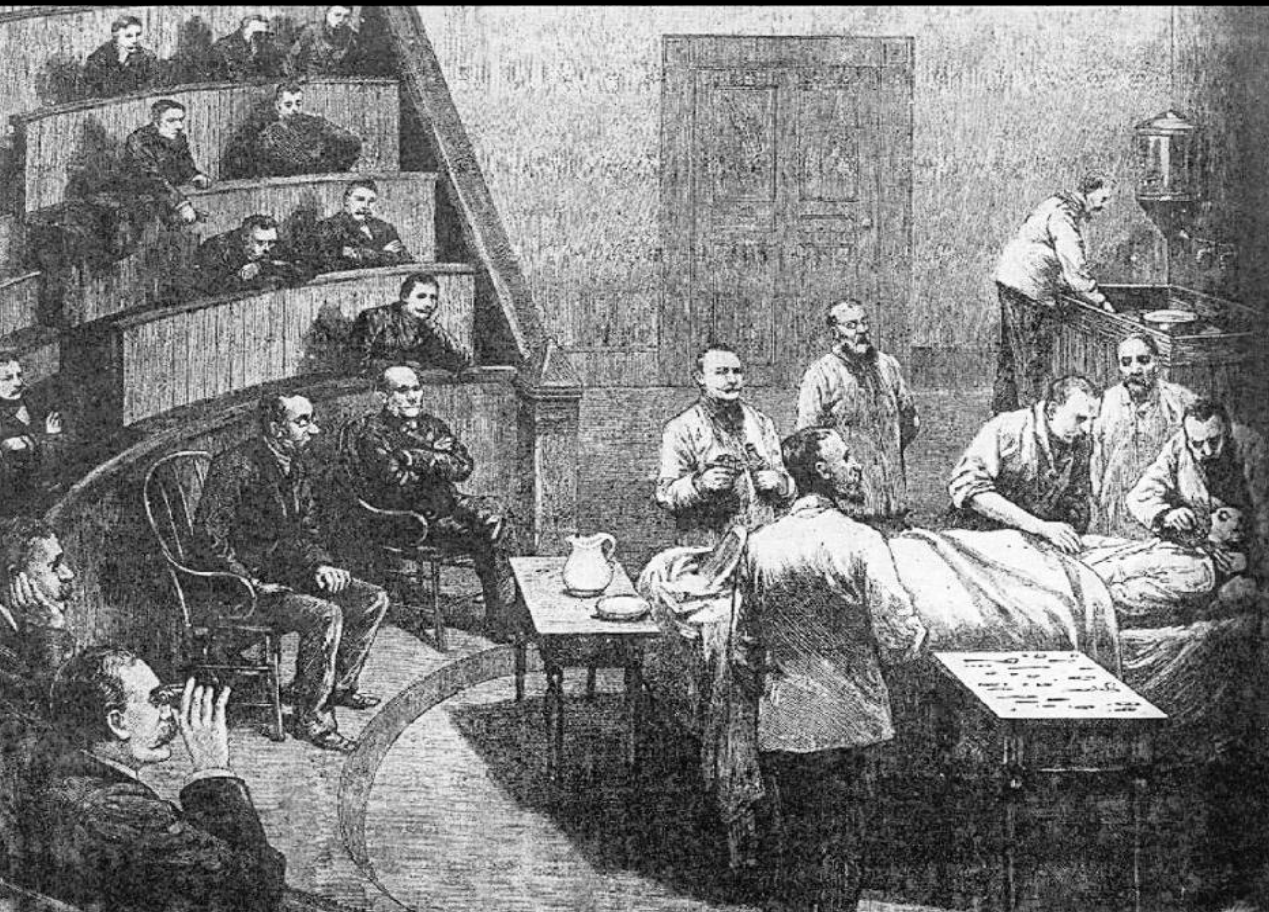


Planning for Change in an Era of Digital Transformation

Dr. Nirit Pilosof

Associate of Cambridge Judge Business School (CJBS), University of Cambridge, UK
Head of Research in Innovation & Transformation, Sheba Medical Centre, Israel
Faculty member of Collier School of Management, Tel Aviv University, Israel

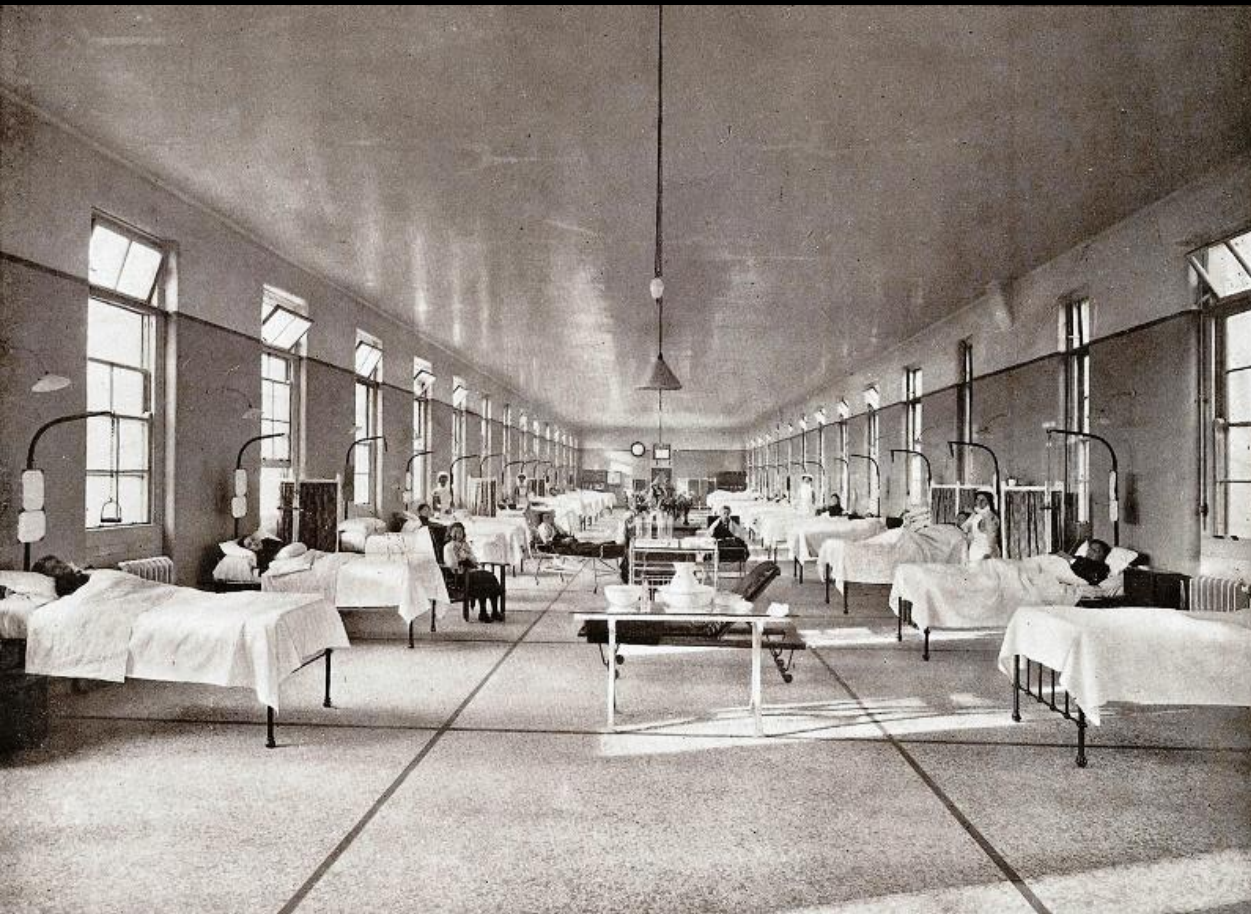
Planning for Change



Surgical Amphitheater, 1890



De Vinci Robotic Surgical System, 2010



Nightingale Ward, 1940



Private Patient Room, 2000



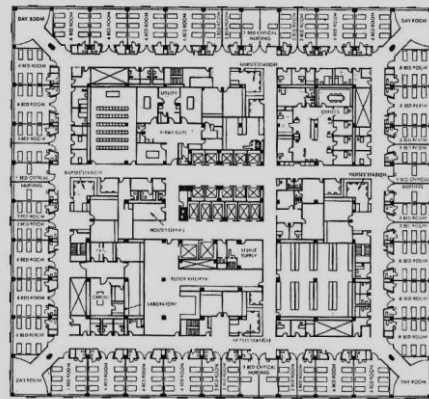
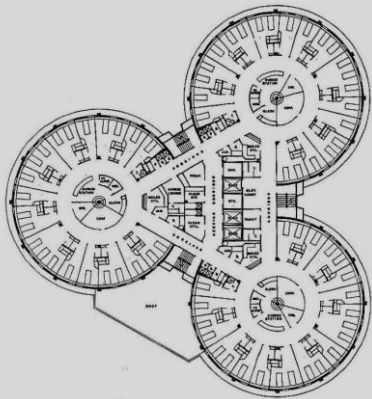
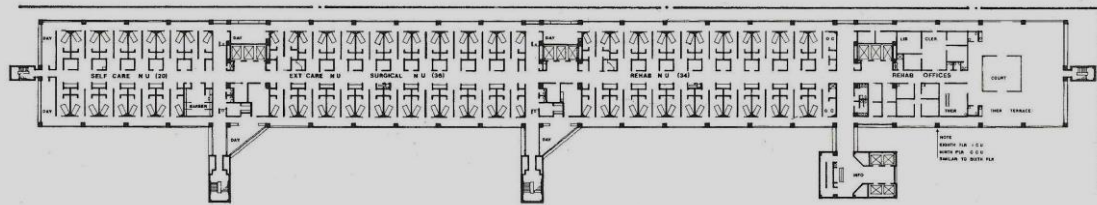
Southmead General Hospital, North Bristol NHS Trust

Process Centered Care, 1950



Nickl & Partner Competition Proposal For Hauner's Children's Hospital in Munich

Human Centered Care, 2010



Typical modern hospital layouts

Disease Treatment, 1960



NØRR office and cultural center for health and well-being in Paris' Saint-Denis, Henning Larsen Architects

Health Promotion, 2020



McMaster Health Sciences Centre, Hamilton, Ontario, Canada, Zeidler Architects

Central Mega Hospitals, 1970

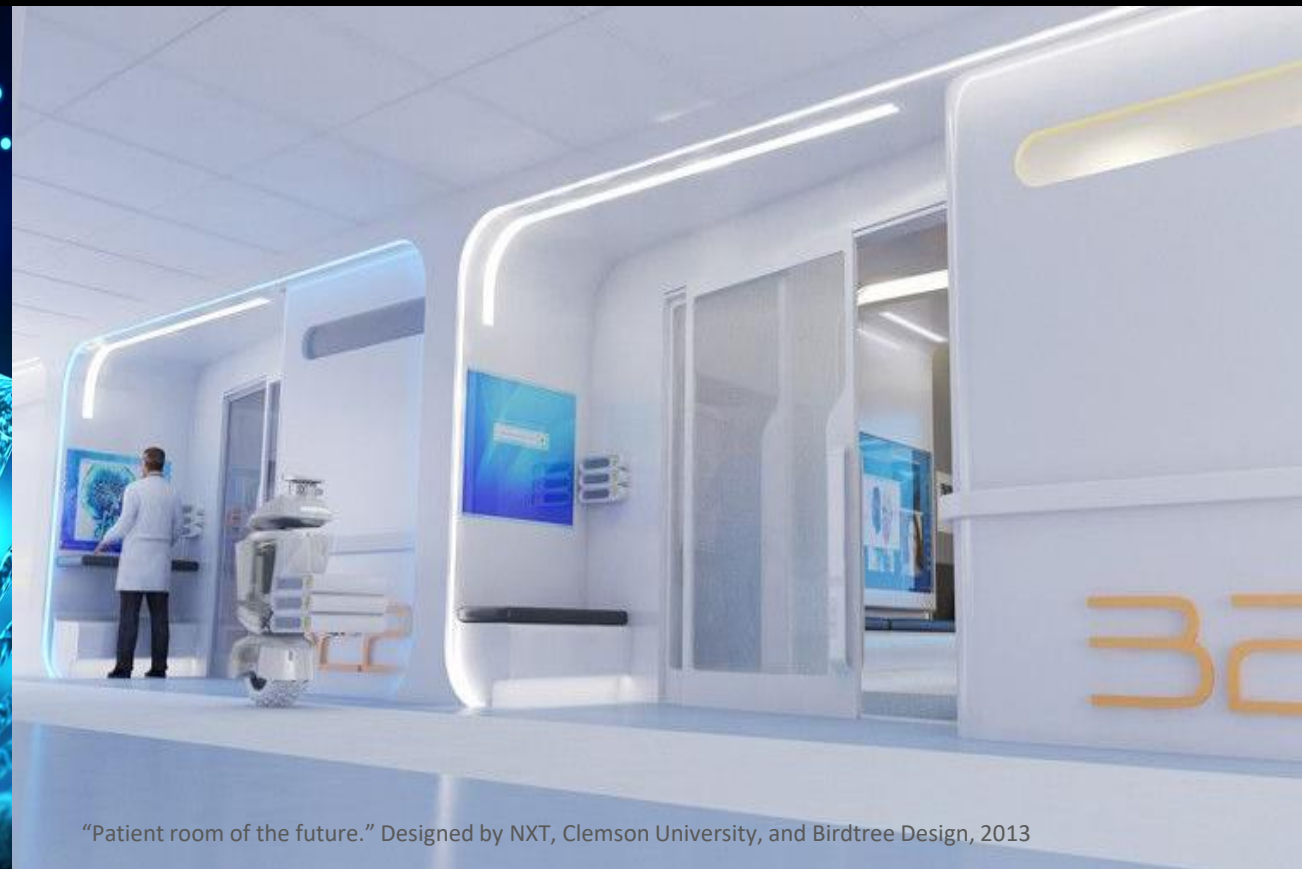


Center for Cancer and Health in Copenhagen, NORD Architects

Community Healthcare Centers, 2010



Predictive and Personalized Medicine, 2000



Smart Hospital Design, 2010

*"Topol is one of medicine's most innovative thinkers about the digital future. . . . A valuable contribution to a fascinating subject."
—New York Times Book Review*

Eric Topol

THE PATIENT WILL SEE YOU NOW

The **FUTURE** of **MEDICINE**
IS in **YOUR HANDS**

WITH A NEW EPILOGUE

The patient as consumer, 2015

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HEALTH CARE WITHOUT WALLS

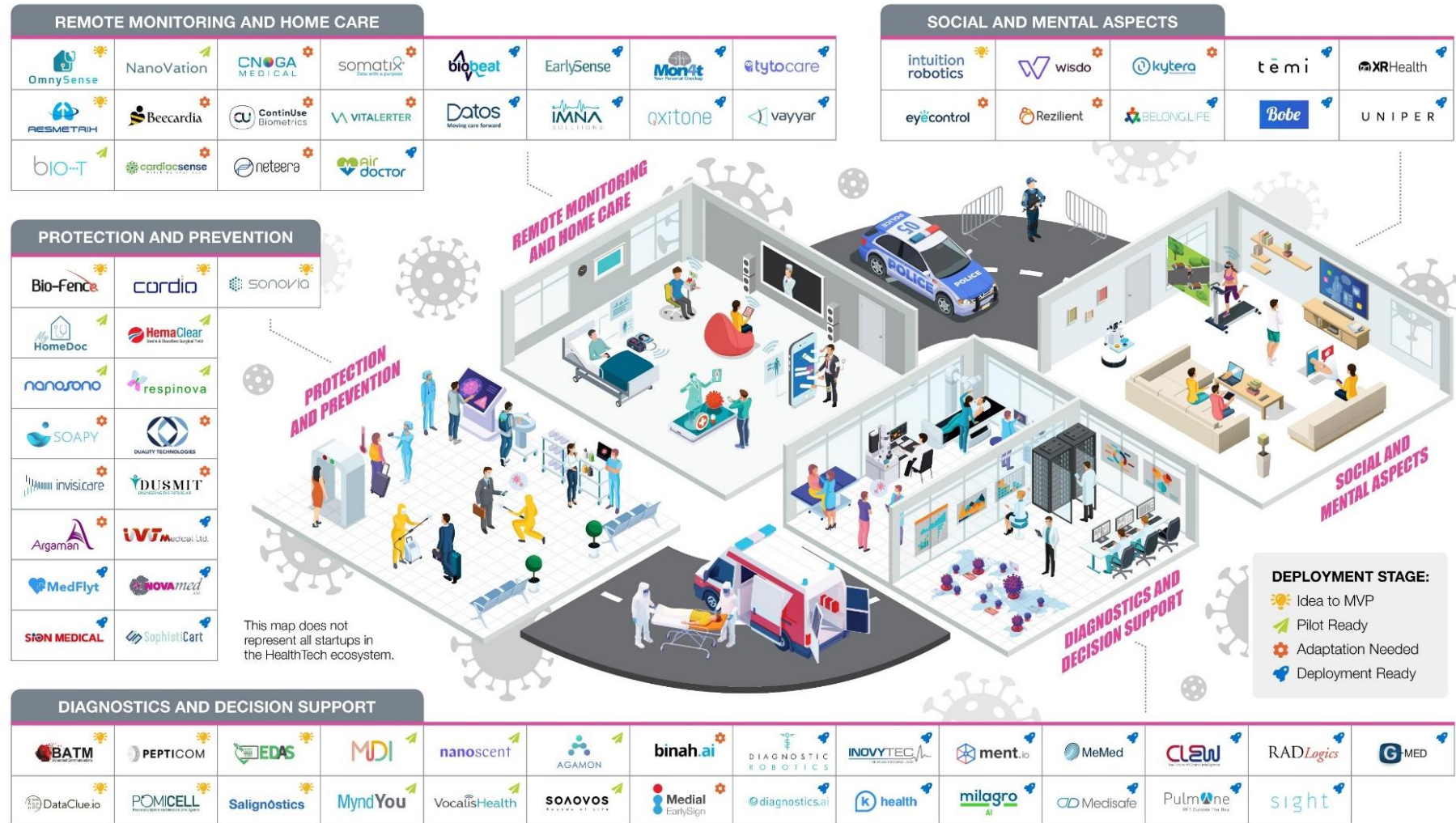
A Roadmap for Reinventing
U.S. Health Care



Digital Health and Remote Care, 2020

**HEALTH
IS MADE
AT HOME** | **HOSPITALS ARE
FOR REPAIRS**
BUILDING A HEALTHY AND
HEALTH-CREATING SOCIETY

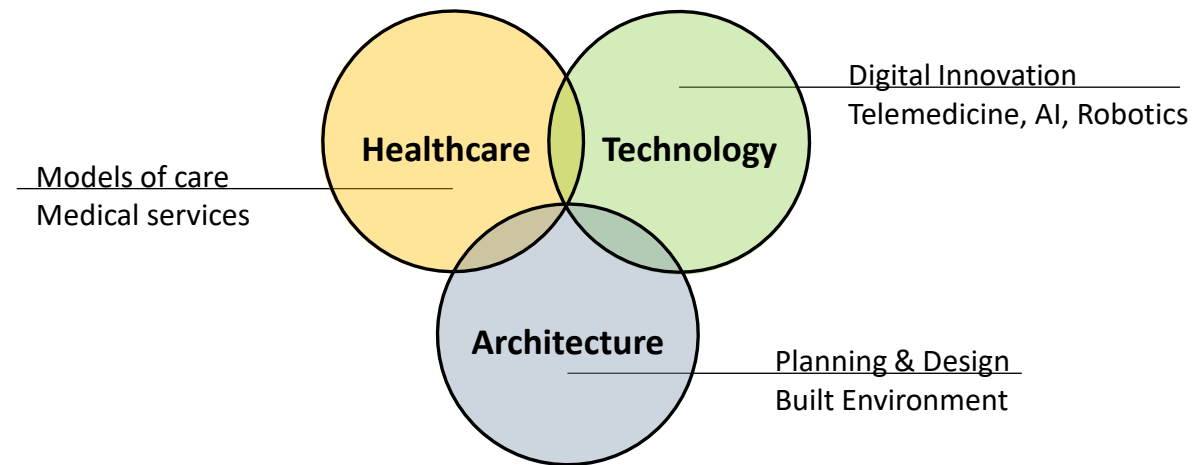




Healthcare innovation in Israel: HealthTech countering COVID-19, Start-Up National Central and HealthIL, 2020

Smart Hospital of the Future

Digital Technologies, Service Innovation, and Hospital Design



UNIVERSITY OF
CAMBRIDGE
Judge Business School



Study of Sheba MC in Collaboration with the University of Cambridge



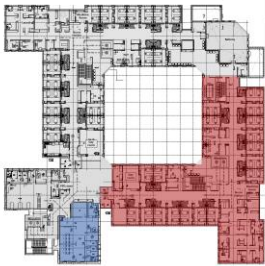
New Model of Inpatient Telemedicine in the COVID-19 units





Control room at Sheba MC COVID-19 ICU overlooking the contaminated zone, Aug 2020



COVID-19 Intensive Care Unit



COVID-19 Internal Medicine Unit

-  Clean control room
-  Contaminated zone

Remote Care by Telemedicine Technologies and Robots

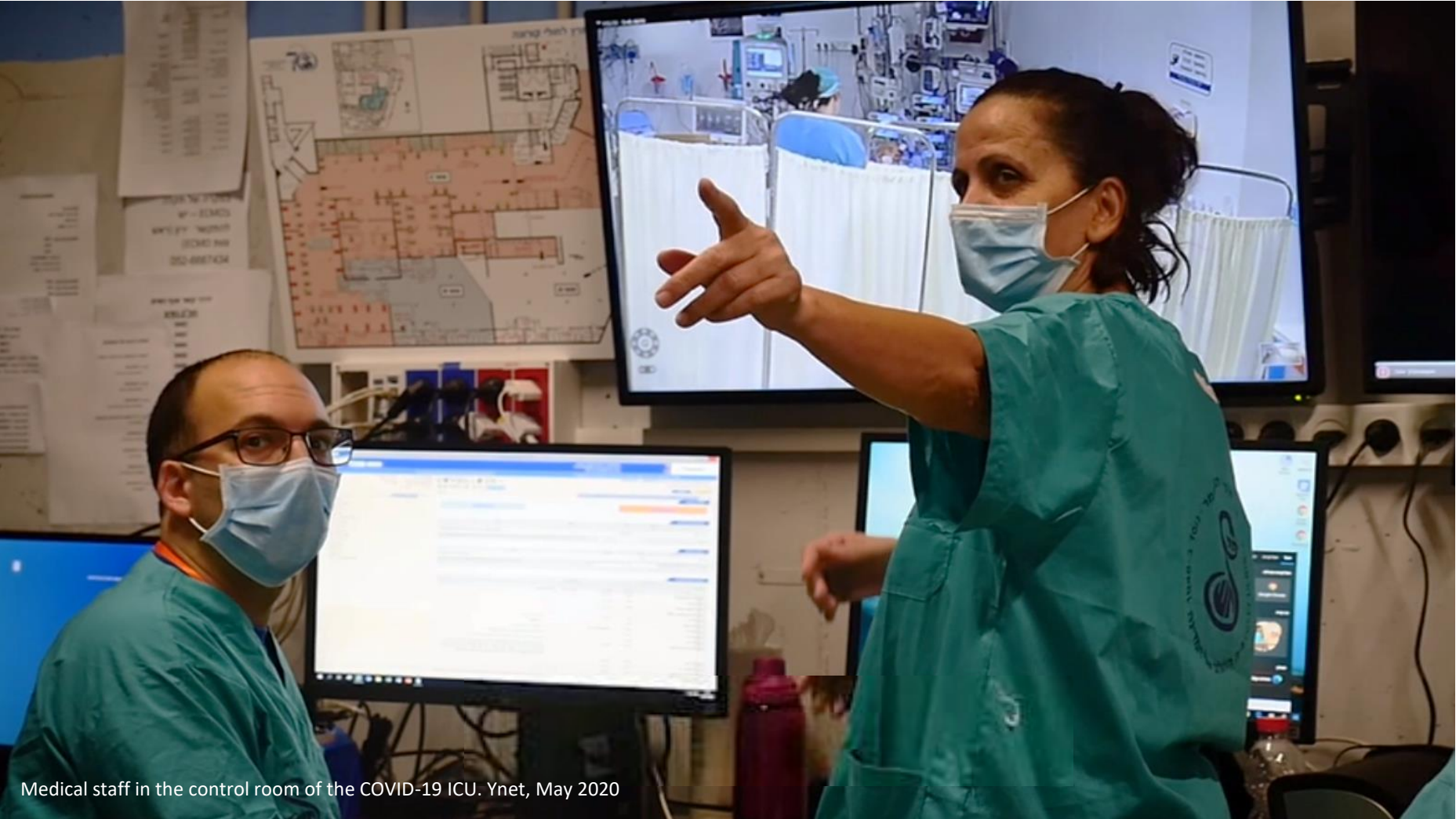


The director of COVID ICU communicating with the staff from the control room. Dan Balilty for The New York Times, May 2020

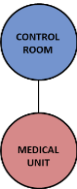


Intouch Telepresence Robot

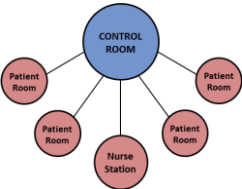
Managing Operational and Spatial Complexity



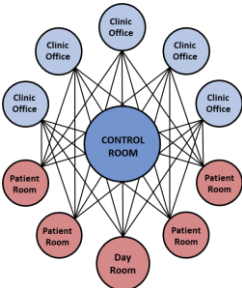
Medical staff in the control room of the COVID-19 ICU. Ynet, May 2020





COVID-19 Intensive Care Unit



COVID-19 Internal Medicine Unit



COVID-19 Mental Health Unit

-  Clean control room
-  Contaminated zone

Development of a Virtual Hospital



Delivery of Healthcare BEYOND the boundaries of Space and Time



Home Hospitalization



Rehabilitation



Online Consultation



Online Clinics



Medication Consultation



Courses and instructions

Hybrid Models of Hospitalization

Managing 'Physical beds' alongside

'Virtual beds' for continuity of care

Collaboration of physicians in the hospital
with nursing services in the community

- *Internal Medicine @ Home*
- *COVID-19 care @ Home*
- *Psychiatric care @ Home*
- *Pediatric care @ Home*
- *Chronic Care @ Home*

New Hybrid Models of Care

Modes of Delivery		
Location	PHYSICAL	VIRTUAL
	<div>1</div> Inpatient Hospitalization	<div>2</div> Inpatient Telemedicine
	<div>3</div> Home Hospitalization	<div>4</div> Tele-Home Hospitalization

1



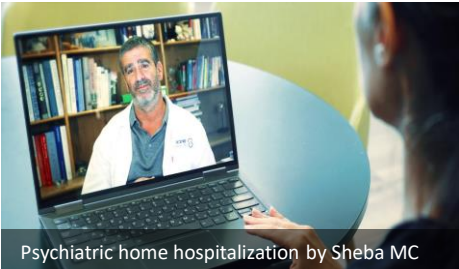
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3



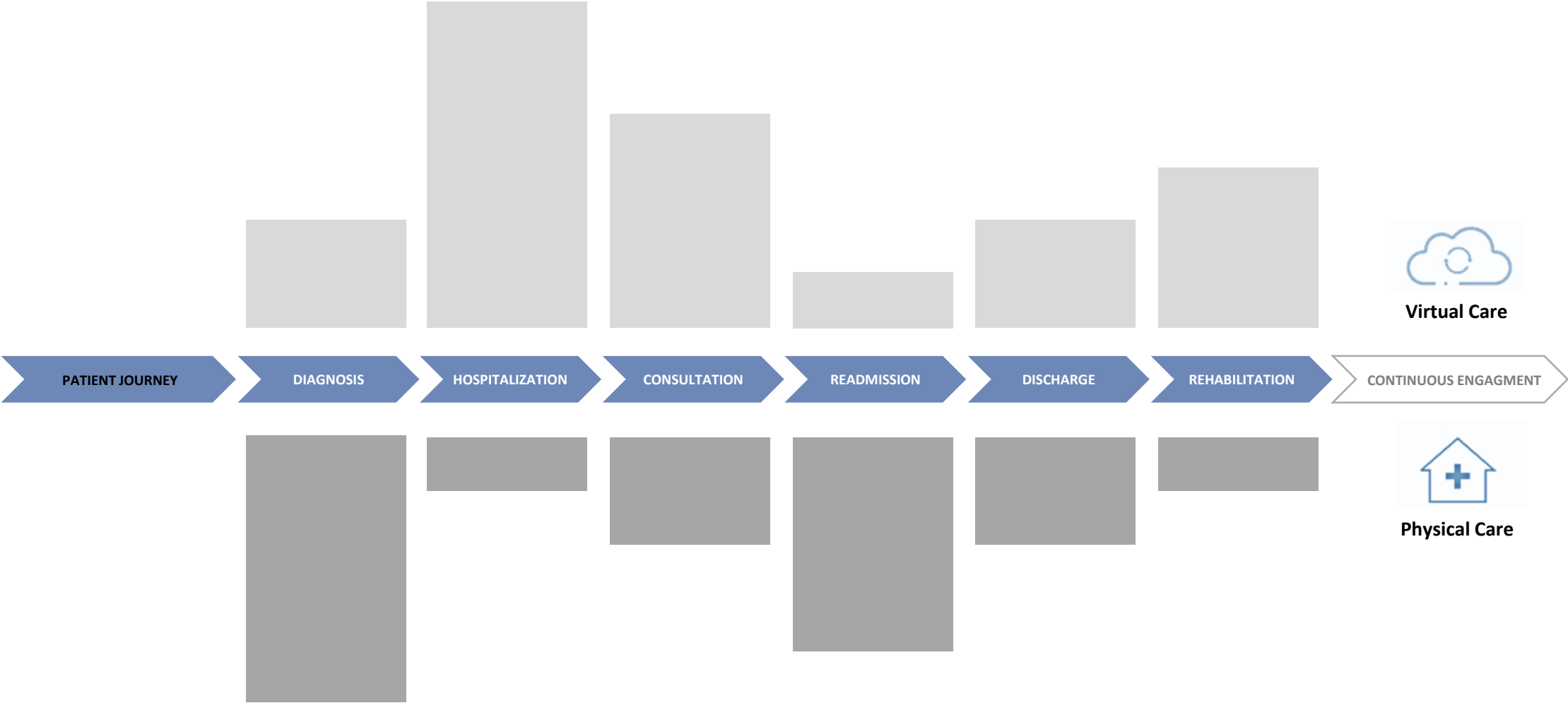
4



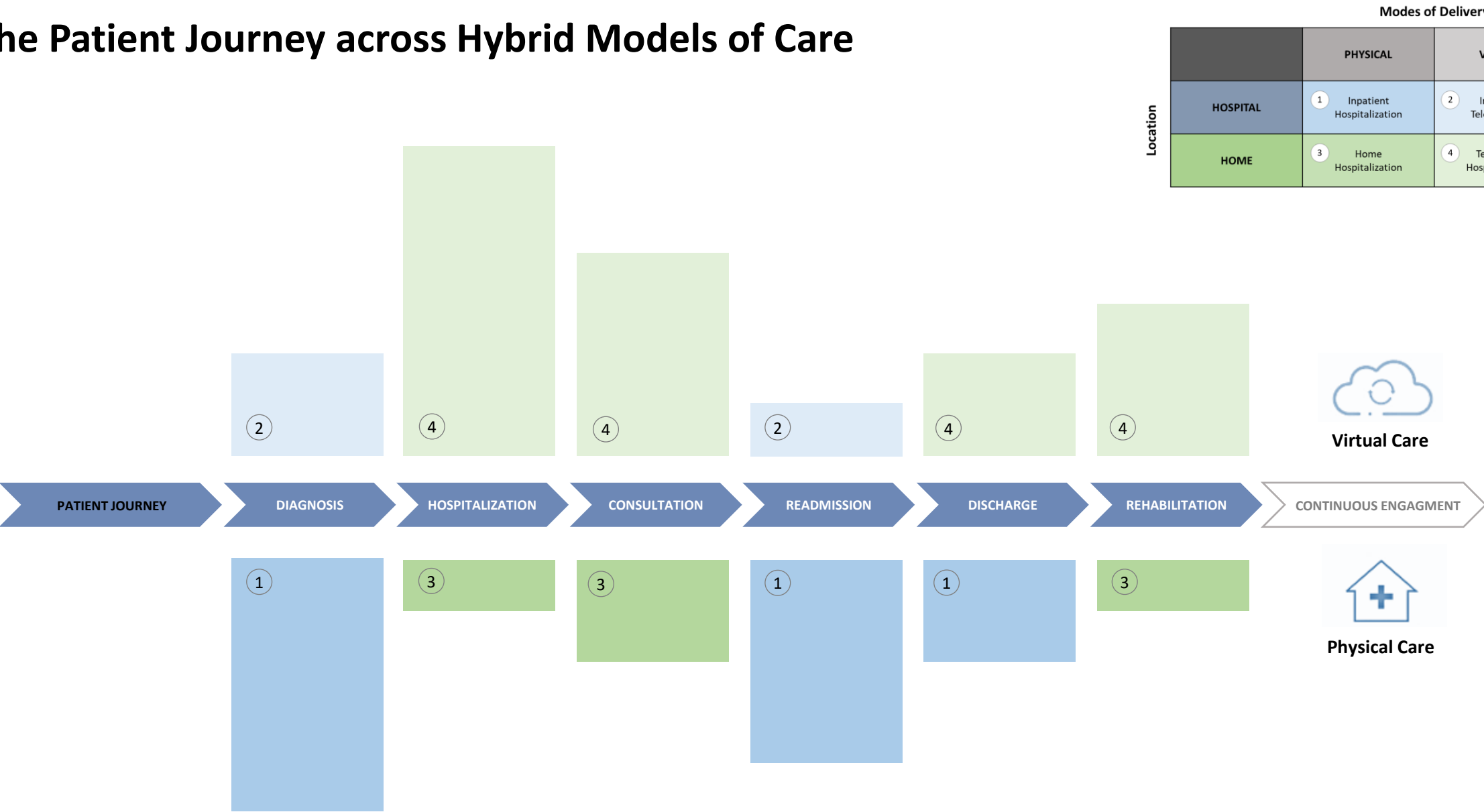
The Patient Journey



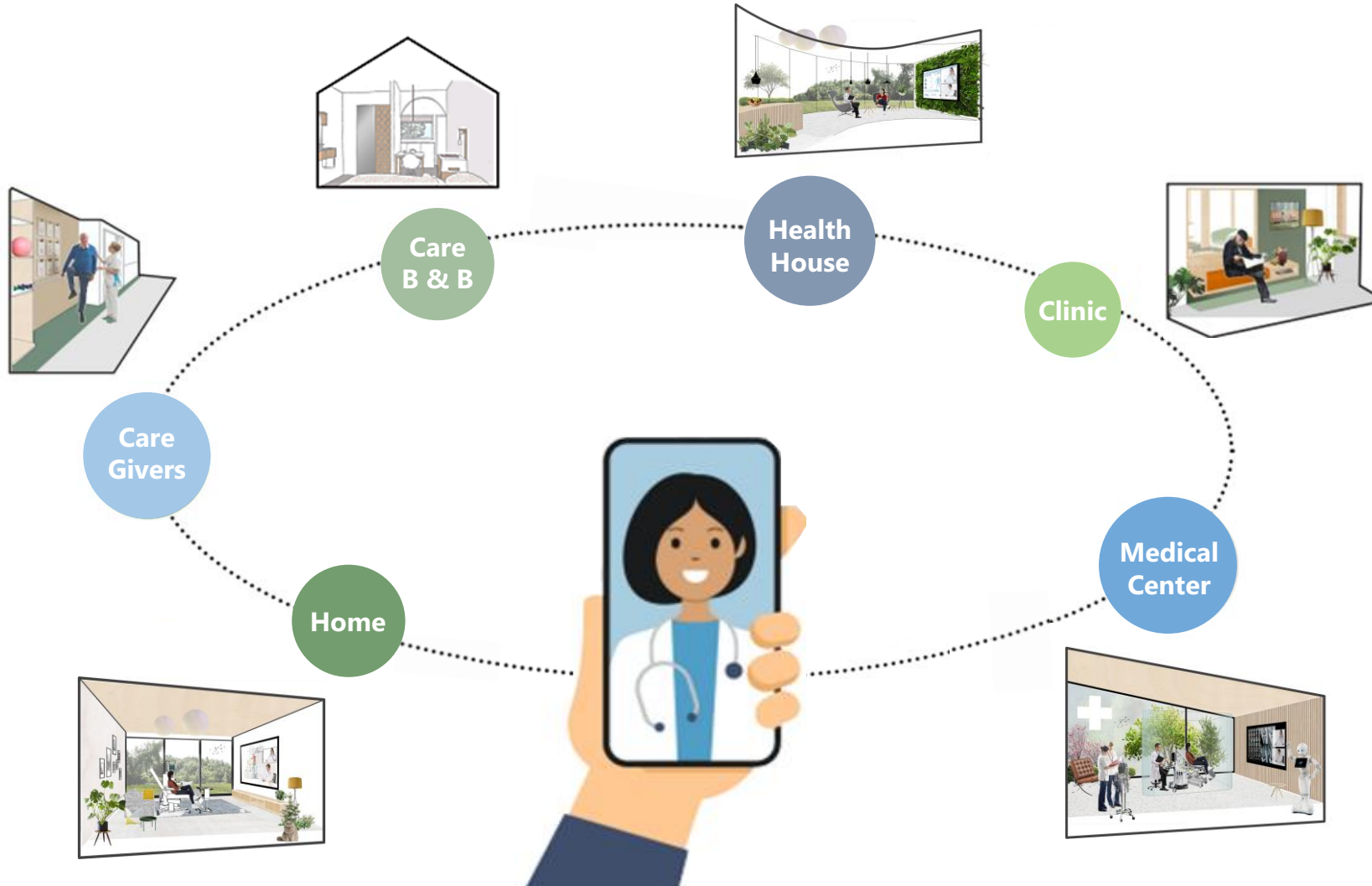
The Patient Journey across Physical and Virtual Care



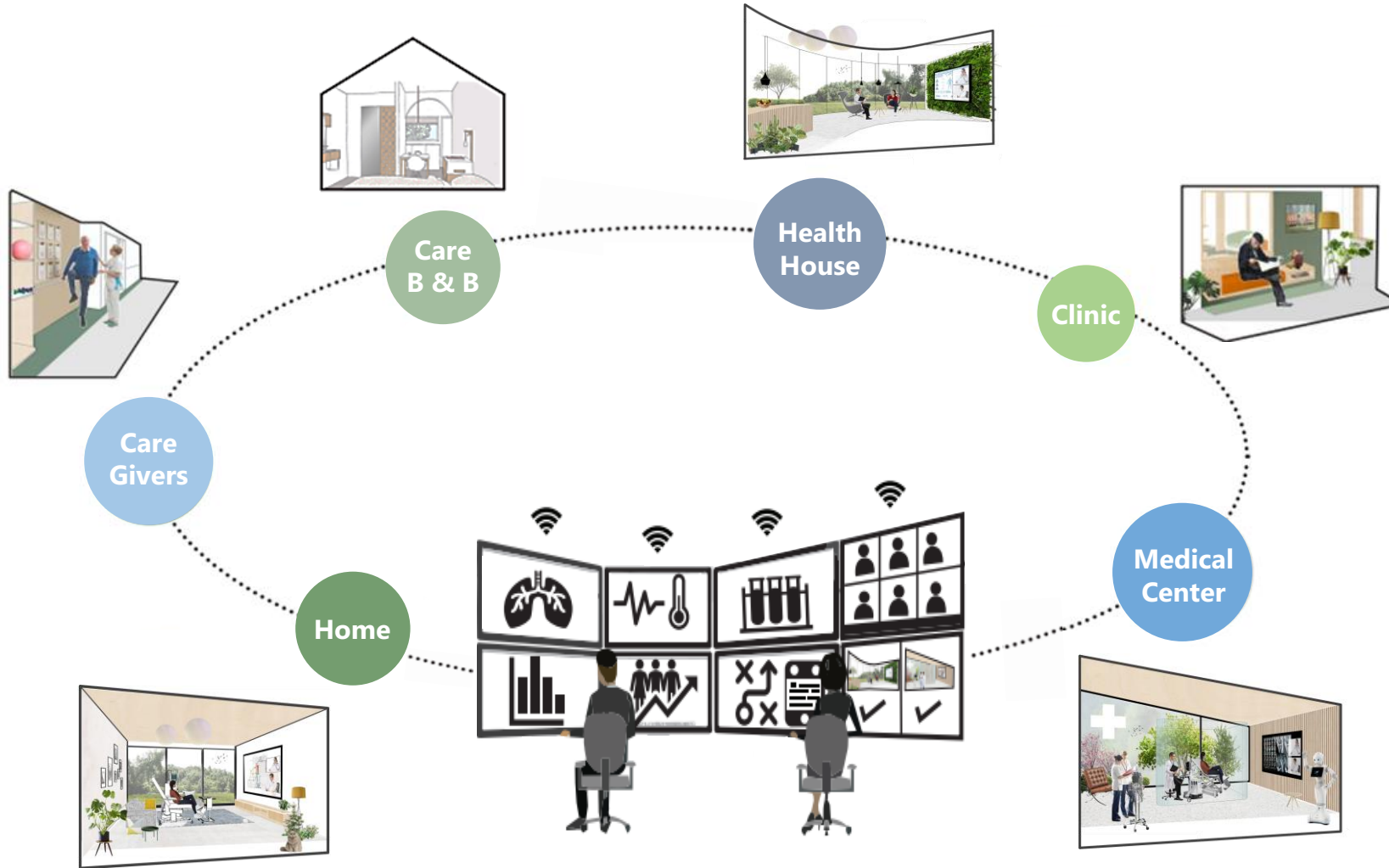
The Patient Journey across Hybrid Models of Care



Patient-centered Design: navigating physical and virtual environments



System-centered Design: optimizing healthcare services



Care @ Home

Care @ Community

Care @ Medical Center

*Health
Promotion,
Rehabilitation*



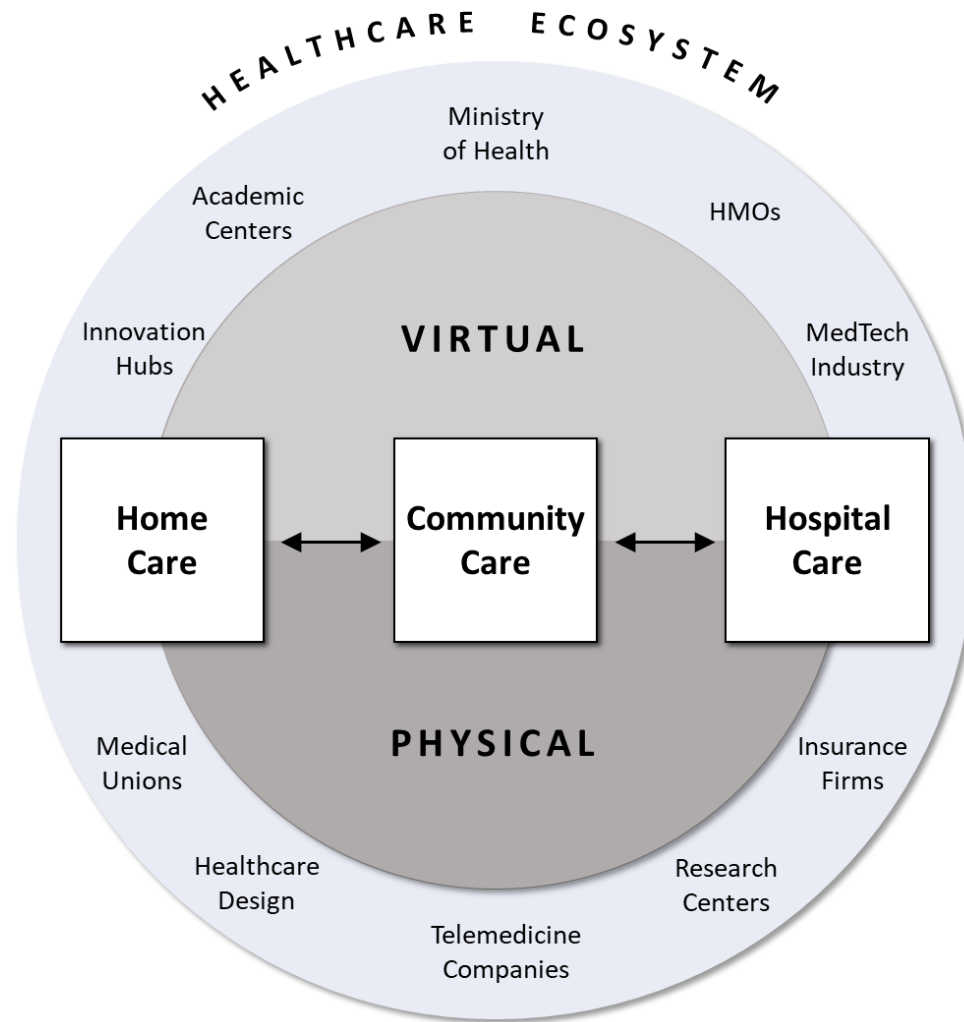
*Consultation,
Monitoring,
Diagnostics*



*Medical
and Nursing
Treatment*



Collaboration across the Healthcare Ecosystem



Planning for Change in an Era of Digital Transformation

- Design for flexibility on multiple levels
- Resilience was enhanced by digital technologies
- Inpatient telemedicine holds value beyond COVID-19
- Potential to develop hybrid models of virtual and physical care
- Opportunity to transform hospitals as part of the healthcare ecosystem

Publications

Pilosof N. P., Oborn, E., Barrett, M. (2022). Future Cities Healthcare Ecosystems: Building Resilience through Hybrid Care Models across Physical and Virtual Environments. *Future Cities – City Futures: Emerging Voices for the [(Post-)Pandemic] City*.

Pilosof N. P., Barrett, M., Oborn, E., Barkai, G., Zimlichman, E., Caspi, A. (2022). Telemedicine for Inpatient Psychiatric Care: Remote Care in a COVID-19 Mental Health Unit. ARCH22 'Enabling health, care and well-being through design research' 2022.
<https://doi.org/10.24404/622fc1031994d67c6891933d>

Pilosof, N. P., Barrett, M., Oborn, E., Barkai, G., Pessach, I. M., & Zimlichman, E. (2021). Inpatient Telemedicine and New Models of Care during COVID-19: Hospital Design Strategies to Enhance Patient and Staff Safety. *International Journal of Environmental Research and Public Health* 2021, Vol. 18, Page 8391, 18(16), 8391. <https://doi.org/10.3390/IJERPH18168391>

Pilosof, N. P., Barrett, M., Oborn, E., Barkai, G., Pessach, I. M., & Zimlichman, E. (2021). Telemedicine Implementation in COVID-19 ICU: Balancing Physical and Virtual Forms of Visibility. *Health Environments Research and Design Journal*, 14(3), 34–48. <https://doi.org/10.1177/19375867211009225>

Pilosof, N. P., & Grobman, Y. J. (2021). Evidence-Based Design in Architectural Education: Designing the First Maggie's Centre in Israel. *Health Environments Research and Design Journal*. <https://doi.org/10.1177/19375867211007945>

Pilosof, N. P. (2021). Building for Change: Comparative Case Study of Hospital Architecture. *HERD: Health Environments Research & Design Journal*, 14(1), 47–60. <https://doi.org/10.1177/1937586720927026>

Pilosof, N. P. (2018). The Evolution of a Hospital Planned for Change. *Healthcare Architecture as Built Infrastructure: Stability and Change*. Kendall, S. H. Editor. Routledge, New York. <http://doi.org/10.4324/9781351256407-6>

Pilosof, N. P. (2005). Planning for Change: Hospital Design Theories in Practice. *The AIA Academy of Architecture for Health (AAH) Journal*, 8, 13-20.
https://www.researchgate.net/publication/298353217_Planning_for_Change_Hospital_Design_Theories_in_Practice



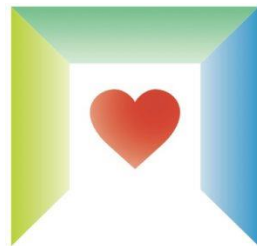
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Judge Business School



Thank You



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2022 UIA YEAR OF DESIGN FOR HEALTH