

Adapting triage and assessment in the time of COVID 19 in the Ola During Children's Hospital Freetown, Sierra Leone

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Outline

- Background - Sierra Leone and ODCH
- Patient flows before Ebola, after Ebola, in 2019 and now
- ODCH: Covid 19 Pandemic
- Conclusion



Background - Sierra Leone

Population:
approx. 7 million

50% of population
are under the age
of 15

Under five
mortality rate:
104/1000

Background – Ola During Children's Hospital (ODCH)

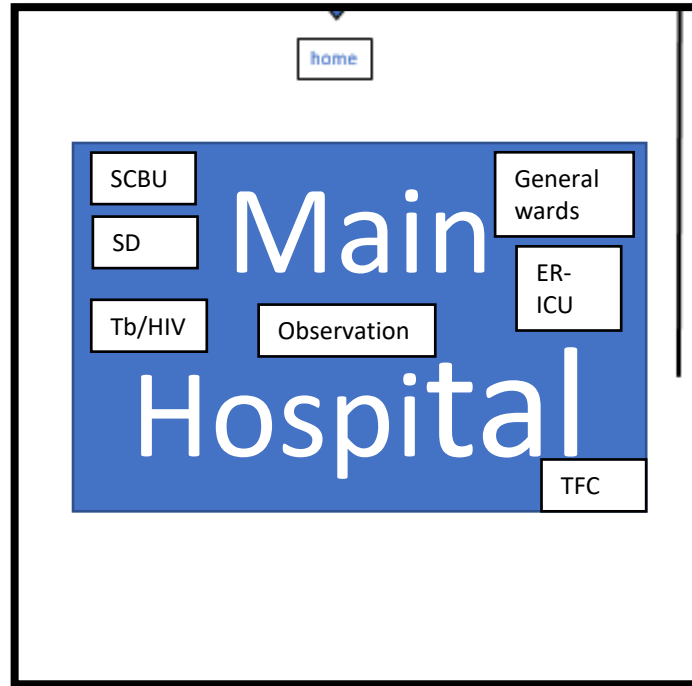
- Only tertiary Hospital for Paediatrics in Sierra Leone
- located in the densely populated eastern part of Freetown, Sierra Leone
- part of the University of Sierra Leone Teaching Hospitals Complex
- Partial accreditation from WACP for the postgraduate training in Paediatrics
- Approximately 12.000 children are admitted annually

Background – Ola During Children’s Hospital (ODCH)

- 200 bed facility
- inpatient beds divided across
 - three general wards (with oncology, nephrology, pulmonology, neurology subspecialties),
 - a resuscitation/ emergency department,
 - an intensive care unit,
 - an HDU (emergency room)
 - isolation unit
 - a neonatal unit.
- Outpatient:
 - there are different specialist outpatient clinics (HIV, Tuberculosis, cardiology, neurology, haemato-oncology etc) held on a daily basis.
 - General outpatient clinics

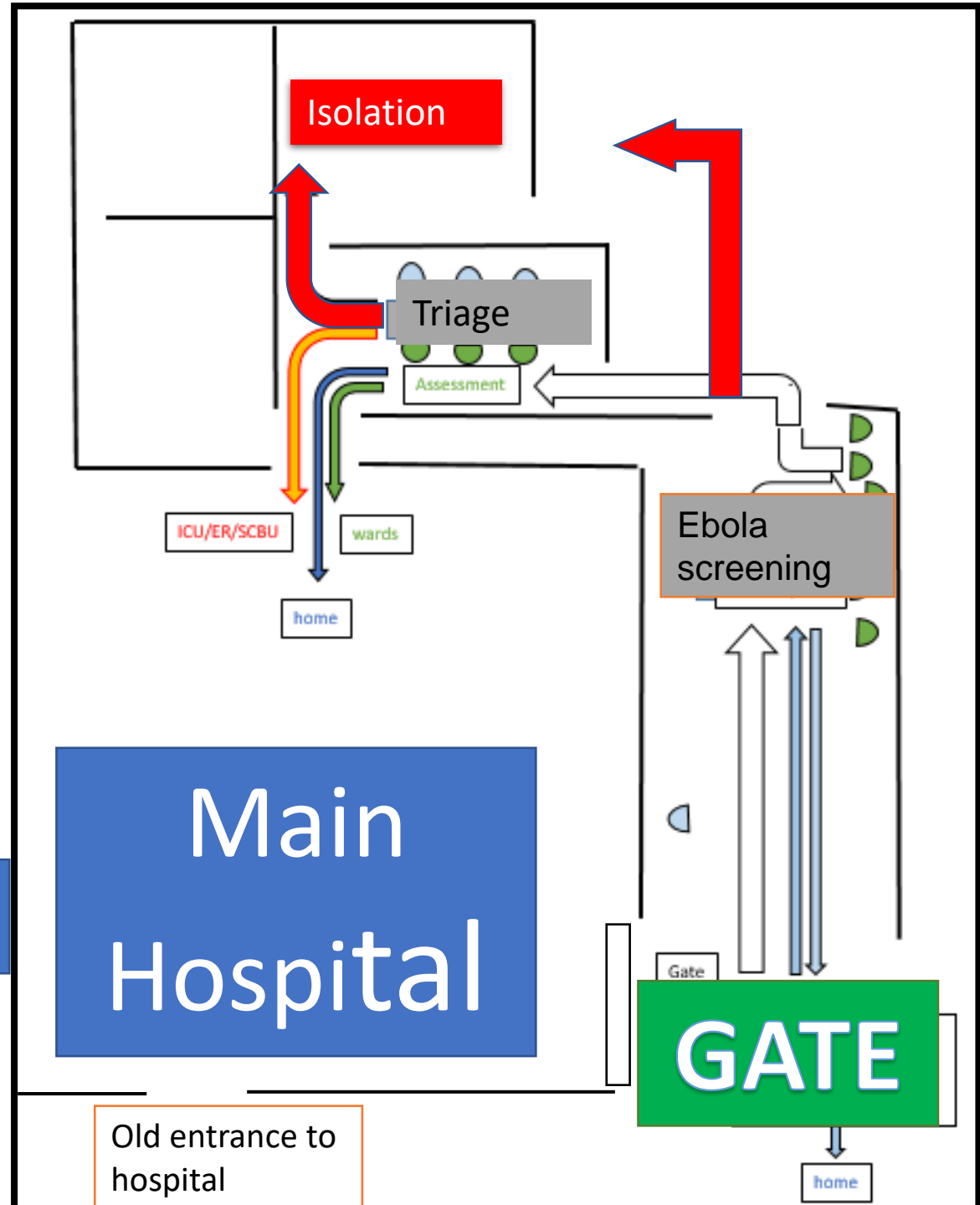
Patient flow ODCH before Ebola

Maternity
Hospital

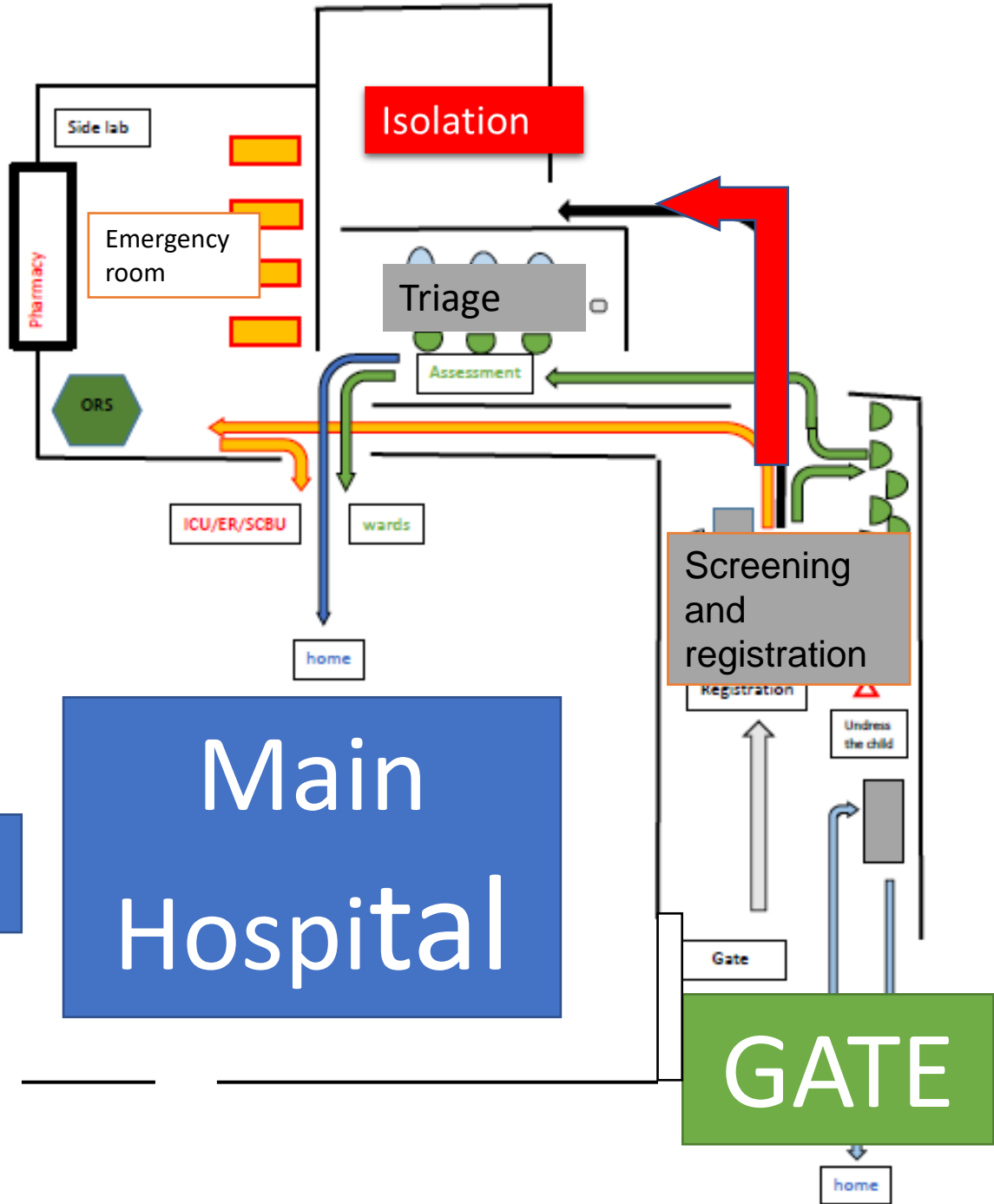


ODCH: Patient flow during Ebola 2014

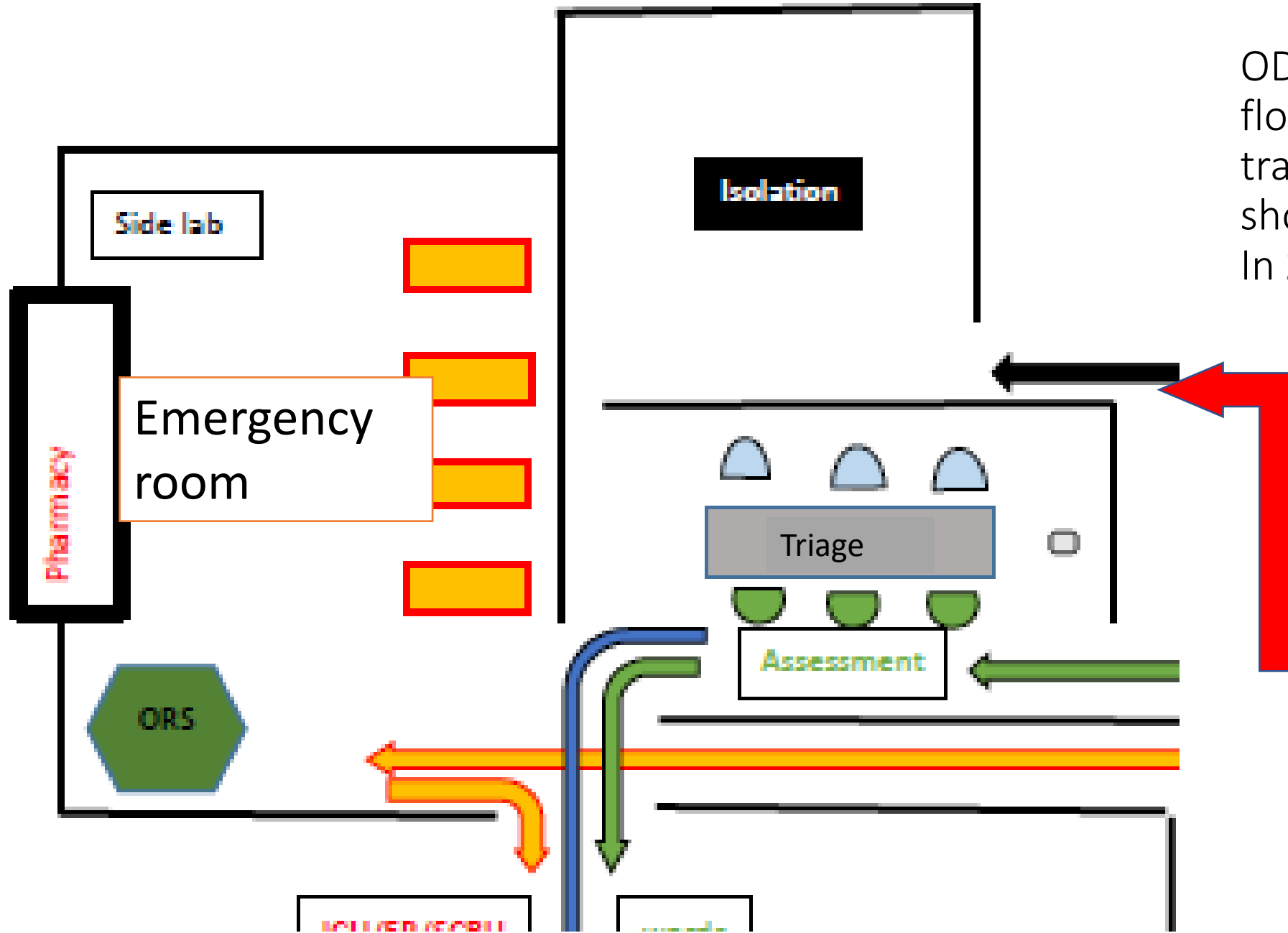
Maternity
Hospital



Maternity Hospital



ODCH: patient flow and ETAT shortly after EBOLA In 2015/2016



Remodelling triage and assessment areas in 2016

- The redevelopment of infrastructure, assessment and triage procedures in ODCH was a complex multidisciplinary effort, requiring dedication from doctors, nurses, pharmacists, lab technicians and administrative staff
- Simple reorganisation of processes and systems has reduced waiting times and greatly improved the early identification and treatment of sick patients
- Empowering the nurses in the assessment, prescribing, and treatment of the sickest patients using ETAT + principles is a feasible and high-quality option for emergency care, where ongoing support and mentorship is available

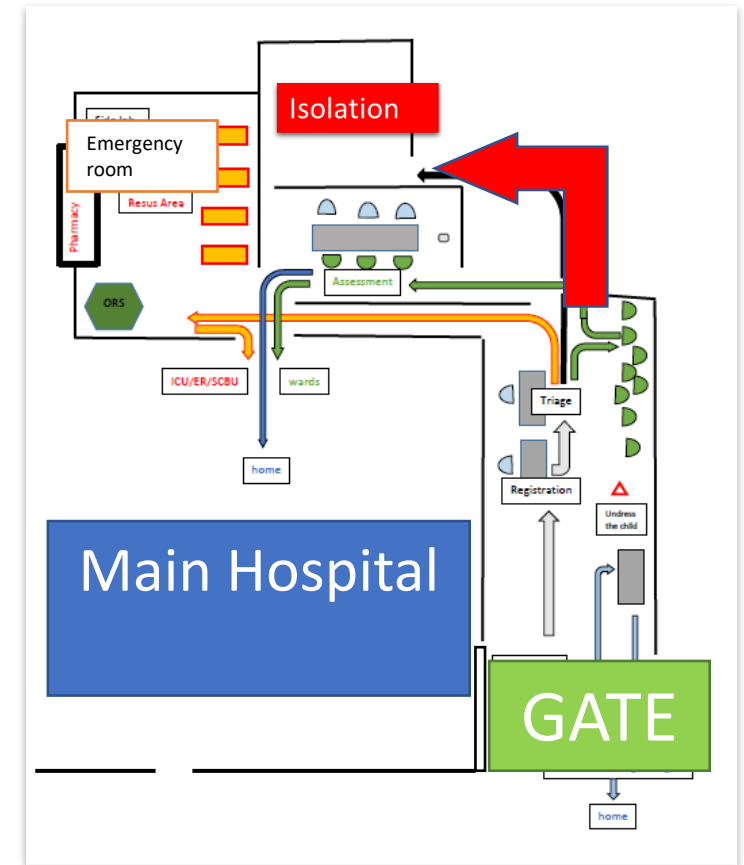
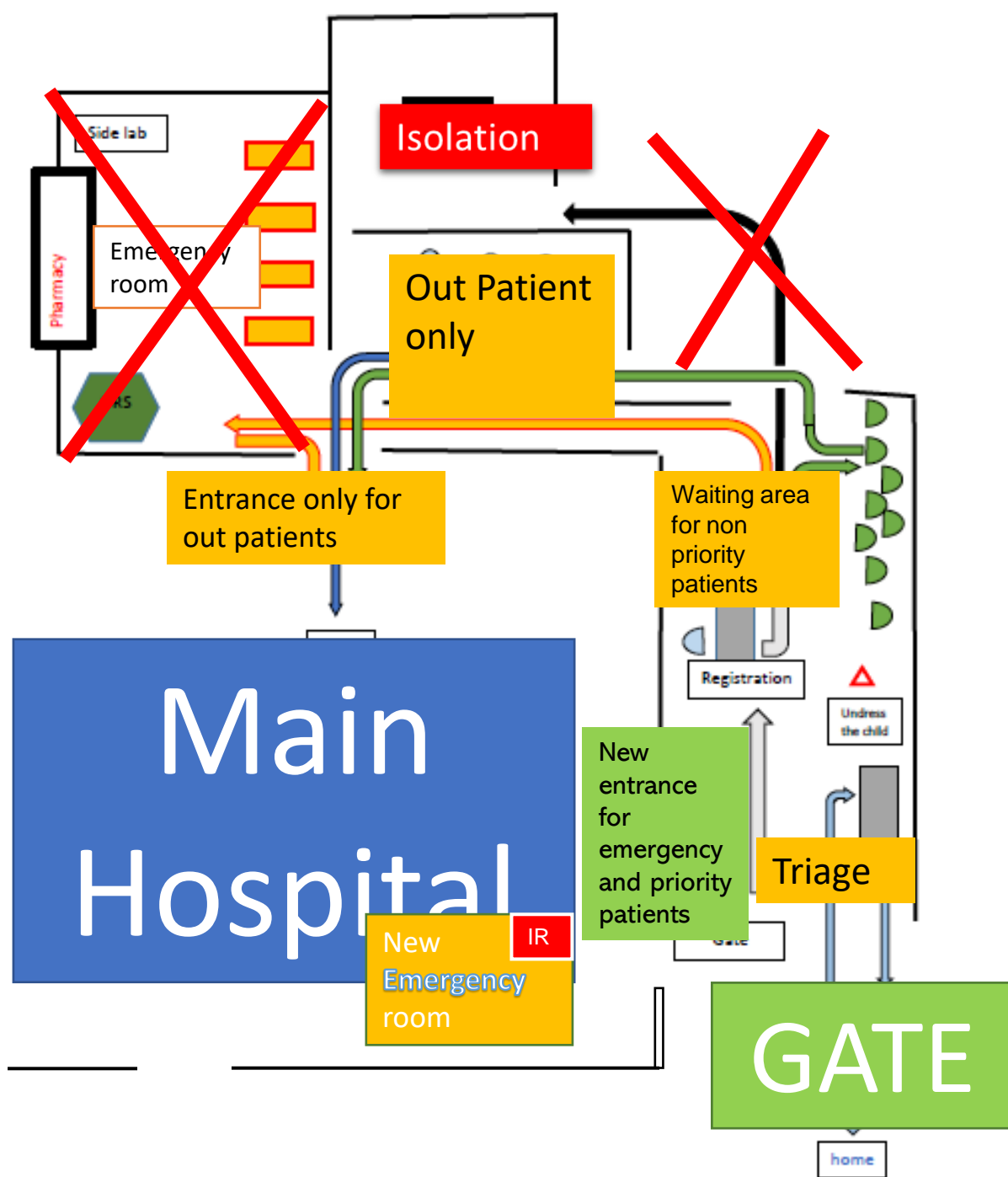
Clark M, Spry E, Daoh K, Baion D, Skordis-Worrall J. Reductions in inpatient mortality following interventions to improve emergency hospital care in Freetown, Sierra Leone. PLoS ONE. 2012;7(9):e41458.

<http://dx.doi.org/10.1371/journal.pone.0041458> pmid: [23028427](https://pubmed.ncbi.nlm.nih.gov/23028427/)

2019











2020



2020: ODCH- pre Covid-19 in SL

- ODCH Covid 19 taskforce
- SOPs
 - Case definition and Patient flow
 - Case Management according to ETAT+
 - General SOP
- Isolation unit (2 beds) -> Isolation Unit (23 beds)

ODCH - Fresh start



Hospital was thoroughly cleaned and fumigated



Most staff tested and only tested staff allowed to work



Number of hospital beds (sometimes only mattresses) downsized with adequate spacing in-between beds



Hospital staff trained in IPC and ODCH SOP , case manangement and new patient flow.



Implementation of the new SOP



COVID-19 PATIENT FLOW OLA DURING CHILDREN'S HOSPITAL



Does patient have any of the following:

- Acute fever or caregiver with acute fever (temperature above 37.5°C) AND Symptoms suggestive of COVID-19, including persistent cough, shortness of breath, respiratory distress, sore throat, hoarseness, drooling, nasal discharge, congestion, sneezing, or other respiratory symptoms.

OR

- Acute fever AND two of the following: a) rash, bilateral non-purulent conjunctivitis, mucocutaneous inflammation signs, b) signs of shock or hypotension c) features of myocardial dysfunction, d) coagulopathy, e) acute gastrointestinal problems

OR

Fever, respiratory symptoms **and** any of the below

- Other members of household experiencing related symptoms

NO

YES

Not a Suspected COVID-19 Case

Suspected COVID-19 Case

- Send patient to resus triage area
- Manage as usual

- Give patient and caregiver a surgical face mask
- Escort patient to the isolation unit triage area

Test for COVID-19

- Inform Disease Surveillance Team:
Sister Theresa A. Kargbo – 076338223/077820985
or Night Super-intendant – 076429524
- Disease surveillance to contact 117 team

Negative Result

Positive Result

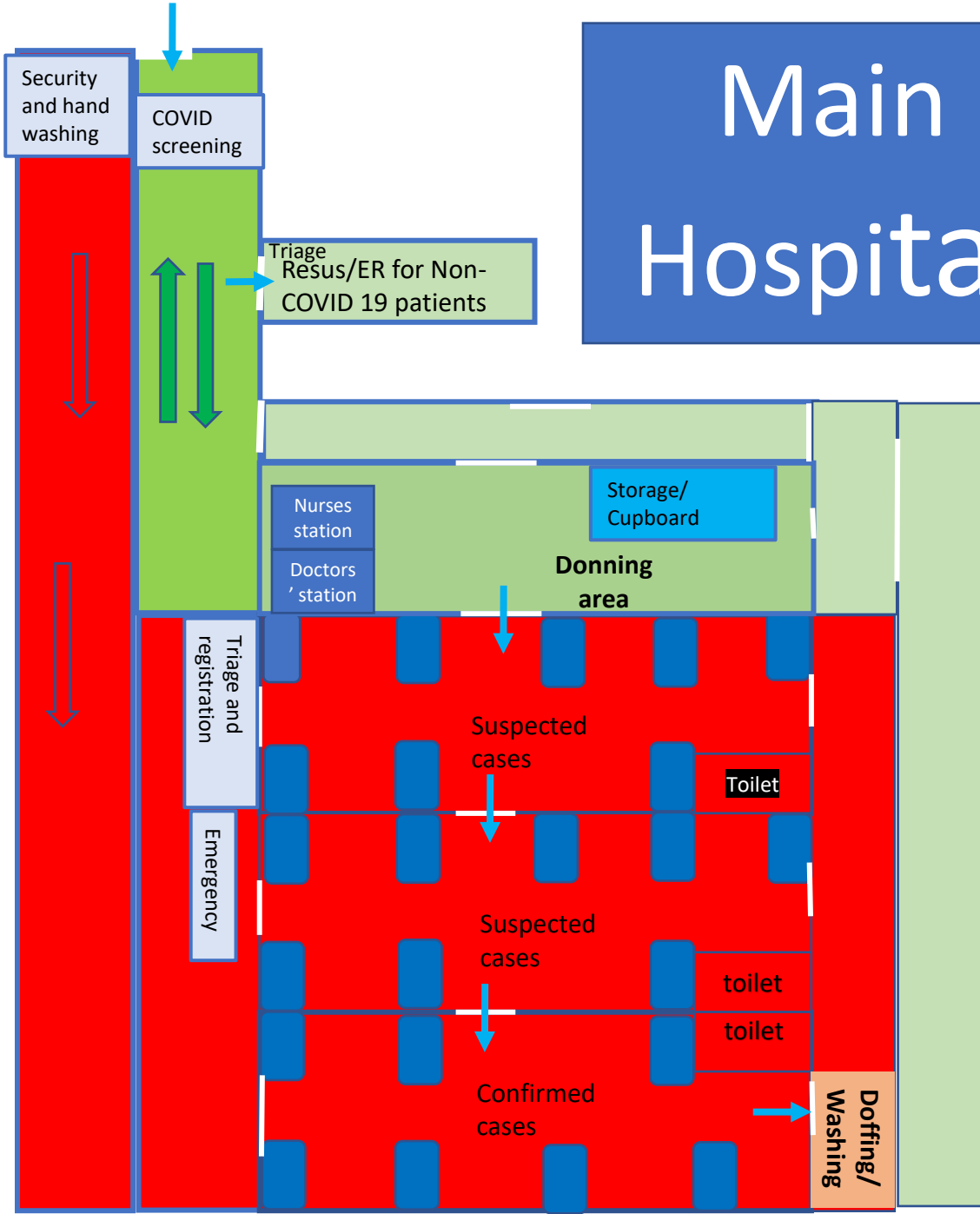
Patient to wash at doffing area and be transferred to ICU/ER (see SOP)

Case management will be informed and patient transferred to treatment centre by Ambulance Transfer (See SOP)

Main Hospital

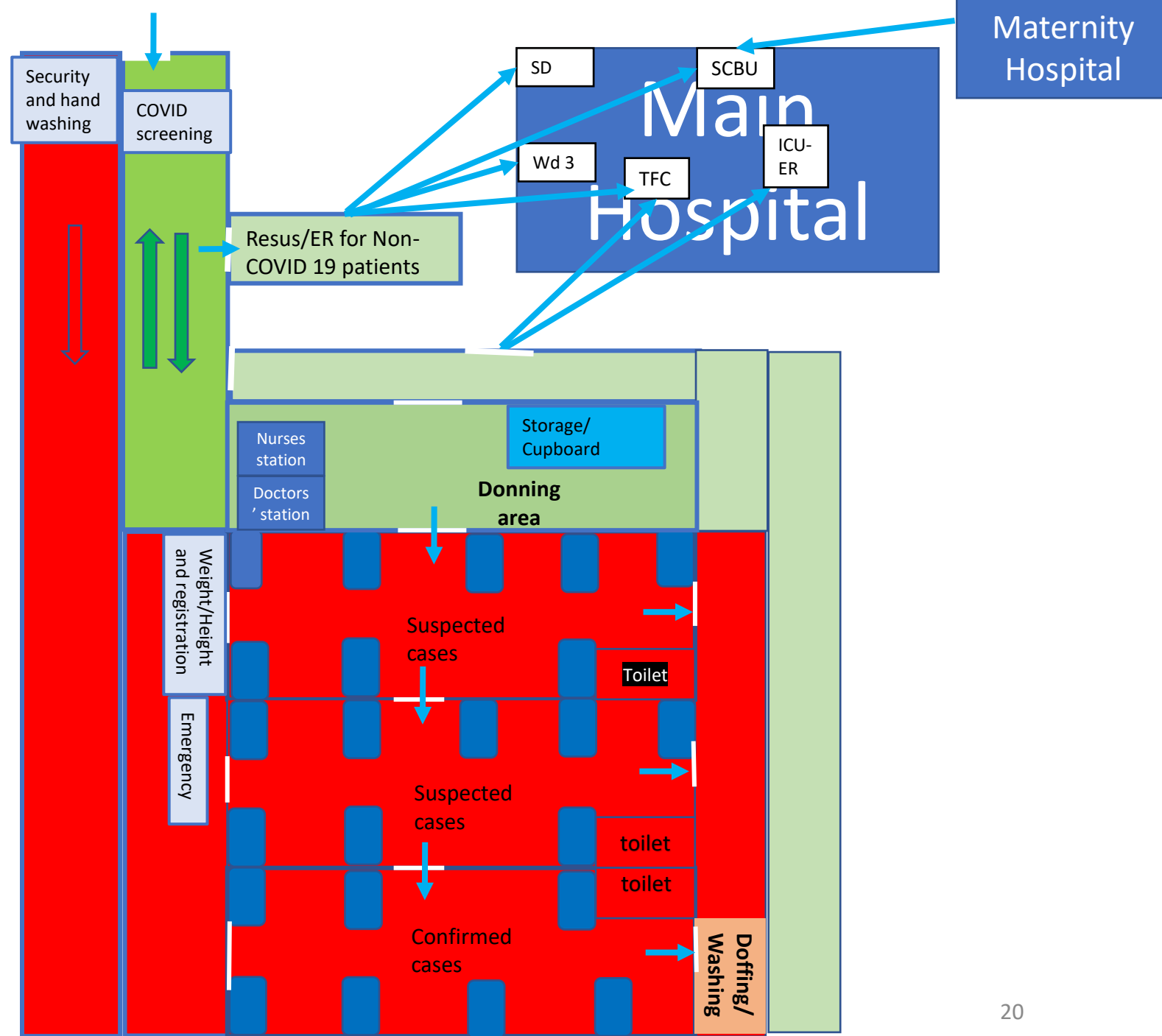
ODCH: patient flow and ETAT during COVID 19 Pandemic

One Screening area and 2 (ETAT) triage areas both staffed by ETAT trained nurses and doctors



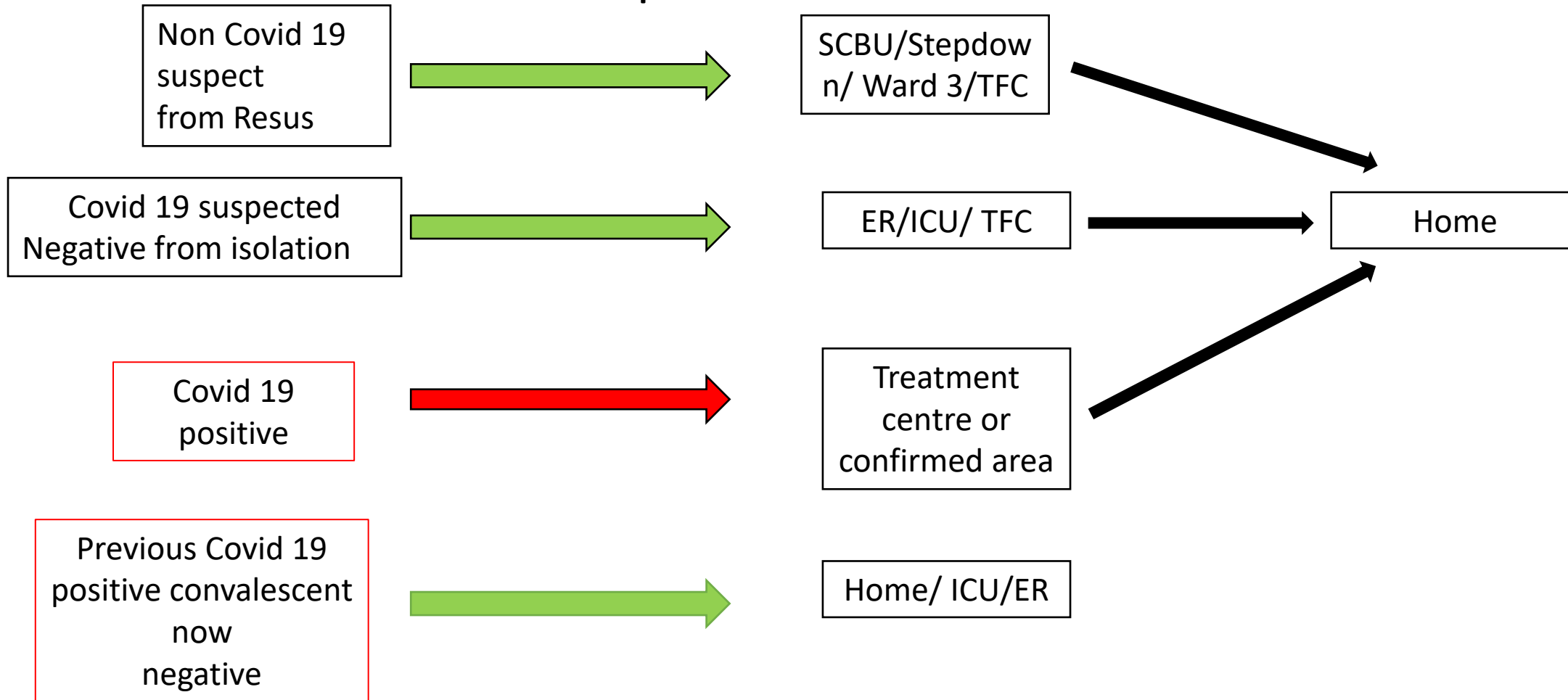
ODCH: patient flow and ETAT during COVID 19 Pandemic

Compartmentalisation



ODCH: patient flow and ETAT during COVID 19 Pandemic

Compartmentalisation Plan



Bubbles/ Compartments

Doctors

- TFC/Ward 3
- SCBU
- ICU/ER
- Resus/ SD
- Isolation/Treatment Centre

Nurses (strictly according to wards)

Cleaners (strictly according to wards)

Pharmacists

Lab technicians/scientists

Other HCW





INITIAL MANAGEMENT OF PAEDIATRIC PATIENTS WITH SUSPECTED AND CONFIRMED COVID-19 OLA DURING CHILDREN'S HOSPITAL



SETTING Isolate as per SOP

SAFETY Your own PPE must be correct + child and carer to wear facemask

HELP Consider joint assessment with a doctor/nurse to avoid double exposure

AIRWAY Check airway is patent –look from a distance +listen. Do not upset child as this will increase the risk of airborne transmission

If not patent – use airway manoeuvres , adjuncts +/- suction if necessary if you have appropriate PPE

BREATHING

Assess respiratory distress (ask Carer to remove clothes)

Check Respiratory Rate

Check Oxygen Saturations

If above is normal, avoid listening to the chest to avoid exposure but if the above are abnormal listen to the chest with isolation stethoscope

→ If O2 Sats <92% and/or severe respiratory distress start oxygen and sit patient up at 45 degrees if possible.
 → Aim to have one O2 concentrator per patient. If unable to maintain O2 saturations consider using O2 cylinder.
 → Children with emergency signs, target SpO₂ ≥94%
 → If patient has a co-morbidity start O2 earlier even if O2 saturations >92% (immunocompromised, heart disease, chronic kidney disease or respiratory problems)
 → If no improvement discuss with senior starting CPAP. Only if healthcare worker has full PPE (including N95 mask). Treat in isolated room.
 → If patient is in severe respiratory distress, keep nil per OS
 → If known asthmatic with a wheeze ask carer to give 6-10 puffs of salbutamol inhaler via a spacer +/- low dose steroid

→Antibiotics:

- Assess Disease Severity using Severity Chart
- If Pneumonia suspected: If non severe-> start oral Amoxyl suspension consider adding Macrolide antibiotic such as azithromycin or erythromycin to cover for atypical pneumonia.
- If Severe/Critical/: Start Ampicillin + Gentamicin if no improvement after 48h → Start Ceftriaxone or Cefotaxime.

CIRCULATION

Check for Shock

Check Heart Rate

Check for Malnutrition (MUAC, Weight, Zscore)

Check for Pallor

Check for Dehydration + Diarrhoea

→ If in shock give slow and careful boluses (1st line =RL). Max. 2 boluses in a well nourished child.
 → 3/4 maintenance IV fluids (1st line =RL but can use NS, DNS, DRL) if oral contraindicated e.g. severe respiratory distress
 → Monitor input and output and for signs of fluid overload.
 → If oral tolerated, allow breastfeeding infant to breastfeed
 → If child pale check Hb and MPs
 → If malnourished manage according to SAM protocols
 → If Dehydration + diarrhoea manage as per ETAT

How to work out ¼ Maintenance fluids:

- 1) Workout total maintenance fluids as per ETAT+.
- 2) Divide total fluids in ml in 24 hours by 4
- 3) Multiply by 3 = total fluids to be given in 24 hours in ml

DISABILITY

Check AVPU

Check RBS if V,P, U or lethargic

If RBS <3g/dl give 5ml/kg 10%Dextrose bolus, monitor RBS and give appropriate feeds/ fluids

EXPOSURE

Check Temperature

Give Paracetamol if Temperature >38oC. Tepid sponging NOT recommended
 Check Malaria RDT if temperature high

General SOP

- Robust screening of all patients by nurses
- Strict adherence to Compartmentalisation and patient flow
- Wearing of surgical masks if doing patient care
- Wearing of light PPE cloth mask when going home
- Wearing full PPE of N95 masks when in the isolation unit
- Washing of hands regularly
- Social distancing
- Strict adherence of ALL staff to general IPC measures
- Case management protocol according to ETAT+

Conclusion 1/2

- Lessons learnt from Ebola
- Importance of ETAT + in patient flow
- Covid 19 Pandemic: Ola During was caught off guard with a high number of infected staff
- Robust reorganisation of the hospital was done introducing compartmentalisation of staff, reviewed patient flow

Conclusion 2/2

- Isolation/ treatment unit with Triage
- Training of staff on IPC measures
- Continuation of Short and long ETAT courses
- Continuation of undergraduate and postgraduate training with academic meetings (via zoom)
- Proper tertiary hospital, referrals and emergencies



Thank you!