Establishment of an innovation centre within an Irish acute hospital

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Natalie Cole is the Head of Innovation at Tallaght University Hospital, Dublin. In this role she is responsible for leading the establishment of an innovation centre in one of the largest academic teaching hospitals in Ireland. She joined Tallaght University Hospital (TUH) in July 2021 and has already played a pivotal role in developing an extensive pipeline of innovation projects. Dr Cole has over 20 years' national and international experience in health research and innovation. She initially pursued a career in academic research and was Assistant Professor of Neurogenetics at Northwestern Memorial Hospital, Chicago. On returning to Ireland she supported the development of the spin-out company Neuropath at Trinity College Dublin. Dr Cole has extensive change and project management experience and was Change and Benefits lead for the Office of the CEO of the HSE and delivered large complex healthcare projects.

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Hannah O. Keeffe started as TUH's inaugural Clinical Innovation Fellow in July 2021. Hannah has a BSc (Hons) in Biotechnology from NUI Galway and is a graduate of the University of Limerick Medical School (BM BS (Hons)). She has completed dual specialist medical training in Nephrology and General Internal Medicine via the Royal College of Physicians of Ireland (RCPI) and during this time has worked clinically in multiple hospitals around Ireland, including TUH. Hannah is currently finishing a master's degree in Healthcare Management at the Royal College of Surgeons Ireland (RCSI). Hannah works with staff within TUH to help formulate and progress their ideas, as well as linking with external partners to provide clinical and process insights and support the testing or adoption of innovations within the hospital.

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John Kelly was appointed Deputy CEO for Tallaght University Hospital in March 2019, having previously held the position of Chief Operational Officer at the hospital. John is the Executive Lead for Research and Innovation, which has been identified as one of six main priority areas in the hospital's corporate strategy 2019–2024. He qualified as an occupational therapist from Trinity College Dublin in 2000 and worked across a number of clinical roles before moving away from clinical work into project management role in 2013. John has a master's degree in Healthcare Management from the Royal College of Surgeons and a postgraduate diploma in Healthcare Innovation from Trinity College Dublin.

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Lucy Nugent joined TUH as Chief Operations Officer in 2014, moved to the position of Deputy CEO in 2016 and was appointed CEO in January 2019. Prior to joining TUH Ms Nugent worked in the Acute Hospitals Division as Head of Quality Assurance & Risk Management, Clinical & Patient Services Manager in the Children's University Hospital Temple Street. She had earlier worked in a number of nursing roles as a registered general and children's nurse. In addition to her nursing qualifications, Ms Nugent has an MSc in Healthcare Management (TCD), a BSc in Nursing Studies (DCU), a Diploma in Infection Control (RCSI) and a Diploma in Leadership & Quality in Healthcare (RCPI) and is a recent graduate of the IESE Business

School Advanced Management Programme. Ms Nugent is a Past President of the Health Management Institute of Ireland and has represented it on several committees of the European Association of Hospital Managers and the International Hospital Federation. She is President of the European Association of Hospital Managers and is the first woman to hold this position in its 52-year history.

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Abstract This paper explores the creation of a healthcare innovation centre, Innovate Health, in a large teaching hospital, Tallaght University Hospital (TUH), from inception to implementation. It sets the context in terms of Health Innovation globally as well as the Irish Health Innovation ecosystem and shares the roadmap for the development of an innovation centre such as Innovate Health. Innovate Health strives to provide a 'one-stop shop' for innovation in TUH. This supports and fosters frontline healthcare staff ideas in the organisation to come forward for assistance in development and scaling. It also provides a dedicated point of entry for industry with innovative solutions and products to engage with the hospital for scoping and co-development, and to act as a potential test bed or early adopter. The authors identify opportunities and barriers to the development of innovation and describe the approach taken to break down the work plan into five workstreams: governance, culture and awareness, developing partnerships, funding and awards, and development of a pipeline of innovation projects. Benchmarking and the use of the ISO 56000 scorecard were found to be beneficial in providing targeted areas for improvement and monitoring advances of innovation within the organisation. The paper concludes with some broad recommendations for others embarking on this journey or interested in replicating a model similar to Innovate Health at Tallaght University Hospital (TUH).

KEYWORDS: Healthcare, Innovation, Acute Hospital.

HEALTHCARE INNOVATION

The World Health Organization (WHO) defines health innovation as 'a new or improved solution with the transformative ability to accelerate positive health impact'.[1] Innovation in healthcare encompasses a broad area that can be a medical device, a clinical process, a digital technology, or a service or indeed a combination of these simultaneously.[2,3] Innovations can be developed where an unmet clinical need is identified or can be procured from outside the user system. Healthcare innovation needs to have evidence of its 'value–add' over existing approaches.

BACKGROUND
Healthcare innovation globally

Healthcare systems globally are faced with major challenges owing to rising demand, staff shortages and increasing costs. The delivery of health care needs to be rethought, and innovation is integral to this. Long-standing healthcare inefficiencies are leading to affordability and quality challenges. These inefficiencies are not new but are found throughout many healthcare systems and provide fertile ground for innovation to deliver high returns. Innovation in healthcare is no longer a luxury but a necessity as the status quo is not sustainable. A healthcare innovation ecosystem is required to bring together the various stakeholders to deliver innovation for both the healthcare organisation and the overall healthcare system. At the centre of the healthcare innovation ecosystem is the patient/service user, who will be all of us at some time or other.

The Irish context and where Tallaght University Hospital (TUH) fits

In Ireland all of the health care services come under the Department of Health, the Health Service Executive (HSE) being the statutory body responsible for the delivery of these.[4] There are three different types of hospitals in the country: voluntary (independently owned and governed, but not for profit and primarily funded through the HSE), public (state owned and not for profit) and private (for profit) hospitals.[5] The HSE enters into arrangements with the Section 38 Voluntary Hospitals for the provision of health care services on its behalf. TUH is one of the largest voluntary teaching hospitals in Ireland and is the result of a merger of three Dublin hospitals. It opened in June 1998 and is the newest built hospital in the country.

As a voluntary hospital, TUH is a separate legal entity with its own board of directors and is therefore differentiated from HSE hospitals through its capacity to make decisions close to the service provided; therefore, it is designed as a perfect model for conducting health innovation pilot projects in a controlled environment. TUH also benefits from having strong linkages with the HSE. All acute care in Ireland is provided through hospitals that are organised into seven hospital groups, and TUH is a member of the Dublin Midlands Hospital Group, which provides the potential for collaborations at a Hospital Group level and for innovation projects to scale nationally.

TUH has a strong history and culture of healthcare innovation. Dr Robert Graves and Dr William Stokes from our founder hospitals are regarded as the founders of bedside teaching in clinical education.[6] The well-known eponymous syndromes Graves disease, Stokes–Adams attacks and Cheyne-Stokes breathing arose from their work.[7] An Irish physician, Dr Francis Rynd also developed the first hypodermic needle in the Meath Hospital (one of the founding hospitals).[8] This tradition of medical innovation has continued to date, and TUH is now one of the largest teaching hospitals in Ireland. TUH is an academic partner with Trinity College Dublin (TCD) and has specialised services in the fields of ageing, brain health, chronic diseases, endocrinology, emergency medicine, haematology, nephrology, orthopaedics, trauma and urology.[9] TUH's major asset is its highly skilled and motivated workforce of about 3,500 staff.[10] TUH has a strong ambition to leverage this existing clinical expertise with a specific focus on innovation, research and innovation being one of the pillars of the organisation's corporate strategy.[11]

TUH formally established its Innovation Centre in July 2021 with the creation of two full-time positions to support this strategic development. A Head of Innovation and a Clinical Innovation Fellow were appointed with the goal of centralising and developing innovation, as well as actively engaging stakeholders internally and externally. The Head of Innovation role was created with funding support from the Meath Foundation. In addition, a third full-time position has just been announced: a healthcare designer in residence. In October 2022 the Innovation Centre was rebranded as Innovate Health at TUH (www.innovatehealthtuh.ie), in order to provide increased visibility with the aim of developing a state-of-the-art on-site Innovation Centre.

HEALTHCARE INNOVATION OPPORTUNITIES

Our journey started, however, with an assessment of the opportunities and threats to establishing an innovation centre. In addition to our voluntary status, outlined earlier, many opportunities were identified that could be leveraged to scale innovation in TUH.

Medical technology in Ireland

Ireland has a unique ecosystem featuring leading digital health, MedTech and pharmaceutical companies with European headquarters here. Ireland has one of the largest MedTech hotspots with over 300 MedTech companies based here, including 14 of the world's top 15 companies, and a

MedTech workforce in excess of 40,000 people, which is the highest number of MedTech personnel per capita in Europe.[12,13] Ireland also has strong supports for MedTech developments, including Enterprise Ireland and Health Innovation Hub Ireland (HIHI).

Academia

Dublin, where TUH is located, is an epicentre of leading academic institutions with three large universities and associated medical schools and innovation programmes. These are TCD, University College Dublin (UCD) and the RCSI. Trinity is TUH's primary academic partner and also acts as a training base for undergraduate and postgraduate students. Technological University Dublin (TUD), which is Ireland's first technological university, is located adjacent to the TUH campus.

Traditionally, clinical innovation has resided within academic institutions, and the concept of an innovation hub or centre in an acute hospital is relatively innovative in itself. The barrier cited by academia, however, to the translation of research or innovation projects to real–world clinical settings is the difficulty of navigating access to clinicians and patients. Innovate Health provides a one-stop shop to engage directly with clinicians and patients in a large teaching hospital. Innovate Health brings together industry, government, regulators, patients and the HSE to remove barriers and accelerate the introduction of groundbreaking new treatments, technology and diagnostics that can transform care.

TUH culture and ability to deliver

The benefit of an on–site innovation centre is the existence of a clearly identifiable and understood pathway for ideas in the institution to be funnelled through and supported along the journey to their realisation. These pathways need to be resourced, developed and valued within the organisation to realise their potential.[14]

Before embarking on the development of innovation we needed to assess our culture, identifying specifically the elements required internally that are favourable to innovation. 'Innovation is a complex social process that emerges from the dynamic interaction of several contextual factors in a given environment'.[15] A table collating favourable organisational characteristics that promote innovation is provided here (Table 1).

An assessment of the foregoing requirements assured us that TUH had the essential requirements for developing and fostering innovation Although improvements would be required.

Table 1: Important requirements for healthcare innovation.

Environment, Culture
Management and Leadership
Resources
Protected time
Acceptance of potential failure
Appreciation of collaboration
Clear pathways for innovators
Celebrate successes and recognise achievements
Interoperable systems
Fair and transparent intellectual property arrangements
Access to real-world testing and feedback

Sources: Kelly, C. J., Young, A. J., (2017), 'Promoting innovation in healthcare', *Future Healthcare Journal*, Vol. 4, No. 2, p. 121; Chaves, B. G., Briand, C., Bouabida, K., (2021), 'Innovation in healthcare organizations: concepts and challenges to consider', *International Journal of Health Research and Innovation*, Vol. 9, No. 1, pp. 1–14; Weintraub, P., McKee, M., (2019), 'Leadership for innovation in healthcare: an exploration', *International Journal of Health Policy and Management*, Vol. 8, No. 3, p. 138; and Acar, A. Z., Acar, P., (2012), 'The effects of organizational culture and innovativeness on business performance in healthcare industry', *Procedia-Social and Behavioral Sciences*, Vol. 58, pp. 683–692.

HEALTHCARE INNOVATION BARRIERS

In addition to opportunities, it was also important to assess barriers or threats to delivering our objectives. The assessment of the baseline operating model for innovation projects within the hospital identified that projects were initiated in an *ad hoc* fashion and that the hospital often only became aware of funded projects that required sign-off by the executive management team. This meant that significant duplication of effort was detected and that there was no coordinated vision for value added to the hospital. Innovation was occurring in an unstructured manner and not as a result of a strategic decision.

In procurement and interaction with industry, TUH was mostly the end customer of products without clinician involvement in the design or optimisation of the product for the underlying healthcare processes. There was no designated funding stream for innovation projects and no coordinated structure for evaluating outcomes and scaling and embedding of projects post pilot.

WORK PLAN FOR THE DEVELOPMENT OF INNOVATION

Five high-level workstreams were established with an implementation plan outlined in what follows. The overarching short-term objective was to enhance the maturity level of innovation within TUH and deliver a robust pipeline of innovation projects that add value to our staff and patients.

Workstreams and work plan

1. Leadership and planning
   - Develop an innovation action plan from each workstream.
   - Hold interviews with important stakeholders and develop a clear and ambitious vision for innovation.
   - Decide on medium to long-term goals and objectives and communicate to important stakeholders.
   - Provide continuous support and mentoring to staff.
   - Ensure collaborations are aligned to innovation priorities.
   - Target industry experts and national and international seminars in the strategic priority areas.
   - Develop a programme where problems are defined and worked on within a strategic priority area with staff, end users and private industry to develop an innovation solution.
   - Review this process of validating innovation ideas when a number of projects have passed through to ascertain if fit for purpose.
   - Develop a pipeline of projects to full deployment.
2. Governance;
   - Registration of all innovation projects for oversight and approval
   - Registration of funding applications and funding awards
   - Creation of an agile process to facilitate this approval and oversight
   - Development of a process for evaluation of innovation projects as value added for TUH
   - Alignment of the research and innovation strategy with other TUH strategies, eg, quality safety and risk management strategy
   - Agreement on and review of Key Performance Indicators (KPIs) by Research and Innovation Board Subcommittee
   - Use of an electronic platform (Infonetica) for the registration and oversight of innovation projects
3. Culture and awareness of innovation
   - Coordination of all Public Relations (PR) on innovation through the communications office
   - Development of a communication plan and tracker
   - Development of branding and public relations for innovation

4. Partnerships
   - Develop partnerships with important stakeholders, including industry, academia and public sector bodies.
5. Funding
   - Develop a funding model for the sustainability of the innovation centre through internal cost savings and external funding.
6. Development of a pipeline of innovative projects
   - Develop a clinical innovation fellow role.
   - Ensure capacity building in digital, data protection, intellectual property (IP), legal and finance.
   - Carry out upskilling in legal, IP, insurance, procurement, regulations and new technologies.
   - Develop high-performance innovation teams in TUH.
   - Develop design thinking workshops for staff.
   - Embed support for staff to conduct innovation projects, that is, support for funding calls and development of business cases.
   - Develop capacity for supporting innovation projects before and after approval.
   - Develop co-design of innovation projects with patients/service users.
   - Ensure innovation projects are fostered across all departments with the goal that research and innovation are interwoven across departments under themes, for example, brain health ageing well, chronic illness and digital technologies.
   - Create infrastructure to facilitate the co-development of innovation projects from proof of concept to market.
   - Develop a pipeline of innovation projects across all departments and support the workflow of projects through the channels identified.
   - Support and implement national innovation projects.

THE JOURNEY TO DATE
Leadership and planning
We developed an ambitious vision of innovation at TUH and agreed on short and long-term objectives.

Governance
This refers to the establishment of oversight and governance of a pipeline of innovation projects. By regularly reviewing our innovation pipeline, we quickly identify initiatives that are less likely to succeed in their current state from the data generated and can either address the issues or, if that is not feasible, close out that initiative and concentrate investment and time in initiatives with high potential. This approach is crucial in order to effectively manage staff resources and is also invaluable feedback to external partners.

The creation of a dedicated board subcommittee emphasises the high-level support of TUH for innovation. The expertise of internal and external committee members is acknowledged in driving this development.

We tailored the Alder Hey's innovation project process as shown here and added a stage gating process to outcomes of testing, and pilots can be reviewed (Figure 1).

It is imperative to ensure that projects are compliant from an ethics and regulatory perspective. The innovation team are available to provide advice and support to innovators regarding this.

All relevant projects complete a data protection impact assessment (DPIA) and if appropriate are reviewed and approved by our Data Protection Officer. All innovation procurement is managed through our procurement department.

Culture and awareness of innovation
Prior to the establishment of the innovation centre, individuals were not formally recognised for their achievements. One
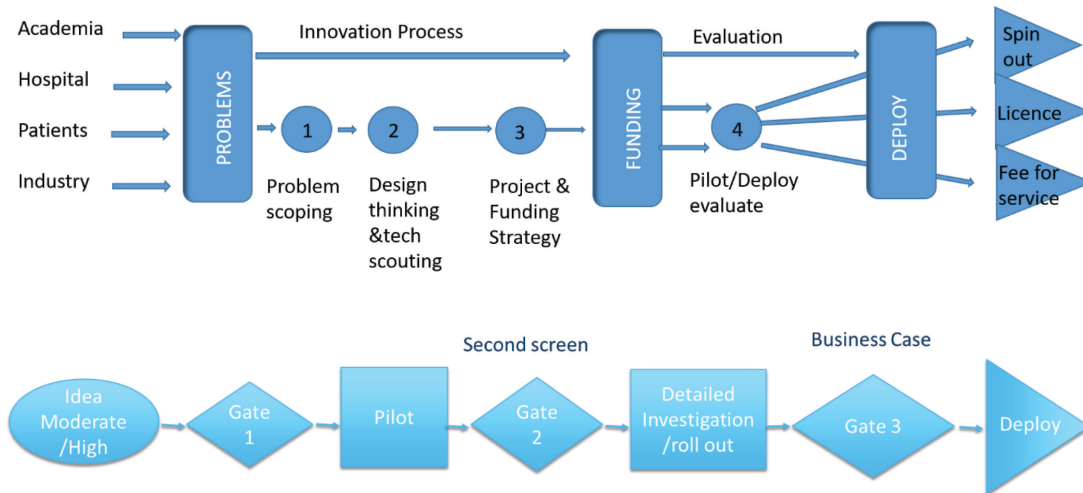
Figure 1   Establishment of a governance and stage gating process, adapted from the Alder Hey process
Source: Alder Hey Innovation, (2022), 'About us — Alder Hey innovation', available at: https://www.alderheyinnovation.com/about-us

of the important objectives of Innovate Health is to provide support for staff in promoting their achievements and submit their innovation projects for national and international awards. Since July 2021, Innovate Health submissions have been finalists for four HealthTech Ireland awards and have been awarded a European association of healthcare managers 'coup de coeur' prize. Innovate Health has had numerous achievements publicised both internally and externally via the hospital's social media channels and media publications. Innovate Health acknowledges the immense support from the hospital's communications department in this regard.

Throughout the year Innovate Health hosts workshops, external speaker lectures and mentoring sessions to support and educate staff in design thinking and innovation. Innovate Health has developed a simple library of tools, methods and guidelines and obtains ongoing feedback from staff on mentoring and supports provided.

Partnerships

The innovation centre has established important partnerships both internally and externally, for example, national innovation bodies (our public service, the innovation arm of the Department of Public Expenditure and Reform and HSE Spark Innovation), universities and industry both nationally and internationally. TUH has signed a memorandum of understanding (MoU) with HSE Digital Transformation and with TUD and has established a working relationship with HIHI. Innovate Health is also working on innovation projects with final–year and MSc students from TUD, TCD and RCSI. TUH is recalibrating its relationship with industry, moving it from one of customer–supplier to one of partnership. This will enable the organisation to expedite the adoption and spread of innovation aligned to TUH priorities, attract inward investment and extract increased value for money on behalf of the health and social care system from existing and new treatments. Innovate Health brings together world leading academic research and the healthcare ecosystem to drive innovation solutions for our patients.

Funding

Innovate Health has established a funding model and a yearly funding stream for innovation solutions and has been instrumental in signposting staff to potential grant funding. Over a 12-month period Innovate Health has supported staff

in obtaining over €150,000 in funding. Matched funding for a full-time designer in residence position and a Mobile Maker Lab was also secured from Spark Innovation. Innovate Health has also been successful in negotiating with industry with regard to a fair return on staff contribution to the design and feasibility of innovative products. All innovation projects are reviewed with regard to their potential IP. At present, TUH does not have an IP policy; this is not unusual in Ireland at present, and, in fact, the HSE does not yet have a national IP policy. Innovate Health is currently in the process of developing a local IP policy.

Pipeline of innovation projects

The delivery of actions from the action plan has resulted in a consistent flow of innovation ideas into our pipeline, and the types of projects are outlined in what follows.

INNOVATION PROJECTS IN INNOVATE HEALTH'S PIPELINE
Digital health innovation

Digital Health Innovation is an umbrella term for innovations that include connected health, telemedicine, telehealth, electronic health records, eHealth and Big Data. Ireland is regarded as a laggard in digital transformation and can benefit from the early adoption of proven technology from elsewhere, as well as leveraging the learnings from other settings to leapfrog. We have an enormous amount of technology now available, and these developments, including artificial intelligence and machine learning, have the potential to revolutionise the provision of health care.

Healthcare product innovation

Innovate Health has projects in the pipeline that are de novo products and are addressing an unmet clinical need identified by members of staff. Our in-residence product designer supports the team in the design and prototyping of the product. Innovate Health acts as a locus for matchmaking with industries that have products that are close to or already CE marked and that have an ability to prove the benefit of the innovation in order to embed confidence in the product or service for clinicians and patients. An example would be digital technologies in regard to which clinicians need to be assured of the quality and safety of the product before recommending them to patients and service users. Within Innovate Health we provide a safe controlled environment to pilot such products.

Process innovation

Process Innovation is concerned with rethinking and redesigning of processes. This goes beyond the incremental change approach typical of quality improvement and is more concerned with a significantly or radically improved process or disruptive change to the process. This is of value to healthcare organisations that require radical rethinking of how services are delivered in the face of ageing populations, rising costs and resource limitations.

DEVELOPMENT OF AN INNOVATION PIPELINE

Since its establishment, Innovate Health has developed a pipeline of projects from the ideation phase to implementation. In less than 16 months there have already been in excess of 90 ideas from frontline staff. Ideas and projects have surfaced via a number of routes. Staff engagement has been developed by awareness campaigns internally and by the facilitation of drop-in 'idea clinics' twice a week in our centrally located innovation hub. Staff can come to these idea clinics to discuss ideas at any stage of development. Highlighting both internal and external funding opportunities to staff

Table 2: Pipeline of innovation projects by stage.

Completed	Pilot/Proof of Concept Underway	Ethics Applications Pending	Defining Pilots	Scoping
4 projects	9 projects	3 projects	6 projects	23 projects

Table 3: Projects completed and underway presented by category.

Process Innovation	Product	Digital Transformation
4 projects spanning the Emergency Department, Radiology, GI laboratory, Laboratory and pan-hospital clinical areas	9 projects from local proof of concept of new devices to prototyping of new ideas from staff	4 projects, including the development of two pioneering apps for chronic disease management, a prototype platform and the adoption of digital technology

has also been important in garnering interest and focusing effort. Externally, projects have been engaged through the important partnerships that have been outlined earlier (HSE digital transformation, HIHI, etc). Senior staff members have also brought their own forged external partnerships into the hospital.

The innovation pipeline now includes 45 projects at various stages of their life cycles. Given the early stage of Innovate Health, the majority of these remain, unsurprisingly, at an early scoping and viability stage. Critically, we have been able to quickly deem projects as nonrunners and do early feasibility assessment, with 28 projects already not progressing, and an additional 8 projects have been linked internally with our colleagues in quality improvement or research and progressing down these routes rather than through innovation (Tables 2 and 3).

A number of factors have been crucial to the ability to develop this pipeline. The cornerstone has been the ability to create connections, both internally between different professions and departments and also to link to external partners and different funding sources. As described earlier, one of the notable barriers to staff engaging in innovation is time. Innovate Health strives to support staff insofar as possible with respect to submitting applications, submitting ethics, designing pilots, defining outcome measures, and aiding with PR and dissemination of achievements.

EVALUATION OF INNOVATION

TUH Innovation Centre was established in July 2021, and since then many developments have been made within innovation. It was timely after 15 months to reflect on progress to date, lessons learned and further steps required to develop innovation to its full potential within TUH. An appropriate tool to evaluate innovation is the Our Public Service innovation scorecard.[16] This focuses on five of the important groups of innovation management elements aligned with the ISO 56000 series: Leadership & Planning; Organisation Context; Operation; Supports; Evaluation & Improvement (as shown in the following diagram).[17,18] These elements and their interactions are needed for an organisation to establish its innovation capabilities for the purpose of effectively and sustainably achieving innovations. This scorecard provides an overall average score based on the progress to date. The score generated is on a scale of 1 to 5 and helps us understand our position on the innovation journey towards developing our capability and practice.

INNOVATION CAPABILITY AND MATURITY SCORE

Prior to the establishment of the Innovation Centre, TUH reported a capability and maturity level of 2.3 in 2021, which has now moved to an average score of 4, and there is an ambition to improve and attain Innovate Health's potential as a world-class leader in healthcare innovation.

The Innovation Capability and Maturity Score is as follows:

1. **Beginning:** Organisation has little or no experience with this topic.
2. Organisation has some experience.
3. **Intermediate:** Organisation regularly works this way, but not systematically.
4. Organisation systematically works this way.
5. **World class:** Our practice is used as a case study for others to learn from.[19]

The scoring for each innovation element is detailed later and includes examples of some recommended actions as Innovate Health continues its journey.

Group 1: Leadership and planning (score 3/5)

Vision/strategy/goals and objectives

> Action 1: Define the next set of measurable targets in order to achieve the vision of world-class practice.

Group 2: Organisational context (score 4/5)

Culture and awareness/collaboration/strategic intelligence

> Action 2 Need to build further partnerships in order to raise investment capital.
>
> Action 3: Develop a programme where defined challenges are worked on within strategic priority areas with staff, end users and private industry in order to develop an innovation solution.

Group 3: Innovation in action (score 3/5)

Planning, identifying, validating and deploying innovation projects.

> Action 4: Continuously review the process of approval of innovation projects to ascertain if fit for purpose.

Group 4: Supports (score 3/5)

Resources, skills and tools and intellectual property

> Action 5: Develop a TUH IP Policy

Group 5: Evaluation and improvement (score 2/5)

> Action 6 Mechanism of reporting impact and benefits is realised for innovation projects.

The following diagram illustrates TUH's scoring for each innovation management element. Areas in need of attention are highlighted in the following heatmap. A lot more work remains to be done to reach the full potential and ambition for the maturity level for innovation at Tallaght University Hospital. The process from June 2021 is illustrated in the following (Figure 2).

CONCLUSION

This paper outlines the journey of TUH, an academic teaching hospital in Ireland, towards embedding innovation through the development of an innovation centre on-site within the acute hospital. While still early in its development, this innovation centre, now branded as Innovate Health, has a number of important lessons relevant to others looking to develop innovation within healthcare.

Engagement with partners and stakeholders throughout the ecosystem is essential. This includes patients and staff, as well as industry, academia and public sector bodies. An essential function of this centre is the 'matchmaking' of those with challenges and solutions and potential collaborators in order to foster and progress innovations.

Acknowledging the weaknesses, including those with regard to value-based procurement, IP and awareness of compliance, has been valuable in terms of identifying supports and the need to develop these areas within the centre in order to scale innovation.
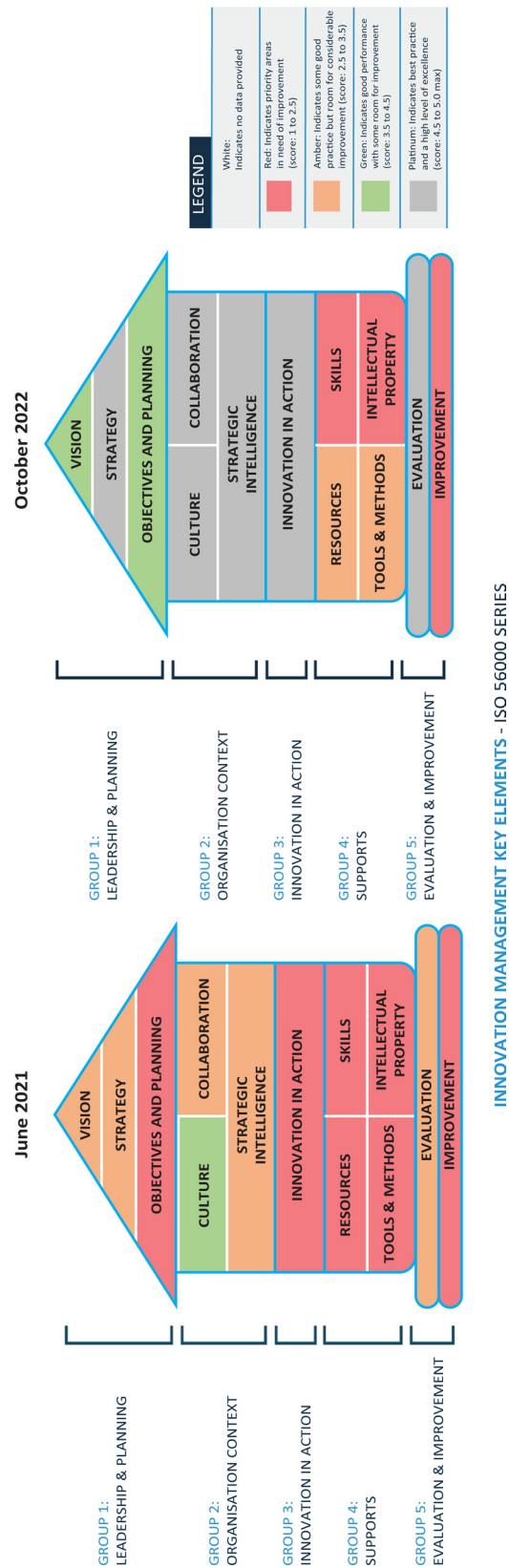
Figure 2 Innovate Health's assessment using the ISO56000 scorecard
Source: Our Public Service (OPS), (2020), 'Innovation scorecard', Department of Public Expenditure and Reform, available at: www.ops.gov.ie; International Organization for Standardization (ISO), (2020), 'ISO 56000 — Innovation management', available at: https://www.iso.org/.

A significant barrier from a clinician's perspective is time. Supporting clinicians in any way possible, from signposting funding and support opportunities to assisting with applications, has been beneficial in gaining buy-in. The ability to quickly determine where projects are nonviable and the prevention of duplication of efforts also provide enormous benefit at an organisational level. We are currently embedding a process for reporting impact and benefits gained from the innovation projects and will continually evaluate the scorecard and review if fit for purpose.

The development of an innovation pipeline and the rising awareness of the available supports and organisational interest in innovation continues to reap benefits in terms of further engagement.

Innovation is not optional, and combating the rising costs and demands on healthcare organisations demands that we innovate and strive to provide quality and more efficient and more patient and staff-friendly care.

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