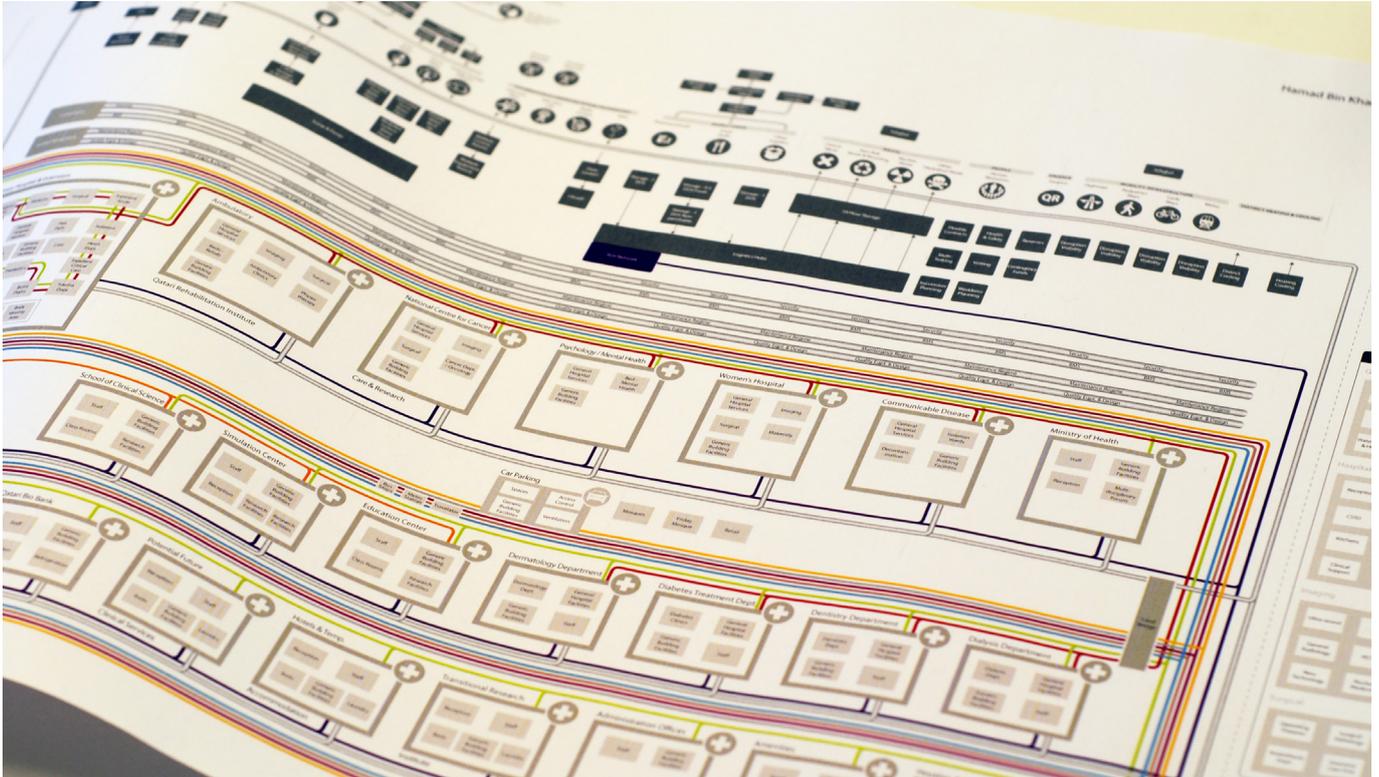


A CLEAN BILL OF HEALTH FOR A VITAL PROVISION



HAMAD BIN KHALIFA MEDICAL CITY (HBKMC) - RESILIENCE STRATEGY DOHA, QATAR

Hamad Bin Khalifa Medical City (HBKMC) is a multi-billion dollar project, which forms part of the Qatari government's plan to provide the country with world-leading healthcare by 2030. HBKMC will transform Qatar's current healthcare facilities into a cohesive medical city, providing a state of the art healthcare provision, as well as cutting-edge research and education facilities.

HBKMC's disruption-free operation is of national and international importance. The health facilities that currently exist on the site represent two thirds of all healthcare in Qatar, and failure of these facilities would therefore result in the failure of Qatar's healthcare provision nationally. BuroHappold Engineering was engaged to provide a comprehensive resilience strategy that will allow HBKMC to withstand identified shocks and stresses with minimal disruption.

Our Risk & Resilience team identified key risks, including pandemics, natural hazards and power failures, and ranked them according to their potential impact on HBKMC's infrastructure. These identified

hazards were used to inform a business impact assessment in which all of the components effecting the resilience of the masterplan at a strategic level were mapped in a system resilience diagram. This diagram was then used to illustrate how disruption to one element of the masterplan can rapidly cause disturbance to connected or dependent parts.

Our team was then able to propose the implementation of mitigation measures, including hardening of critical assets, multi-point distribution and back-up power generation, within the infrastructure design to increase the resilience of the hospital site.

Additionally, required contingency measures were identified, such as major incident plans, business continuity plans and emergency response plans, which could be fed into operational procedures being developed by the hospital. Using our extensive knowledge of risk mitigation strategies we are helping to ensure that Qatar's vital healthcare provision remains viable.

CLIENT
Hamad Medical Corporation

ARCHITECT
Allies and Morrison

PROJECT VALUE
Circa \$10 billion

DURATION
2014 - current

SERVICES PROVIDED BY
BUROHAPPOLD
Civil engineering, sustainability, resilience, facades, security, logistics, waste, transport environmental, energy, water, drainage, IT comms & control