

Structural Safety at Airedale General Hospital

Briefing for the North Yorkshire Scrutiny of Health Committee

7 December 2022

Introduction

- Airedale General Hospital serves a population of 220,000 across 700 square miles of Bradford District and Craven, and parts of East Lancashire and North Yorkshire.
- The hospital is constructed of an “ordinary weight” concrete frame fitted with around 50,000 planks of reinforced autoclaved aerated concrete (RAAC). It is the only hospital in the country to have floors made of RAAC in addition to the more common RAAC roof and walls.
- In 2019, the Institute of Structural Engineers – IstructE – published an alert from its Standing Committee on Structural Safety (SCOSS) with the findings of an investigation into the collapse of a RAAC roof in a school. The report was updated in February 2022.
- The SCOSS advised that prompt action be taken in buildings constructed of RAAC to identify any potential risk factors which may lead to a sudden collapse of the RAAC. This prompted Airedale NHS Foundation Trust to establish a comprehensive, in-house inspection and monitoring programme, which is supported by independent structural engineers with expertise in RAAC.
- The Trust has two risks on its Board Assurance Framework, both of which are scored at 25 – the highest possible score.
- This report describes the progress to date in identifying the RAAC risks, commencing work to address some of the urgent challenges, and the Trust’s progress in securing funding for a new hospital for Airedale.

Current position

- Airedale General Hospital is one of seven hospitals constructed predominantly of RAAC with another 25-30 identifying RAAC in specific areas of their buildings. NHS England established a RAAC programme in 2020 and committed to “eradicating RAAC from the NHS estate by 2035”. The Rt Hon Steve Barclay, Secretary of State for Health, made reference to this in his speech at the NHS Providers Conference in November.

- Airedale is the only hospital on the programme to have:
 - Found RAAC in its floors.
 - Found cracking in structural beams which are part of the load-bearing frame.
 - Experienced the failure of a corbel – a piece of structural concrete which detached from the structural frame in an office.
 - Experienced a serious adverse weather incident leading to significant movement in the roof and subsequent closure of multiple stairwells.
- A “first pass” survey was conducted in 2020 to establish the presence and location of RAAC at Airedale and it was concluded that the material forms 83% of the hospital estate. As a result of the initial investigation, some RAAC planks were found to be “deflecting” and were structurally supported with steel during the early part of 2021.
- The RAAC is so endemic within the building that detailed analysis has shown it is not financially, structurally or operationally viable to remove and replace the material.
- Furthermore, independent structural engineers have recommended extensive specialist scanning of the structural frame and corbels prior to the installation of major steelworks and advised that no further load (e.g. from equipment) is added to the roof. This also includes restricting access to essential works only and a permit system is now in place.
- Through the Trust’s inspection programme, around 5400 of the 20,000 load-bearing planks have been logged with one or more defects: of these, approximately 500 are severely damaged and are being supported with structural steel, timber or acrow-props. Every plank is inspected at least annually, with defective planks receiving two or more inspections per year.
- The inspection programme has provided a more detailed “diagnosis” of the root causes of the RAAC problems which are:
 - Original engineering design deficiencies and lack of quality control in manufacture
 - Damage caused by interactions with the material such as cutting holes for pipes
 - Deterioration caused by the effects of age, wear and tear and the weather
- The hospital has a 30,000m² RAAC roof which was inspected in summer 2021 with a view to over-roofing the hospital. This would have helped to reduce the rate of deterioration of the RAAC and prevented further water/snow-loading on the roof.
- The structural engineers’ report found several areas of the roof that required urgent structural support (which were completed in 2021-22) and advised against attempting to re-roof the building due to its age and condition.

RAAC Management Programme

- A proactive RAAC Management strategy is now in place to begin to install full structural steelworks (known as “failsafe”) across the hospital on a multi-year, rolling programme. This,

in addition with specific solutions to support the structural corbels and 34 specific structural beams identified by engineers, will reduce the risk of a sudden RAAC or related incident but is not a long-term solution. The capital costs of the programme are funded through a separate allocation from NHS England.

- To begin to facilitate the decant programme, a new modular building was constructed and opened in the summer. It houses the Intensive Care Unit which moved into the ground floor with a 30-bedded decant ward on the first floor. The decant ward has been occupied by a respiratory medicine inpatient ward since September, vacating Ward 13 in the main building.
- The modular build is the NHS' first all-electric inpatient facility and uses intelligent building management systems to provide an efficiency and sustainability. The wards meet the latest healthcare building standards and provide modern, spacious environments in which to receive care. Importantly, the ICU can now extend from its usual seven beds to up to 15 beds, which was not achievable within the existing hospital building.
- The move of ICU has freed up Ward 16 in the main hospital building which has a number of structural issues and are now being addressed before being converted into a second general decant ward. This will enable other wards to move in and out on a rolling programme whilst their own locations are subject to the structural works.
- The works generate high levels of noise and vibrations, particularly in the wards beneath and so the programme of work has been adapted to address wards in "vertical pairs". To enable the work on Ward 16, Ward 8 – the Endoscopy Service – was decanted from October and is delivering services from a temporary building provided by Vanguard for day case/planned care patients, and a new procedure suite within a new theatre block that has recently opened at the hospital providing unplanned and inpatient facilities.
- In addition, Ward 19 which has previously used to support the response to COVID-19 was closed and is also undergoing structural works.
- This approach is being rolled out across 22 wards over four years, and a further 28 areas will also undergo structural strengthening works. To further facilitate this work, a new office block is being constructed and this will enable approximately 250 people to be relocated from areas significantly affected by RAAC and will generate space within the hospital to increase the pace of the decant programme.
- The Trust also has engineer-approved protocols in place for responding to unplanned events which includes installing steel props where significant changes have been detected. Approximately 150 props are in place and further work is underway to address other areas.
- Six stairwells have been identified as requiring structural support around their skylights and these have been closing on a rolling basis to enable the work to take place. Three stairwells

are now completed with the remainder planned to be addressed between now and the end of February.

Impact

- The work to manage RAAC is being planned and delivered through a dedicated programme structure called Securing the Future which brings together NHS England, the Trust's estates teams, building contractors, structural engineers and operational and clinical teams.
- The teams work together to identify and minimise issues and to reduce the impact on the delivery of care although it is regrettably unavoidable in some cases.
- This year, the Trust has felt the impact of having to relocate Endoscopy. Whilst the environment and care provided are of a high standard, the size and "flow" of patients is slower and this has had an impact on the ability to manage waiting times. Additional clinics have been added to try and manage this which has given the Trust an added revenue pressure.
- Other types of issues managed in the last 12 months include:
 - The loss of one inpatient bed for over 200 days due to the unavoidable need to position a prop within the bed space. This equates to around 80 patient admissions in this time.
 - The temporary closure of the day case facility for one week resulting in the cancellation of one ophthalmology list and one paediatric dentistry list.
 - A rolling diversion throughout the labour ward as essential works were undertaken – with noise and vibration impacting on the patient experience during childbirth.
 - The closure and emergency reprovision of a utility room on a ward including relocating temperature-controlled secure medicines, and emptying of all general ward supplies into a day room. This resulted in the loss of a day room which can impact on patient wellbeing and reduces opportunities for patients to move around on the wards.
- The Trust has produced a short video to demonstrate the wider impact of some of these incidents from the viewpoint of frontline colleagues. You can watch it here:
<https://www.youtube.com/watch?v=IsXNT5Q7OB0>

Securing funding for a new hospital

- Structural engineers have advised that Airedale General Hospital should be replaced as soon as possible and no later than 2030. This is the only long-term solution to eradicate the risks posed by the structural issues in the building.

- A draft Strategic Outline Case for a new hospital was published in late 2020. A formal Expression of Interest was also submitted to the Government's New Hospital Programme (NHP) in the summer of 2021 to secure one of eight remaining places on the programme, taking the total up to 48 new hospitals under the scheme.
- Airedale is one of five hospitals predominantly constructed of RAAC that haven't yet secured funding. West Suffolk Hospital and James Paget Hospital in East Anglia have already received confirmation of places on the NHP. The remaining hospitals have been working collaboratively to share learning and best practice, and to look for ways to work together to design and construct new hospitals.
- Airedale has also been working with the NHP who were asked to scope the new hospital proposals put forward by the five RAAC hospitals. This work is ongoing and it is recognised that the risks at Airedale are among the highest in the NHS region. However, no announcement has yet been made to confirm that the hospitals have received places on the programme.
- With just seven years to go until the 2030 date advised by structural engineers, there is now an urgent need to secure funding for a new hospital for Airedale General Hospital. There has been no confirmation of when this announcement will be made and so the Chief Executive has written to the Prime Minister, Secretary of State for Health, and other Ministers, and engaged with colleagues across NHS England to maintain a running dialogue on the deteriorating position at Airedale General Hospital.
- In the meantime, the Trust continues to work across the West Yorkshire ICS and the NHS England region to plan for every eventuality including the potential for a non-notice evacuation in the event of a major incident.

Briefing Ends

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