Themes	Barriers	Solutions
Entry	Changing demand	[s1] Strategic planning: make recurring strategic revisions on fit between demand and capacity
		[s2] Strategic planning: use predictive analytics to forecast demand patterns and capacity needs
	Unpredictable inflow variation	[s3] Cooperate with other hospitals to ensure bed capacity and to seek appropriate level of care
		[s4] Ensure capability to reroute less severe ED patients to outpatient, ambulatory or home care
		[s5] Reach, inform and treat patients before they seek acute hospital care
		[s6] Require increased primary care responsibility and support with more knowledge exchange and coordination
		[s7] Use IT-tools and data analysis for standardized admissions, early assessments and reduced no-shows
Healthcare sector	Unaligned and restrained healthcare system	[s8] Create healthcare system alignment with clear goals and objectives for each healthcare actor
		[s9] Increase staffing and bed capacity across the whole healthcare system[b]
Internal	High work in process	[s10] Optimize and smooth occupancy rate levels by admitting patients based on length of stay and ICU risk[c]
		[s11] Understand the tipping point of hospital's capacity utilization and ensure sufficient capacity buffers
		[s12] Use an OR block schedule per clinic and plan cases based on downstream bed availability[c]
	Inefficient capacity coordination[a]	[s13] Allocate dedicated capacity for both acute and elective patient flows
		[s14] Ensure a high OR-utilization with smart case mixes, all day utilization and quick cancellation refill
		[s15] Operational planning: have daily capacity meetings within the department or clinic
	Inefficient capacity utilization	[s16] Have a structured organization for daily problem solving and capacity optimization[d]
		[s17] Schedule staff and all clinical activities based on an optimal utilization of the OR-schedule
		[s18] Utilize as much of the week as possible and staff day and week according to real demand patterns
	Insufficient capacity[b]	[s19] Invest in ancillary service capabilites to minimize bottleneck risks in indirect patient activities
		[s20] Use external facilities or patient hotels to release hospital bed capacity
	Large capacity utilization variation[c]	[s21] Improve outpatient processes by implementing standards on schedules and appointments
		[s22] Improve prioritization schemes and develop standards on procedures, roles and staff ratios[a]
	Long lead times[d]	[s23] Make all employees understand the importance of having a patient flow focus[a, c]
		[s24] Give clinics trust and improvement autonomy but follow central process metrics and external benchmark
		[s25] Use more digital tools and new time saving treatment methods to reduce lead times
Management System	Insufficient patient flow focus	[s26] Connect managers and staff across the hospital to break silo mindsets
		[s27] Put patient flow focus on top of the agenda across the hospital, to change the culture
		[s28] Share and visualize correct data across the organization to make everyone understand flow implications
	Low interorganizational coordination	[s29] Align objectives, metrics and patient data systems (EHR & CRM) across the organization
		[s30] Increase collaboration on capacity between clinics and departments across the hospital
		[s31] Operational planning: have daily capacity meetings with all clinics of the hospital
		[s32] Use a flow command center to optimize capacity use and break hospital flow bottlenecks
		[s33] Use some type of patient coordinators to see and prioritize the needs and process of the patient
		[s34] Tactical planning: have weekly capacity coordination meetings with all clinics of the hospital
	Hospital wide capacity insufficiencies	[s35] Build up flexible hospital wide capacity to handle peaks or capacity unbalances
		[s36] Ensure sufficient capacity along the whole patient flow to avoid bottlenecks
		[s37] Use IT-tools to analyze bed capacity use and provide daily real time visibility on hospital capacity
Discharge	Inefficient outflow process	[s38] Have dedicated discharge coordinators or coordinating teams
		[s39] Improve the organization around discharge ready patients when planning procedures and activities
		[s40] Prioritize activities and organize staff to ensure early and efficient daily discharges
		[s41] Set early discharge goals and continuously work towards them for every patient
	Insufficient after care capacity or cooperation	[s42] Enable discharge predictability with more home care solutions and own downstream facilities
		[s43] Provide follow up appointments at discharge to ensure accountability and continuity
		[s44] Request and work towards increased responsibility from after care services
		[s45] Share objectives, information and real time capacity data with after care services
		[s46] Use mutual staffing collaboration between the hospital and after care services
Transfer	Inefficient patient-transfer process and inefficient support-transfer process	[s47] Give a specific flow unit or team the task to control and arrange for efficient transfers
		[s48] Have standardized handoffs, pre-defined destinations and established incentives for efficient transfers
		[s49] Have clear roles with defined mandates concerning transfers between the ED and the receiving clinic
		[s50] Use digital tools to efficiently connect and navigate cleaners, porters, medical staff and patients

a, b, c, d refers to a connection between a solution and more than one barrier