Health facilities post-COVID-19 and beyond: safe, functional, climate-resilient and environmentally sustainable

April 15th 2021
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<th>Region</th>
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**Bologna Metropolitan Area**

Population 1.019.539
THE FACILITY:
NUMBERS, DATA AND INDICATORS

- Founded in 1592
- University and public hospital, IRCCS (Scientific Institute for Research, Hospitalization and Healthcare)
- 32 pavilions and departments
- 1,500 beds
- + 5,000 employees
- 69,000 ordinary admissions / year
- 139,000 emergency admissions / year
- 33,000 surgeries and 3 million specialistic examinations / year
PROMPT REACTION:
“PAVILION 25 - FROM NOTHING TO COVID-19 BEDS”

• **COVID-19-Hospital Approach** – dedicating an entire pavilion to COVID-19. Pavilion 25 was a shut down facility, on the verge of reconstruction: meant to become an ambulatorial facility.

• **Immediate (days) set up** of 35 COVID-19 beds (from ICU to hospitalization).

• **Key issues:**
  - Ventilation & Negative pressure rooms
  - Distance between beds
  - COVID-19 patient’s and staff flow.
  - Goods and Waste management flows
  - Visual management
  - PPE procurement, quality and distribution
  - Inhouse food production and distribution process
PROMPT REACTION:
“PAVILION 25 - FROM NOTHING TO COVID-19 BEDS”
TODAY:

“THIRD WAVE PEAK – 28TH OF MARCH 2021”

- Pavilion 25 has reached a total of 105 COVID-19 beds thanks to a renovation of 8,000 square meters of the three-floor pavilion.
- The hospital has a total of COVID-19 beds:
  - ICU 102. (43% of Metropolitan area)
  - Ordinary beds 309.
  - Total 411.
- Metropolitan area
  - ICU 236.
  - Ordinary beds 960.
  - Long term care 305. (private hospital)
  - Total 1,501.
Rationale for action - the challenge:
- COVID-19 highlighted inadequacies
- New standards to be redefined
- Management wanted investment to ‘count’

Objectives:
- To support hospital in developing more flexible, resilient, adaptable and sustainable structures and systems
- Export the findings of the case study to other settings (scale-up)
**PROCESS EVOLUTION: TOP DOWN AND BOTTOM UP**

- **May 2020**: WHO field support deployment
- **June 2020**: Case study proposal: concept paper
- **August 2020**: Top-down process: logic frame and working areas definition
- **September 2020**: Bottom-up engagement. Kick off meeting: official start of “the hospital of tomorrow” project
- **Oct-Nov 2020**: 5 working groups launched. Presentations to Board of Directors
- **Jan-Feb 2021**: First approved projects. 2 more groups launched
- **March 2021**: Projects approved passing to executive board
FORWARD THINKING & WORKING GROUPS: GROUP'S EVOLUTION IN THE PROJECT

• Environmental: distancing, ventilation, engineering measures, layout, flows

• Technological: telemedicine, smart working, innovation

• Behavioural (Human Resources): flexibility (scaling up-down, surge plan); resilience (changing needs, events); and working methods (multidisciplinary, participative, dialogue and confrontation)
BEYOND: “PIANO DIRETTORE” 2020-2030

• A strategic planning document aiming to foresee the new facilities development model, stretching from 2020 to 2030, where healthcare activities are being concentrated in building clusters.

• This consistently done in regards to:
  • both the company organisation and the city territory needs.
  • including building, systems and technology to solve critical issues in healthcare assistance
  • implementing new strategies in an integrated approach in terms of metropolitan network, medical excellence/specialisation, scientific research and didactics.
**Sustainability** both in terms of environmental and operation management:

- Criticality Assessment in terms of Urgency and Emergency
- Rationalized and flexible logistics flows for patients, visitors, staff members, students technical crews, goods distribution, waste management and service
- Improved safety in healthcare facilities and better working conditions for health caregivers
- Sustainable mobility within campus, between and inside pavilions.
- Energy High-Performance standards for buildings
- Dismantling of disability barriers (physical environment, lack of assistive technology, culture)
BEYOND: “A THREE LAYER LESSONS LEARNED APPROACH”

Layers of knowledge:

- the harshness of facing COVID-19 – experience.
- the WHO working groups – dialogue.
- currently updating the “Piano Direttore” – planning.