RECOVERY OF SURGICAL SERVICES IN THE POST-PANDEMIC ERA

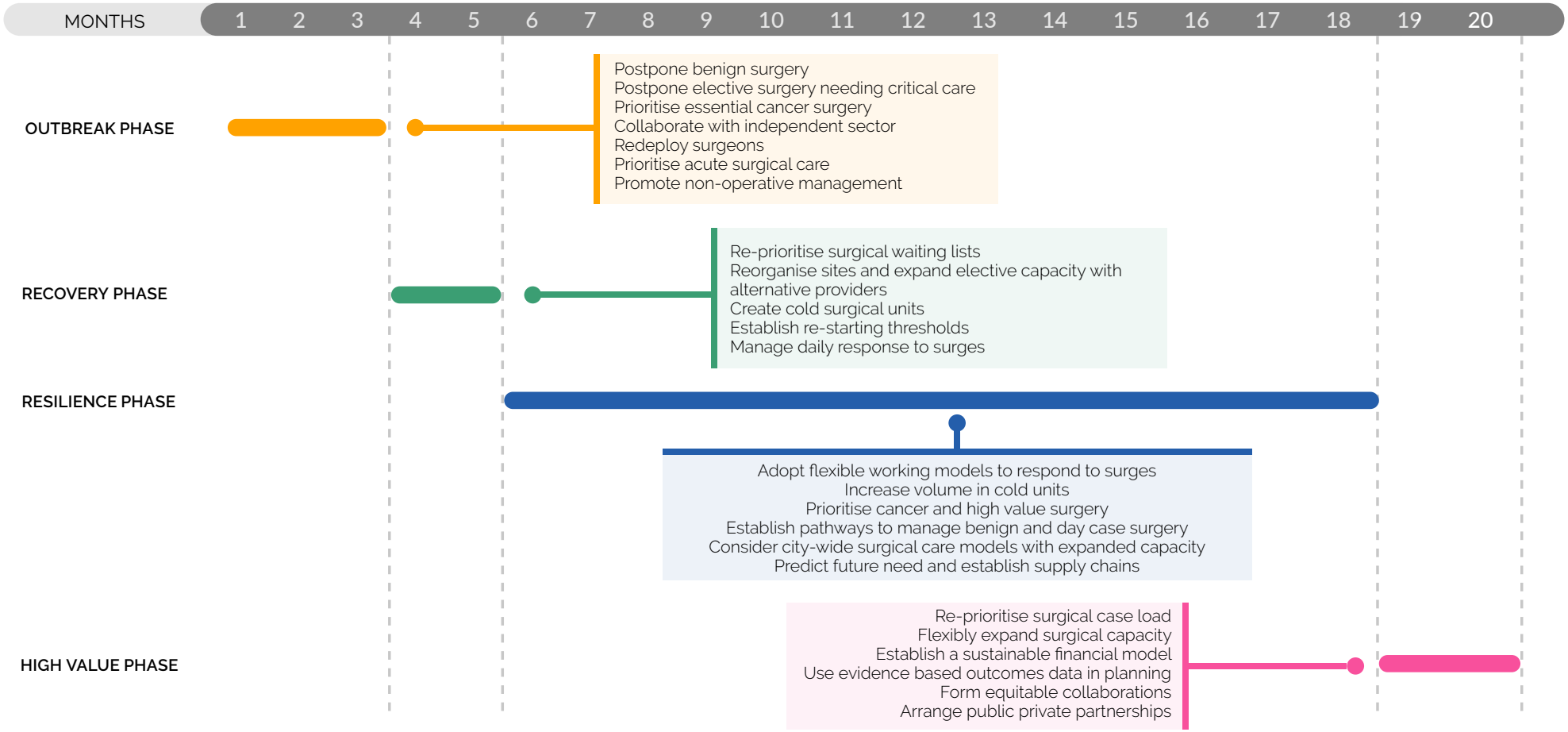
SURGERY 2020- 2025

NIHR Global Health Research Unit on Global Surgery | CovidSurg

8IU | 1ST REPORT EXECUTIVE SUMMARY

ROADMAP: SURGERY 2020-2025

This roadmap summarises the key phases for recovery of surgery in the post-pandemic era. It maps out the proactive approach that all stakeholders need to take, to ensure patient safety and deliver a robust set of surgical services.



IMPACT | The post-pandemic phase provides a unique chance for the global reorganisation of surgical services. This includes a focus on safety, expanded capacity, digitalisation, and procedure selection.

RE-STARTING SURGERY: PRIORITY DECISION MATRIX

This matrix guides surgeons and providers to prioritise individual patients and procedures, focussing on those that will bring the most benefit. Prioritisation is a constant process, that can then be used to triage patients into available capacity, especially during and immediately after COVID-19 surges. This guidance should be adapted locally and with increasing detail; this matrix provides an overview.

	PATIENT BENEFIT	PROCEDURES
HIGH PRIORITY	Significant survival benefit	Emergency surgery
	Low morbidity and mortality	Elective cancer surgery
	Early return to work	Life changing benign inpatient surgery
MEDIUM PRIORITY	Not life saving or prolonging	Life improving benign inpatient surgery
	Early to medium return to work	Day case surgery
	Some morbidity and mortality	Major complex cancer surgery
LOW PRIORITY	No survival benefit	Very high risk surgery
	No effect on return to work	Unproven technologies and techniques
	High morbidity and mortality risk	Low value surgery

Elective benign inpatient surgery

This represents the major burden on cancelled surgery (90%). Unless high value benign surgery is prioritised, there will be a decline in population health. Due to competition for space with elective cancer surgery, dedicated capacity will be needed.

IMPACT | Post-pandemic surgery will:

- Focus on safety in the post COVID-19 pandemic era
- Re-prioritise high and low value surgery, including benign and ambulatory surgery
- Expand capacity, including flexible teams and locations
- Secure COVID-19 free surgical pathways

CREATING SURGICAL RESILIENCE: NETWORKED HOSPITALS

Surgeons and providers will need to deliver COVID-19 free surgical pathways over the next 24 months. No one solutions fits all. These principles can be adapted to local context and resources, applying to major multi-network systems and also resource limited rural networks. This schema lays out an example of a networked surgical system.

COVID-19 Hot hospital: Large site, COVID-19 admitting

- Responsible for centralised/ complex care
- Major Critical Care facilities
- Provides cold surgical unit for complex cases
- Can flex between major hot and major cold site

Cold surgical unit (COVID-19 free pathway).

COVID-19 Hot Hospital: Medium site

- Capable of large scale care
- Large Critical Care facility
- Provides flexible cold surgical unit for medium-complex cases

Digital Control Centres

Cold hospital (COVID-19 free): Small-to-medium site

- Low to medium risk elective surgery
- Day case surgery

Cold hospital (COVID-19 free): Independent provider

- Low to medium risk elective surgery
- Day case surgery

Cold sites (COVID-19 free): Pre-screening

- Flexible facilities (car parks, sports grounds)
- Pre-screening/testing sites during outbreaks

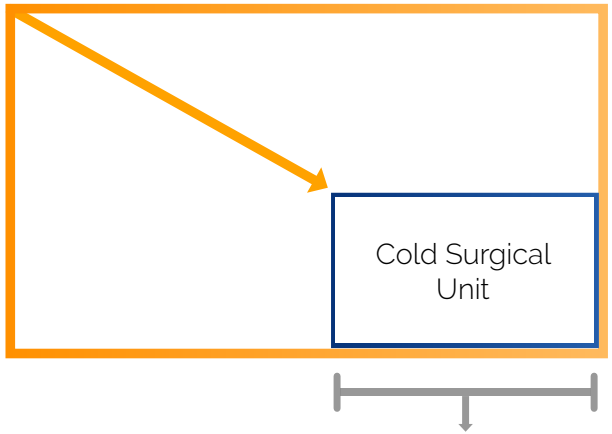
CHALLENGES:

- Digital platforms to centralise test requests, imaging, operating lists, patient results, patient communication and clinical coding. Platforms will need to be accessible from any site in the network.
- A major restraint of cold units will be the ability to provide a regular workforce that can support surgical services in both the hot and cold sites. For example, this includes nursing staff, anaesthetic staff, and porters
- Efficient pathways to transfer elective patients between sites for complication rescue when emergency surgical and medical care will be needed.

CREATING SURGICAL RESILIENCE: COVID-19 COLD SURGICAL UNITS

Some hospitals will have to set up cold surgical units within their existing physical boundaries. These may be hospitals that are geographically isolated and unable to network, or major hospitals that provide complex surgical services but also critical care facilities for COVID-19 outbreaks. Both of these sites will have to provide responsive surgical services that can flex in capacity based on COVID-19 surges, and other capacity issues (e.g. winter pressures). This schema outlines an example flexible model.

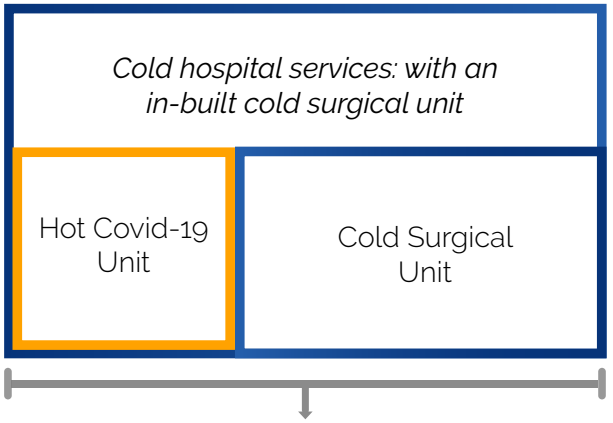
HOT HOSPITAL



DOWNWARD CURVE SURGE:
EXPAND SURGICAL CAPACITY

UPWARD CURVE SURGE:
REDUCE SURGICAL CAPACITY

COLD HOSPITAL



Hospital plans should be designed to rapidly flex to need (including future COVID-19 outbreaks), to maintain essential elective surgical capability.

Agile hospitals need to develop surgical resilience plans.

Cold Surgical Units should consider providing, where resources allow, COVID-19 free:

- Pre-admission testing (including CT scans)
- In-hospital transfer routes
- Post-operative emergency care pathways
- Critical Care
- Agile SARS-CoV-2 free workforce (e.g. regular testing and rotation)

IMPACT | No two surgical units are the same. Setting up safe surgical services with cold units needs to be done with front-line leaders in local settings, taking into account resources available in higher and lower income areas.

SURGICAL RESILIENCE MATRIX

During the resilience phase, surgical teams need to be able to flex to COVID-19 surges. Sudden increases in admissions will put pressure on critical care beds, theatre space, and supply chains. Creation of capacity and systems that can adapt to surges will allow elective surgical activity to continue as safely and efficiently as possible. This matrix presents the key features that will allow surgical units to continue elective surgery despite external pressures.

	Capacity	Critical care	Workforce and supply chain	Surgery response to surges	Impact
REACTIVE	COVID-19 mixed theatre and ward environments Case load not prioritised No plans for COVID-19 cold areas	Surges fill critical care Elective services stopped when critical care full	Redeployment unavailable and unplanned Intermittent PPE supply chain	Stop all elective surgery	Worsening cancer and non-cancer waiting lists Major impact on population health
RESPONSIVE	Prioritised case load Some capacity for COVID-19 cold areas	Critical care can be expanded under pressure High risk operating stopped	Redeployment available but not planned Adequate PPE supply chain	Continue low risk cancer surgery	Benign waiting lists increase Major impact on population health for non-cancer disease
AGILE	Flexible cold surgical units can continue during surges Isolated COVID-19 cold surgical units available Fully prioritised case load	Step-wise plan to expand critical care to need Ability to maintain COVID-19 free critical care unless in extreme conditions	Proactive redeployment plan based on elective activity scenarios Plans for testing and isolation Resilient PPE supply chain Staffing plans to cover hot and cold pathways	Continue low to medium risk, high priority surgery (cancer and non-cancer) in COVID-19 free environment Continue day case procedures in COVID-19 free environments	Lower impact on waiting lists Minimise impact on population health

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