Build

Insights from the AfH Build Stream 2022–2023

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BUILD

INSIGHTS FROM THE AFH BUILD STREAM: 2022 - 2023

Delivering an effective health service demands change to the way we procure and build our hospitals and wider health estate.

The Architects for Health (AfH) 'Build' stream explores the critical success factors and often conflicting priorities created when attempting to achieve the triple aspiration of digital transformation, Net Zero Carbon and the use of Modern Methods of Construction (MMC).

Our survey (completed in Autumn 2022) aimed to capture a snapshot of the sector: what architects and design teams understood by MMC; how far projects are progressing in using MMC techniques, plus the perceived barriers to success. One year on, how far have we come? With the help of our contributors and stream sponsor, Health Spaces, we unpack the last 12 months.

GARETH BANKS - AFH BUILD STREAM LEAD

THE SURVEY

AfH invited its members and contacts to complete a short survey which attempted to identify and quantify generally held conceptions of MMC and the MMC process.

The survey had a reasonable response (29 respondents) with a good level of engagement beyond AfH (35% of respondents were non-members) . Architects formed just over half of the respondents, with the second largest sector, contractors making up a further sixth. Beyond this, there was a reasonable spread of consultants including project managers, health planners and cost-consultants, but unfortunately neither clinicians or estates professionals were represented.

DEFINITION OF MMC

Understanding of the definition of the term MMC was reasonable, with 70% appreciating the breadth of the official definition of MMC, however (as might be expected) of those that did not acknowledge all the categories, additive manufacturing, traditional building product led, and site process led categories were least recognised as being legitimate MMC techniques.

With regards to how MMC is perceived the responses broadly fell into one of 4 categories:

- No-description (generic term)
- Efficiency
- Prefabrication/ offsite
- Improved Quality / safety

It is unclear whether that use of the term MMC as a general approach is a positive interpretation, acknowledging the wide range of techniques that fall under this term, or whether it is the opposite – more a reflection of a poor understanding of the specific steps required to realise successful MMC. (One response specifically referred to it as "Box ticking".

ADOPTION OF MMC

Almost all respondents have worked on a project where MMC has been discussed (although based on the understanding of the definition of MMC – this may be of little consequence).

However, the source of MMC proposals is interesting with Client, Architect and Contractors overwhelmingly being the main instigators. What is interesting, is that no one had a project where the cost consultant suggested it. Despite architects' anecdotal and seeming indifference to MMC as a design solution, they are remarkably keen to promote it!

It is reassuring that MMC is most often considered at RIBA Stage 1 (over 50% of the time) with three quarters or projects considering it before RIBA 3. However, it is significant that more than half of these projects only engaged the MMC contractor after Stage 2 – with more than 40% of respondents stating a preference for engagement at RIBA Stage 1, this suggests that there may be further efficiencies to be gained from earlier involvement.

However, once considered, MMC does seem remarkably robust with two-thirds of projects seeing it through to construction. This is further supported by the reasons for cessation of MMC - with completion of the commission being the major reason for over half of all those projects. There was no real pattern for dropping MMC with issues ranging from build quality to architectural quality to time and cost - time is clearly of particular interest as MMC is most often associated with speed of delivery.

MMC advisors appear to have a reasonable role within the development of proposals, with almost 75% of projects involving them one way or another. In those cases where there was no advisor, almost a third of respondents either did not discuss it or where unaware of the role. Of the remaining respondents, quite often the role was not discussed as it was considered to have been provided by either the architect or the contractor.

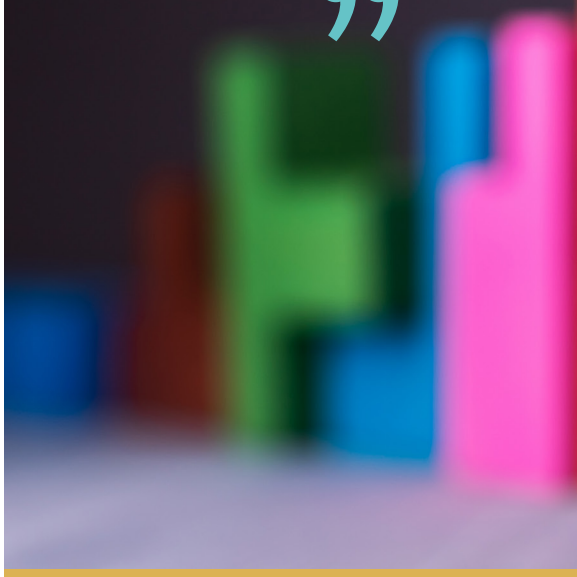
COMMON CATEGORIES OF MMC

In terms of the most common category of MMC used in projects, the most common is category 5 – Pre-Manufacturing – Non-structural assemblies and sub-assemblies (81% of MMC projects used this) with Category 1 – Pre-Manufacturing - 3D primary structural systems, coming a close second with 66.7%.

Category 3 – Pre-Manufacturing - Non systemised structural components third with 59.3% and Category 2 – **Pre-Manufacturing - 2D primary structural systems** a close 4th with 48.1%

Interestingly Category 4 – Pre-Manufacturing - Additive Manufacturing had a relatively poor showing with just 22.2% of MMC projects identified with this category, around half as many as either Category 6 – Traditional building product led site labour reduction/productivity improvements or Category 7 – Site process led labour reduction/productivity improvements.

"With a strong preference for engaging an MMC partner at RIBA Stage 1, and clients, architects and contractors all instigating its inclusion, the industry can clearly see the benefits of early engagement."



81% of MMC Projects surveyed used category 5b- Pre-Manufacturing - Non-structural assemblies and sub-assemblies.

The client holds greatest sway when it comes to the selection of MMC - influencing 60% of our respondents' examples.

Image courtesy of Health Spaces

MMC: CRITERIA FOR SELECTION

The survey considered time, cost, quality (build), quality (architecture), sustainability and social value when evaluating MMC.

Of these criteria, Cost programme and build quality featured most heavily with 80% citing these as being important or very important. Quality (architecture) was cited as important by 55% or respondents, but only 18.5% felt it was very important). Sustainability was surprising with an even spread across average to very important (3-5) - however nobody assessed it as being unimportant (1-2) Social value was not considered to be a major factor with over half of respondents rating this as either not at all important to unimportant (1-3).

In all cases the client has the largest say with nearly 60% of respondents identifying them. Contractors where the second most important stakeholder at 22%.

THE MMC EXPERIENCE

Engagement with MMC manufacturers is generally positive, with only 37% of respondents having a negative or neutral experience. Perhaps a little surprisingly (given the popular view of MMC) well over half of respondents reported an excellent or very good degree of flexibility of the systems adopted, with only 2 people having a poor or very poor experience. (7.4%). (There also appears to have been very little impact on the level of fees required for the project, although the response is somewhat ambiguous and requires further analysis.) Generally, there is a positive view of the MMC experience with over 75% of respondents claiming to have a good or very good experience.

MMC PERFORMANCE

MMC performance was judged under FIVE criteria of:

- Time (Programme),
- Cost,
- Quality (build),
- Quality (Architecture), and
- Sustainability.

With the exception of Quality (architecture) - all scored positively, with more than 80% of respondents having a positive view. Of these Cost, performed worst with only 11% thinking that their schemes were very good and 44% being neutral or negative.

Quality (architecture) had the majority of respondents (51.8%) identifying either poor or average outcomes and only 3 people reporting excellent architectural quality.

Finally, in terms of improving the process, earlier engagement was the standout suggestion with 75% of respondents identifying this as most important.

Improving cost, flexibility, and artistic freedom all featured with a third of respondents citing each of these.

Briefings

In September 2023, Architects for Health hosted two Build Stream Technical Briefings on the topics of NZC and MMC. Here are our key takeaways from those sessions.

With thanks to Andrew Rolf, Health Sector Technical Advisory Lead at Mott MacDonald, Scott Taachi, Head of Modern Methods of Construction, Sir Robert McAlpine, and Helen Sturdy, National Head of Construction & P23 Framework, NHS England, for their contributions.

TOWARDS NET ZERO CARBON | ANDREW ROLF, MOTT MACDONALD

The consequences of climate change are all around us. Climate change has consequences, and the World Health Organisation (WHO) identifies a range of health risks and outcomes triggered by extreme weather events, sea level rises, pollution and other climate-related hazards. In the UK alone in the 2022 heatwave, over 3,000 excess deaths and 1/5th of elective care operations were cancelled.

KEY DOCUMENTS

- NHS Net Zero Building Standard
- How to produce a Green Plan
- The Estates Net Zero Carbon Delivery Plan: Technical Annex
- Evergreen Sustainable Supplier Assessment

The NHS Net Zero Building Standard was published in February 2023 and came into effect on 1 October 2023. It is applicable to all projects that meet the business case threshold and a pre-strategic outline 1st October onwards, although Trusts are already starting to employ the standard as part of their wider aspirations for decarbonisation.

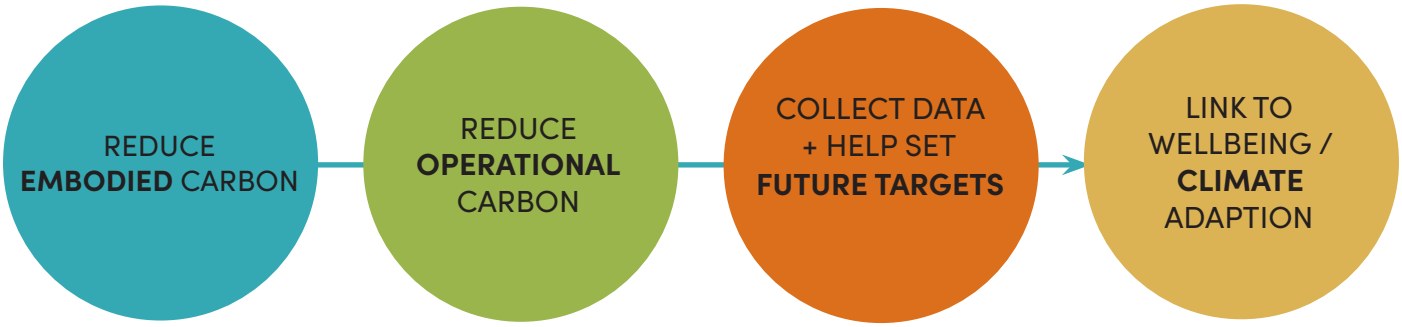
The standard is split into five parts:

1. The Standard
2. User Guide (includes design guidance, worked examples) +
3. Design Management Tool +
4. Operations Energy, and
5. Carbon Compliance Toolkits

The standard will apply to all investments in new buildings and upgrades to existing facilities.

NZC

PURPOSE



What's in the standard?

The standard is comprehensive but does not duplicate guidance already captured elsewhere – such as the NHS Green Plan guidance. It's important to note what's NOT in the standard, namely: medical gasses, operational emissions from soft FM, social value, biodiversity and patient and staff travel.

Early engagement is key

The standard covers the full life-span of a healthcare project and can be used at any of the business case stages. Setting targets early can support application of the standard, recognising that the influence over carbon diminishes with time, so there is more value in its consideration at SOC and OBC. Particularly at Strategic Outline Case (SOC), it can be used for brief development and target setting, based on an outline Schedule of Accommodation.

During FBC and construction, with the design refined, compliance focuses on monitoring the evolution of the design against the targets, with more certainty over metrics but much less influence.

Be warned: targets will change

The new standard is progressive. The targets currently set will get tighter as data on the application of the standard is collated and new products emerge, all aiming towards the lowest possible carbon design. NHSE will look to best practice in their standard setting.

A standard for life

The Standard focuses on passive design principles, which will have the most impact at SOC and OBC when exploring massing, site and concept - considering form, orientation and passive design principles, so be guided by the carbon hierarchy.

Low, medium and high tech

The standard creates a framework of spaces, based on low, medium and high-tech, with an energy factor assigned to each area and aggregated into an 'energy in use' target. This allows for appropriate treatment of low energy spaces (circulation, waiting areas), medium (consulting rooms, wards) and high energy spaces such as operating theatres. An ultra-high classification covers diagnostic imaging and support spaces (plant, building services).

Keeping it lean, clean and green

Targets are set for overall energy and specifics such as plant and fabric. Designers will need to use passive design principles (lean, clean and green) to design the most effective, lowest carbon building possible and use modelling to test your design against the standard. Designers will need to undertake optioneering and refinement against a clear carbon hierarchy, so the focus remains on getting it right first time.

NZC

Get to grips with the detail

Architects will need to provide specifics and a body of evidence for toolkits to be completed and issued to the NHS. A fabric first approach is key and early thermal modelling will be advantageous.

Re-use, repurpose, rebuild

Embodied carbon targets should be set early. The design should optimise structure and façade design to reduce material use; focusing on testing the geometry and material types.

The first iteration of the standard recognises embodied carbon data is limited, with more available on structure and façades, therefore, targets are set for structure and façades with a need to issue data for all elements to set future targets.

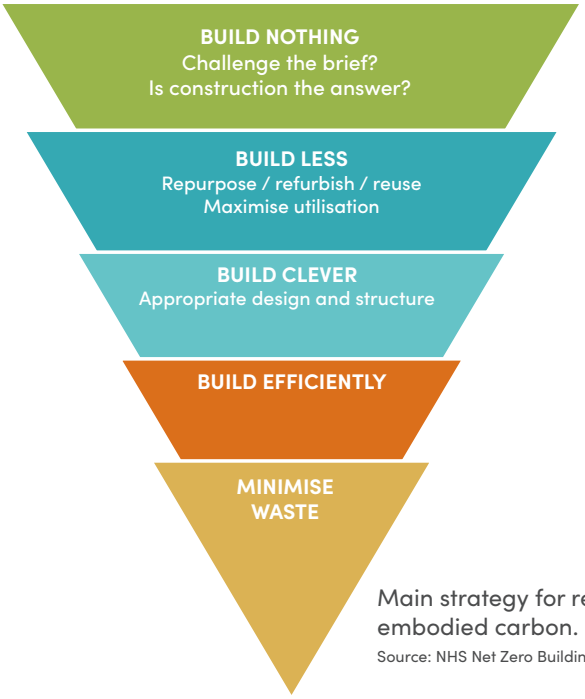
Metering and monitoring

To achieve the operational targets, with a strong emphasis on building management systems and monitoring, it's important to engage FM teams early so they know what's in the standard in terms of monitoring and metering.

Welcome to the team!

A new consulting role of 'Net Zero Carbon Coordinator' is focused on ensuring targets are developed, and targets are reviewed against estimates.

This is a 'check and challenge' role and the emphasis is on the design team to supply the required information. Typically, the responsibility remains with the design team to assess and provide carbon values.



Main strategy for reducing embodied carbon.
Source: NHS Net Zero Building Standard

Quick summary:

SOC | Develop targets early

OBC | Identify strategy for carbon and implement it; Make sure assessments are in everyone's scope and ensure carbon is used as a metric.

FBC | NZC becomes more expensive the later you add it - so develop and refresh strategy at every stage.

Construction | Embed NZC into procurement discussions / Ensure monitoring during discussion

Project Review | Don't forget soft landings and monitoring - get ready: we need to meet the original targets.

CONCLUSION

Although only a small sample dominated by Construction professionals, there appears to be a reasonable understanding of MMC techniques, with most respondents having direct and positive experience of MMC projects. However, there is a consistent view that MMC could be improved in terms of cost and architectural quality. This may be down to the limited involvement of MMC contractors at the earliest stages of the process (RIBA 1 and 2) which might improve the efficiency and architectural freedom required to create the highest quality cost effective architecture. Contractors and Clients appear to be the most influential stakeholders in the process, but everyone wants to learn more (90% of respondents requested further information).

OPINION

EMMA SMYTH

HEAD OF MAJOR PROJECTS, EAST SUSSEX HEALTHCARE NHS TRUST

Modern Methods of Construction (MMC) is often interpreted as a volumetric or modular approach to building using factory-created units which are transported to site.

However, MMC can be used to describe many other building elements which are made off site, such as precast foundations, beams, wall panels, timber frames or masonry infill panels. Even with 'traditional' construction, the need for a tightened programme is forcing creative thinking, and part of that solution can be to include some premade elements into a traditional wall build up; elements of the floor, roof or wall construction, so MMC and its use in providing healthcare facilities is reaching further than ever before.

Given that the use of MMC is a response to a cost and/or time pressure, there are varying results based on the extent to which it is taken.

Volumetric MMC produces an efficiency of programme but at an increased cost for the overall building (a recent example had almost 15% higher cost for a significant reduction in programme when compared against traditional), along with the design team incorporating some inevitable structural clashes.

Derogations, such as ceiling heights within procedural spaces (caused by ductwork dimension ration and transport limitations), on a new build represents a loss of quality, which should be unacceptable.

However, these difficulties aren't present using elemental MMC; a pre-made panel can be transported more easily and designed more efficiently. Using individual pre-made building elements allows design flexibility, with the time saving benefits of off-site construction.

Effective design coordination shifts more construction into the manufacture, saving further time on site, and an efficient programme has these items in manufacture while the site prepares for their arrival.

The use of MMC is on the rise, driven by short programmes and a need for cost certainty (an up front, albeit increased cost, rather than the fluidity of traditional construction).

"Using individual pre-made building elements allows design flexibility, with the time saving benefits of off-site construction."

The resulting design derogations for healthcare when solely volumetric MMC is used provides a not-quite-perfect end building. But the combined effect of using both volumetric and elemental MMC could be the most promising; non-clinical and support space provided as preformed blocks with clinical spaces as more considered, elemental items, perhaps located centrally to the plan to make use of the thermal and structural performance of the volumes that surround them.

Used correctly, Modern Methods of Construction can deliver the required cost and programme benefits, without compromising on design or clinical excellence.

PROCURE23 AND THE NHS MMC TOOLKIT

HELEN STURDY | HEAD OF CONSTRUCTION & PROCURE23 FRAMEWORK, NHSE

SCOTT TACCHI | HEAD OF MODERN METHODS OF CONSTRUCTION, SIR ROBERT MCALPINE

Background

As Head of Construction, Helen's role is to explore innovation and drive best practice and good governance through the NHS, helping to deliver succesful projects. ProCure 23 is a route to achieving this and launched on the 21st March 2022. The ProCure frameworks have collectively delivered £15bn worth of projects. ProCure 23 projects are currently valued at £2.07bn and the team have delivered 5,000 hours of CPD trainng to Trusts and Client Advisors. The ProCure 23 Framework is valued at £9bn and runs to October 2026.

Key Drivers

IMPROVE STAFF, PATIENT AND SERVICE USER **EXPERIENCE**

BETTER PLACES: SUPPORTING **COMMUNITY + SUSTAINABILITY**

BEST CARE ENVIRONMENT FOR THE **WHOLE LIFE OF THE BUILDING**

Why do we need a toolkit?

The MMC toolkit is an assurance and compliance toolkit and it is an NHS Business Case requirement to achieve 70% MMC on new build projects and 50% on refurbishment.

There are three RAG rated areas - Category 0, PMV (Pre Manufactured Value) and Category 7.

Encouraging collaboration and engagement

The toolkit is intended to inform the client, highlighting the opportunities available to them. It will evolve as the market evolves - provides a framewok to build upon using a range of documents including the Construction Playbook, NZC Building standard, BIM documentation and more.

The intention is to aid Trusts in their thinking, not just off site construction.

MMC

Image courtesy of Health Spaces

How did we get here?

As Head of Modern Methods of Construction for Sir Robert McAlpine / IHP (ProCure 23), and the former Head of MMC for the Department of Education, Scott Tacchi has been leading the implementation of MMC frameworks for the last four years. But the call for change has been constant since Latham issued his seminal report nearly 30 years ago (in 1994). Reducing profits and an ever decreasing pool of skilled labour means the need for a new approach is stronger than ever.

MMC is a broad term to describe contemporary innovations in construction, including new technologies (such as digital tools and techniques), offsite manufacture and use of efficient process to deliver productive, sustainable and better outcomes.

What is MMC?

Sir Robert McAlpine define MMC as a "broad term to describe contemporary innovations in construction, including new technologies (such as digital tools and techniques), offsite manufacture and use of efficient process to deliver productive, sustainable and better outcomes."

The MMC Toolkit

The new ProCure 23 MMC Toolkit is an educated approach to how we measure MMC on projects. Each category has a score which together, give a combined MMC value. This must be above 70%, and ideally, in the mid 70s at FBC to allow for a margin of error.

Benefits and Constraints Scorecards

The benefits scorecard allows a contractor receiving a project at RIBA Stage 3 to assess the client's goals and aims and ultimately, helps drive the solution.

The constraints scorecard determines the contractors solution - for example if access to site is difficult, a volumetric delivery model might be inappropriate; elements such as challenging site topography and planning constraints should be addressed at RIBA Stage 4 and contractors will work to accommodate the constraints.

Once familiarised with the toolkit, the contractor's expectation will be for architects to deliver the workbook - as completed as possible - to the contractor at ITT stage.

There are three key stages to complete:

Category 0: Pre-construction

This category covers work completed from RIBA Stages 0 - 3. With 70% of the opportunity lost by the time the project reaches RIBA Stage 3, it's crucial to complete this section as fully as possible.

Key questions include:

- Do you have a standard model of care or is it unique?
- Are we adopting best practice adjacencies?
- Do we have a schedule of accommodation?
- Do we have standardised grid layouts?
- Do we have standardised façade geometries?
- Are we using standard and repeatable rooms (P23)
- What levels of digitisation are we bringing to the project?

PMV: Pre Manufactured Value

This calculation requires a competent cost plan to complete. Using BCIS standard definitions, each package value will need to be estimated alongside on-site prelims and on-site labour. This should be completed by architects alongside their cost planners.

Be aware this is a pass/fail at FBC - so when contractors sign up at ITT, they need to be comfortable the numbers are achievable (and the 70% MMC target met) before committing their business to the project.

To achieve a score in the low 60s on the PMV calculation, teams will need to be paying close attention at RIBA Stage 0-1.

Category 7: On site delivery

This section of the toolkit covers on-site delivery and there is a detailed description against each element, completed by the contractor.

Key questions include:

- Are we carrying through the use of a Common Data Environment (CDE) with our on site design?
- What temporary works systems are we using?
- What wearables, robotics, tracking of assets are we bringing to the project?
- Are we doing 3D scanning, or drone (or video) stage monitoring on the project?
- What level of digitisation will be available?
- What other benefits are there: how can we drive the productivity and profitability of this project forward?

Quick Q&A

Q: When should the toolkit be completed?

A: (Scott) We would like to see the sheet completed at Stage 2 but you need to be mindful at Stage 1, otherwise a significant part of the opportunity is lost. Engage early and avoid retrospective completion.

Q: How are lessons learned being shared?

A: (Helen) The MMC working group is really collaborative - projects are shared and made available on the ProCure Club website

Q: With Trusts still dealing with the failure of rack plank systems, what are the safeguards for MMC?

A: (Scott) From a contractor's perspective, every innovation must be supported by appropriate research, development and testing. We need to ask 'are we comfortable that this is a developed technology versus an innovative and untested technology?'. We won't recommend anything that hasn't undergone years of research and testing.

(Helen) The new Building Safety Act is driving quality and NHSE will look to the Tier 1 conrtractors for due diligence. There is a validation process in place.

OPINION

KELVIN MOULDING

MANAGING DIRECTOR, HEALTH SPACES LTD

As hospital estates and design consultants working with NHS teams at Trust, system, regional and national levels, we see first-hand how MMC is often misunderstood, discussed too broadly or, at worst, shoe-horned onto site by a manufacturer.

At Health Spaces we think of MMC as simply encompassing different methods of delivering a build; MMC is just one strand in a detailed journey that should also include the right partners and a clear understanding of the Trust's individual and often bespoke requirements from the outset to really deliver healthcare excellence.

Our relationships with the NHS show that MMC is not a one size fits all solution – before MMC can be considered, we need to work with a Trust to uncover the whole picture (from clinical requirements, NZC and budget, to understanding how a project fits into the wider estate plan for the next 5-10 years and beyond).

Only once a brief is understood can you bring the correct, and experienced, network into the journey, which includes finding the right MMC partner(s) for a project – specialists who will work alongside clinicians, patients, estates teams, healthcare planners, architects, building contractors, M&E teams – ensuring we build what we set out to design.

Bringing the right experts together at the right time and for the right project is what will impact the MMC experience.

Health Spaces recently designed and delivered the Concept Ward at James Paget University Hospital. After consultations with healthcare planners and designers, MMC – in the form of pre-constructed modular units – was agreed. The build has already won its first award for pioneering research into modern ward design and is delivering on its promise of healthcare excellence for patients and staff.

While using an MMC build solution was an integral part of the success, it was without question only one piece of the puzzle. The quality of the design and building, and speed of the programme, can only be attributed to the full end-to-end methodology – which included early and rich engagement between all the stakeholders – with everything working to the same objective. The MMC solution was guided by the design, not the other way around, and that's important; the design was not impacted.

Sadly for the NHS, mistakes have been made when a volume manufacturer has been employed without going through a detailed process, and worryingly we see this being rolled out ever further with public sector frameworks encouraging it. Working directly with manufacturers to provide a 'turnkey' solution is a risky move.

MMC can have too loud a voice at the table, when we should be talking about the methodology of how we design and deliver that really makes the difference. I also don't believe we can definitively say MMC increases costs or must be improved in terms of architectural quality.

For our NHS partners, it's about applying the right methodology to each build and getting excellent engagement conducted early. Get this right and we can ensure our vision comes to life as intended, harness the opportunities MMC presents and pave the way for the innovative and impactful advancements our healthcare estates deserve.

"MMC is not a one size fits all solution ... we need to work with a Trust to uncover the whole picture."

health-spaces.com

Final Comment

A YEAR IS A LONG TIME IN MMC!

At the end of 2022, we conducted a survey to gauge the knowledge, interest and success of MMC. The survey revealed a reasonable understanding of MMC techniques and that most respondents had direct and positive experiences of MMC projects. However, this was tempered by a consistent view that MMC could be improved in terms of cost and architectural quality.

Now, as 2023 draws to a close, the MMC market stands on the brink of what could be the biggest shake up in UK health construction since the days of the nucleus template. After a cautious start, building momentum over the last four years, the UK government's flagship initiative, "The New Hospitals Programme" has relaunched through a series of consultations and radical re-organisation with Hospital 2.0.

In its latest manifestation, the programme has thrown its weight firmly behind the most radical interpretation of MMC!

At a recent briefing on 9th November, the NHS and DHSC set out a comprehensive overhaul of the challenging procurement process that has stifled the rapid and cost effective realisation of major healthcare projects.

This process seeks to address one of the consistent failings of the current MMC process - that of failing to gain adequate and meaningful engagements with appropriate systems at the earliest stages of the process (RIBA Stage 1 and 2) - thwarting improvements in the efficiency and compromising the architectural freedom required to create high quality, cost effective architecture.

While the new process does not appear to be based on a definitive construction technique, such as volumetric construction, it mandates, not only the use of a collection of predetermined standardised room types and organisations, but also a standardised briefing and sign off process.

It would appear that lessons have been learned from previous initiatives, with a proposal to support Trusts with a wide array of expertise through its preferred "Programme Delivery Partners". This should allow individual design teams to develop localised and novel solutions whilst still remaining firmly within the constraints of the systemised "industrial" approach.

> *"It is far from clear, how the construction industry will increase its capacity without a tangible commitment from the government to sustained and reliable spend in this sector."*

So far so good! But big questions remain. The proposed scale and pace of the building programme (if realised) is unprecedented. It is far from clear how the construction industry will increase its capacity without a tangible commitment from the government to sustained and reliable spend in this sector, with both major parties urging caution where public finances are concerned.

Final Comment

Furthermore, recent experiences with "industrialised" building methods in education have proved that significant oversight and testing is required to avoid replicating errors across the entire estate - Reinforced aerated concrete construction (RAAC) once seemed to be the perfect solution to reducing the costs associated with concrete construction!

There are also challenges to be faced in creating a Net Zero Carbon (NZC) future, with ageing energy infrastructure failing to keep pace with spiralling demand for electricity as we ween ourselves off gas.

Our BUILD stream presentations have shown that it is possible to create engaging, efficient, cost-effective and high-quality healthcare buildings, using sophisticated MMC techniques. But these successes have yet to be achieved at scale.

All these challenges breed an unhealthy scepticism in the industry which will need real commitment (and investment) to overcome.

MMC clearly has a major part to play in the future of healthcare design. Whether this is a positive influence on the healthcare estate will depend on the inventiveness, rigour and skill of the industry, something that will only be achieved through the active engagement of all stakeholders.

Gareth.

With thanks to the AfH Build Stream Team - Gareth Banks, Emma Smyth, Paul Gilligan, Sarah Birkby and Helen Young

Build Stream Resources

ProCure 23 Briefing Session | 10 May, 2022

- **Graham Bell MRICS, MCIPS**, ProCure23 Implementation Lead, NHS Estates & Facilities - Commercial Directorate - NHS England
- **Bonnie Wheatley**, Category Manager, Crown Commercial Services

How do we build a sustainable NHS Estate | 26 April 2022

- **Sheldon Walsh**, Director, Ryder Architecture
- **Jamie Hillier**, Partner, Akerlof
- **Sophie Evans**, Clinical Consultant, Ascom
- **Claire Ammar,** IHP/Vinci Construction
- **Justin Bass**, Director, Health Spaces

Concept Ward Tour - James Paget University Hospital NHS Trust | 13 Sept 2023

- **Paul Morris,** Chief Nurse
- **Steven Balls**, Head of Estates, Facilities and Planning
- **Mark Flynn**, Director of Strategic Projects

Technical Briefing: ProCure23 and the NHS Net Zero Building Standard | 20 Sept 2023

- **Andrew Rolf,** Mott Macdonald

Technical Briefing: ProCure23 and the NHS MMC Toolkit | 03 Oct 2023

- **Scott Tacchi**, Head of MMC, Sir Robert McAlpine
- **Helen Sturdy**, Head of Construction & ProCure23 Framework, NHSE