



Addendum to the  
Grampian Health and Social Care  
**COVID-19 and Winter (Surge) Plan**  
**2020/21**

January to February 2021



# Addendum to the Grampian Health and Social Care **COVID-19 and Winter (Surge) Plan 2020/21** **January to February 2021**

The Grampian Health and Social Care Winter (Surge) Plan 2020/21 was developed during the last quarter of 2020. Whilst acknowledging the emergency response to the COVID-19 pandemic had prevented the usual winter planning processes taking place throughout 2020, the plan was fully supported by the NHS Board at their meeting in January 2021. In view of the rapidly changing COVID-19 situation in addition to usual winter pressures, it was agreed the plan should remain a live document with addendums provided to reflect any changes and updates during the winter period.

The winter plan remains extant and key changes as at the end of February 2021 are outlined in this document.



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## Incident Response Status – Move to Level 4

This is a change in escalation from System Leadership and Incident Response Status previously outlined in **page 11** of the Winter Plan.

NHS Grampian’s leadership team moved the organisation back to a Level 4 Civil Contingencies position from 4 January 2021. This was in response to the escalating situation towards the end of 2020 which saw increasing numbers of hospital admissions (COVID-19 and non COVID-19) combined with other winter pressures including the need to deliver at pace a significant mass vaccination programme.

Level 4 is the highest level of escalation and is described as ‘Maximum Response Mode’ requiring the establishment of a Board Control Centre with Bronze Control Room network, resilience partnership and national response all fully activated from 4 January 2021.

## 1.1 Operation Snowdrop

Operation Snowdrop is the NHS Grampian approach to the initial three months of 2021 and will deliver a cohesive system-wide and community response to the ongoing COVID-19 pandemic, the delivery of health and care services during the “winter period” including any potential challenges associated with BREXIT. In a stressed and pressured system the most limited resource is our workforce and Operation Snowdrop aims to concentrate the whole organisation effort on a discrete number of activities to ensure that our finite workforce capacity is directed at the most urgent issues. The Snowdrop Tactical Objectives build on two streams of ongoing work:

Firstly the nine organisational objectives defined during and after Operation Rainbow shown previously in **Appendix 1, Page 55** of the Winter Plan and outlined below:-

- Provide a COVID-19 safe environment for staff, patients, students and the public.
- Maintain critical and protected services.
- Plan an integrated whole system T.O.M. to respond to COVID-19 and unscheduled care demands.
- Remobilise services in line with clinical prioritisation.
- Keep staff safe and maximise their wellbeing.
- Learn from the COVID-19 pandemic to rebuild our system.
- Plan and direct whole system pathways of care.
- Plan, enable and deliver to address the wider determinants of population health.
- Plan and deliver a comprehensive and ongoing engagement with our staff, partners and the public.

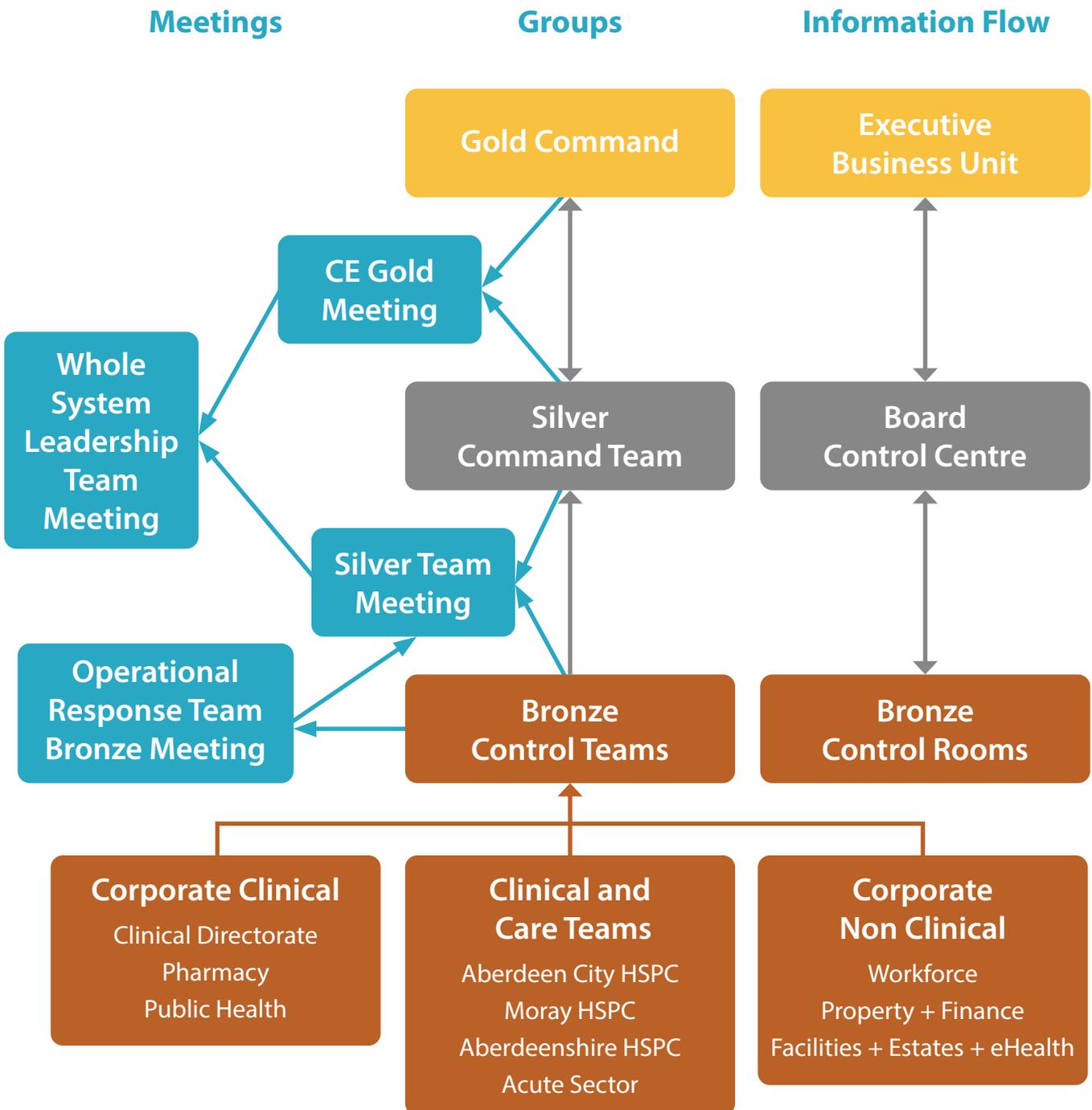
Secondly, the four programmes of healthcare planning and delivery already escalated to a Level 3 management approach, as below:-

- Winter planning for COVID-19 and Unscheduled Care Surge and Flow.
- COVID-19 vaccination programme.
- COVID-19 testing.
- Public Health Test and Protect service.

With the move to Level 4 response, Objectives 4, 7 and 8 have been paused although the principles are being held in mind as we move through Operation Snowdrop. Objective 6 is owned within the Gold objectives and aims. The remaining five objectives and four Level 3 programmes of work have been combined to create three new Operation Snowdrop Tactical Objectives which will be overseen by the Silver Command and Silver Tactical Team.

## 1.2 Operation Snowdrop Command Structure

The Silver Tactical Leaders will function within a defined command structure. They are responsible for the delivery of the three detailed Tactical Objectives. They report directly to the Gold Leader (Chief Executive) and are members of the Gold Team. There are ten supporting Operational and Advisory Bronze teams with responsibility for the entire Health and Care system. They are supported by the Board Control Centre which provides full logistic support in line with a Level 4 civil contingencies response.



### 1.3 Silver Leaders and Team

The Silver Tactical Leaders are drawn from the three Clinical Executive Directors of the NHS Grampian Board and the three Chief Officers (COs) of the Health and Social Care Partnerships (HSCPs). They will work on a rota system in pairs:

- Medical Director (Nick Fluck) with Aberdeen City CO (Sandra MacLeod).
- Nurse Director (June Brown) with Moray CO (Simon Boker-Ingram).
- Director of Public Health (Susan Webb) with Aberdeenshire CO (Angie Wood).

The Silver Team members will include a number of system specialists as well as the full leadership team from the Acute Sector:

- Acute Sector Triumvirate Chief Officer, Acute Services (Paul Bachoo, Jenny McNicol).
- Chief Social Work Officers (Claire Duncan (Aberdeen City HSCP), Jane Mackie (Moray), Iain Ramsay (Aberdeenshire HSCP).
- Director of People and Culture (Tom Power).
- Director of Modernisation (Lorraine Scott).
- Health Intelligence (Jillian Evans).
- Clinical Directorate (Shonagh Walker/Jenny Ingram).
  - Communications (Stuart Humphreys).
  - Director of Operational Delivery and Operational Response Team (ORT) Chair (Gary Mortimer/Susan Carr).
  - GP COVID-19 Lead (Denise McFarlane).
  - Staff Side/Partnership (Rachael Little).
  - Director of Facilities (Paul Allen).

Additional advisors will be drawn upon as required.

### 1.4 Tactical Operation Snowdrop Objectives

Direct and assure the provision of health and care environments that minimise the risk to staff, patients, students and the public.

Direct and assure that we continue to provide critical clinical and non-clinical services.

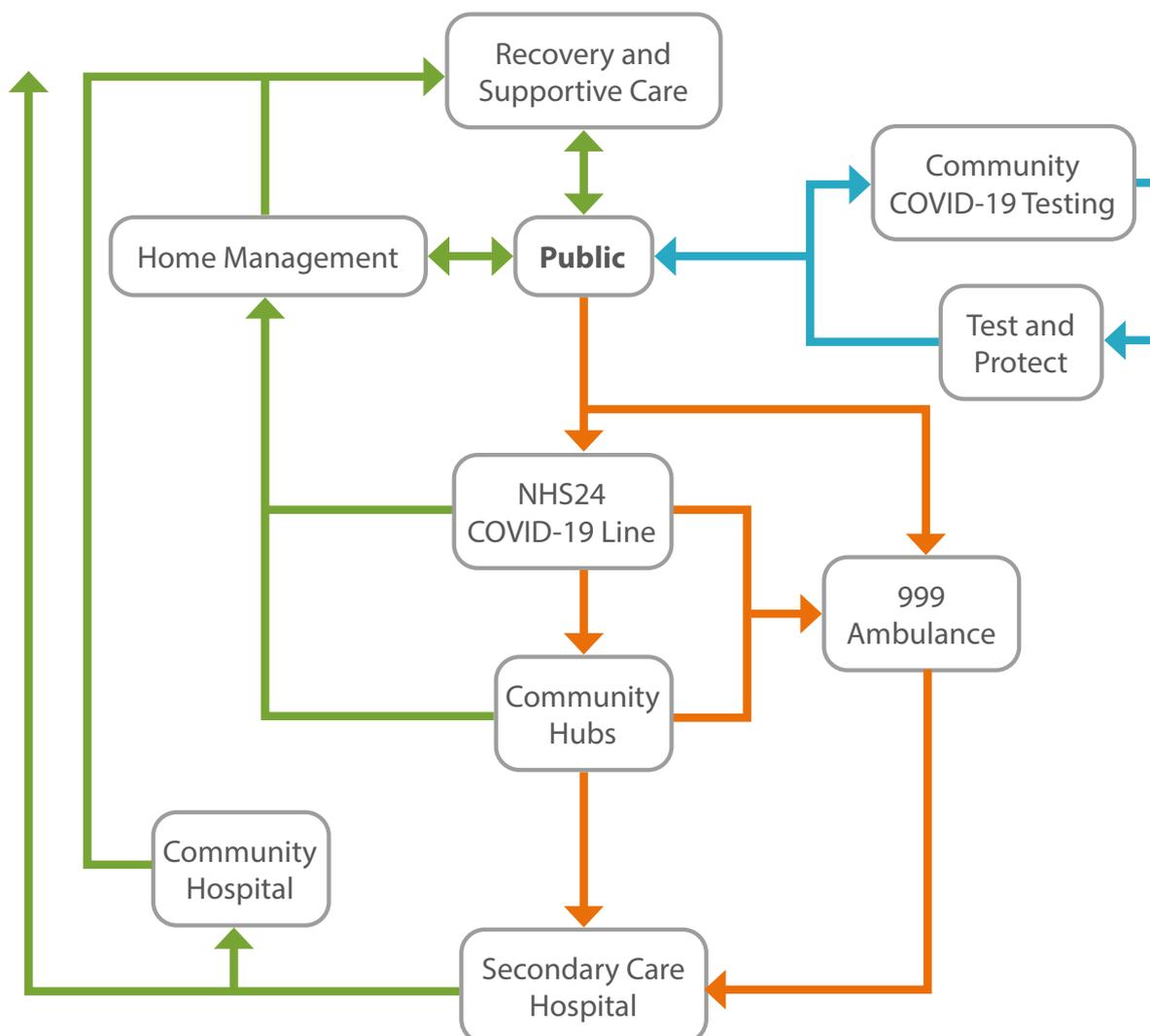
Plan, direct and assure an integrated whole system Winter Response Tactical Operation Model (WR-TOM).



# Integrated Whole System Winter Response Tactical Operating Model (WR-TOM) – Tactical Operation Snowdrop Objective 3

## 2.1 NHS Grampian COVID-19 Clinical Pathway

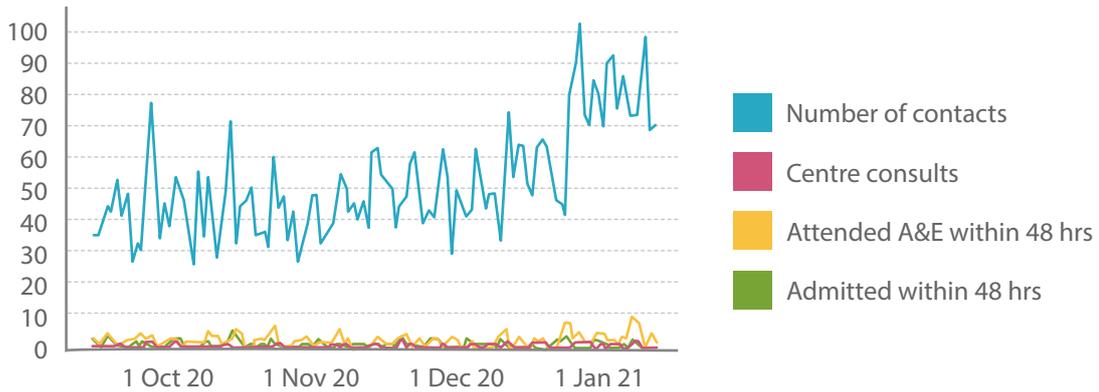
The COVID-19 clinical pathway of care was established during the first wave and remains unchanged and as outlined on **page 25** of the Winter Plan. This COVID-19 surge model will focus on the ongoing second wave and address the capacity requirements within the COVID-19 Community Hub and the COVID-19 designated hospital treatment centre (Aberdeen Royal Infirmary).



The information below (pages 28/29 of the Winter Plan) has been updated with revised data/activity projections.

### Predicted winter second wave COVID-19 Hub Activity for NHS Grampian

The activity profile through the first wave and into the start of the second wave is shown below and represents daily contact numbers with a very low conversion rate to hospital admission and almost all consultations completed remotely.

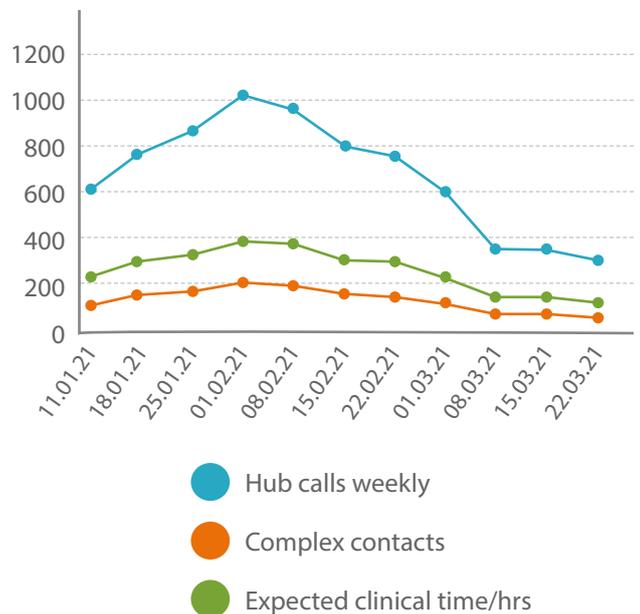


Assuming the activity will follow a similar profile to wave 1 the winter surge in COVID-19 Hub calls can be estimated. There are significant potential errors in this approach, as with an increase in testing within the community there will be a higher number of individuals who know that they have a positive result and may be filtered through the COVID-19 Hub triage system from NHS 24.

COVID-19 Community Hub Activity - Weekly Data - Week Commencing

	Date	Hub calls weekly	Complex contacts	Expected clinical time/hrs	Required clinical staff on every shift
5	11.01.21	600	120	230	3
6	17.01.21	750	150	288	3
7	25.01.21	850	170	326	4
8	01.02.21	1000	200	383	5
9	08.02.21	950	190	364	4
10	15.02.21	800	160	307	4
11	22.02.21	750	150	288	3
12	01.03.21	600	120	230	3
13	08.03.21	350	70	134	2
14	15.03.21	350	70	134	2
15	22.03.21	300	60	115	1

COVID-19 Community Hub Activity and Staff Requirements





### **Predicted Winter Second Wave COVID-19 Hospital Based Activity (Lead Team – Acute Sector)**

The point of hospital entry is intended as the definitive pathway into secondary care with further opportunities to escalate to intensive care if appropriate. The NHS Grampian single designated portal of entry will be at the Aberdeen Royal Infirmary. This limit on hospital entry sites is essential to reduce transfer of critically ill patients who are COVID-19 positive as this is difficult and resource intensive. Furthermore, multiple sites increase COVID-19 positive traffic in our system and contributes to increasing infectivity ratio R. It also gives the opportunity to focus vulnerable non-COVID-19 activity in a more protected environment or offer step down recovery and rehabilitation. Detection of COVID-19 positivity in other NHS Grampian hospital sites will also occur and in principle these patients should transfer to ARI at the earliest opportunity where escalation to intensive care would be considered appropriate if the need arose.

### **Hospital Care**

This offers hospital level supportive care, recruitment to intervention studies and access to specific therapeutic regimes currently available, complication management facilities and assessment for escalation to ITU following risk-based assessment of benefit. Discharge for recovery will be the most common outcome with palliative care both in hospital and after discharge. Capacity requirements are predicted to rise very significantly as per the modelling data shown above. We no longer have a reliable indication of when the peak will be reached but 2 to 3 week look ahead predictions will allow us to set escalation limits we will plan to. Currently we are working on a 200 bed limit for General Care and a 36 bed limit for ITU (including six ECMO beds) plus capacity for a further 12 beds, if required, taking the total ITU capacity to 48 beds in a planned way.

The section below provides updated information (previously **page 33** Winter Plan) to reflect additional surge capacity and the addition of a fourth TOM level.

### Decision Points for Escalation of Service Provision and Contingency

Two sets of decision points need to be incorporated at this level. This is supported by a detailed operational plan to reconfigure the hospital site to meet capacity requirements.

#### DP Capacity

To increase service capacity ahead of need based on 90% utilisation of capacity. The TOM has three tiers of service expansion and as we near the maximum capacity of a given tier we need to prepare for the next operational step. These figures do not include the assessment and front door areas which will need to be sufficient to manage the daily expected load and the undifferentiated COVID-19 possible cases.

- TOM 1** Deployed capacity of 50 COVID-19 General Beds in ARI.
- TOM 2** Deployed capacity of 100 COVID-19 General Beds in ARI.
- TOM 3** Deployed capacity of 150 COVID-19 General Beds in ARI.
- TOM 4** Deployed capacity of 200 COVID-19 General Beds in ARI.

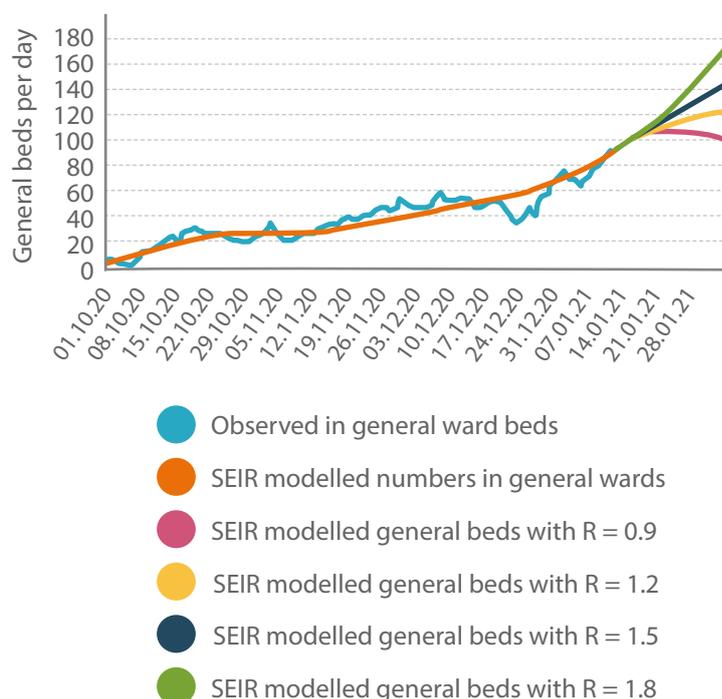
#### DP Contingency

This is the activation of plans when it appears system overload is not far away. The trigger in the bed capacity step up model is when TOM 4 is at 90% utilisation.

ARI General COVID-19 Care Escalation Decision Points

Current COVID TOM Status	Deployed capacity	Prepared capacity	Trigger switch to next level
<b>TOM 1a</b>	25	50	>20
<b>TOM 1b</b>	50	75	>45
<b>TOM 2a</b>	75	100	>68
<b>TOM 2b</b>	100	125	>90
<b>TOM 3a</b>	125	150	>112
<b>TOM 3b</b>	150	175	>135
<b>TOM 4a</b>	175	200	>160
<b>TOM 4b</b>	200	200	>180
<b>DP contingency</b>			

Observed General Beds Occupied by COVID Patients and Scenarios for R Changing into the Future Using a SEIR Model



## **Intensive Care (Lead Bronze Team – Acute Sector)**

Worldwide experience has often focused on the Intensive Care ventilator capacity pressure with evidence of high rates of physiological deterioration particularly in the elderly. We had been asked to plan for an initial two-fold increase in our ITU capacity but the current predictions require this to be reset at three times capacity. The outbreak metrics related for ITU care were established during wave 1 and seen to be close to predicted conversion rates and average length of stay. The role of ECMO has now been established and Aberdeen is the Scottish National ECMO centre with a requirement to provide capacity to accommodate up to six patients.

### **Decision Points for Escalation of Service Provision and Contingency**

Given the exponential nature of the growth curves for hospital utilisation of inpatient facilities we need to operate a completely new approach to capacity management and activation of contingency measures. Two set of decision points need to be incorporated at this level.

#### **DP Capacity**

To increase service capacity ahead of need based on 90% utilisation of capacity. The TOM has four tiers of service expansion and as we near the maximum capacity of a given tier we need to prepare for the next operational step. The whole ITU will need to be larger than this capacity by around 12 beds to cope with other utilisation.

- TOM 1** Deployed capacity of 5 COVID-19 ITU Beds in ARI
- TOM 2** Deployed capacity of 10 COVID-19 ITU Beds in ARI
- TOM 3** Deployed capacity of 20 COVID-19 ITU Beds in ARI
- TOM 4** Deployed capacity of 36 COVID-19 ITU Beds in ARI

#### **DP Contingency**

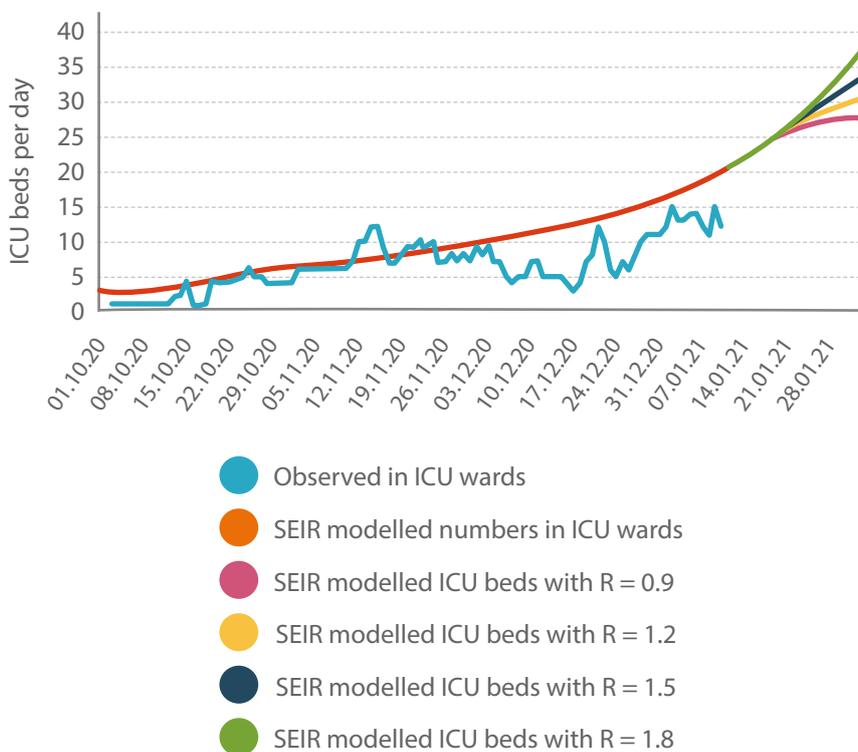
This is the activation of plans when it appears system overload is not far away. The trigger in the bed capacity step up model is when TOM 4 is at 90% utilisation and contingency plans need to be reviewed and considered.

Table below updated (previously shown **page 32** of the Winter Plan)

ARI ITU COVID-19 Care Escalation Decision Points

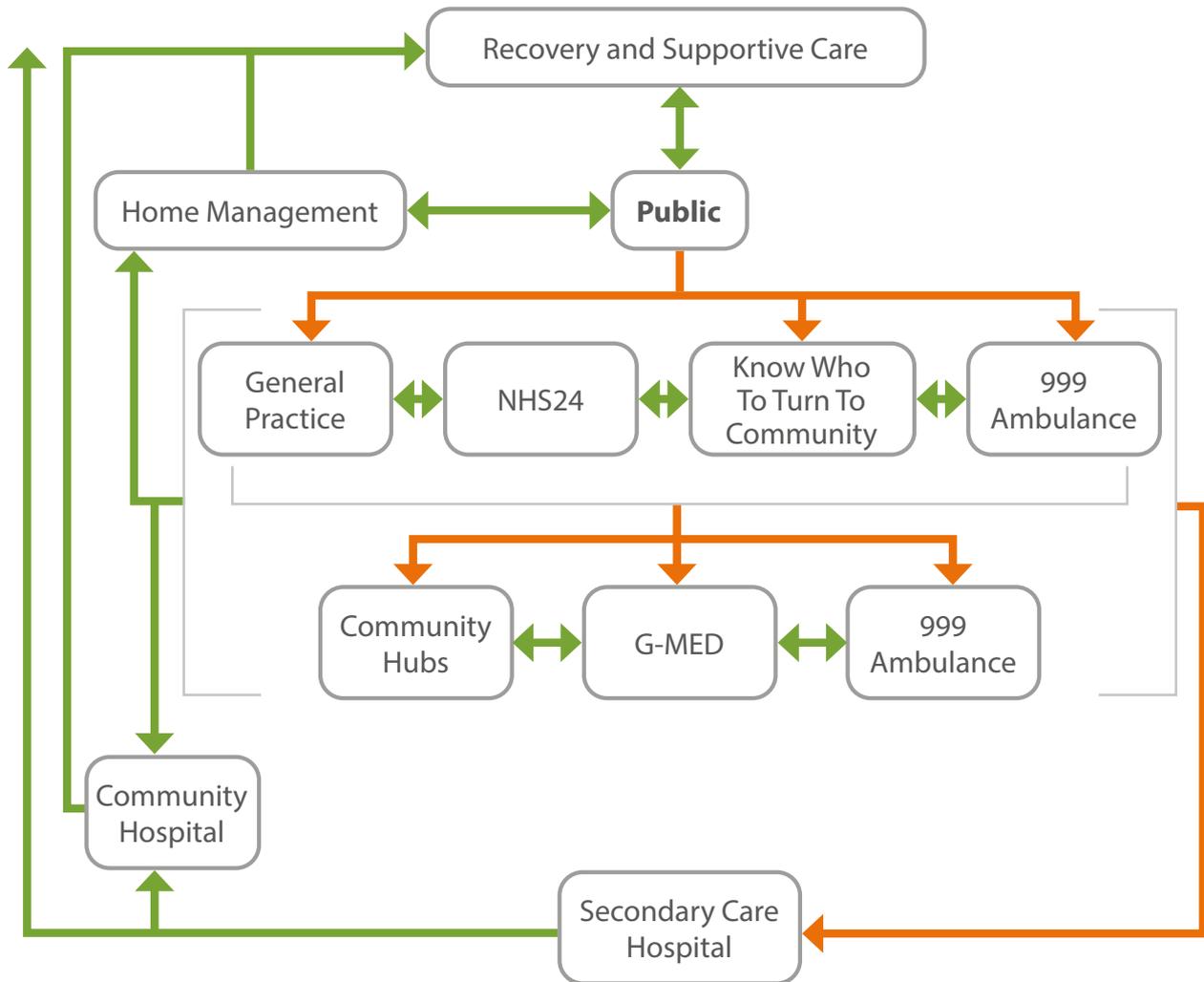
Current TOM Status	Deployed capacity	Prepared capacity	DP Capacity switch to next level
<b>TOM 1a</b>	3	5	>2
<b>TOM 1b</b>	5	8	>4
<b>TOM 2a</b>	8	10	>6
<b>TOM 2b</b>	10	15	>9
<b>TOM 3a</b>	15	20	>12
<b>TOM 3b</b>	20	25	>18
<b>TOM 4a</b>	25	30	>22
<b>TOM 4b</b>	30	36	>27
<b>TOM 4c</b>	36	36	>32
<b>DP contingency</b>			

Observed ICU Beds Occupied by COVID Patients and Scenarios for R Changing into the Future Using a SEIR Model



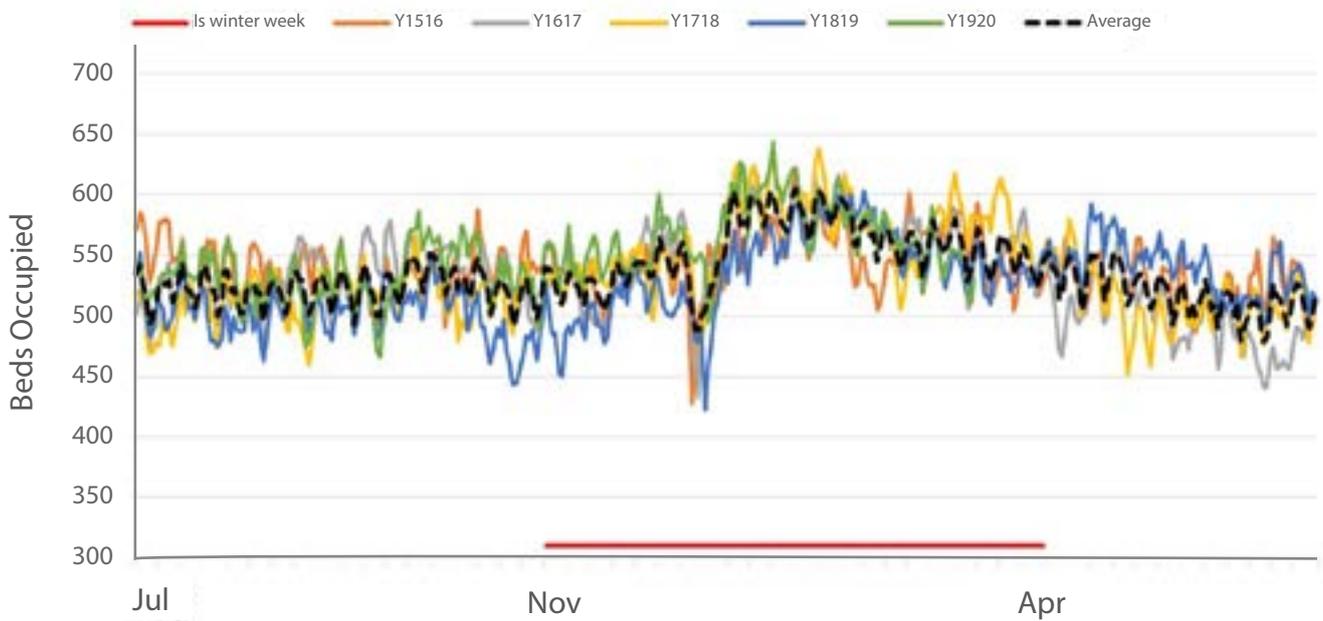
## NHS Grampian Unscheduled Clinical Pathway

The medical and surgical urgent care or unscheduled pathway is schematically shown below.



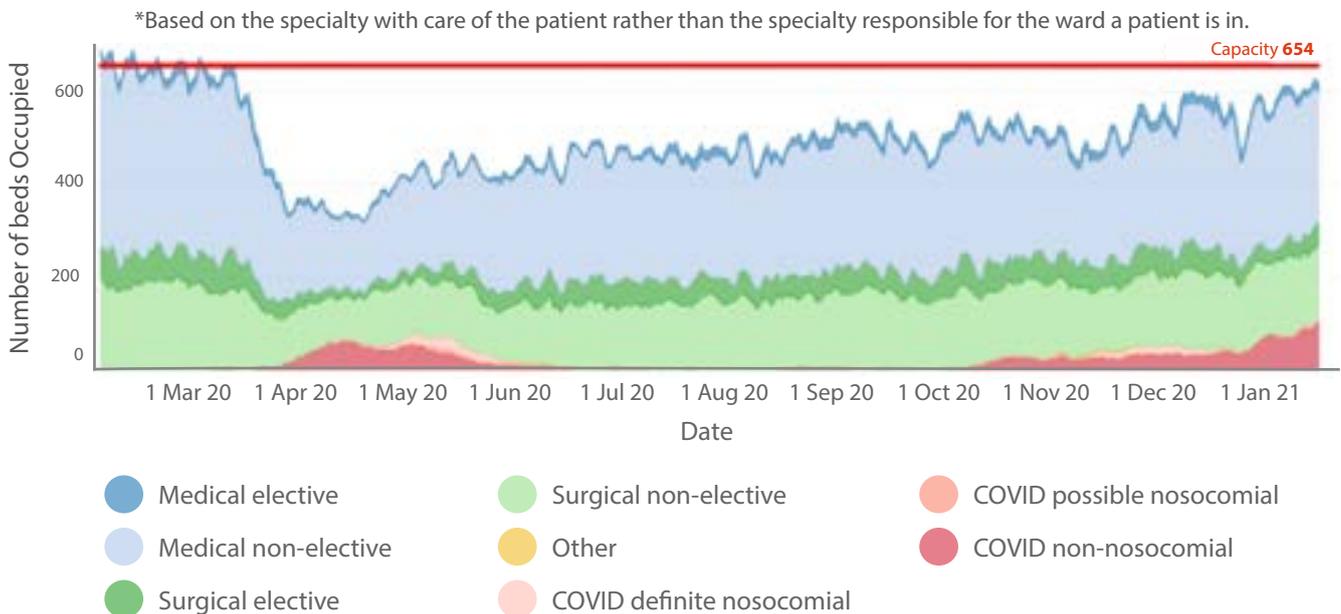
It is useful to consider the main hospital site as the temperature gauge in the system. The period between November and March has a predictable increase in activity and analysis over the last five winters gives a range of main hospital bed utilisation levels.

Daily Bed Occupancy for Non-electives at ARI over five years



The levels in January tend to give the best indication of demand profile through until April. We have also seen significant suppression of unscheduled care presentations during the first COVID-19 wave. This could be related to displacement of illness (vulnerable individuals develop COVID rather than another acute medical illness), delayed presentation or even a real reduction in other acute illnesses as a bystander effect of the public health measures. This is well displayed on a whole ARI occupancy model visual.

ARI Occupancy



Compared to the same time last year during January there are approximately 100 fewer beds utilised by unscheduled medical and surgical admissions (450 vs 550) balanced by over 100 COVID-19 admissions. It is not clear if this unscheduled suppression will be maintained but we need to consider the need for an operating capacity of 500 unscheduled non-COVID-19 beds to offer 90% occupancy. The additional pressure comes from a reduction in community care facilities (Care Homes, Community Hospitals and Care at Home) as these services are strained by infection control measures, COVID-19 illness and increased staff unavailability.

### **NHS Grampian Complex Priority Surgery and Medical Care**

The combination of unscheduled demand and COVID-19 demand squeezes the ability of the system to deliver planned care. This pressure is so significant, that within ARI maintaining critical highest priority surgery capacity is severely challenged. In addition to the surgical activity a smaller volume of medical elective priority work must also be maintained together with a higher volume of day case medical interventions (Dialysis, Chemotherapy, Radiotherapy etc). To avoid cancellation of this activity, capacity needs to be protected in the system and only eroded when we reach very significant levels of COVID-19 or unscheduled demand.

### **Discharge from Hospital for Rehabilitation or Care**

Most individuals go home after a period in hospital, however, some may require general or specialist rehabilitation services, care at home or a move to a long term care environment. The processes involved in these transitions from hospital towards home involve three main steps: recognition of need, assessment of need and provision of service. Operation Home first and the Winter Surge and Flow programmes are intended to improve the flow and efficiency of these systems. There are also workstreams within these programmes which redesign the inflow to a hospital setting and avoid this if possible.

### **A Whole System Winter Response - Tactical Operating Model (WR-TOM)**

Every element in our healthcare system has a finite limited capacity. In combination with the physical limitations the usual level limiting step is suitable staff to support the systems and care environments. A whole system response must look at how it is possible to balance risk across the system, maximise flow towards home and maximise capacity. In the situation we find ourselves this will require compromise in staff mix, quality of care, changes in decision thresholds with the overall aim to maintain overall outcomes as high as possible. This is schematically shown overleaf:



#### Whole System WR - TOM

Current TOM status	Critical priority surgery	Discharge care levels	Transfer across hospital sites	Discharge to non planned intermediate care facility	Bed spacing controls	Admission criteria	Safe staffing levels
<b>TOM 1</b>	Normal	Normal	No	No	Normal	Normal	Normal
<b>TOM 2</b>	Normal	Level 1	No	No	Reduced	Normal	Level 1
<b>TOM 3</b>	Reduced	Level 2	Yes	Some	Reduced	Normal	Level 2
<b>TOM 4</b>	Paused	Level 3	Yes	All	Minimal	Altered	Level 3
<b>Mutual aid</b>							



## Winter Surge and Flow Programme

The Winter Surge and Flow Steering Group was established in October 2020 to ensure optimisation of the unscheduled care system via the work of associated workstreams and also to oversee the development and publication of the winter plan.

### 3.1 Surge and Flow Objectives

- National and local data led modelling to inform surge planning (COVID-19 and winter).
- Identify and confirm surge capacity in acute, community, care homes and care at home to optimise flow.
- Development of an integrated dataset to enable monitoring of system wide status.
- Agree flow improvements and develop a flow plan.
- Reduce delayed discharges.
- Reduce low value added admissions from care homes.
- Implement and improved transport model to facilitate discharge and optimise flow.
- Ensure linkage with other priority programmes with key interdependencies to winter including staff health and wellbeing, Test and Protect, Vaccinations, Operation Home First (Frailty and Respiratory Pathway Redesign) and the Redesign of Urgent Care (RUC).

Whilst acknowledged the other priority programmes have critical independencies they report separately to Gold Command.

The Surge and Flow Workstreams have representation from acute, HSCPs and SAS and have been focused on a number of key objectives with a view to optimising flow across our health and care system during winter.

Whilst surge and flow planning is an established business as usual function every winter, the second wave of COVID-19 and rapidly escalating situation at the end of 2020 in addition to the usual winter pressures created extreme pressure across our system. This required an urgent need to provide both additional surge capacity and also expedite workstream activities at pace.

A summary of achievements to date and work continuing to be progressed is outlined below:-

### **3.2 Data Workstream**

- Surge and Flow Dataset developed (incorporating acute, community hospitals, COVID-19 hubs, and care homes).
- Weekly review of data by Surge and Flow Steering Group of capacity and pressure points across the system.
- Further development of the dataset will incorporate SAS data.

### **3.3 Reducing Avoidable Admissions**

- COPD Exacerbation and Admission Pathway developed by Respiratory Cell.
- COPD Oxygen Treatment Protocol developed by Respiratory Cell.
- Frailty Pathway – use of Rosewell House as ‘step up’ from the community and alternative to ARI admission supported by Hospital@ Home.
- Review of Care Home Data to identify outliers, actions and additional support requirements underway.

### **3.4 Reducing Delayed Discharges**

- Discharge lounge established in ARI from 05.01.21. Operational five days per week 8.30am to 6.30pm.
- Review of discharge processes and criteria.
- New Discharge Planning SOP including Traffic Light System to be implemented across all sectors.
- New Discharge SOP implemented in Acute and Community hospitals.
- Interim transfer of 40 beds in Rosewell Care Home to the NHS for use as step down facility for ARI to facilitate discharges (operational Jan 2021).
- Move towards planned date of discharge being used across acute.
- Project ‘Pick me Up’ Scheme– 14 companies signed up to participate.

### **3.5 Transport**

- Contract in place from November 2020 to provide a 7-day ambulance service to support Discharges with ABC Ambulances 11am to 10pm weekdays and British Red Cross (BRC) at weekends.
- Use of Royal Voluntary Service (RVS) volunteer driver commenced in January to provide additional capacity.
- Continued use of Transport to Healthcare Information Centre (THInC) and their supply chain of community providers for patient transfers, plus Premier Coaches for back up.

### **3.6 Redesign of Urgent Care (RUC)**

It should be noted that the RUC is a national transformation programme but included within Surge and Flow given the critical interdependency to flow and local implementation of the Flow Navigation Centre (FNC) during winter 2020.

- The FNC in Aberdeen Royal Infirmary became operational from 01.12.20.
- Consultant led service seven days per week, 8am to 12 noon.
- Initial review of data demonstrates a reduction in footfall in our ED.
- Scheduling system across NHS Grampian which enables the clinician to allocate the patient with a face to face or digital appointment.
- Grampian Health and Social Care COVID-19 and Winter (Surge) Plan 2020/21.
- NHS Grampian COVID-19 Pandemic Operation Snowdrop; Transition to level 4 civil contingencies status Draft 5.0 (17 January 2021).
- COVID-19 Pandemic Tactical Plan of Action Operation Snowdrop; Silver Command Manual including OS Tactical Objectives Workbook Version 3.4 (21 January 2021).



## References

- Grampian Health and Social Care COVID-19 and Winter (Surge) Plan 2020/21
- NHS Grampian COVID-19 Pandemic Operation Snowdrop; Transition to level 4 civil contingencies status Draft 5.0 (17 January 2021)
- COVID-19 Pandemic Tactical Plan of Action Operation Snowdrop; Silver Command Manual including OS Tactical Objectives Workbook Version 3.4 (21 January 2021)

This addendum update to the Grampian Health and Care Winter Plan 2021 has been prepared on behalf of the Surge and Flow Executive Team to reflect changes/updates to the plan as at the end of February 2021.

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