promotion and prevention (1)

Characteristic conditions that determine a person's abilities to cope with stress is the Sense of Coherence (2):

- **Comprehensibility: world is understandable**
- **Manageability: resources to meet situations**
- **Meaningfulness: life makes sense**

1 Viravong, Khamphira, "Salutogenic community building," International Journal of Web Based Communities, Vol. 3, No. 1, May 2007,p 32-43.
2 Antonovsky, Aaron, Health, Stress and Coping, Jossey-Bass, San Francisco, 1982, p 14.

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Sense of coherence is supported by the ability to understand one's environment (*comprehensibility*), to respond effectively to challenges (*manageability*), and to find purpose in life's experiences (*meaningfulness*).

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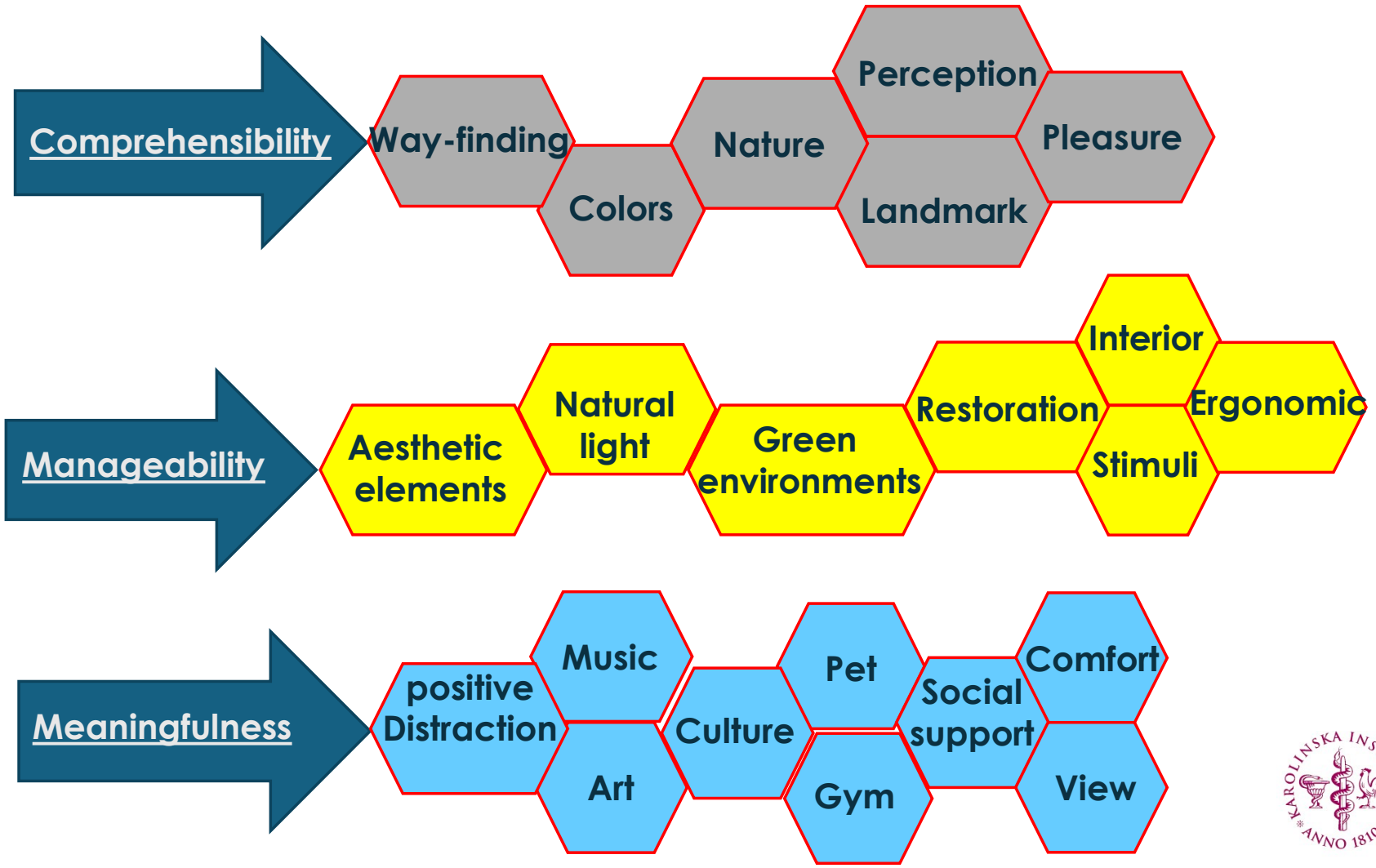
Translating Salutogenic Design Theory into Environmental Design Factors



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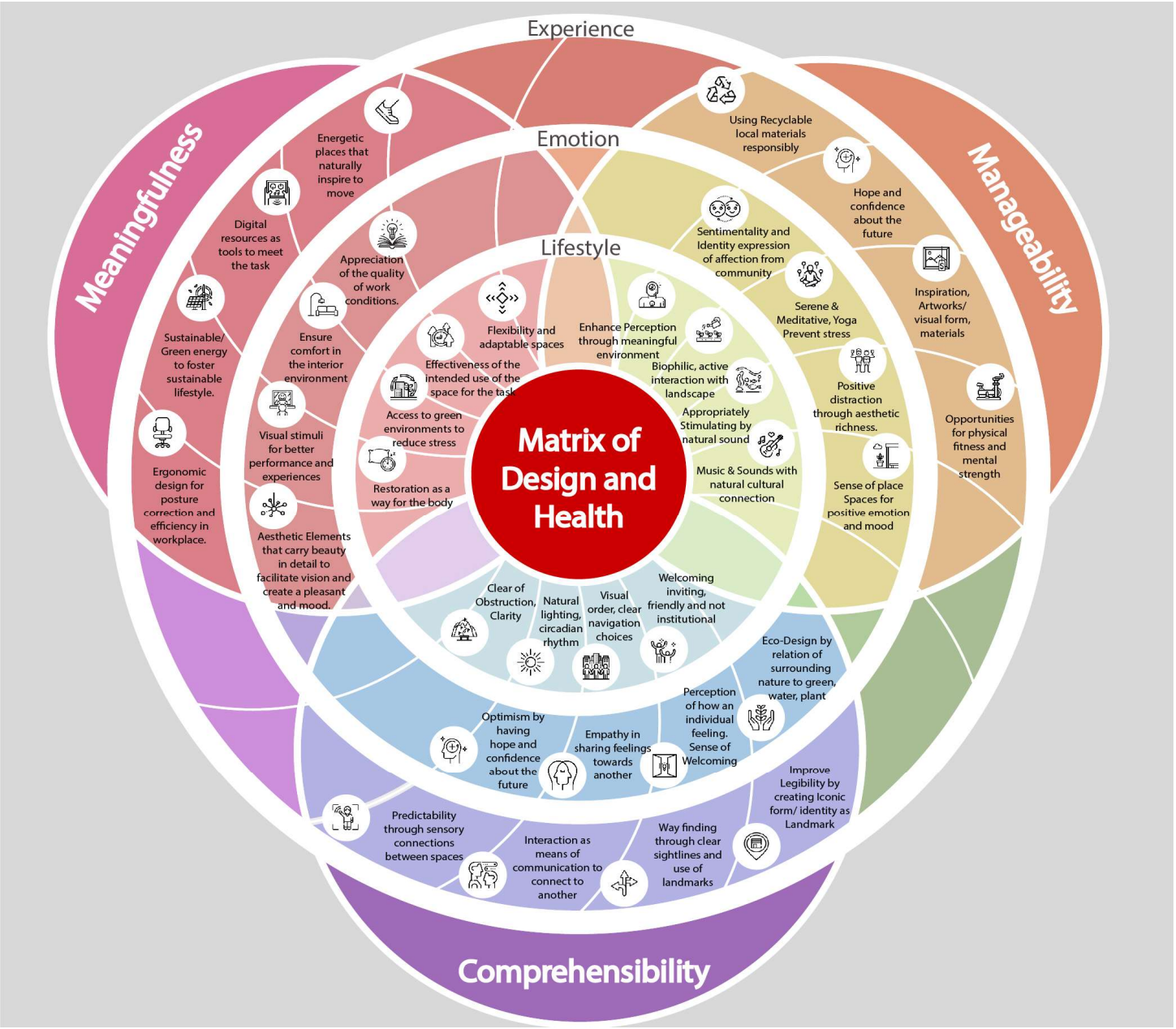
Health House

Matrix of Key Design Factors as guide for the design of Salutogenic Health House in Eze

Sense of coherence. Prevent Stress / Health components. / Health Promotion

	Psychosocial Design Factors		
	Lifestyle	Emotions	Experience
	Key Design Factors		
Comprehensibility: World is Understandable	**Landmark** as a recognizable item to establish location e.g: Iconic curvig building form  **Way finding** as a way to direct the users motion e.g: wellcomin entrace / spaces  **Interaction** for communication with others e.g: sfaty camera Smart home connection 	**Nature** by relation of the surrounding context to brought into personal space, depuration Green wall, water fall, Plant Walls  **Perception** of how an individual feelings affect wellbeing, sea view Sense of Welcoming  **Empathy** in sharing feelings towards another : Roof-top Visitor room and powder room 	**Colors** to spark the visual mood and feelings e.g: Bright and cheerful colors  **Pleasure** in happiness and enjoyment : BBQ, Cinema Family games area  **Functional** spaces fit for purpose e.g: Spaces designed with harmony and colorful furniture, Aquarium 
Manageability: Resources to meet situations	**Ergonomic** design for optimum human comfort e.g: Kitchen counter height  **Green Environment** practicing sustainable living by e.g: Sustainable materials  **Interior** spaces design to match the concept e.g: harmony of color and material interior design 	**Stimuli** that evokes a specific reaction e.g: 180 view, sea view, reflective surfaces that gives visual depths, office  **Aesthetic Elements** that carries beauty in details e.g: Art, intricate wall, ceiling with lighting design, green wall design, waterfall  **Cognizance** by acknowledging the conditions and making aware of its environment e.g: Lighting path leads at night 	**Natural Light** that brings ambient e.g: Large windows roof top, pool side  **Restoration** as a way for the body energise e.g: Meditating spaces  **Efficiency** Sun celler to produce an intended result that affects living e.g: Optimise energy usage 
Meaningfulness: Life makes sense	**Pet** as animal companionship e.g: Fish aquarium or dog house  **Culture** by applying ideas, customs and social behavior Wine tower, Fireplace  **Gym and pool** for exercise and keeping healthy; Yoga Fitness Equipments / pool 	**Social support** by interaction with others:Rooftop, Bar, Spa communal space  **Comfort** to improve the mood and ease distress e.g: Warm and cozy furnitures  **Positive Distraction** as a form pool, as escape e.g; Spa, Jacuzzi aquarium, Lighting effects 	**Art** as appreciation for creativity e.g: Paintings and sculptures  **Music** as a pleasing sound Cinema, Embedded speakers  **View** by framing sight of natural scenery e.g: Sea- view, mountain 180 view from site 

© T.R. Hamzah & Yeang / Alan Dilani



Salutogenic Hospital Design

Matrix of Design and Health

for creating the Future Hospital in UK Submission for the Wolfson Economics Prize 2021

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“A measurable aspect of design that can help people operate at peak performance and help them to maintain physical and mental wellbeing. It is the ultimate investment in people in an architectural sense.”

~ Aaron Antonovsky

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Salutogenic Design Factors*(Dilani, others)…*

Research suggests that the following have a positive or salutogenic effect on individuals:

Social organization, personal control, quiet, soft light, nature, art, music, architecture and building proportion, social support, uncrowded spaces, color, comfort, daylight, separation from daily stimuli, need for fascinating stimuli, good sleep, ergonomic form etc

Alan Dilani, Psychosocially supportive design: a salutogenic approach to the design of the physical environment, *International Hospital Federation Reference Book 2008-2009*, p. 32-37.

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IJIE Iberoamerican Journal of Industrial Engineering

Universidade Federal de Santa Catarina. ISSN 2175-8018

SALUTOGENIC ARCHITECTURE, AGING, AND HEALTHCARE FACILITIES: interfaces between accessibility, ergonomics, and neuroscience

Ciro Férrer Herbster Albuquerque, Zilsa Maria Pinto Santiago
Universidade Federal do Ceará (UFC), Fortaleza-CE, Brasil

RECEIVED: 22/03/2026
ACCEPTED: 02/06/2026

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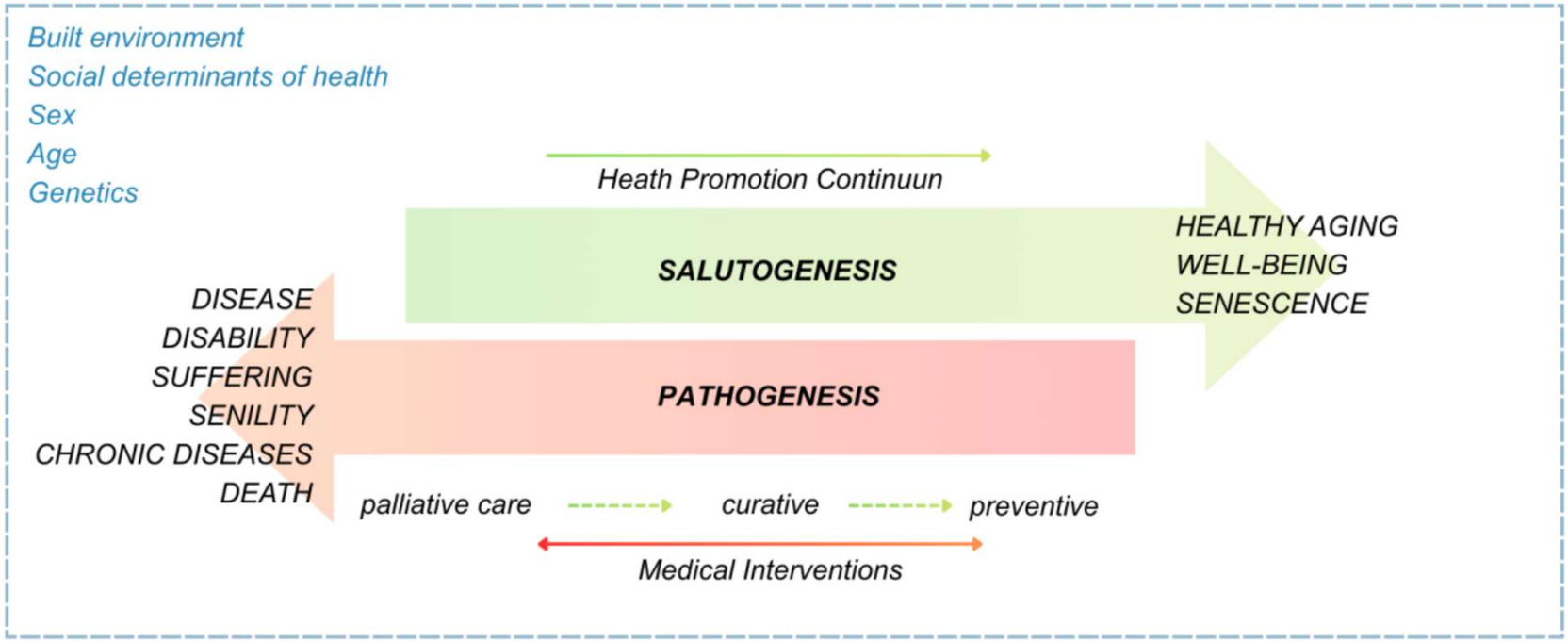

Figure 2. Salutogenic design focuses on creating environments that promote health by fostering coherence, meaning, and manageability through sensory, cognitive, and social stimuli integrated into the context. Source: Adapted from Dilani (2001)

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"According to Dilani (2001), the concept of SOC is strengthened when individuals are able to understand their environment (comprehensibility), feel effective in their actions (manageability), and derive meaning from the experiences provided by the environment (meaningful). A high degree of SOC has been demonstrated to contribute to enhanced stress management, thereby promoting health (Antonovsky, 1979; Dilani, 2001; Farrow, 2024). Salutogenic design applied to the built environment seeks to identify the physical elements that contribute to strengthening the sense of coherence, which is associated with improved health and well-being, according to Figure 2."




INFORMATION
ATM



Linda Porter Bishop


ادارة الدخول
Admitting
المدخل الرئيسي
Main Entrance
المسجد
Mosque
قاعة ابن سينا
Ibn Sina Hall
الصندوق
Cashier
الصيدلية
Pharmacy



Linda Porter Bishop



Jackie Robinson
William Butler Yeats


Manners Maketh M
John L. "Jack" Wright
This above all: to thine own selt
William Shakespeare
I am the master of my fate; I am the captain
William Ernest Henley
Next to trying and winning, the best thing is tr
L.M. Montgomery
The best portion of a good man's life; his little, nameless, un

Brain exposure to demands from the physical environment



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Brain exposure to demands from the physical environment

Right side:
-Holistic functions
-Ideas & creativity
-Emotion
-Experience of art, music, nature

RIGHT BRAIN FUNCTIONS
-uses feeling
-"big picture" oriented
-imagination rules
-symbols and images
-present and future
-philosophy & religion
-can "get it" (i.e. meaning)
-believes
-appreciates
-spatial perception
-knows object function
-fantasy based
-presents possibilities
-spontaneous
-risk taking



Left side:
-Rational & logical functions
-Mathematical thinking
-Language

LEFT BRAIN FUNCTIONS
-uses logic
-detail oriented
-facts rule
-words and language
-present and past
-math and science
-can comprehend
-knowing
-acknowledges
-order/pattern perception
-knows object name
-reality based
-forms strategies
-practical
-safe

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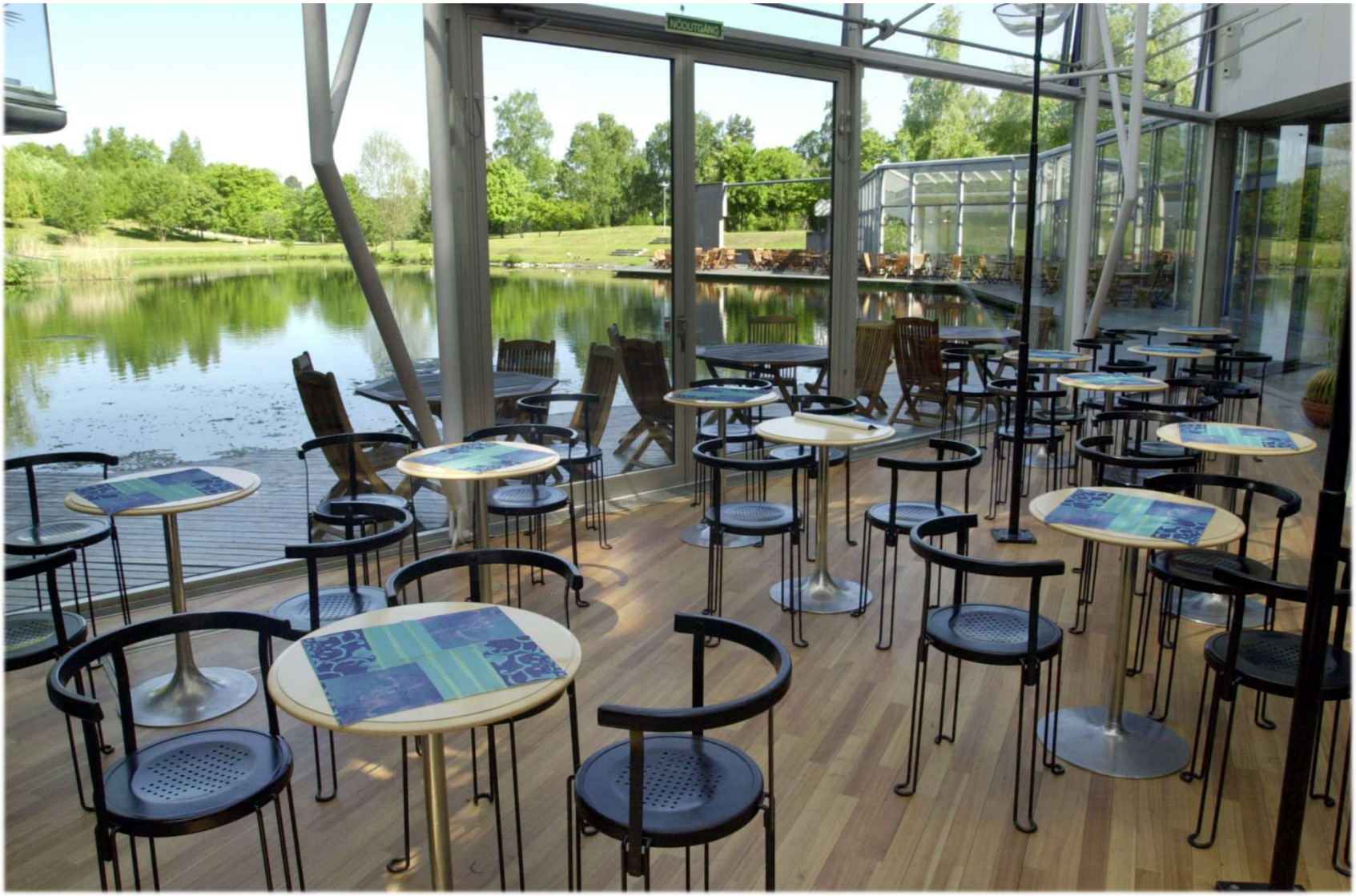
Restorative Environment Nature and Daylight



Restorative design Entrance Astra Zeneca



Design for positive psychosocial stimuli and restoration

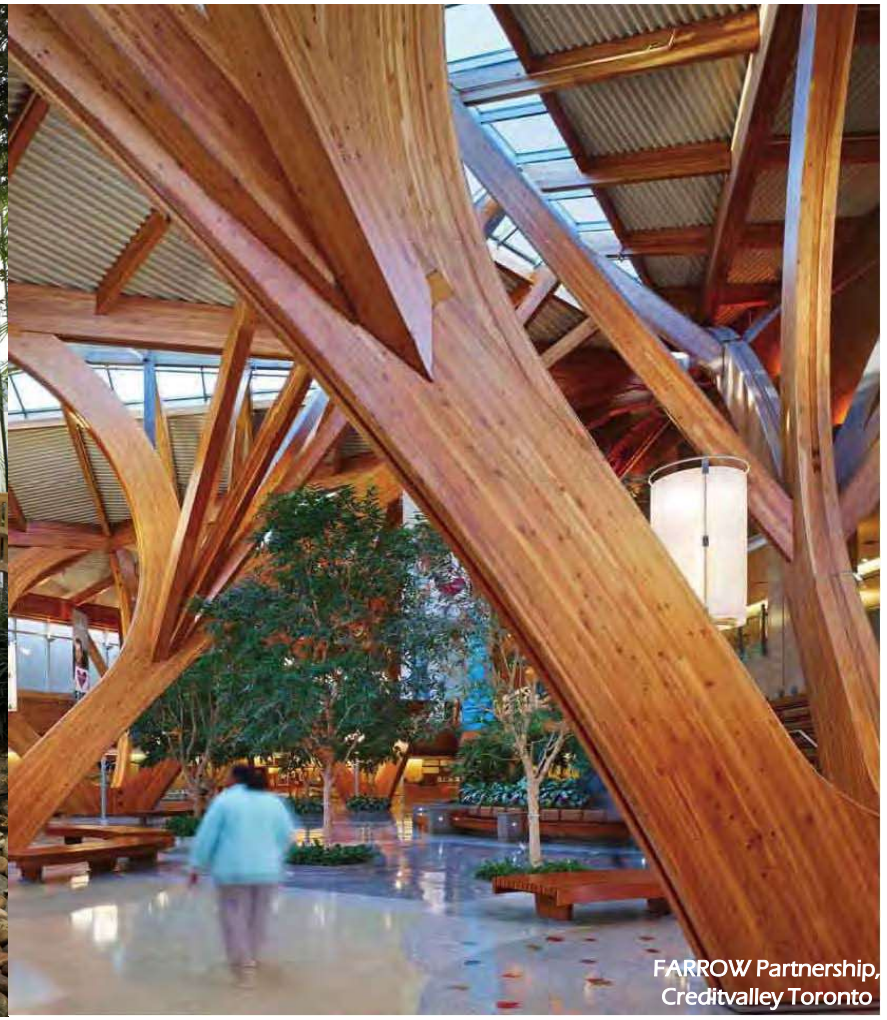


"access to green areas for recreation"

National goal for public health, Act 6



University of Michigan,
Shepley Bulfinch Architects



FARROW Partnership,
Creditvalley Toronto

"access to nature"


copyright © Mikael Paatela / Sweco Paatela Architects Oy




Khoo Teck Puat Hospital
KTPH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WORLD HEALTH DESIGN
14-15th March 2013
Design & Health
Asia Pacific 2013
Global Perspectives. Local Identities.
International Symposium & Exhibition
Khoo Teck Puat Hospital, Singapore
www.designandhealth.com
info@designandhealth.com


WORLD HEALTH DESIGN
ARCHITECTURE | CULTURE | TECHNOLOGY
OCTOBER 2011
RAISING THE GAME
Singapore's Khoo Teck Puat Hospital sets new standards in health promotion
ALSO:
World Congress 2012 launched in Kuala Lumpur
African HPLC Design Competition Winners
International Academy Award Winners 2011
Market reports: Asia
Design & Health
www.worldhealthdesign.com

US "Health Care" Expenditures: 78% is spent on diseases of lifestyle

- ✓ Heart Disease $501,000,000/DAY
- ✓ Cancer $430,000,000/DAY
- ✓ Digestive Disorders $337,000,000/DAY
- ✓ Obesity $320,000,000/DAY
- ✓ Diabetes $273,000,000/DAY

RAND corp./ US NIH 2000

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Obese people pay $1429 (42%) more in healthcare costs than normal weight individuals. (1)

1 Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual Medical Spending Attributable To Obesity: Payer- And Service-Specific Estimates. *Health Affairs.* 2009; 28(5): w822–w831.


Dr. Casey Means
LIVE



We need to come out of the box and ask a question!

What makes people healthy?

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“I have saved the lives of 150 people from heart transplantations. If I had focused on preventive medicine earlier, I would have saved 150 million.”

Christiaan Barnard, heart transplant surgeon

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Together in a single place to make it easy for us to

- [x] Eat Healthy
- [x] Be Active
- [x] Engage with community
- [x] Experience the outdoors
- [x] Work close to home
- [x] Reuse resources
- [x] Reduce waste

City with Clean Land, Clean Water, Clean Air

Chapter 7

Salutogenic Urbanism: Bridging Climate Challenges to Healthy Cities

Borhan Sepehri, Alan Dilani, Mohammad Anvar Adibhesami, Alex Opoku, Marjan Mehrmanesh, and Rosalina Gadyuchkova

Climate Change Management

Abdulaziz I. Almulhim
Walter Leal Filho
Ayyoob Sharifi *Editors*

Scopus

Urbanization, Climate Change, and Health

Integrating Strategies for Sustainable and Resilient Cities

Springer



Salutogenic Urbanism

By integrating natural elements into cityscapes, salutogenic urban design fosters urban health.

These elements act as psychosocial stimuli, reducing stress and strengthening community ties.



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The Salutogenic perspective



What creates health?

Why is a person well?

Which are the health promoting factors?

How is it possible to feel quite well even though a person has experienced traumas?

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Exercise and Health



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Exercise

- ✓Prevent 91% of cases of type 2 diabetes
- ✓Prevent 50% of all cases of heart disease
- ✓Prevent 50% of all stroke deaths
- ✓Reduce site specific cancers by 50-72%

Journal of Applied Physiology 2005







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Exercise

- ✓Decrease all cause mortality by 67%
- ✓Prevent up to 47% of cognitive damage
- ✓Decrease depression by 20%
- ✓All accomplished with 30 minutes/day of moderate activity.

Journal of Applied Physiology 2005







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Exercise and Health

Nordkarelia project and FINMONICA 1449 indiv, 65-79 years, followed 20 years

Physical activity, at least 2 times per week during middle-age

reduced risk dementia 52 %
reduced risk Alzheimer´s disease 62 %

Adjusted for age, sex, education, osteoarthritis, APOE genotype, smoking, alcohol



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Exercise and Health

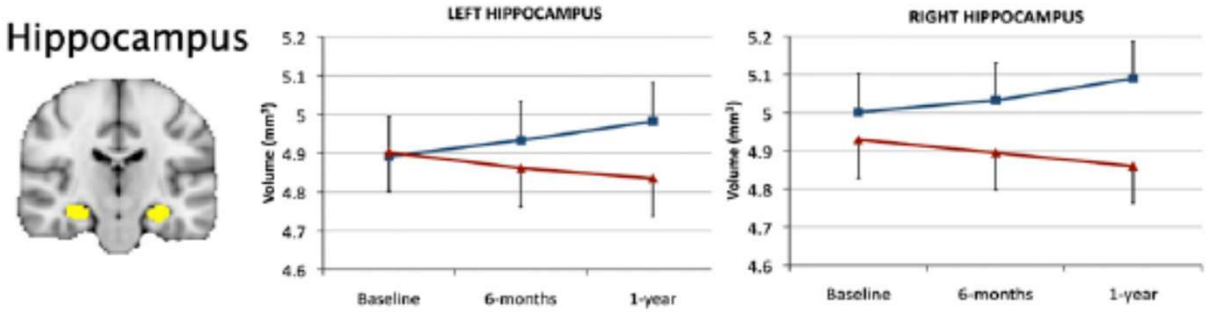
PNAS

Exercise training increases size of hippocampus and improves memory

Kirk I. Erickson[a], Michelle W. Voss[b,c], Ruchika Shaurya Prakash[d], Chandramallika Basak[e], Amanda Szabo[f], Laura Chaddock[b,c], Jennifer S. Kim[b], Susie Heo[b,c], Heloisa Alves[b,c], Siobhan M. White[f], Thomas R. Wojcicki[f], Emily Mailey[f], Victoria J. Vieira[f], Stephen A. Martin[f], Brandt D. Pence[f], Jeffrey A. Woods[f], Edward McAuley[b,f], and Arthur F. Kramer[b,c,1]

[a]Department of Psychology, University of Pittsburgh, Pittsburgh, PA 15260; [b]Beckman Institute for Advanced Science and Technology, and [f]Department of Kinesiology and Community Health, University of Illinois, Champaign-Urbana, IL 61801; [c]Department of Psychology, University of Illinois, Champaign-Urbana, IL 61820; [d]Department of Psychology, Ohio State University, Columbus, OH 43210; and [e]Department of Psychology, Rice University, Houston, TX 77251





RCT, 120 elderly, mod-intens aerobic excerise 3 days/w compared to control (stretching). MR. Cognitive tests.

Erickson KI, et al. PNAS 2011;108:3017-22.

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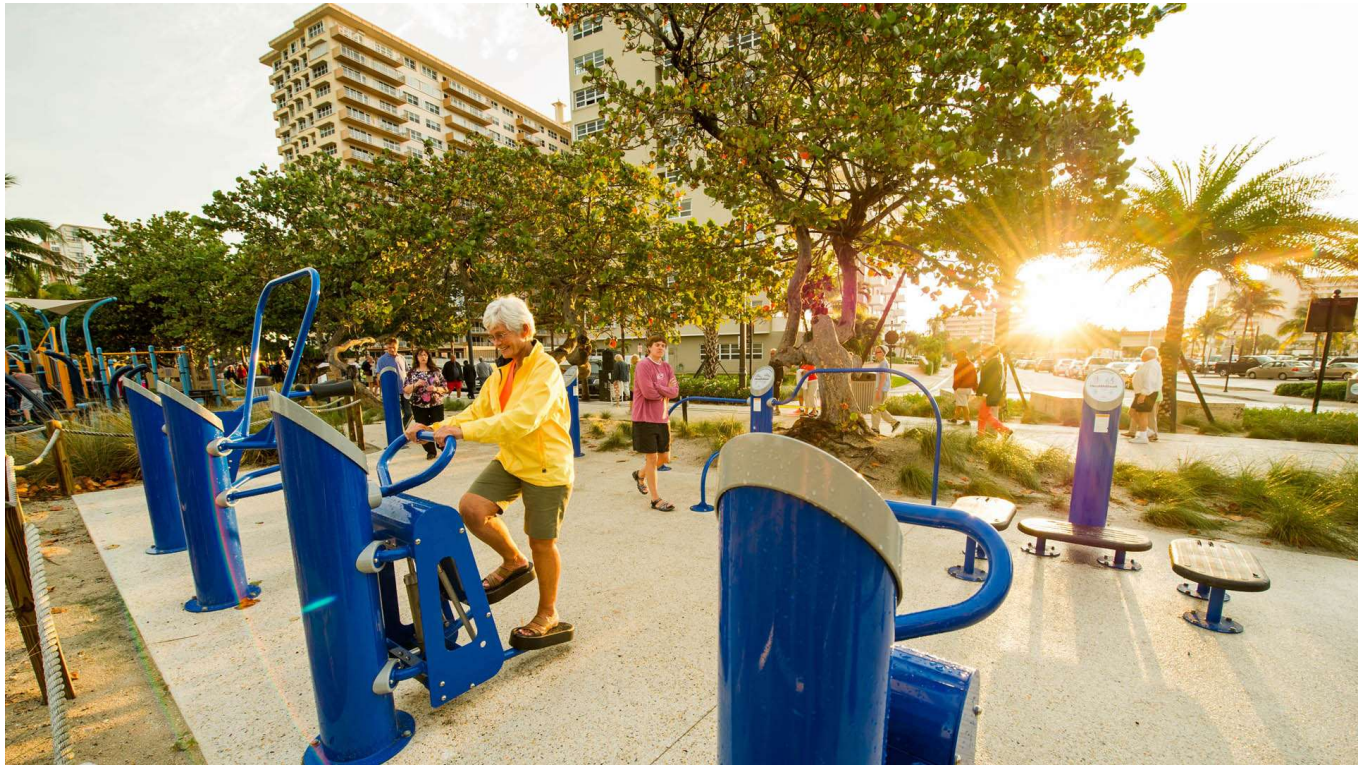
How do we build the choice environment so that invite people to come to the park? (and make other healthy lifestyle choices)



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Part 2 Application of Salutogenic Design

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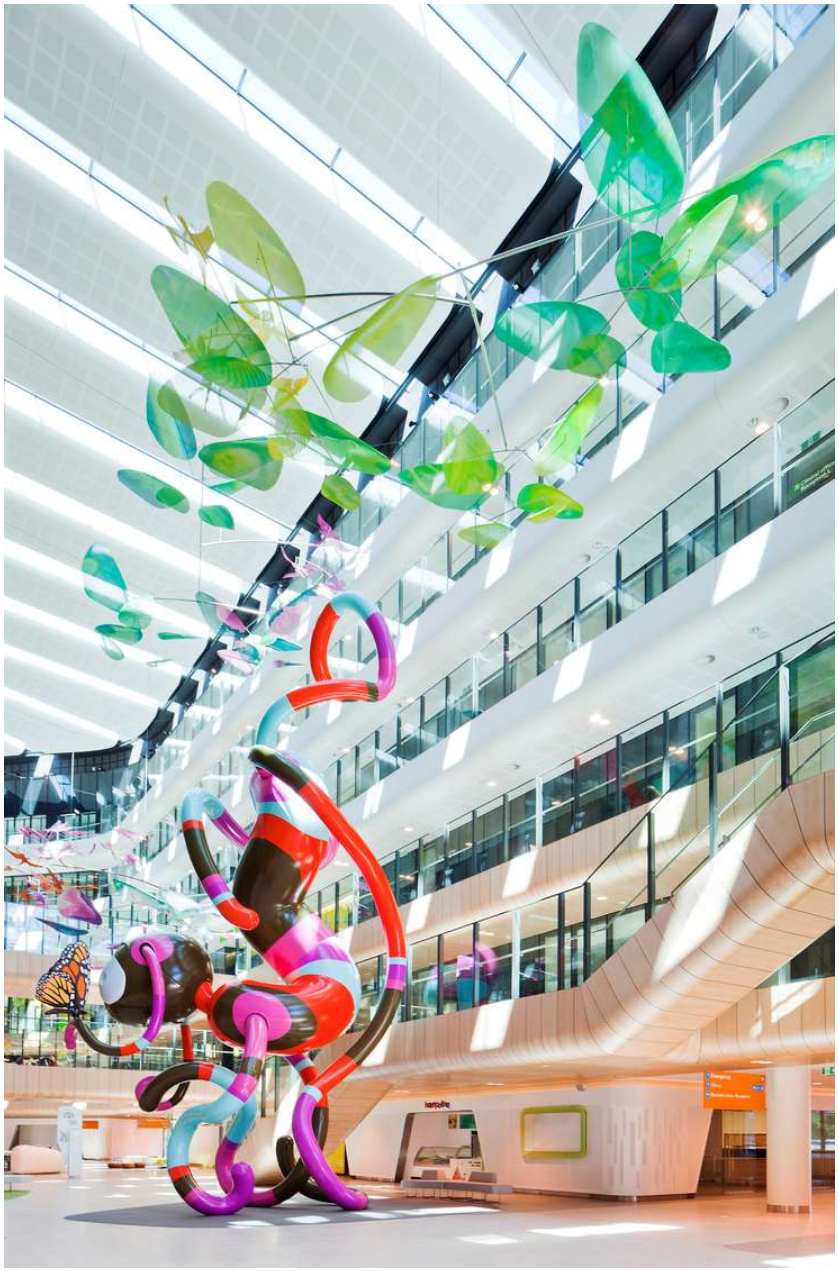
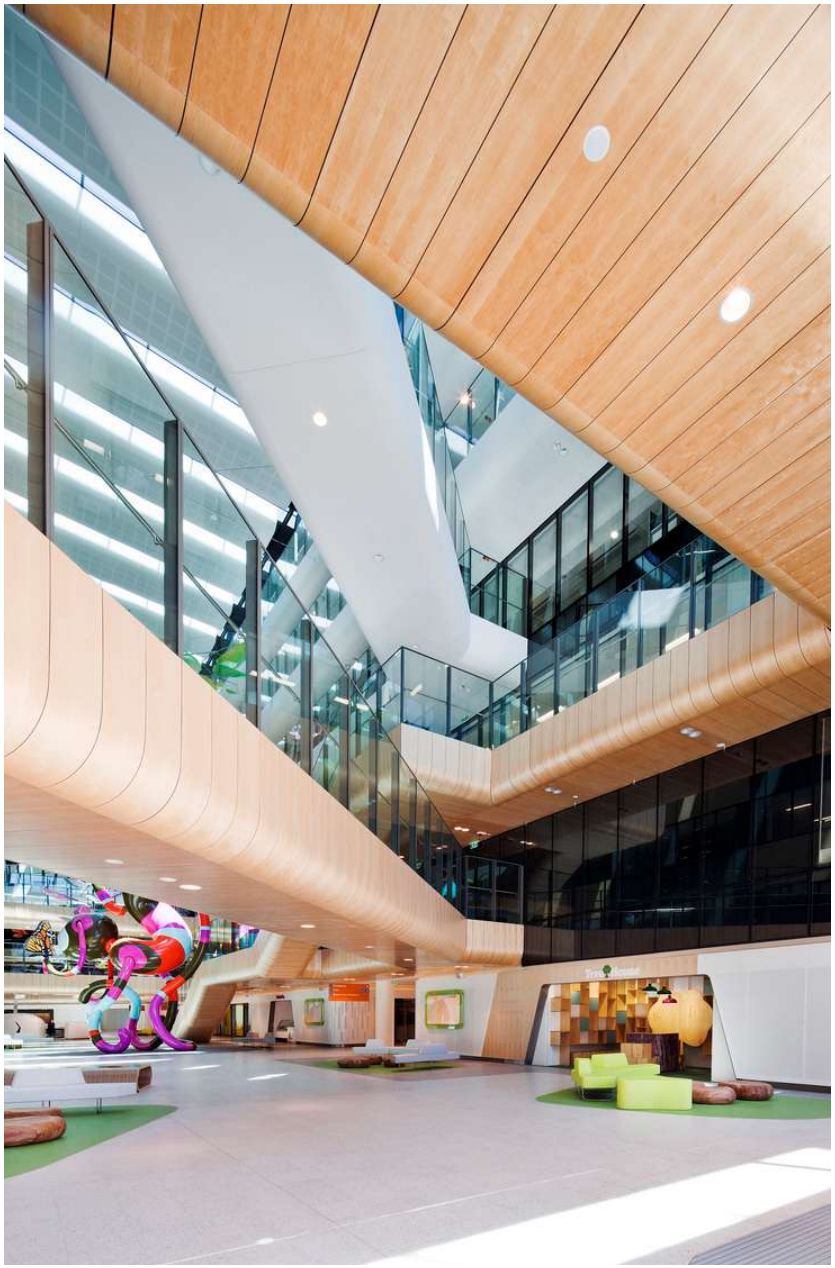
Tree House







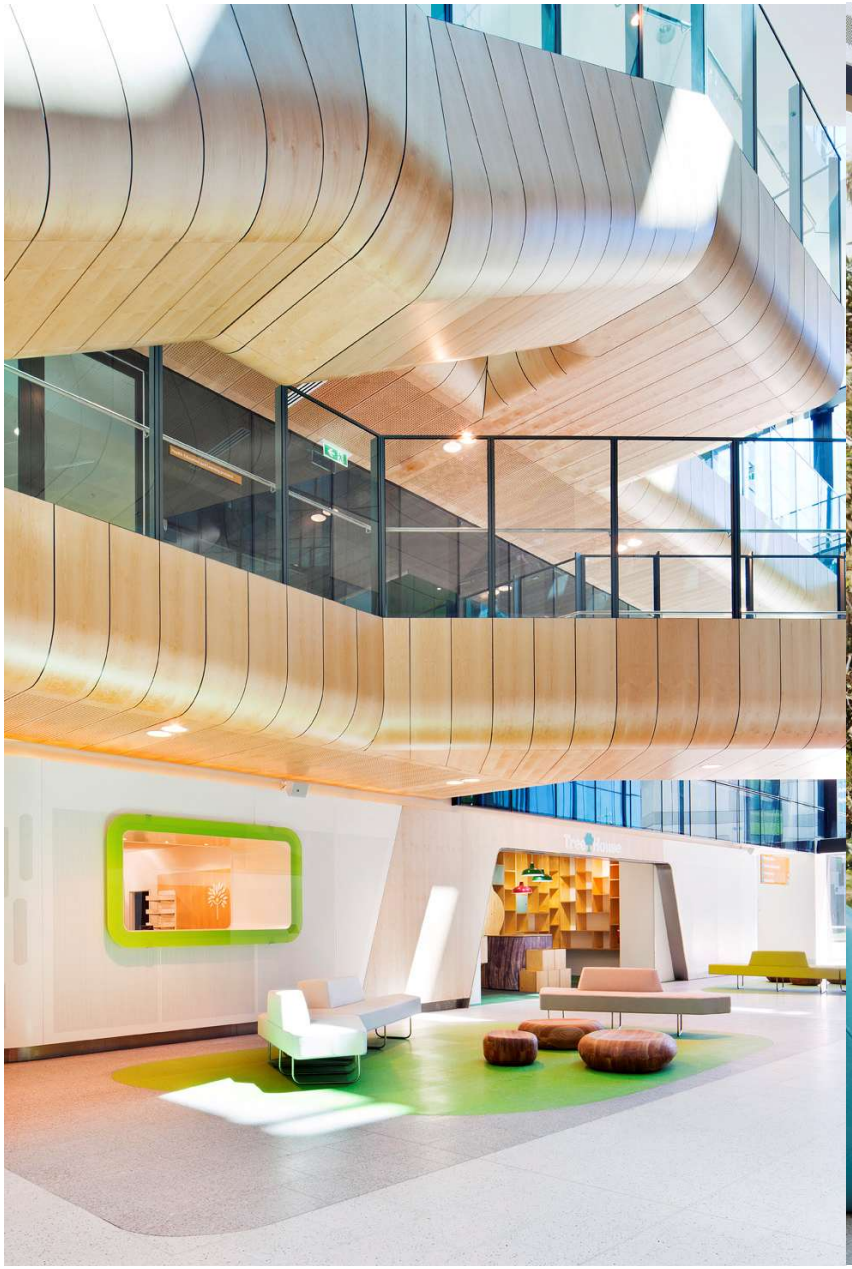






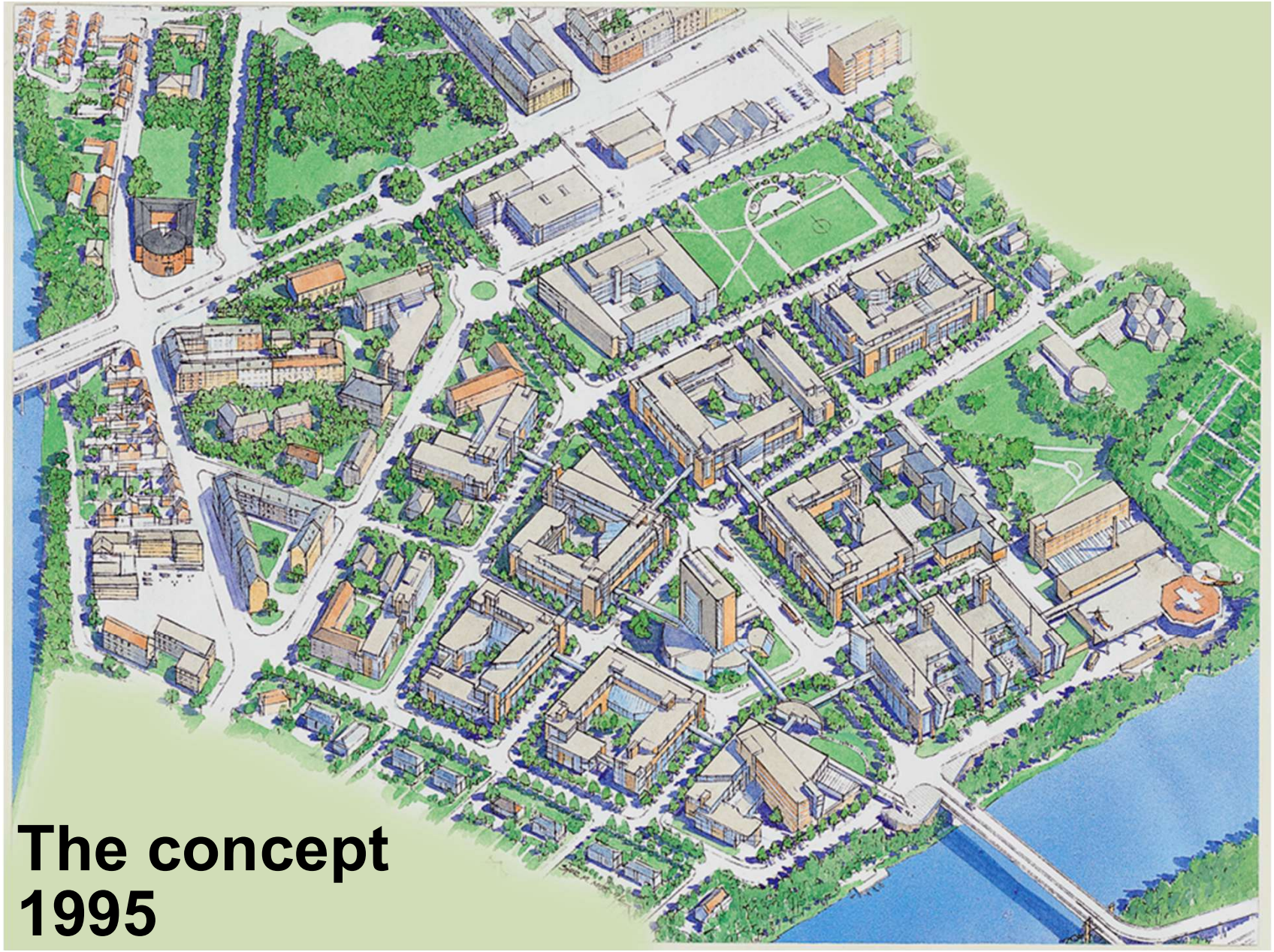








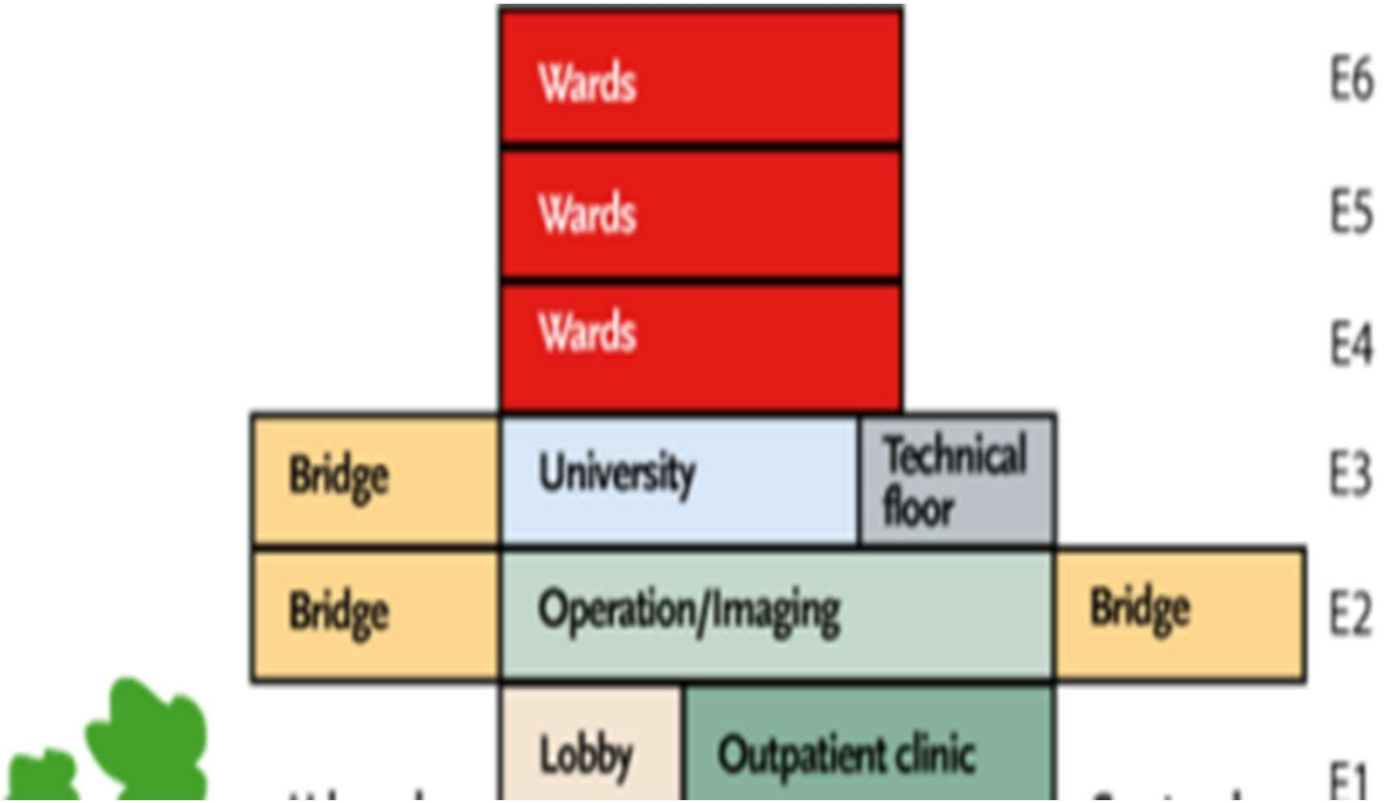

RiT - Existing Hospital 1989-2000



The concept
1995






Wards
Wards
Wards
Bridge
University
Technical floor
Bridge
Operation/Imaging
Bridge
Lobby
Outpatient clinic
E6
E5
E4
E3
E2
E1

KNOWLEDGE CENTRE
ST. OLAV'S HOSPITAL

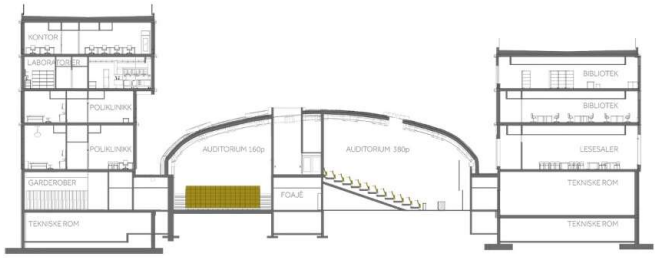
FULLY INTEGRATED ARTWORK IN PASSIVE
INTELLIGENT FACADE

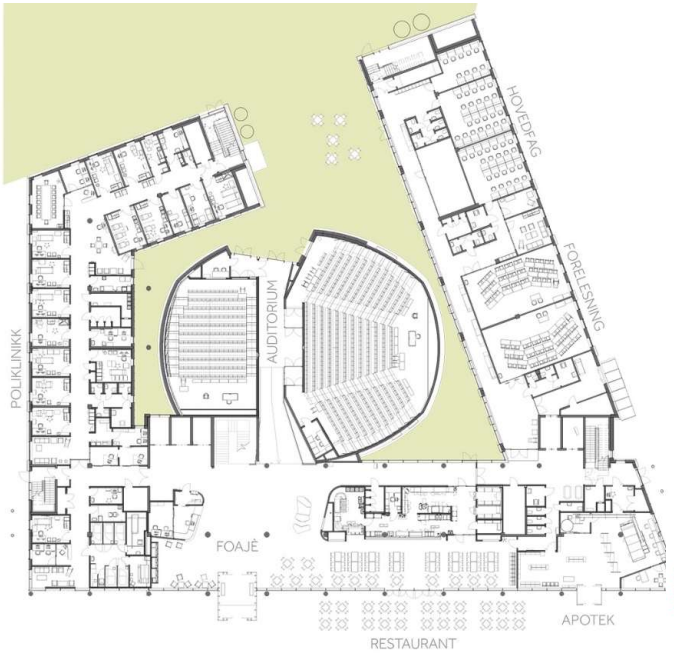


KNOWLEDGE CENTRE
ST. OLAV'S HOSPITAL









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Kunnskapsportalen **unique interactive, medical education design**













Green Hospital, Olav Kyrres gate



Neuro Centre




Laboratory Centre









Green Hospital

– Women and Children`s Centre














Barn 1 / 2 /
4114

Integration with structure of City



St. Olavs Hospital 2013



St. Olavs Hospital in Norway
Considered as the best hospital design in the world
Winner of 7 categories of International Academy Awards
Toronto- Canada 2014

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Salutogenic Hospital

- A Salutogenic Hospital redefines healthcare by creating a center of healing and prevention for its entire community. For patients, it provides a stimulating environment that actively supports their recovery. For staff, it is an efficient and enjoyable workplace.

- Moving beyond traditional care, it proactively prevents illness through early detection and regular check-ups, reducing healthcare costs and fostering a healthier population.

- By combining holistic, knowledge-based medical treatment with preventative measures and health education, the Salutogenic Hospital enhances the quality of life for all it serves.

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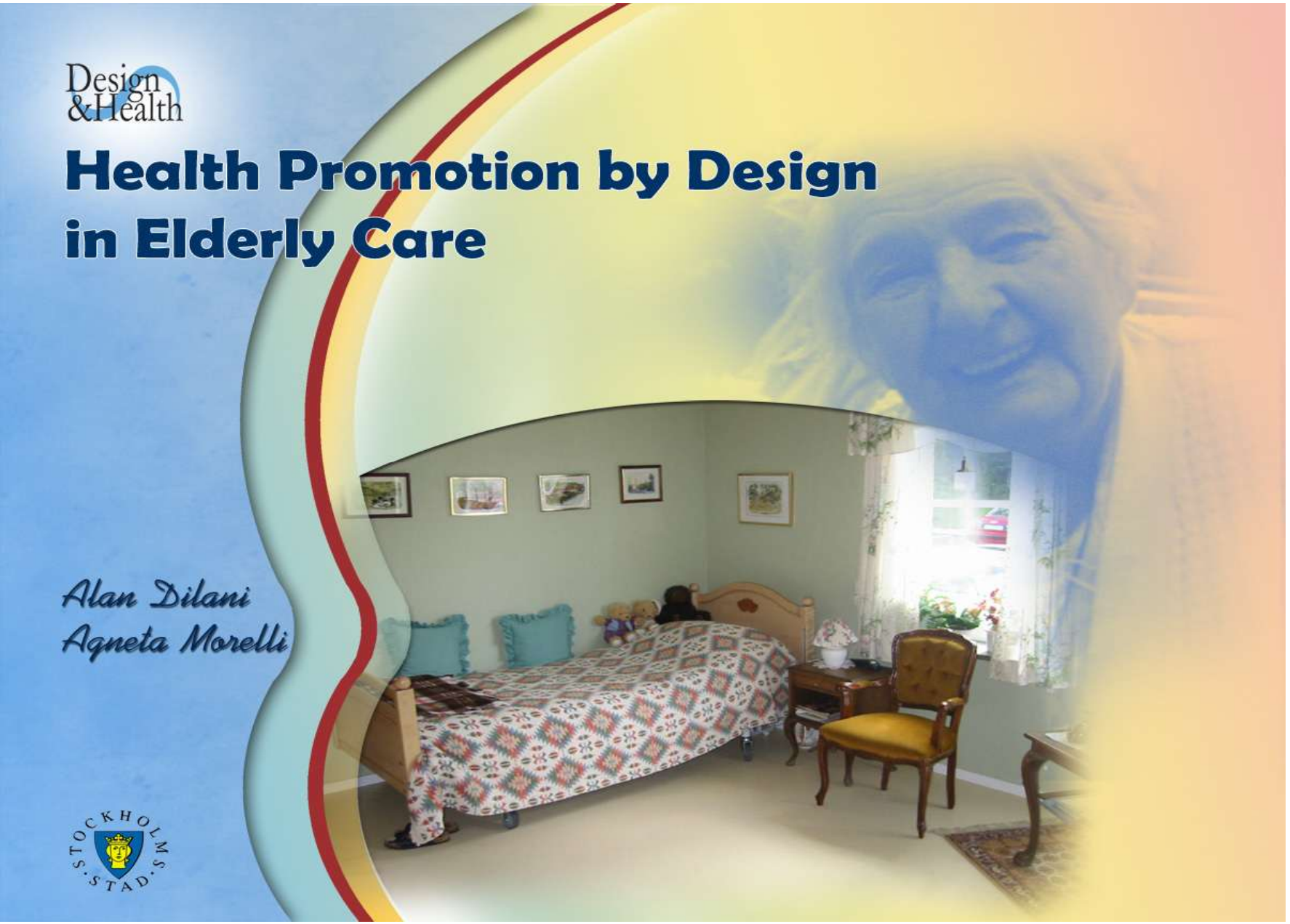
Health Promotion by Design in Elderly Care



Alan Dilani
Agneta Morelli

STOCKHOLMS STAD

Salutogenic Elderly Design

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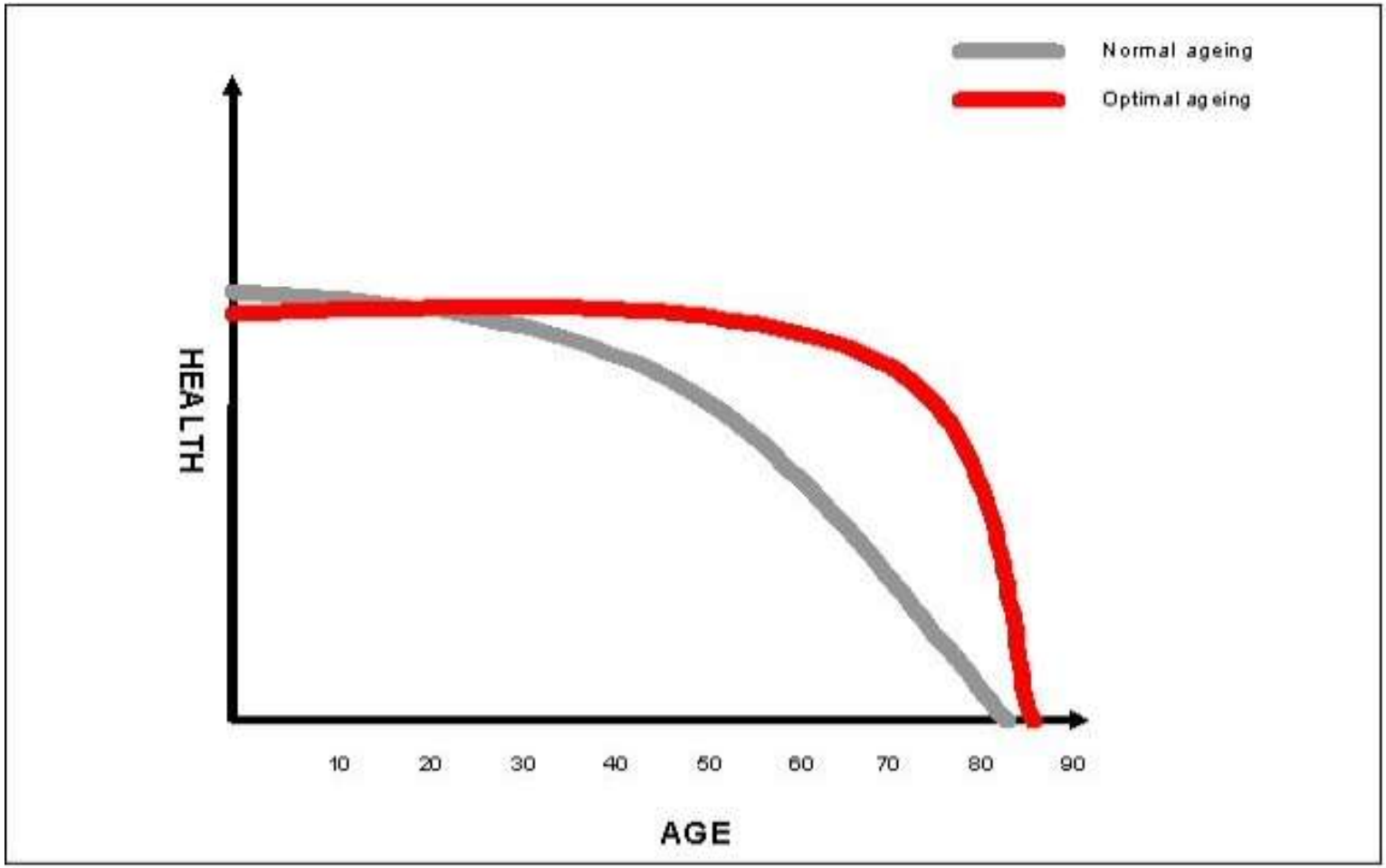
DIPARTIMENTO DI ARCHITETTURA, INGEGNERIA DELLE COSTRUZIONI E AMBIENTE COSTRUITO

Health promotion for elderly



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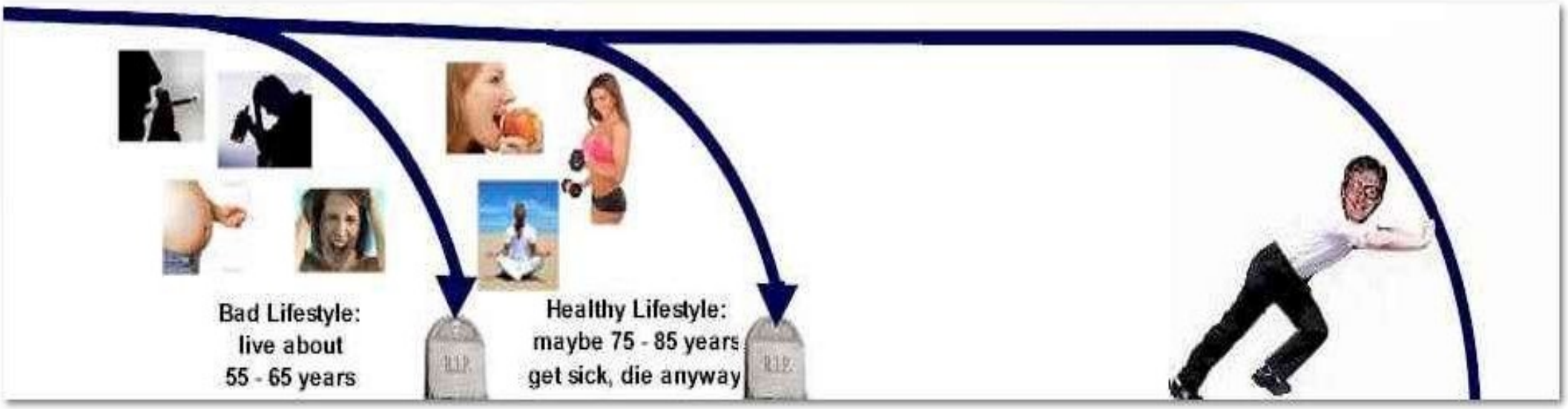
Extend the healthy years



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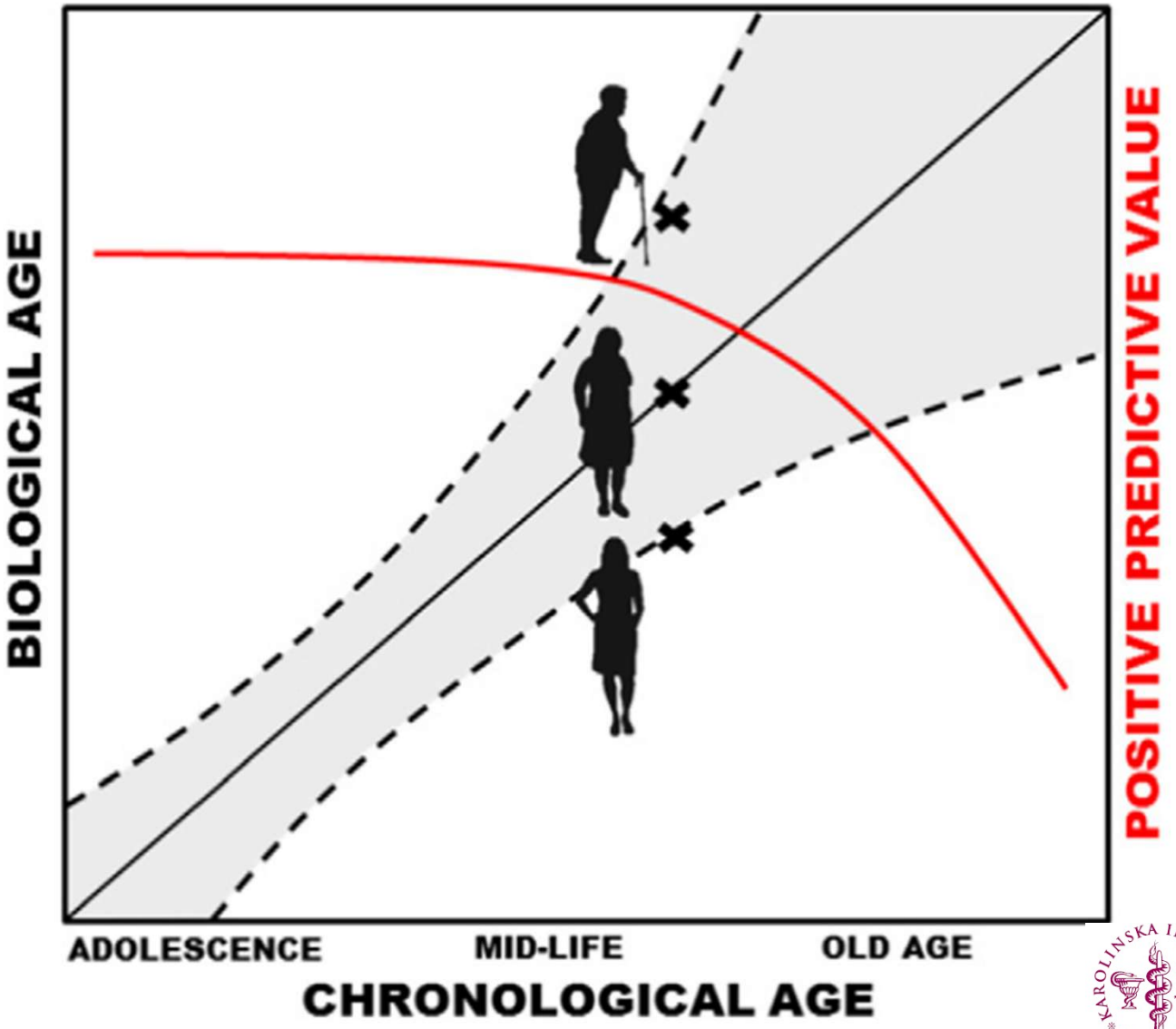

BiPedersenological Age Predictors
Juulia Jylhävä, Nancy L., Sara Hägg
Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

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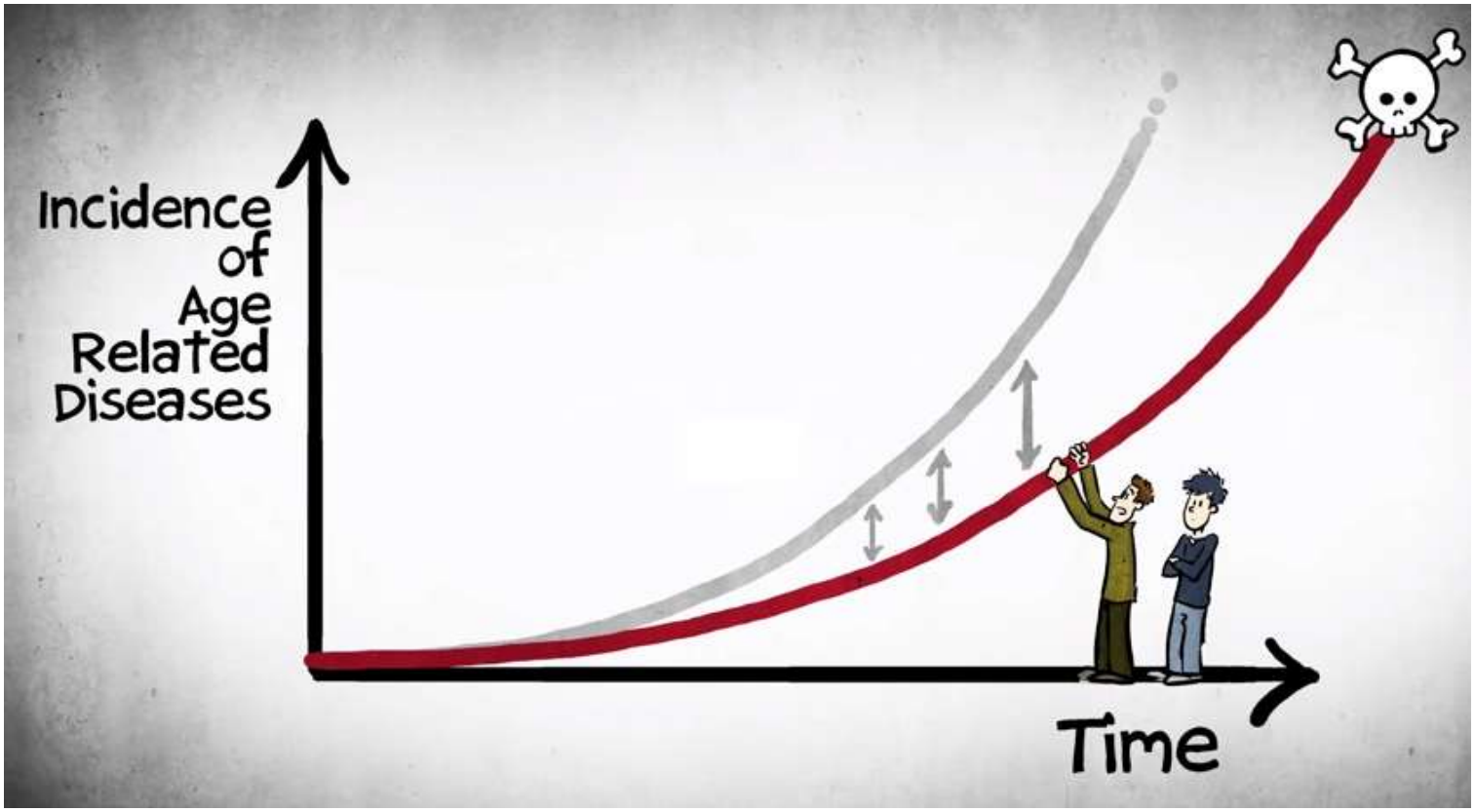
IF WE COULD SLOW THE PROCESS OF AGING BY 7 YEARS THIS COULD REDUCE THE AGING RELATED DISEASES BY HALF



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Healthy aging – Active aging

- Smoking cessation
- Physical activity
- Social networks
- Equality (income/Education)
- The built environment



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OLDEST 92 MARATHON RUNNER



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Positive stimuli from nature and social engagement





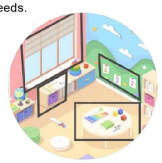
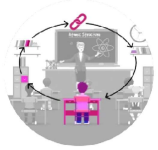
Creating Salutogenic Learning Environment, Parul Ph.D.

Salutogenic School Design

SOC Prevent stress — COMPONENTS OF HEALTH PROMOTION

COMPREHENSBILITY
"World is understandable"

PSYCHOSOCIAL DESIGN FACTORS

LIFESTYLE	EMOTION	EXPERIENCE
Improve **LEGIBILITY** by creating unique identity of each block. 	Build **CONFIDENCE** through natural surveillance (esp corridors& toilets) to counter bullying. 	**WELCOMING** entrance, inviting, friendly and not institutional-looking or forbidding 
WAY FINDING through clear sightlines and use of landmarks.. 	**SECURITY** through transparency. ex. Landscaping and trees must be carefully chosen to not block sightlines. 	**VISUAL ORDER** through limited and clear navigational choices. 
PRIVACY through provision of retreat areas in classroom or in corridors to observe others and be alone as well. 	**AUTHENTICITY & HONESTY** conveyed through use of natural materials and construction. 	Create **HOMELIKE** environment by using familiar elements. 
Safe Community involvement through **ACCESS CONTROL**. 	Foster **AUTONOMY** by designing places with respect for scale and developmental needs. 	**TERRITORIALITY** to value personal space ex. Home base for every student (LOSD). 

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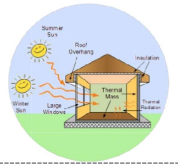
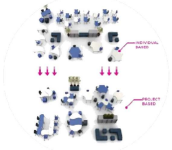
SOC Prevent stress — COMPONENTS OF HEALTH PROMOTION

MANAGEABILITY
"Resources to meet needs"

PSYCHOSOCIAL DESIGN FACTORS

LIFESTYLE	EMOTION	EXPERIENCE
ERGONOMIC DESIGN for posture correction and efficiency in class room 	**REDUCE** learners' **STRESS** by the use of colours to facilitate vision and create a pleasant atmosphere and mood 	Create **BUFFER ZONES** from outside traffic and large school playgrounds to reduce noise disturbance 
SUSTAINABLE / energy Efficient /**VERNACULAR** architecture to foster sustainable lifestyle. 	Ensure **COMFORT** in the Interior environment so children can concentrate on the task at hand ex thermal and acoustic 	Opportunities of **ACCESSING GREEN ENVIRONMENTS** in break periods in order to rejuvenate. 
Improve accessibility and safety through the use of **UNIVERSAL DESIGN** principles 	**VISUAL STIMULI** by student work display fuelling better performance 	Participatory planning to boost **SELF EFFICACY** and competency. 
BUILD COMPETENCE through flexible spaces suited for multiple modes of learning 	Allow **NATURAL LIGHT** into the classroom to uplift the mood and improve efficiency 	**ATTENTION RESTORATION** through outside / green views to allow minds and eyes to take a break. 

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SOC Prevent stress — COMPONENTS OF HEALTH PROMOTION

MEANINGFULNESS
"Life makes sense"

PSYCHOSOCIAL DESIGN FACTORS

LIFESTYLE	EMOTION	EXPERIENCE
Let **CULTURE REFLECT** by Using local materials and signature elements 	**LEARNING COMPASSION** by spending time with pets in the school garden. 	**AGENTIC LEARNING** environment to fuel belongingness 
Inspiration through **ENGAGING** and well designed **LIBRARIES**, performing /visual art areas 	Developing **EMPATHY** for other children through informal interactions 	**STIMULATING ENVIRONMENTS** appealing to all senses ex. falling water sound 
Intimate scale green spaces for positive **PEER INTERACTION** 	**AESTHETIC RICHNESS** through materials and furnishings in order to refresh and reflect 	**BIOPHILLIC DESIGN** to experience proximity to nature 
GYM and playground for **PHYSICAL FITNESS** and mental strength 	**SENSE OF PLACE** through display of student artwork in corridors and waiting areas 	**RISK TAKING OPPORTUNITIES** (perceived) to experience sense of adventure 

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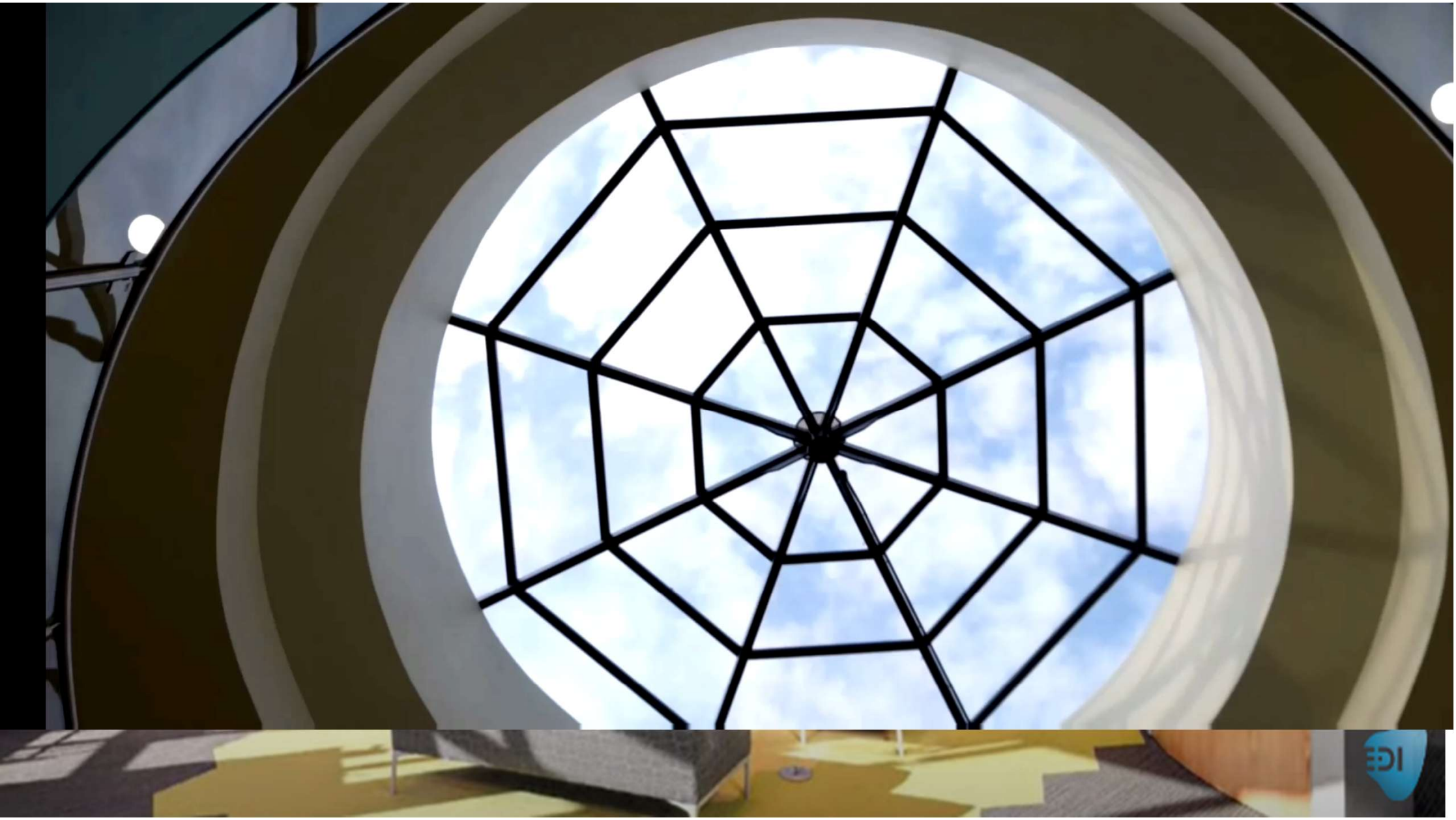

Creating Salutogenic Prison Environment, Ph.D.

Salutogenic Prison Design

CORRECTIONAL FACILITIES DESIGN & DEVELOPMENT SUMMIT

AMSTERDAM, THE NETHERLANDS



10-11 June 2021



Alan Dilani, Ph.D.
Professor, Architect/Public Health
Founder
International Academy for Design & Health

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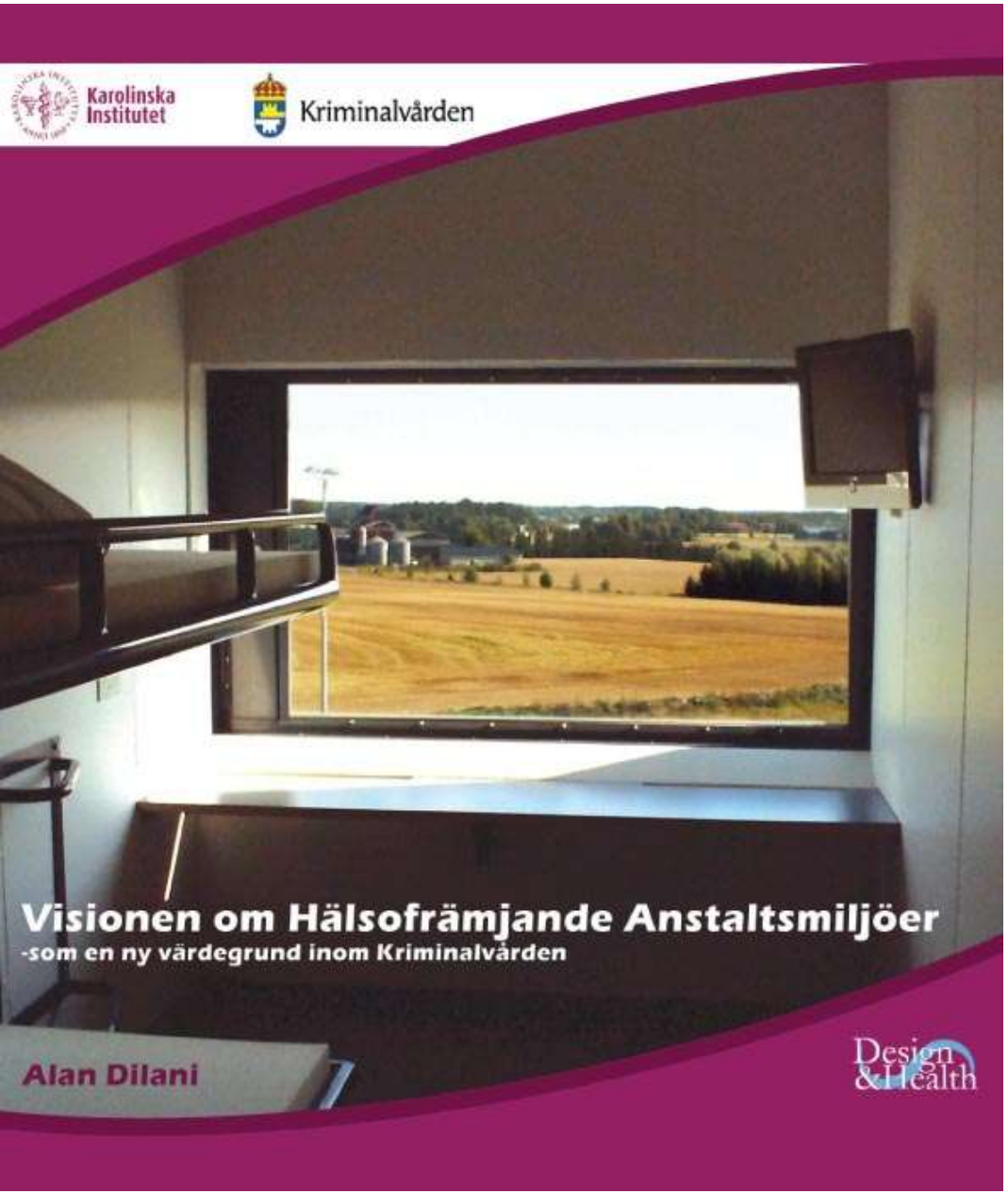
SALUTOGENIC PRISON DESIGN - A Health Promoting Approach on Prison Environments

- Based on the health promotion of a well-established theoretical framework for psychological support design
- The impacts of sound, daylight, lighting, music, nature, translation, orientation and productivity
- Identifying fresh factors that can be psychosocially encouraging and promoting health and safety



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INGEGNERIA DELLE COSTRUZIONI
E AMBIENTE COSTRUITO



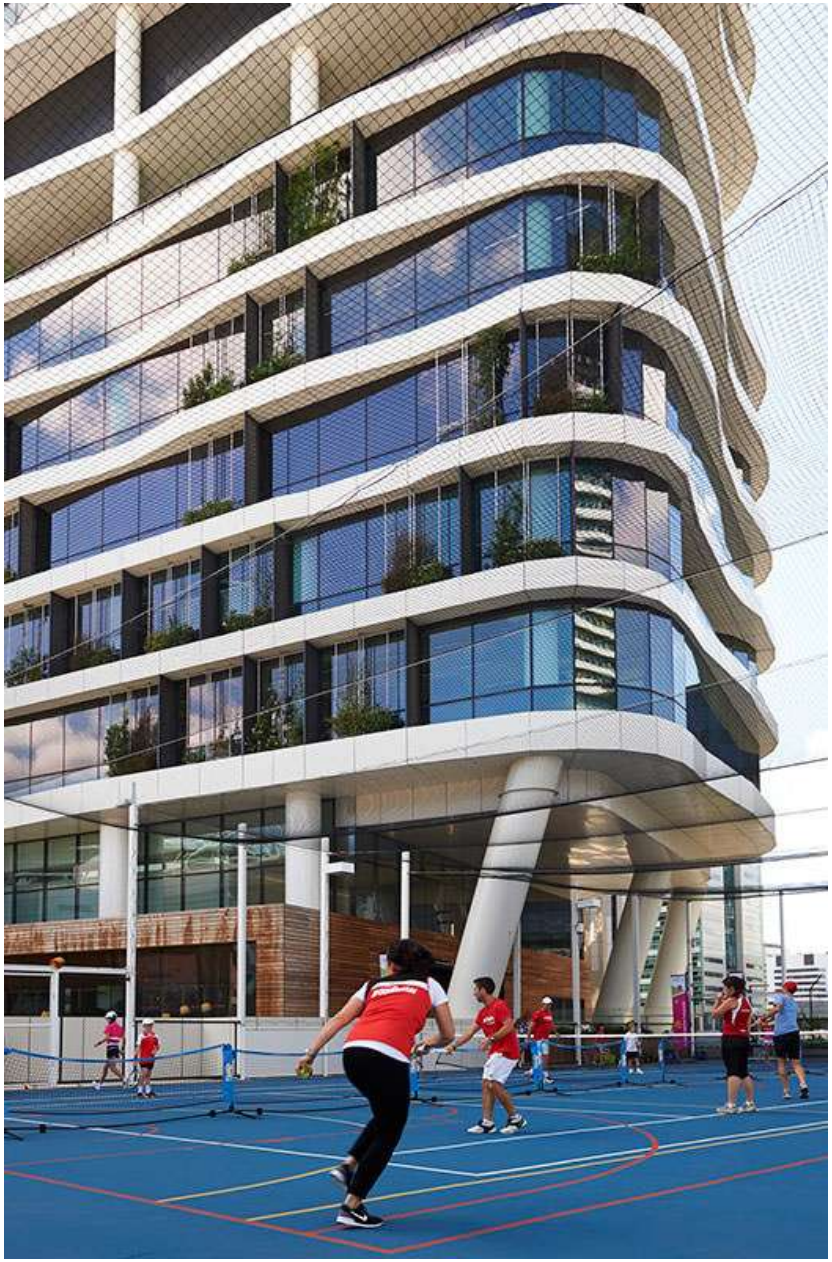
More moving lead to:

Happier,
Less Stress
Healthier,
More Creative
Better Brian
Performance

POLITECNICO
MILANO 1863

DIPARTIMENTO DI ARCHITETTURA,
INGEGNERIA DELLE COSTRUZIONI
E AMBIENTE COSTRUITO

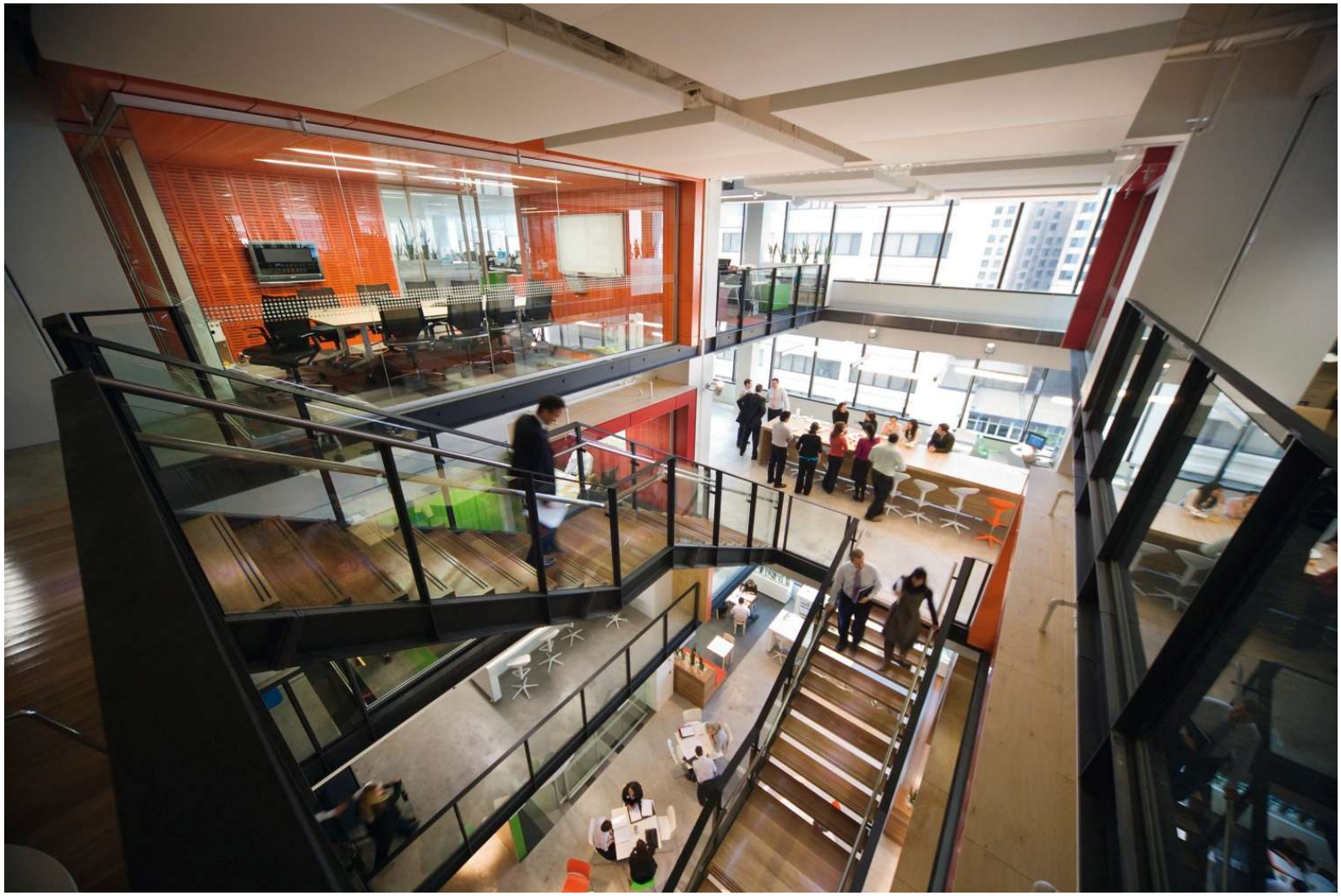


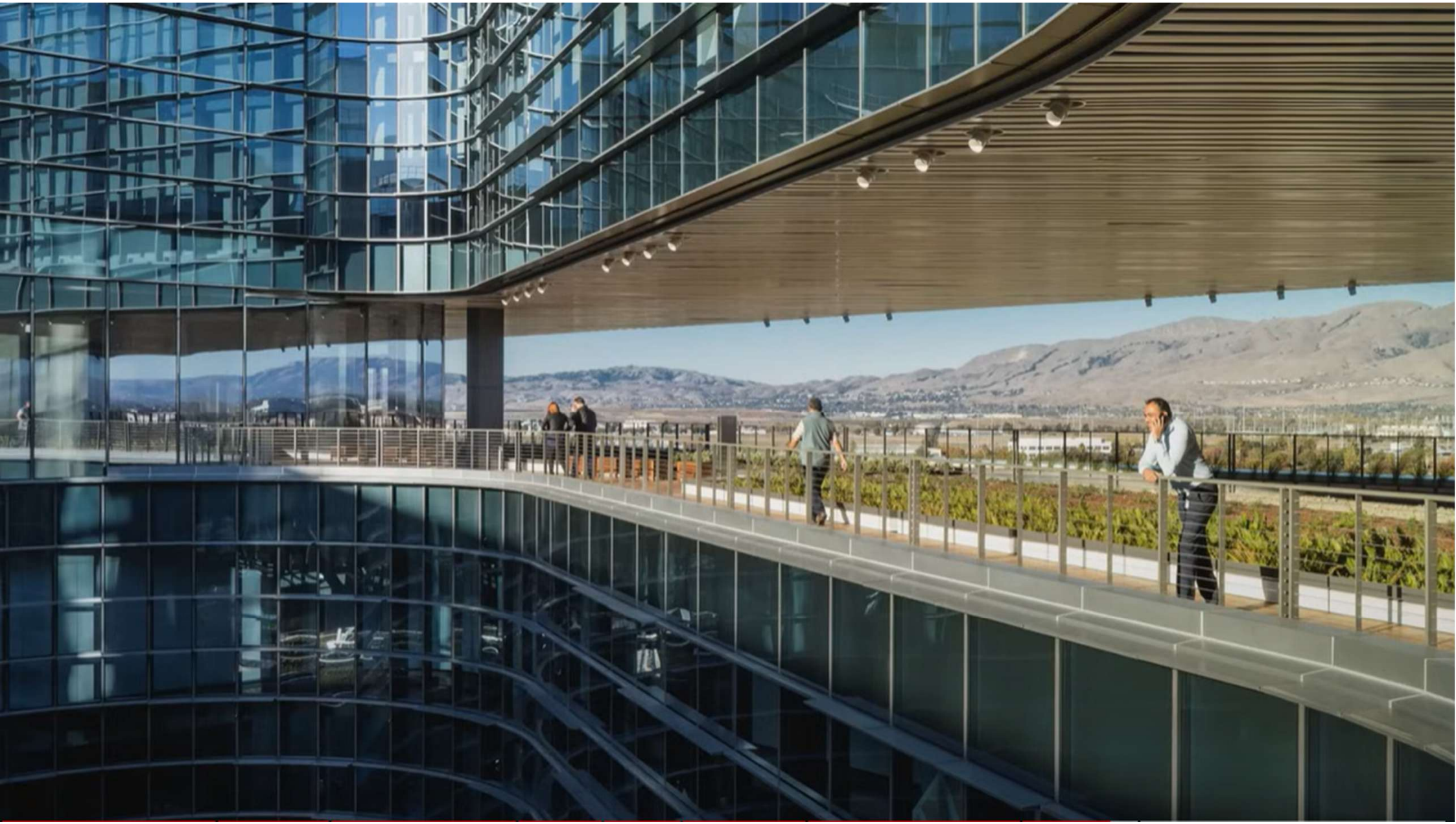


Design for Healthy Lifestyle



Designed by
BVN






IDEWALK
CLOSED




ONE
WAY



Health House

Matrix of Key Design Factors as guide for the design of Salutogenic Health House in Eze

Sense of coherence. Prevent Stress / Health components. / Health Promotion

	Psychosocial Design Factors		
	Lifestyle	Emotions	Experience
	Key Design Factors		
Comprehensibility: World is Understandable	**Landmark** as a recognizable item to establish location e.g: Iconic curvig building form  **Way finding** as a way to direct the users motion e.g: wellcomin entrace / spaces  **Interaction** for communication with others e.g: sfaty camera Smart home connection 	**Nature** by relation of the surrounding context to brought into personal space, depuration Green wall, water fall, Plant Walls  **Perception** of how an individual feelings affect wellbeing, sea view Sense of Welcoming  **Empathy** in sharing feelings towards another : Roof-top Visitor room and powder room 	**Colors** to spark the visual mood and feelings e.g: Bright and cheerful colors  **Pleasure** in happiness and enjoyment : BBQ, Cinema Family games area  **Functional** spaces fit for purpose e.g: Spaces designed with harmony and colorful furniture, Aquarium 
Manageability: Resources to meet situations	**Ergonomic** design for optimum human comfort e.g: Kitchen counter height  **Green Environment** practicing sustainable living by e.g: Sustainable materials  **Interior** spaces design to match the concept e.g: harmony of color and material interior design 	**Stimuli** that evokes a specific reaction e.g: 180 view, sea view, reflective surfaces that gives visual depths, office  **Aesthetic Elements** that carries beauty in details e.g: Art, intricate wall, ceiling with lighting design, green wall design, waterfall  **Cognizance** by acknowledging the conditions and making aware of its environment e.g: Lighting path leads at night 	**Natural Light** that brings ambient e.g: Large windows roof top, pool side  **Restoration** as a way for the body energise e.g: Meditating spaces  **Efficiency** Sun celler to produce an intended result that affects living e.g: Optimise energy usage 
Meaningfulness: Life makes sense	**Pet** as animal companionship e.g: Fish aquarium or dog house  **Culture** by applying ideas, customs and social behavior Wine tower, Fireplace  **Gym and pool** for exercise and keeping healthy; Yoga Fitness Equipments / pool 	**Social support** by interaction with others:Rooftop, Bar, Spa communal space  **Comfort** to improve the mood and ease distress e.g: Warm and cozy furnitures  **Positive Distraction** as a form pool, as escape e.g; Spa, Jacuzzi aquarium, Lighting effects 	**Art** as appreciation for creativity e.g: Paintings and sculptures  **Music** as a pleasing sound Cinema, Embedded speakers  **View** by framing sight of natural scenery e.g: Sea- view, mountain 180 view from site 

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Australian Government
Australian National Preventive Health Agency

Health Policy get modified and improved

Health Care =

- ✓ what are the causes of disease?



Health =

- ✓ what are the causes of health

- ✓ How to treat disease?
- ✓ How to prevent disease?



- ✓ What contributes to good health?
- ✓ What makes keeping good health easier?

Pathogenic Approach  **Salutogenic Approach**

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Prof Alan Dilani, International Academy for Design & Health with Dr Aaron Motsoaledi, Minister for Health,
South Africa, and Dr S M Dhlomo, Minister of Health, Kwazulu-Natal Province
announcing the International competition in Durban 6 September 2012

International Invitation for Prequalification

Organizing

International Competition in the name of Nelson Mandela
for Hospital Design



We need to develop new School and new job position!

Obesity School?
Health pilot?
???????

Organizing International Competition For;

"Health Promoting Lifestyle Center"

Dr. Aaron Motsoaledi
Health Minister, South Africa

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October 01, 2026
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Highly Commended
Midland Metropolitan University Hospital
Commissioned by Sandwell and West Birmingham NHS Trust
Designed by HKS Inc



First Announcement
& Call for Abstracts

Sydney- Australia 17-21 November 2027

Design & Health

16TH WORLD CONGRESS & EXHIBITION

Reinforcing Australian Health Systems
Through Salutogenic Design, Equity, and Sustainability

Deadline for Abstracts 30 January 2027

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Message from Minister for Health

On behalf of the New South Wales Government, I am delighted to welcome you to the 16th World Congress & Exhibition on Design and Health in Sydney, Australia, from 17–21 November 2027.

Sydney is an ideal host city for this global gathering, bringing together leaders in healthcare, design, research, and policy to advance the science and practice of Salutogenesis. As the relationship between people, place, and wellbeing becomes increasingly important, the Congress provides a unique opportunity to explore how health-promoting environments can support physical, mental, social, and ecological wellbeing.

NSW Health is delivering one of the largest health infrastructure programs in Australia, guided by principles of patient-centred care, sustainability, resilience, and wellbeing. Across hospitals, mental health facilities, community health services, and regional healthcare settings, we are increasingly applying salutogenic design approaches that foster healing, dignity, connection, and positive health outcomes.

The World Congress on Design and Health provides a unique platform for international collaboration and knowledge exchange. It will bring together global expertise to explore the latest scientific developments in Salutogenesis and to examine how the built environment can contribute to healthier individuals, organisations, and societies.

I wholeheartedly support WCDH2027 and look forward to welcoming delegates from around the world to Sydney to help shape the future of salutogenic design and healthier built environments.



Hon. Ryan Park MP.
NSW Minister for Health,
Minister for Regional Health