ARUP

High-street Integrated Care Hub

Arup research: Prototype study
May 2023

Foreword

We hear a lot about the damage caused by overpopulation, but the year of “peak child” has already occurred. The population growth for the rest of this century is fuelled more by increasing longevity than it is by fertility rates.

In many countries, we are actually seeing fertility rates declining below the replacement rate, this not only drives an overall decline in population but further skews the demographics of the existing population towards a greater proportion of elderly people.

Our current UK healthcare approach appears to have three axes: care in the home, in care homes, or in hospitals, and all are being increasingly impacted by caring for the elderly. This intelligent study looks at the benefits of adding drop-in urban care centres to cost effectively assist more people, particularly our increasing elderly population, by providing appropriate daytime care while still living at home.

The study also cleverly proposes the re-purposing underutilised high street retail space, which keeps existing buildings in use, while revitalising high streets and improving urban liveability.

Tristram Carfrae
Arup Deputy Chair | Arup Fellow
FRSA, FREng, FTSE, RDI

FRCGP This study leads current health and social care thinking. The physical co-location of teams currently struggling to integrate will make a big difference and the fact that the hubs are likely to be in the centre of towns will enable the community to be brought in much more easily.

The new report by the Royal College of GPs ‘Fit For the Future’ ‘ supports this vision with an emphasis on providing space for more clinicians and providers of care and greater integration with secondary care. If you know the rheumatologist is just down the corridor, it is easy to ask for advice. This in turn avoids lengthy waits and unnecessary appointments for patients.

Buildings like this will make a difference to efficiency, staff well being, retention and recruitment further down the line.

Dr Lindsay Hadley
Sussex ICS Dementia Clinical Lead

Executive summary

Integration can be best achieved through the consolidation of existing services, re-use of existing buildings, and leveraging of existing networks.

The High-street Integrated Care Hub (HICH)

The UK population is ageing, with the latest projections indicating that in 50 years' time, there will be an additional 8.6 million people aged 65 and over, equivalent to the population size of London. This trend is not unique to the UK, but is being felt globally.

When the NHS was established, it was designed to cater to the acute health needs of younger patients. However, as people age, the likelihood of developing multiple chronic illness, such as long-term conditions, dementia, and frailty, increases. This shift in needs is currently being felt across the health and social care system, resulting in rising costs, unmet care needs, staff burnout, and, most importantly, a significant decline in the quality of life for those living with these conditions.

In response, the government has recently restructured the UK's health and social care systems by forming Integrated Care Systems (ICSs) that aim to integrate the presently fragmented health and social services.

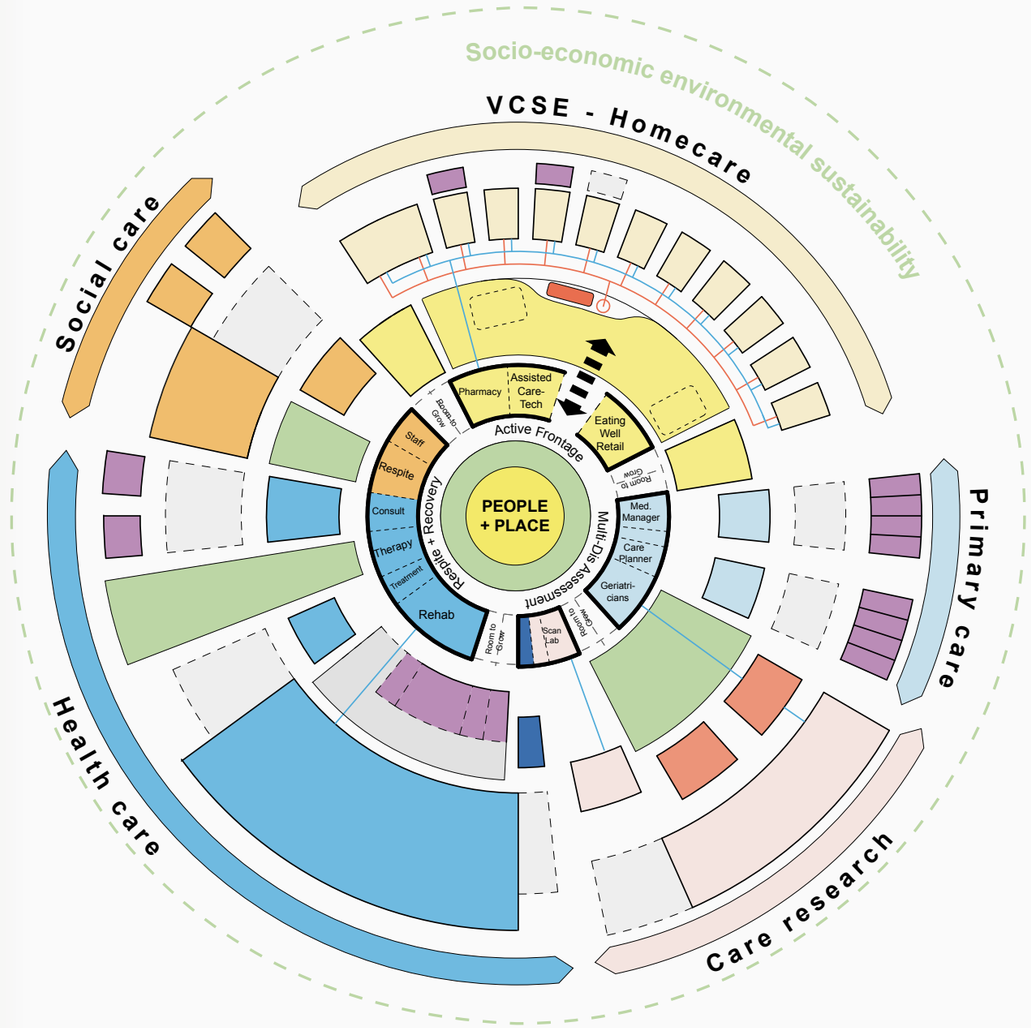
Healthcare designers have sought to support this shift towards integration through the design of new forms of health and care provision. Although still in their infancy, these prototypes have explored the benefits of programmatic integration (combining elements from across the health and social care sectors), contextual integration (provision of health centres within town centres), and systemic integration (considering health and care provision as part of a wider built ecosystem).

This study takes these considerations as its point of departure and explores and defines a new typology of health and care provision that combines the merits of programmatic, contextual, and systemic integration, henceforth referred to as the High-street Integrated Care Hub (HICH).

Dissimilar to other conceptual studies, the HICH prototype is grounded in a real site, calibrated and tested against the challenges of Hasting's public services, place, and people. In doing so, the study brings together a diverse range of strategic, spatial and health data, analysed through a multidisciplinary lens.

The resulting HICH prototype accommodates a 2,700 sqm health and care facility located within an existing 1920's department store on the Hasting's High-street. It consolidates existing services from the health, social, primary, volunteer, community and social enterprise (VCSE), and research sectors into a 'one-stop-shop' designed to support the specific needs of Hastings' ageing population.

The study uniquely captures the HICH's value by mapping its relationship within the wider health and care ecosystem. It demonstrates firstly, how the integration of existing services both meets the needs of patients and creates opportunities on consolidated sites. Secondly, how the creative re-use of an existing building meets the carbon, cost, and care challenges of the NHS and local authorities. Thirdly how its central location leverages existing social, commercial, and transport networks, enabling its effective and efficient operation.



The High-street Integrated Care Hub (HICH)
Model mapped within the wider health and care ecosystem

Background

> “ There is a need to learn by doing. An iterative process of evidence-based design will highlight the most effective routes to fostering integration.
>
> By capturing and distributing examples of best practice the global healthcare community can share an international perspective that may shed new light on this complex challenge.”

Panel discussion., European Healthcare Design Conference 2022

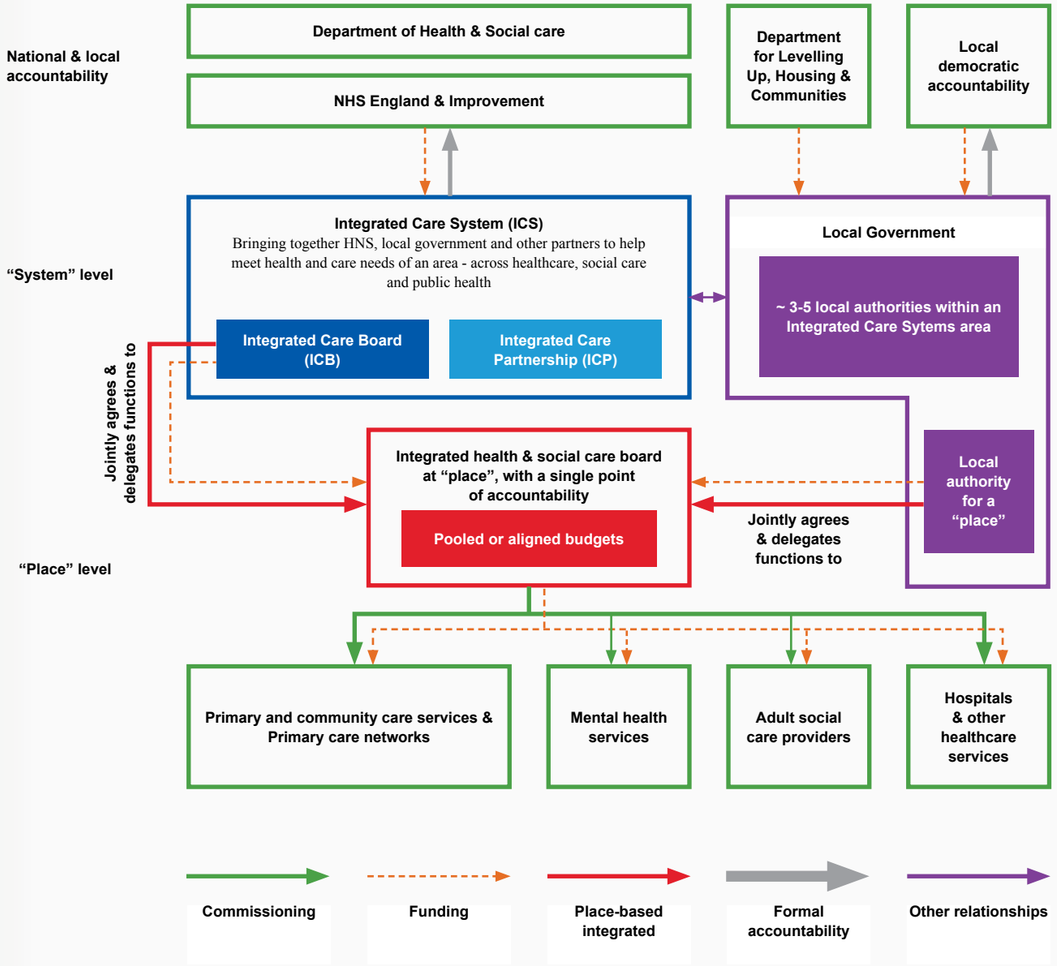
An ageing population and its impacts

Statistics and projections produced by the Office for National Statistics (ONS) have long shown that the UK’s population is aging.

The latest projections indicate that in 50 years’ time, there are likely to be an additional 8.6 million people aged 65 years and over, a population roughly equivalent to that of London (ONS, 2023).

The changing and ageing structure of the UK population is primarily driven by two factors. Firstly, improvements in life expectancy mean that people are living longer and reaching older ages. Secondly, there has been a decrease in fertility, with people having fewer children and having them later in life.

The ageing population and changing population structure will bring both opportunities and challenges for the economy, services, and society at national and local levels. The coming decades will be an unprecedented period of demographic change felt not just in the UK but globally.



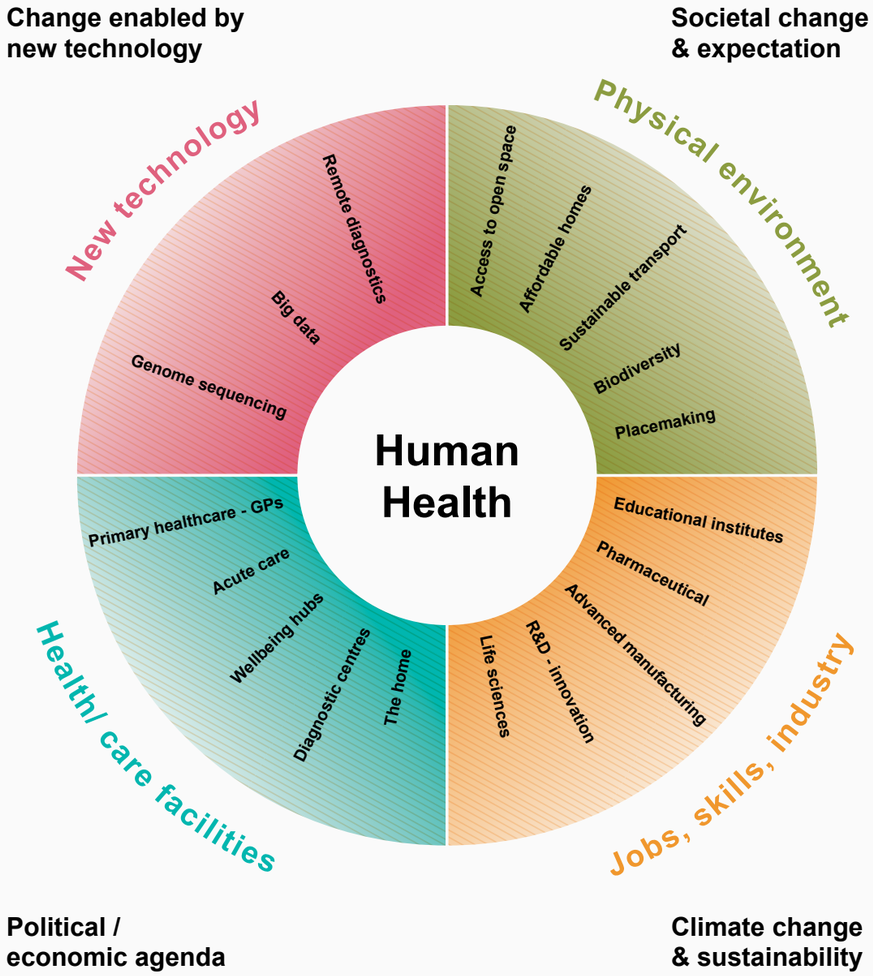
Integrated Care Systems (ICS)

When the NHS was established, its focus was on treating single acute illnesses or conditions. However, people are now living longer and as a consequence, are more likely to suffer from multiple long-term health issues that require ongoing support from a far broader range of healthcare services and professionals.

Research shows that many patients, particularly older individuals, are currently 'falling through the gaps' and experiencing fragmented care, leading to increased isolation (Shaw, 2011). This is particularly true for patients with multi-morbidity, dementia, and frailty, who are often hospitalized and receive care from multiple providers for different medical conditions. As a result, they frequently face health and functional challenges and report almost twice as many problems resulting from poorly integrated care compared to those without multi-morbidity.

A common grievance among patients is the need to repeat their medical information to multiple healthcare professionals on different occasions. Transitions between different care settings and services are often seen as significant points where patients are vulnerable to lapses or discontinuity of care. This can undermine patient care, resulting in poorer health outcomes, reduced quality of life, and increased healthcare utilization and costs.

Furthermore, many patients experience significant anxiety visiting acute healthcare settings and express a strong desire to avoid institutional, assistive, and extra-care accommodation, preferring instead to remain at home. However, to facilitate active independence, regular engagement with preventative and proactive services has to be encouraged through the creation of appealing and accessible services. In response, the government introduced Integrated Care Systems (ICS) as of April 2022, statutory organizations that are responsible for the delivery of health and care. The main difference between ICSs and the previous system of Clinical Commissioning Groups (CCGs) in England is that they are structured to integrate all aspects of care, including social, mental, primary, Voluntary Community and Social Enterprise (VCSE). In doing so, the aim is to provide more efficient, effective, and preventative care better suited to the needs of an ageing population.



Integrated Care Hubs (ICH)

The built response to these policy changes has been the design and implementation of integrated care facilities. Still in their infancy, there is little established guidance on what these facilities exactly entail, nor is there an agreed-upon taxonomy of types. Collectively however they are often referred to as "Integrated Care Hubs," resulting in the somewhat unfortunate acronym of ICH.

Broadly speaking, ICHs consolidate existing out-of-hospital day services and provide them in a one-stop-shop, focusing on multi-disciplinary preventative and proactive care. By doing so, the hubs can better meet the increasing demands of an ageing population, reducing duplication between services, time spent in hospitals, and making better use of resources.

Encouragingly, the few ICHs that have been developed continue to demonstrate positive patient outcomes. An independent review found that, on average, the ICHs achieved a saving of £110.17 per patient per annum in costs, a 15% reduction in A&E attendances, and a 29% reduction in emergency admissions (Murtagh et al., 2023).

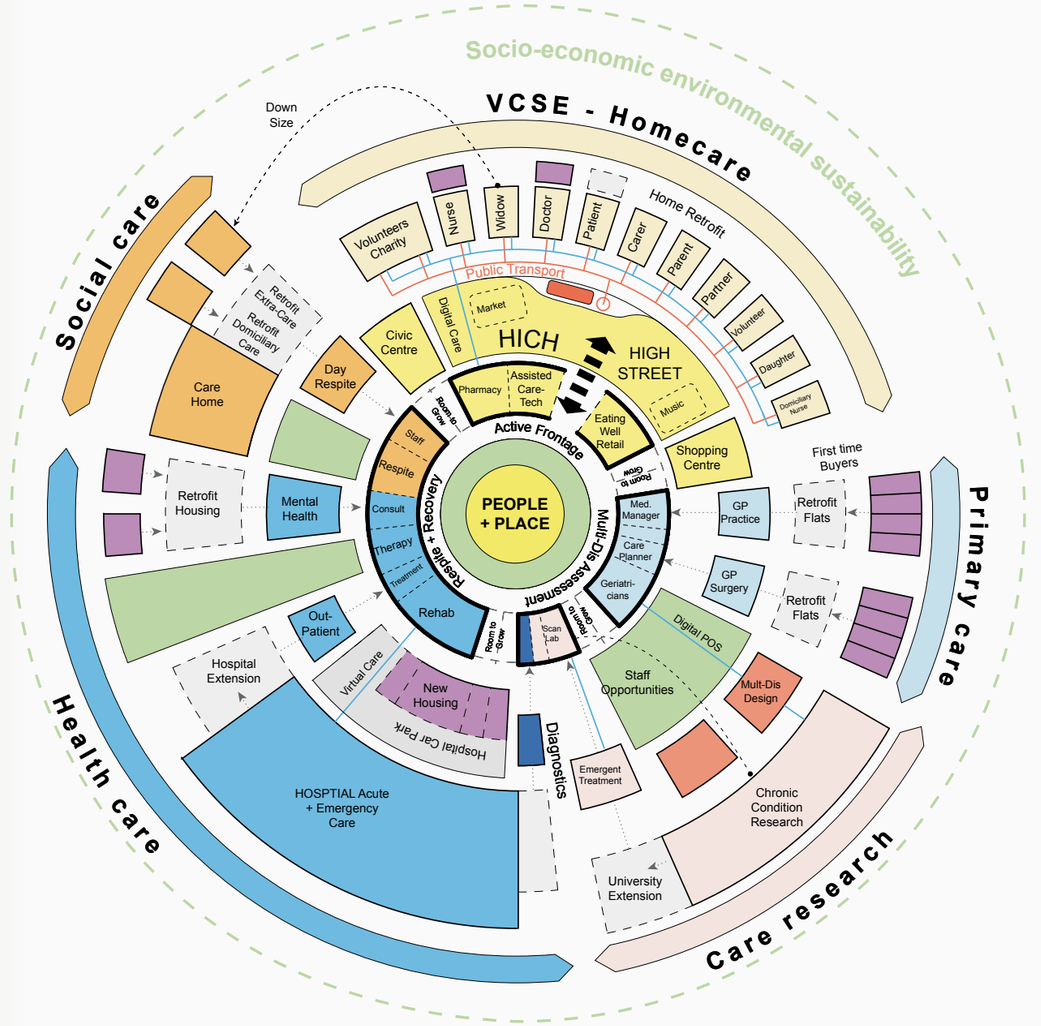
Hospitals and health on the hight-street

In parallel with the development of ICHs, there has also been a shift in the approach to site strategy, moving away from the peripheral sites of traditional healthcare towards town centres. Although this is not a new concept, there has been increased interest in response to the vacant high-street units left behind by online shopping, the Covid pandemic, and remote working.

A number of largely conceptual projects have explored the advantages of retrofitting these units with outpatient facilities, citing the benefits of increased connectivity across transport, civil, commercial, digital, and social dimensions, as well as a 50% average reduction in construction cost and carbon footprint. (Bell, 2021).

The health and care ecosystem

Taking this one step further, several studies have highlighted that, in addition to considering the programmatic integration of 'ICHs' and the contextual integration of 'Health on the High-street models,' the NHS should also consider the integration of services and spaces beyond those traditionally associated with health (Tucker, 2022) - see accompanying diagram. For instance, the role of public transportation facilitates equal access to acute sites, which, especially in the case of preventative health, can have far more consequential health outcomes than the design of the hospital itself. By viewing health provision as part of a wider 'health and care ecosystem,' it helps to identify the hidden values and relationships of a given proposal beyond its red line boundary. The second accompanying diagram attempts to capture this systems perspective by demonstrating how relocating some outpatient services from the acute hospital site (blue) into the town centre (the central ring) creates an opportunity to extend hospital inpatient services and/or allow for critical maintenance to be undertaken. This reduction in outpatients, in turn, reduces the need for extensive hospital car parking, enabling the construction of new affordable housing. This interconnected value is true for each sector.



The High-street Integrated Care Hub (HICH) model

Prototype study

Bringing together these three ideas, this prototype study explores both the process of design - adopting an ecosystem-oriented approach - and the physical design of a high-street integrated care typology, referred to henceforth as the 'High-street Integrated Care Hub (HICH).'

In short, the aim of the HICH typology is to consolidate existing out-of-hospital day services from across the health and care sectors into one central location. This is achieved through the reuse of an existing high-street asset and leveraging existing social, service, and transport networks.

Unlike other conceptual studies of this nature, this prototype study grounds its findings in a real place. This was done firstly to "learn by doing" as advocated for in the panel discussion quoted at the start of this section, secondly to ensure the proposal responds directly to the real challenges of the wider ecosystem, and thirdly to generate a tangible vision for what a HICH could be.

Hastings

To this end, Hastings, located in the Sussex ICS, was selected as the ideal site to test the HICH prototype. Hastings was chosen by aggregating the following three metrics across three separate national datasets:

Hospital average admission age

To understand which hospitals had the highest proportion of elderly people being admitted and therefore likely in need of an integrated care facility within the community.

Index of Multiple Deprivation (IMD)

To understand which populations would be in most need of additional public health and care support.

Hospital car parking space per m^2

To provide a proxy for which hospitals across the UK are least well connected by public transport, indicating the need for a better-connected highstreet facility.

This exercise provided a ranked list of places across the UK in most need of integration. Although Hastings did not come top (8th out of 247), given Arup's prior work with Hastings Borough Council and the three-month time-window allotted for this study, the strategic decision was made to select Hastings as the site and thereby build on Arup's existing knowledge.

As the study will outline, this decision proved fortuitous as the council was able to identify a number of priority high-street assets that would benefit from an HICH typology. The selected building, although recently let to a games arcade company, provides a useful vehicle for exploring what an HICH could be and, in doing so, its wider applicability.

Scope

Despite the policy shift towards integration, the design guidance on health and care design, the Health Building Notes (HBN's), remain largely unchanged.

The purpose of the study

The High-street Integrated Care Hub (HICH) is a proposed typology that consolidates existing out-of-hospital day services from across the health and care sectors into one central location. This is achieved through the re-use of an existing highstreet asset and leveraging existing social, service, and transport networks.

The objective of this study is to explore and define the process and form of the HICH typology by designing a prototype in the town of Hastings. The study aims to ground its response in the real-life challenges and opportunities faced by the public services, place, and people in Hastings.

The intended audiences of this document are:

Designers

Bringing together the ideas expressed in prior studies, conferences, and collaborative workshops, and distilling these into an articulated 'prototype.'

Researchers

Exploring multi-modal design research methodologies to generate novel insights into a complex subject area.

Integrated Care Boards and Local Authorities

Illustrating a tangible design response to the combined priorities outlined in the NHS strategic literature and local government policy.

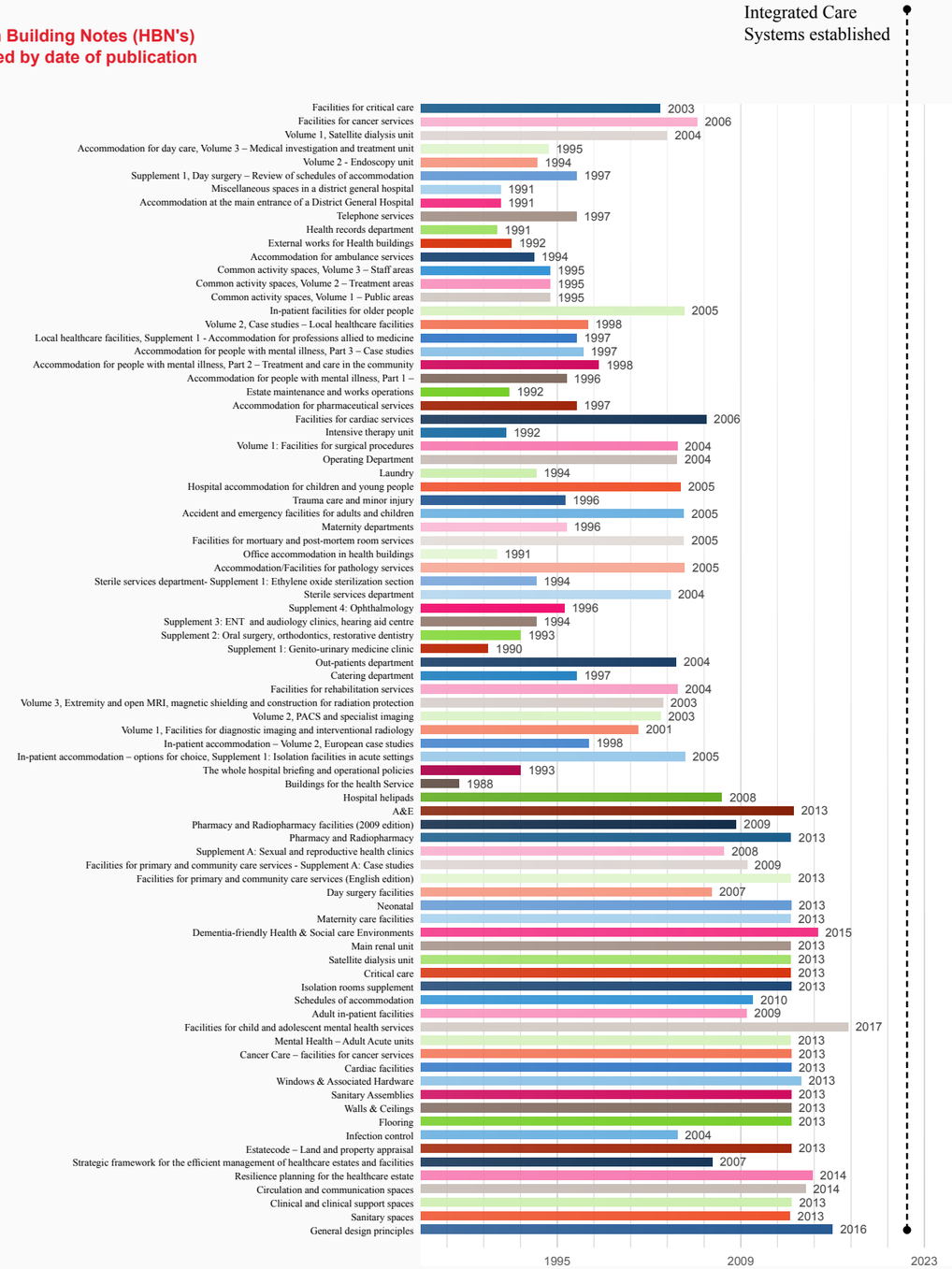
Potential partners and benefactors

Providing a shared vision, indicating the potential for wider socio-economic and health benefits. As such, this document is not intended to document a fully resolved design scheme, but instead provide a framework and foundation for further discussion.

Analysis of strategic drivers

Despite the policy shift towards integration, the design guidance on health and care design - the Health Building Notes (HBNs) - remains unchanged (see accompanying graph which maps the publication dates of every HBN against the introduction of ICS policy). Therefore, there is a need to rely on evidence-based prototyping to ensure that health and care design keeps up with the needs and priorities of the present. The study, therefore, conducted a content analysis of national, system, and local strategic drivers to ensure that the prototype aligned with these aims. The documents reviewed for the HICH prototype were:

Health Building Notes (HBN's) mapped by date of publication



National

- Fit for the Future: A new plan for GPs and their patients, RCGP (2022)
- NHS Five Year Forward View (October 2014) and the Next Steps on the NHS Five Year Forward View (March 2017)
- NHS Five Year Forward View for Mental Health (Feb 2016)
- General Practice Five Year Forward View (Apr 16)
- NHS Long Term Plan and Long Term Plan Implementation Framework (2019)
- Transforming Urgent and Emergency Care Services in England (2013)
- The Naylor Report (2017)
- Primary care Estates: Ownership Reformation and PCN Cavell Centres
- We are the NHS: People Plan 2020/21 – action for us all
- Next steps to integrating care (2020)
- ICS Operational Planning Guidance (March 2021) that includes the COVID-19 recovery plan for patient care and staff wellbeing

East Sussex Health Trust

- Building for our Future Programme Summary (2021)
- East Sussex Health and Social care Plan (2019)
- Health and Well-being Board Strategy (2022)
- Population needs Summary (2022)
- Population Projections (2022)
- East Sussex Outbreak Control Plan (2022)
- Building for our Future Summary Update (2022)

Hastings Borough Council

- Hastings Planning Strategy (2014)
- Hastings Local Plan Consultation Draft (2021)
- Hastings Biodiversity Action Plan
- Hastings Town Centre and Bohemia Area (2018)
- Hastings Town Centre and White Rock Retail (2017)
- Leisure Assessment and Urban Design Analysis (2016)
- Hastings Greenway Group Walking and Cycling Strategy (2014)
- Hastings Strategic Open Space and Play Space Assessment (2020)
- East Sussex Local Cycling and Walking Infrastructure Plan (2020)
- East Sussex Bus Improvement Plan (2021)
- Trinity Triangle Hastings - Heritage Action ZoneHeading 1

Engagement

The core research team, along with Subject Matter Experts (SMEs) across the disciplines of Town Planning, Structural Engineering, Landscape Architecture, Access and Inclusive Design, Urban Design, City Economics, Clinical Planning, and Architecture, engaged in a number of topic workshops throughout the research period. The aim of these workshops was to build a multi-disciplinary understanding of the opportunities and constraints of the HICH prototype.

In addition, stakeholder engagement was sought from representatives of Hastings Borough Council, Sussex Integrated Care Board, and researchers from the Department of Health & Adult Social care. These workshops provided invaluable feedback in shaping the study's outcomes.

Proposed site: Hastings Town Centre
Subject has been altered with AI for privacy

Due to the brief time window allotted for this research, it was not possible to engage with the Hastings public during this study. However, engagement was sought from lived experience representatives, specifically individuals and carers living with age-related long-term conditions (LTC). This importantly provided insights into what a lack of integration feels like on a daily basis.

Limitations

This study represents the initial exploratory phase of a multi-stage process and was completed within a period of three months. Consequently, various aspects of the project will require further work to be fully resolved. Moreover, several assumptions had to be made due to the unavailability of requisite data and survey information, which would have been beyond the scope of this study to procure. In such cases, benchmarking exercises have been carried out to minimize the margin for error. Furthermore, integration is an interdisciplinary topic area. Therefore, only a few individuals or practices have detailed design knowledge across its subject areas. It should be recognized that subsequent work will be necessary to bridge these existing gaps in knowledge.

Finally, it is important to underscore that achieving integration is a fundamentally difficult task. The health and care sectors are complex systems, and many of the barriers between services perform vital functions. This study does not propose a cure-all for the challenges ahead, nor aims to provide a fully resolved integrated solution. Instead, it presents an exploratory prototype of integrative care to provide greater clarity on this complex and emerging subject area.

Structure

In order to provide a robust evidence base to inform the prototype the study had to bring together data from across a range of sectors. This in itself was a process of discovery as there are very few examples of studies or projects that consider health, spatial, policy, and demographic data through a multi-disciplinary lens. However, it should be noted that the increasing accessibility of high fidelity health and spatial data supported this process significantly, and has potential to provide key insights for future studies and projects.

The study is structured in the following order:

Defining the context

The purpose of this section is to establish and collate the health challenges, health estate challenges, local needs, and site priorities of Hastings. In doing so the project was able to establish an outline programme and potential site for the prototype.

Defining the design

This section tests the value of the proposed programme within the wider Hastings ‘health and care ecosystem’ mapping its benefits across the dimensions of services, place, and people. It then provides an illustration of how this has been realised within the selected site, highlighting its key multi-disciplinary design considerations and the benefit to a hypothetical patient journey.

Defining the costs

Finally, defining the costs looks at economic impact of an ageing population and makes a case for the economic benefits the HICH prototype would bring, through effective use of the underutilised assets and the enabling of cross-sector strategic partnerships.

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Defining the context

East Sussex has a higher percentage of individuals aged over 85 than any other region in England.

East Sussex population needs 2020/21.

© Getty Images / Dean Mitchell

Introduction

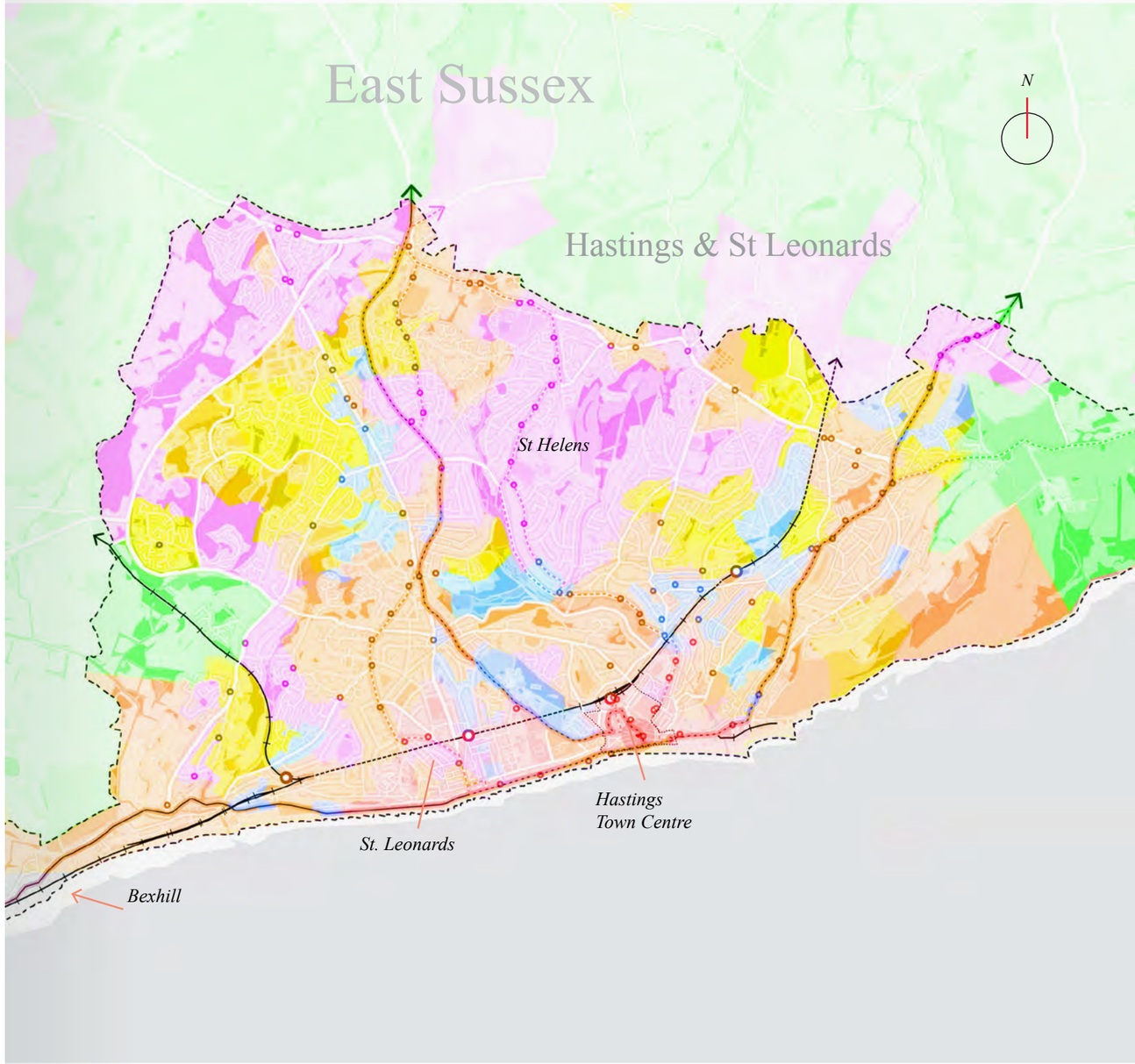
The following section maps out the challenges in Hastings across the four dimensions of:

1. Health challenges
2. Health estate challenges
3. Local Authority Challenges
4. Site context

Key

- Farming communities
- Rural tenants
- **Ageing rural dwellers**
- Students around campus
- Inner-city students
- Comfortable cosmopolitans
- Aspiring and affluent
- Urban professionals and families
- **Ageing urban living**
- Suburban achievers
- Semi-detached suburbia
- Challenged diversity
- Constrained flat dwellers
- White communities
- **Ageing city dwellers**
- Industrious communities
- Challenged terraced workers
- Hard pressed ageing workers
- Migration and churn

Census 2011 output area classifications



Health challenges

Demographics

Hastings is located within the Sussex ICS, more specifically within the region of East Sussex which currently has the highest percentage of individuals aged over 85 in England (East Sussex, 2021). While the overall health of the population is comparable to the national average, the larger number of elderly individuals means that there is higher demand for health services in East Sussex compared to similarly sized areas. If the current projected rate of ill health persists, there will be a significant increase in demand for health and social care services in line with the ageing population, especially for services related to frailty, dementia, and long-term condition management.

The demand for services also depends on the number of Healthy Life Years (HLY) an individual can expect to live. While most individuals in East Sussex can expect to remain in good health until their mid-sixties, the average healthy lifespan for men in Hastings is only 59.3 years and for women, it is 61.2 years (East Sussex, 2021). Typically, people spend at least 15 years of their lives in poor health or with disabilities, with those from deprived areas experiencing more time in poorer health. As Hastings has a significantly higher Index of Multiple Deprivation (IMD) than its neighbouring areas, it is likely to require additional care services.

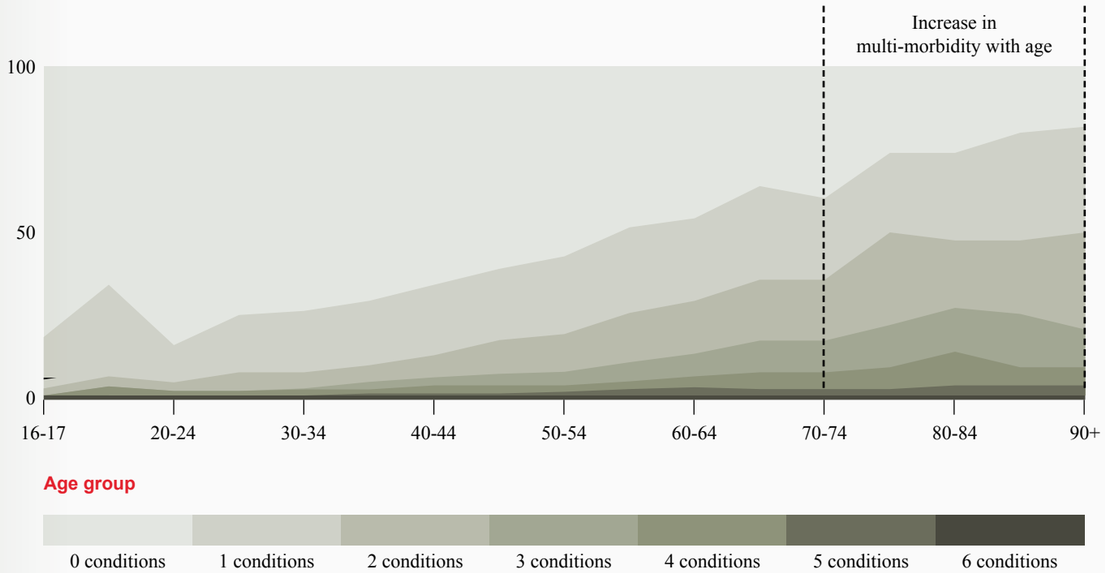
Long Term Conditions (LTCs)

A long-term condition (LTC) is a medical condition that has no known cure but can be managed with medication and other therapies. Common examples of LTCs include chronic obstructive pulmonary disease (COPD), diabetes, heart failure, dementia, and osteoporosis.

In East Sussex, the prevalence of patients with long-term conditions, such as chronic heart disease, cancer, diabetes, chronic obstructive pulmonary disease (COPD), and hypertension, is notably higher than the national average (East Sussex, 2021). Additionally, the incidence of complex long-term conditions and multi-morbidity is increasing in Hastings and nearby Bexhill (East Sussex, 2021). According to NHS strategic policy, the current structure of the UK's care systems is often inadequate in managing people with multi-morbidity, highlighting the need for a wider, multi-disciplinary, and integrated approach.

Multi-morbidity has a significant impact on both individuals and the healthcare system. Those who have five or more long-term conditions are three times more likely to visit A&E and 13 times more likely to be admitted for an emergency compared to patients without any long-term conditions (NELHP, 2021). On average, those with multi-morbidity are predicted to require up to 23 times more inpatient bed days. Additionally, people with multiple long-term conditions experience substantially lower quality of life, poorer clinical outcomes, and longer hospital stays, making them account for the highest level of expenditure within the NHS (NELHP, 2021).

It is estimated that by 2028, the number of people living with LTCs in East Sussex will increase by 20,000 to 181,000 (East Sussex, 2021). Challenges relating to the care of people with multiple needs are system-wide and require a collaborative care model comprising early intervention and prevention, multi-disciplinary case management, systematic follow-up, and better integration.



Number of grouped LTC's by age, UK
ONS 2021

Dementia and frailty

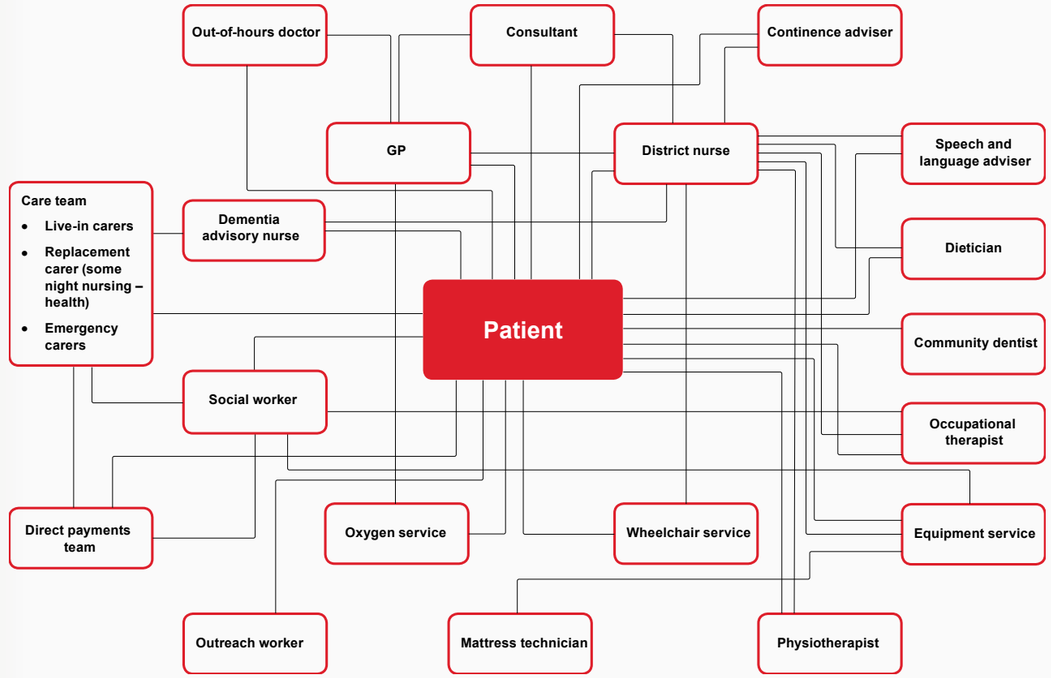
As the world's population ages, dementia has be- come a significant challenge, with the number of people living with the condition estimated at 44 mil- lion and projected to almost double by 2030 (ONS, 2022). It is now one of the most critical health and care issues globally, and its impact on the health and social economy is more significant than that of cancer, heart disease, and stroke combined (Wittenberg, 2019). In Hastings and Bexhill, the prevalence of dementia is expected to rise by 14% over the next two years (East Sussex, 2021). Although often considered a single condition, many people with de- mentia also have other long-term conditions as some of the risk factors are similar to those for conditions like cardiovascular diseases (CVD) and diabetes.

Even within the treatment and support of just dementia the number of services required can be in- credibly challenging to navigate. The patient map on the accompanying page identifies the different parts of social and health services someone is likely to interact with. Considered in combination with co- occurring conditions such as cardiovascular disease, this map becomes more complex still.

Frailty, which is often characterized by reduced physical and cognitive function and increased vulnerability to adverse health outcomes, is a common diagnosis in older individuals and those with long- term conditions. Frailty syndromes such as falls, immobility, incontinence, delirium, and medication side effects are used to describe these adverse health outcomes. In East Sussex, the number of frail patients is expected to increase by 22% by 2028, to 15,800 individuals (East Sussex, 2021).

Although frailty has traditionally been considered a chronic condition, evidence suggests that early interventions in the community, such as home visits, health education, and physical activity programmes to build muscle strength, can significantly reduce frailty indicators and improve overall frailty status (Travers, 2019). It is also important to stress emergent treatments, such as Lecanamb for dementia, will further increase independence but only if the administration of this treatment is supported by accessible and holistic services.

Therefore, in designing for the needs of LTC, Dementia and Frailty it is important to emphasise that independence is achievable if supportive services are put in place at the appropriate time. In other words, though the latter stages of these conditions will require intensive care, the aim of integration at its core is to extend both quality and quantity of HLY.



Web of care for dementia patient (19 services)
National Voices (2019)

Health estate challenges

Summary of Hastings estate challenges

The following section maps out the challenges faced by the Hastings Health estate across the sectors of:

- Social care
- Community services
- Primary care
- Acute care
- Home and high-street

By way of a summary, the key estate issues identified in East Sussex Building for our Future (2021) and the East Sussex Health and Social care Plan (2019) are:

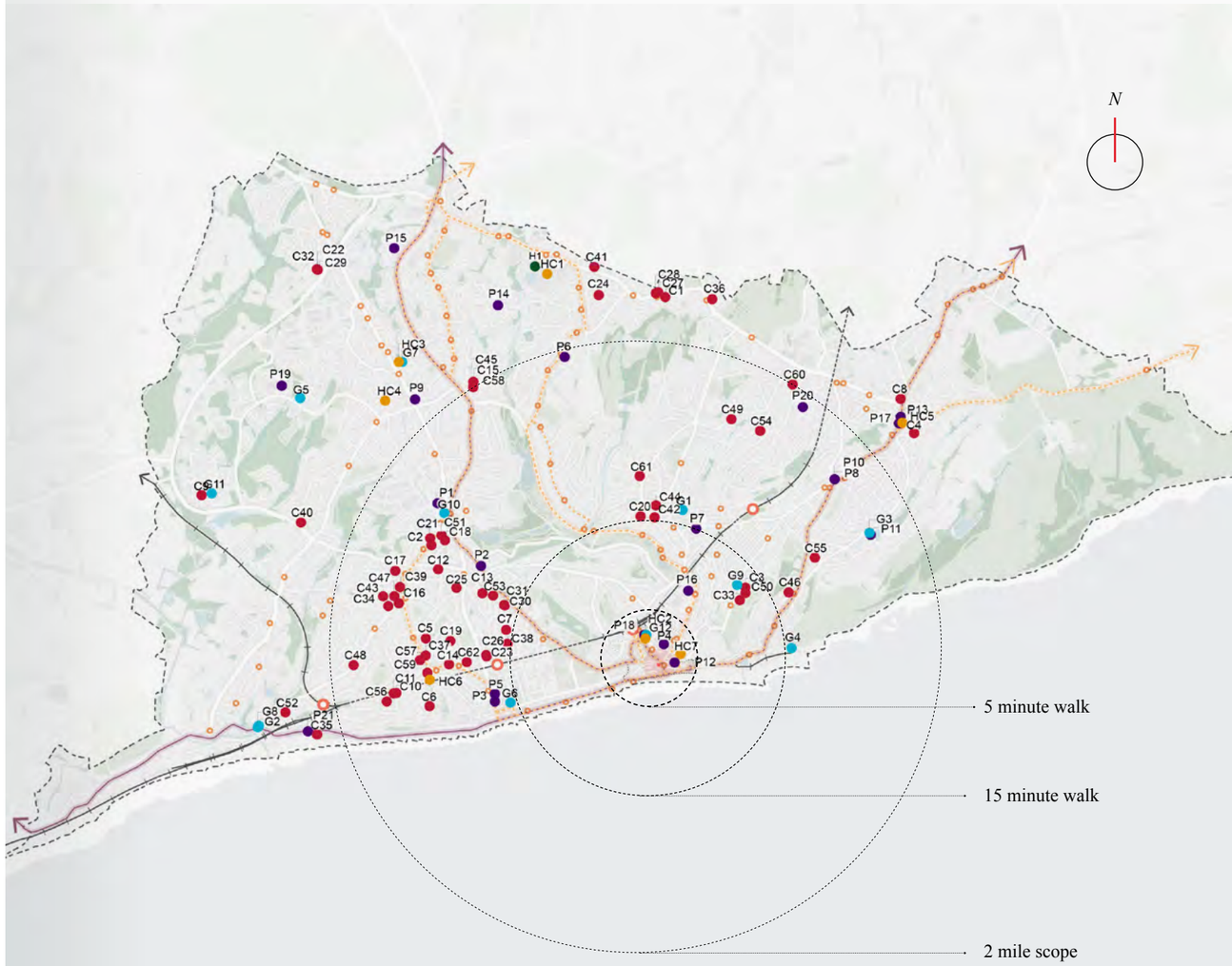
Social care
- Lack of care home construction
- Closure of day care centres
- Lack of engagement with day centres

Community
- Community teams operating from different sites, hindering integrated working to benefit patients
- Request for an Integrated Community new build

Primary care
- Inadequate, insufficient, and unsustainable General
- Practice accommodation
- Need for space to accommodate the expansion of Primary care Network.

Label	Code	Name	Location	Type	CQC	Within scope	Distance from centre
C14	VL566	Blair House	50.8559237,0.5549759	Care Home/Day Care*	good	Y	>15
C19	VM6RF	Cumberland Court	50.8576705,0.5552365	Care Home/Day Care*	good	Y	>15
C35	VL58Q	Grosvenor House	50.8509886,0.5391511	Care Home/Day Care*	good	N	>30
CXX	VL598	Healey House	50.8566412,0.552272	Care Home/Day Care*	Improve	Y	>15
C53	VNDEJ	Streatfeild House	50.860974,0.5604598	Care Home/Day Care*	good	Y	>15
C55	VLL8W	The Laurels Nursing Home	50.8629836,0.5985055	Care Home/Day Care*	good	Y	>15
C57	VL5CQ	The Park Beck	50.8563163,0.5515814	Care Home/Day Care*	good	Y	>15
C59	VM3V4	The Whitebeach	50.8553418,0.5523964	Care Home/Day Care*	good	Y	>15
C62	VLVXT	Whitecliff Care Home	50.8560436,0.5570826	Care Home/Day Care*	good	Y	>15
HC1	RXC31	Fracture Clinic Conquest	50.8849911999999,0.5	Health Centre/Clinic	NA	N	>30
HC2	RJ163	Gstt @ Station Plaza Health Centre	50.8573515,0.5782151	Health ctr/polyclinic +GP	NA	Y	>5
HC3	10005378	Highglades Health Centre	50.8787569,0.5507135	Health ctr/polyclinic +GP	NA	N	>30
HC4	RX2V6	New Horizons School Clinic	50.8758873,0.548536	Health Centre/clinic	NA	N	>30
HC5	10006420	Ore Clinic	50.8731442,0.6093929	Health ctr/polyclinic +GP	NA	N	>30
HC6	Y05203	St Michaels Hospice	50.8549362,0.5526487	Walk-in Centre	NA	Y	>15
HC7	8DQ14	Wellington Square Medical Centre	50.8561033999999,0	Health ctr/polyclinic +GP	NA	Y	>5

*CQC recognised



Map of Hastings health and care estate

Acute care

- Need to allow for part closure to address outstanding
- Critical infrastructure risk of £2.1m
- Need for increased in-patient bed capacity
- Need for increased Emergency Department capacity
- Need for increased endoscopy capacity
- Need for Cardiology consolidation
- Need for Pathology consolidation
- Need for consolidated ophthalmology unit
- Request for new Rehabilitation unit

The accompanying maps on the following page describe the estate assets of across each sector. Their position, distance from town centre, and quality (as recorded in the Care Quality Commission Data - CQC) are mapped to build a granular picture of the estate assets that might be consolidated within the 2 mile scope (as defined in the NHS estate strategy) of the proposal.

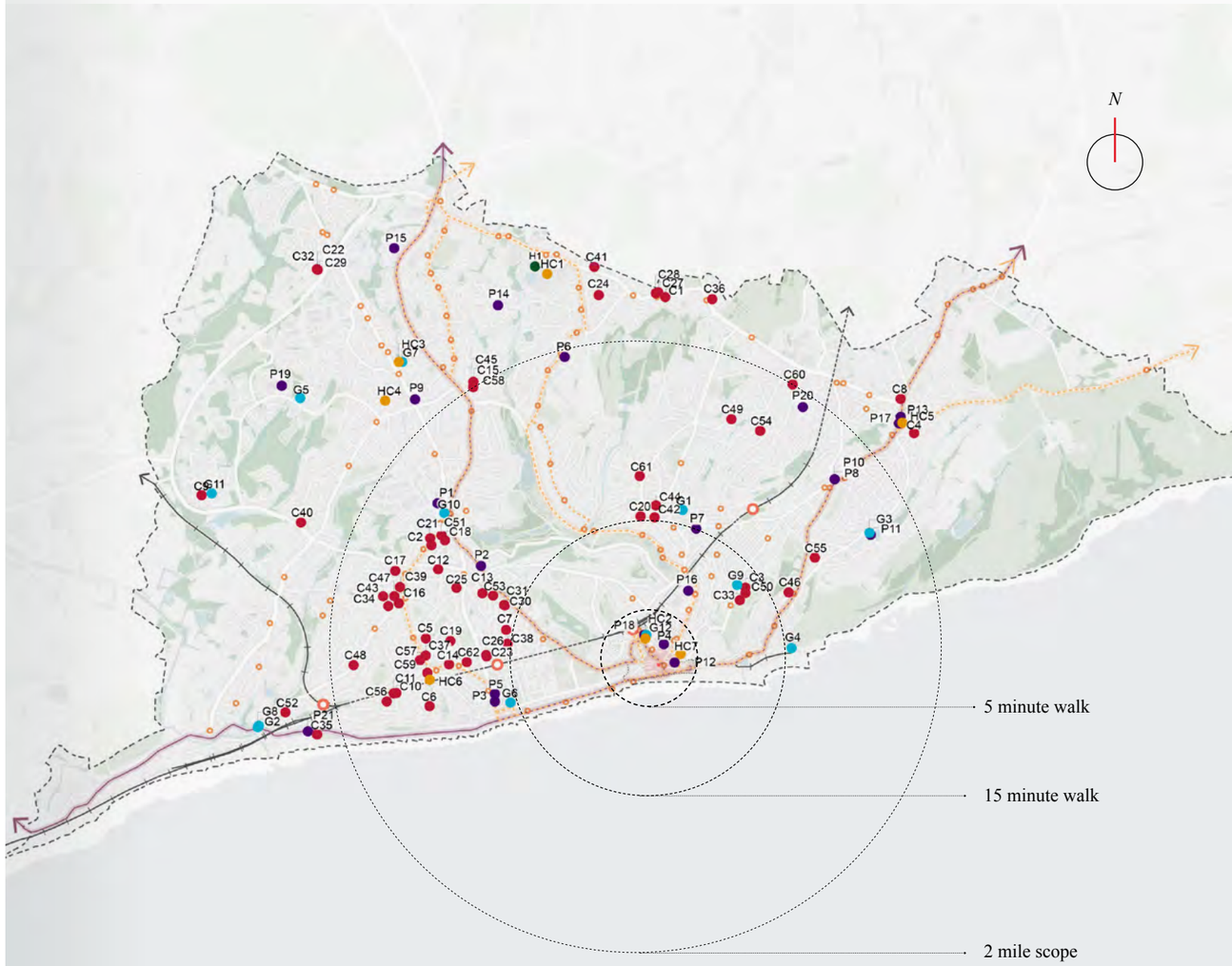
Social care

The elderly population in East Sussex has been increasing, but the construction of new care homes has been declining for many years (ONS, 2021). This is partly due to the complexity and regulatory requirements of building new overnight facilities. Additionally, more people are opting for homebased care and avoiding institutional care for as long as possible. As a result, there is a growing reliance on domiciliary care services, which are struggling to meet the increased demand. This has led to many care needs being unmet and has put additional pressure on informal caregivers, often elderly partners, resulting in accelerated deterioration of both and avoidable hospital admissions (NELHP, 2021).

Furthermore, patients and their caregivers are often hesitant to engage with day centres due to the negative connotations associated with these facilities (Crowther, 2022). However, there is an opportunity to re-frame day care provision by emphasizing the concept of progression rather than decline within a healthcare setting. By prioritizing the integration of day care with healthcare services, improved outcomes for patients and caregivers can be achieved.

Label	Code	Name	Location	Type	CQC	Within scope	Distance from centre
G1	G81084	Beaconsfield Road Surgery	50.8669176,0.5831305	General practice	good	Y	>15
G2	G81048	Carisbrooke Surgery	50.8516876,0.5322066	General practice	good	N	>30
G3	G81031	Harold Road Surgery	50.8647022,0.6050618	General practice	good	Y	>15
G4	G81095	Hastings & Rother Healthcare	50.8562526,0.5953817	General practice	good	Y	>15
G5	B4S2S	Churchwood Medical Practice	50.8763075,0.5385462	General practice	Improvement	N	>30
G6	G2J5Q	Warrior Square Surgery	50.8528903,0.5620630	General practice	Improvement	Y	>15
G7	G81074	High Glades Medical Centre	50.8787569,0.5507135	General practice	good	N	>30
G8	G81074001	St Leonards Medical Centre	50.8517909,0.5323296	General practice	Improvement	N	>30
G9	G81641	Priory Road Surgery	50.8611362,0.5892533	General practice	good	Y	<15
G10	G81096	Sedlescombe House Surgery	50.8673037,0.5550551	General practice	good	Y	>15
G11	G81089	South Saxon House Surgery	50.8693633,0.5277299	General practice	good	N	>30
G12	G81658	The Station Practice	50.8576167,0.5783317	General practice	Improvement	Y	>5
H1	RXC01	Conquest Hospital*	50.8855906,0.5667634	Hospital	NA	N	>30

*GIA = 52,200 sqm



Map of Hastings health and care estate

Community services

Currently, community health services are dispersed across several locations that are difficult to reach. This means that patients often have to travel long distances unnecessarily to access specific services, and community teams are divided among multiple sites. This makes it difficult to integrate community services, as there is inadequate infrastructure to support multi-disciplinary collaboration.

Furthermore, it can be challenging to attract younger staff and volunteers to these community service sites due to their location (NELHP, 2021), which may require access to personal transportation and may not be readily available for regular volunteering. To address these challenges, the Sussex ICS has expressed the need for a new integrated community centre.

Primary care

In the UK, general practice is the primary point of healthcare access for the majority of people, accounting for 90% of patient consultations and almost 8% of the total NHS budget (Starfield, 2005). Primary healthcare teams comprising of GPs, practice nurses, community nurses, midwives, health visitors, and support staff play a vital role in helping patients manage chronic diseases and their impact.

Research has demonstrated that primary care has a significant impact on health promotion, even after considering factors like socio-economic status (Starfield, 2005). However, general practice faces significant national challenges, including increasing demand, rising expectations, and patients living longer with complex long-term conditions.

Recruitment of GPs is also a national issue, with poor retention rates leading to many leaving the profession or retiring. To address these challenges, practices are working together at scale in primary care networks, and new roles are being introduced, resulting in the creation of multi-disciplinary and multi-agency teams. GP practices are collaborating with community, mental health, social care, pharmacy, hospital, and voluntary services in their local areas through these networks.

Effective functioning of primary healthcare teams is a challenging task that can be facilitated by appropriate infrastructure. Although co-location is not necessary for team integration, it can foster informal social contacts that facilitate communication and team building.

The current primary care estate in Hastings comprises partly of converted, ageing residential buildings, which hinder the implementation of service or workforce changes. The poor quality of the estate has also been identified as a factor contributing to the difficulties in recruiting and retaining primary care staff at a national level (East Sussex, 2021).

Patient access is a concern as many residents experience difficulties contacting their GP by phone or enduring lengthy waits for appointments. Physical access can also be problematic, particularly for those with accessibility requirements, as clinical rooms are often located upstairs in domestic buildings with no provision for a lift.

Map of Hastings town centre
Identifying key retail buildings and transport routes.

Acute care services

Conquest Hospital is currently the main provider of acute services for Hastings residents. However, only 2.48% of the population can reach the hospital within 15 minutes by public transport, which is below the national average of 4.16% (DHSC, 2022). The hospital is experiencing several capacity issues that are affecting the delivery of critical services that require an acute setting, such as A&E services. Additionally, the hospital has a Critical Infrastructure Risk (CIR) of £2.1m and needs increased capacity to meet the needs of the growing elderly population (ERIC, 2021). Despite these challenges, there is an opportunity to move certain services, such as frailty assessment and treatment and some outpatient services, into a community setting.

The A&E unit at Conquest Hospital caters to around 500,000 individuals with an average patient age of 62 (NHS, 2021). The unit is experiencing mounting pressure, and the Building for our Future initiative has highlighted the need for extra capacity. The primary causes of performance issues are the scarcity of inpatient beds, resulting in prolonged waiting times in A&E. This not only affects the length of stay but also escalates the possibility of unfavourable health outcomes and nosocomial (hospital-borne) infections due to high patient volumes.

Patients frequently experience frailty re-admissions, and it is challenging to transfer them out of the hospital when they are fit for discharge, resulting in unnecessarily prolonged length of stays. The absence of preventative and support services in the community is one of the reasons for these readmissions. Moving certain services, such as frailty assessment and treatment, into the community setting could help alleviate this issue.

Conquest Hospital may not always be a convenient location for patients who need to attend outpatient clinics in person (DHSC, 2022). Several clinics, such as dermatology, respiratory, gastroenterology, neurology and cardiology, could be relocated from the hospital to a community setting (Bell, 2021). This would bring healthcare services closer to the patient's residence and help ease capacity pressure in the acute setting. This is especially important during the COVID-19 pandemic, where there is an increased emphasis on minimising unnecessary hospital visits for patients.

Diagnostics

The demand for diagnostic services has been steadily increasing (East Sussex, 2021), but limited access to these services can result in missed opportunities for early diagnosis, which is critical for effective treatment and prevention. Placing diagnostic facilities within the community could help alleviate the pressure on the Conquest Unit and provide greater access to timely and accurate diagnoses.

Moreover, locating these facilities in the town centre could make it easier for potential research partners to access training and new diagnostic techniques.

Home and the high-street

Hastings experienced significant growth during the Victorian era due to the construction of the railway and the popularity of seaside holidays (Pulham, 2022). As a result, the majority of the urban housing stock dates back to that period and presents accessibility limitations for old-age support. One proposed solution is extra-care accommodation, which provides apartments specifically designed to support old-age with access to immediate support services. However, many residents still prefer to stay in their own homes despite the challenges.

Assisted home-care technology has emerged as a potential solution, however, due to the constantly changing nature of technology, many people who would benefit from it are unaware of its existence. Therefore, as well on focusing on technical solutions there needs to be a provision of assisted technology show rooms and training spaces, so its benefits can be realised.

For many older residents, routine errands such as the weekly shop require access to commercial centres. As the ability to drive declines, public transport becomes increasingly important in facilitating this access. There is growing interest from large supermarket chains such as M&S, Morrisons, Tesco, and Sainsbury's to design stores that specifically support the needs of older people*. Considering the importance of good nutrition in maintaining independence, there is an opportunity to support the health service through the provision of age-supportive food halls and easily accessible commercial centres.

Although home delivery services have risen in popularity across Hastings, the social and civil aspect of regular 'trips to town' is frequently highlighted as important (Crowther, 2022). Indeed, research consistently demonstrates that regular physical, social, and civil engagement and the "sense of purpose" gleaned from these activities are essential for sustained health.

Local context

Summary of local challenges

Hastings has a population of over 90,000 people and a rich historical character that is evident throughout the town. Its location on the south coast has played a significant role in shaping its history, resulting in a diverse range of townscape and heritage features.

The town's townscape character areas reflect its built and natural environments, with residential communities integrated within natural landscapes and attractive Victorian buildings overlooking the seaside. Hastings' renowned coastline, historic streets and buildings, wooded valleys, and surrounding countryside all contribute to its unique identity. However, the town also faces several challenges, including:

Lack of housing

As with many other areas of the country, there is a high demand for housing in Hastings, with a national requirement of an additional 430 homes annually. The primary objective is to meet this demand by providing housing within existing communities where people want to live.

Poor local economy

Hastings is currently the 13th most deprived town in England, with a quarter of its children living in poverty (HBC, 2021). Although there has been a gradual improvement in the skills base of the resident population, including a rise in the proportion of individuals holding higher qualifications (NVQ4+), 20% of the working-age population lack any qualifications (HBC, 2021). Unemployment rates hover around 4.8%, and the job density (jobs per person) is only 0.66, well below the South East average of 0.88. As such, enhancing access to training and job opportunities represents a critical priority.

Poor connections

Hastings faces significant infrastructure challenges. Despite its ambition, the town currently lacks highspeed rail connections to London that are available in other areas. Additionally, power supply limitations and topography issues restrict the train lengths on the railway line connecting Hastings to Tunbridge Wells and London. Commuters using the A21 and A259 roads regularly experience severe delays at key junctions.

Climate change

Like other towns and cities around the world, Hastings is not immune to the global challenges affecting the planet. Greenhouse gas emissions from human activities are causing climate change. Due to its close proximity to the sea, the town is also at risk of flooding in certain areas. It is essential that future development takes into account and mitigates the impact of these risks, with a focus on creating a resilient coastline.

Local authority priorities

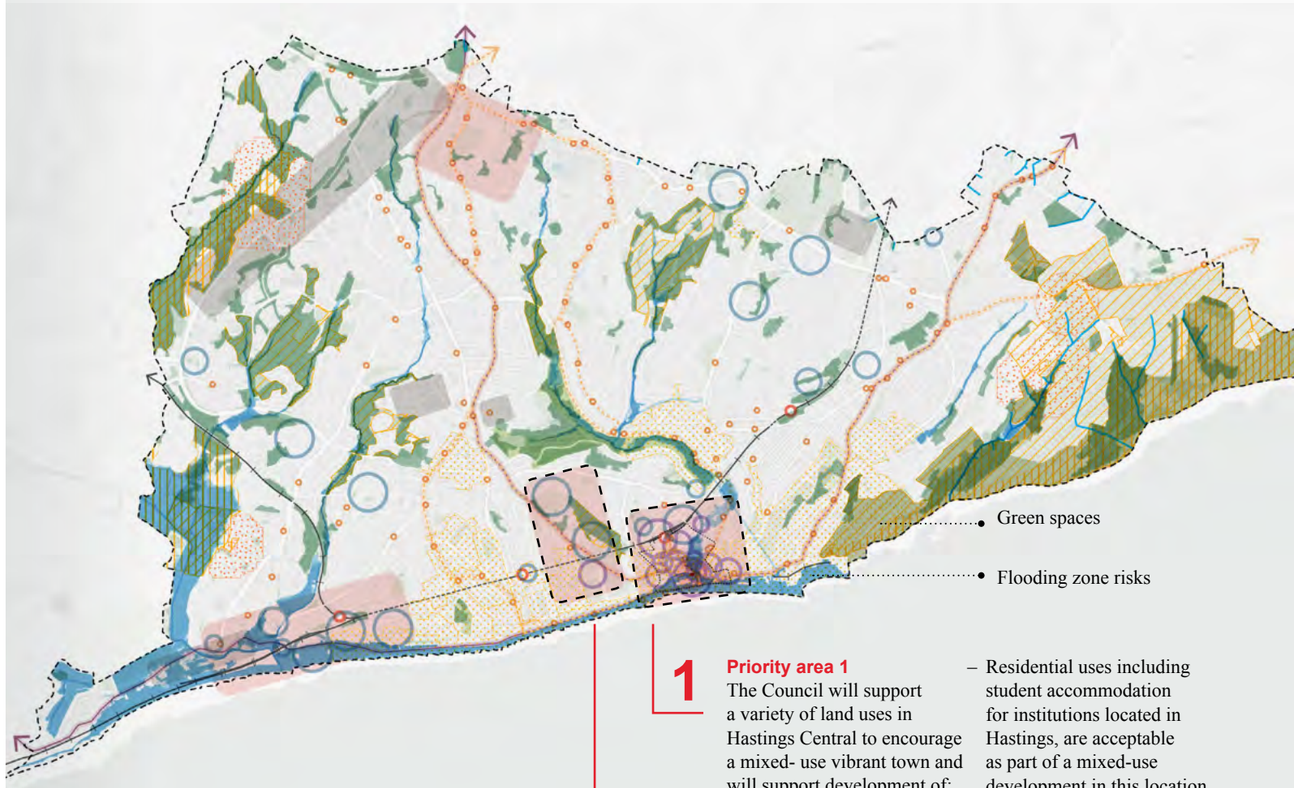
In recognition of these challenges, Hastings Borough Council has identified the following priorities for future development:

Enhancing the historic environment

The council aims to reveal and celebrate the built heritage of Hastings while protecting the significance of its heritage assets. Promoting the town's history is particularly important as it helps to deliver a strong sense of community, well-being, and belonging.

Regenerating the centre

The council's strategy is to concentrate higher levels of growth in the 'Priority Areas' of Hastings Central, Bohemia, Little Ridge and Ashdown House, and West Marina and West St Leonards. These priority areas are well supported by existing or planned sustainable transport infrastructure and other services.



2 Priority area 2

The Council will support the comprehensive redevelopment of Bohemia to deliver indoor and outdoor support/leisure uses at White Rock Park (TC7) and cultural uses as art of a new mixed-use residential neighbourhood centred on the Summerfelds (HL55) and Horntye (HL21) sites. Smaller scale retail or office uses will also be acceptable in this location.

Identified sites
TC7

1 Priority area 1

The Council will support a variety of land uses in Hastings Central to encourage a mixed- use vibrant town and will support development of:

- Employment generating uses including: retail, office, light industrial, studios, leisure,cafés, restaurants, visitor facilities (including hotels), education facilities (including language schools) and where appropriate pubs and drinking establishments.
- Intensification and expansion of commercial uses at Priory Meadow will be supported.
- Residential uses including student accommodation for institutions located in Hastings, are acceptable as part of a mixed-use development in this location (including Priory Meadow), providing it does not prejudice the commercial function of the area.
- Uses that support active frontages will be expected at ground level to enliven the street environment.

Identified sites:
TC1, TC2, TC3, TC4, TC5, TC6, TC7, TC8, TC9, TC10, TC11

Importantly, the council has selected these areas to create increased footfall (HBC, 2021), which would help local shops and services survive by creating the critical mass of demand needed to support them. This, in turn, would help justify greater investment in infrastructure, such as new bus routes or rail improvements in Hastings as well as beyond.

The high-street

Hastings' town centre serves as the commercial and retail hub of the area. To maintain its regional competitiveness, several regeneration projects have been implemented over the past few decades. These initiatives include the development of the Priory Meadow Shopping Centre in the 1990s, which led to the pedestrianisation of adjacent streets. Other projects aimed at enhancing the town's appeal include the improvement of the rail station, the construction of One Priory Square office development, and the development of educational facilities and accommodation. Additionally, the transformation of the seafront has been a key focus, resulting in projects such as the White Rock Baths and Hastings Pier.

Arup's Towns Fund work 'Hastings Public Realm and Green Connections -2022' has proposed a green corridor to enhance the connection from the train station to the town centre, enabling active travel down to the seafront. If implemented, this initiative could significantly improve the pedestrian experience in the centre of town. The prevalence of anti-social behaviour along this route is a recurring concern for locals. Therefore, improving public lighting, passive surveillance, pedestrian access, and increasing commercial activity are among the top priorities.

Priority sites

Within the council's central priority development zone three priority sites were identified for the adaptive re-use of an existing building. These were classified as:

TC4

Name
Debenhams Building, Robertson Street

Area
Building A: 3,000 sqm
Building B: 2,000 sqm
Building C: 3,000 sqm

TC6

Name
Post Office, Cambridge Road

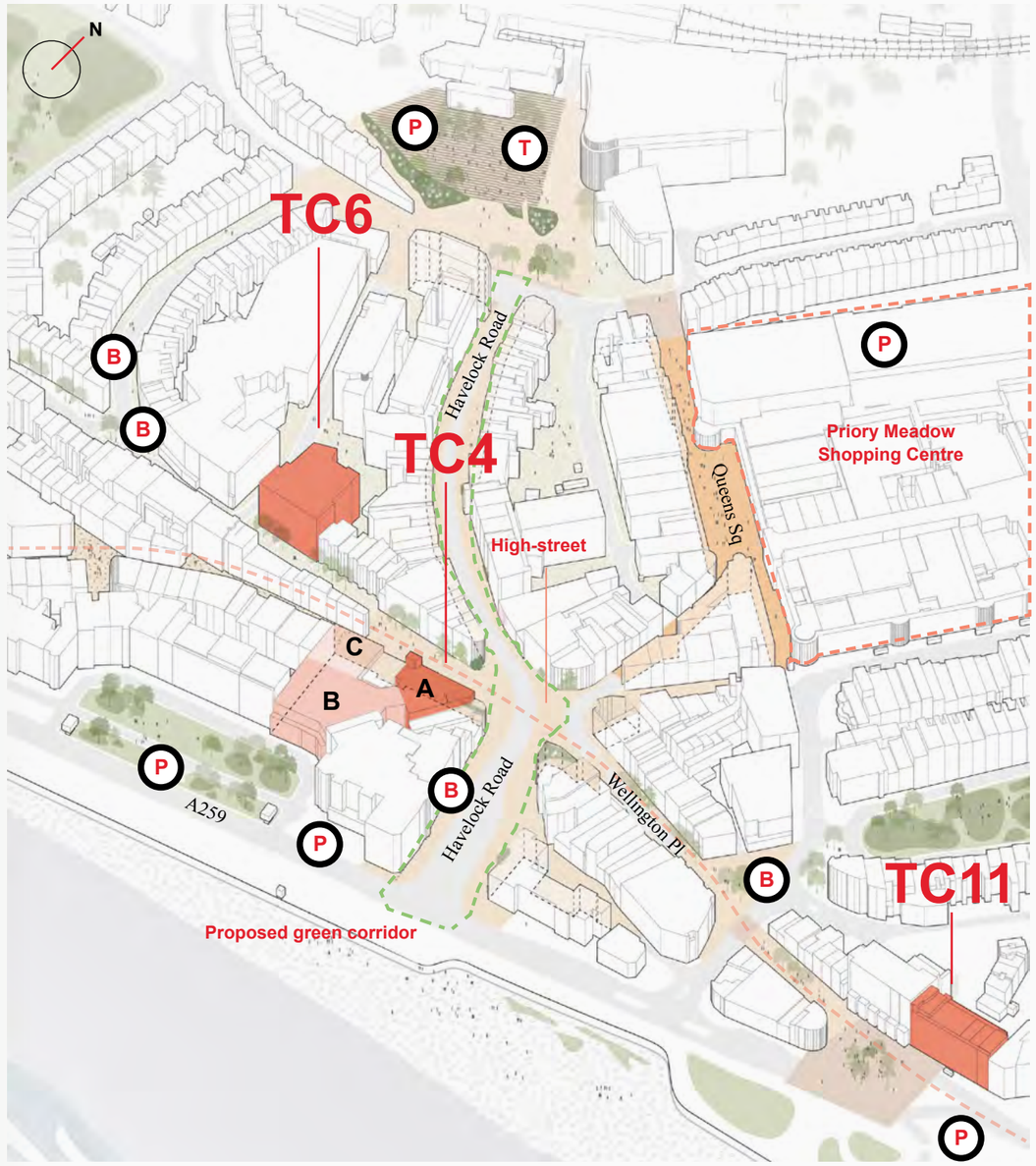
Area
2,900 sqm

TC11

Name
Muriel Matters House

Area
TBC

A high-level review of the sites indicated that each could have the potential to accommodate out-of-hospital facilities and all were well-positioned to support local needs. However, due to the time constraints of the project, a comparative survey could not be undertaken. Therefore, the study made the strategic decision to utilize Site TC4 as this was the only site with accessible, albeit incomplete, survey information.



Map of Hastings key priority sites

P Parking
B Bus station
T Train station

Site context

Site overview

The TC4 site comprises three separate buildings:

Building A

A six-storey 1920s department store with a GIA of 2,900 sqm, a steel structural grid of approximately 6.8m x 6.7m, and a stone-clad façade .

Building B

A four-storey town-house conversion with a GIA of 2,000 sqm, a concrete structural grid of approximately 6.5m x 6.5m, and a brick and plaster-clad façade .

Building C

A three-storey deep-plan retail extension of a further 2,900 sqm, a steel structural grid of approximately 8m x 8m, and a brick-clad façade .

As will be discussed in the following section, the full extent of the TC4 building was not required to accommodate the HICH's clinical programme. Therefore, Building A was chosen for the purposes of testing the prototype, with the later commercial development of blocks B and C accounted for in the subsequent design.

Additionally, the massing of Building A - deep-plan ground floor spaces and shallower-plan upper floor space - was judged to lend itself to the clinical planning of the prototype. This 'high-street typical' form allows for the larger rooms, such as x-ray facilities, to be placed on the lower half of the building and the upper floors to be used for compartmentalised spaces, such as consultation rooms.

A high-level multi-disciplinary review of Building A was undertaken and identified the following opportunities and challenges:

Site access

The site is accessible from multiple points and can be reached via multiple forms of transport, including public transport, car, ambulance, and pedestrian routes.

Public transport

Public transport links are conveniently located near the site, with a public bus stop just 35m from the front entrance of Building A. The bus routes that serve the area include 20, 21, 22, 22C, 23, 27, 28, 70, 98, 99, 100 wave, 101 wave, and 347.

Car parking

Car parking facilities are available at two locations, both of which are situated 80m from the front entrance. While it would be ideal to have parking closer to the site, a drop-off zone should be provided off Havelock road to supplement this provision, which can be used by both private and public services.

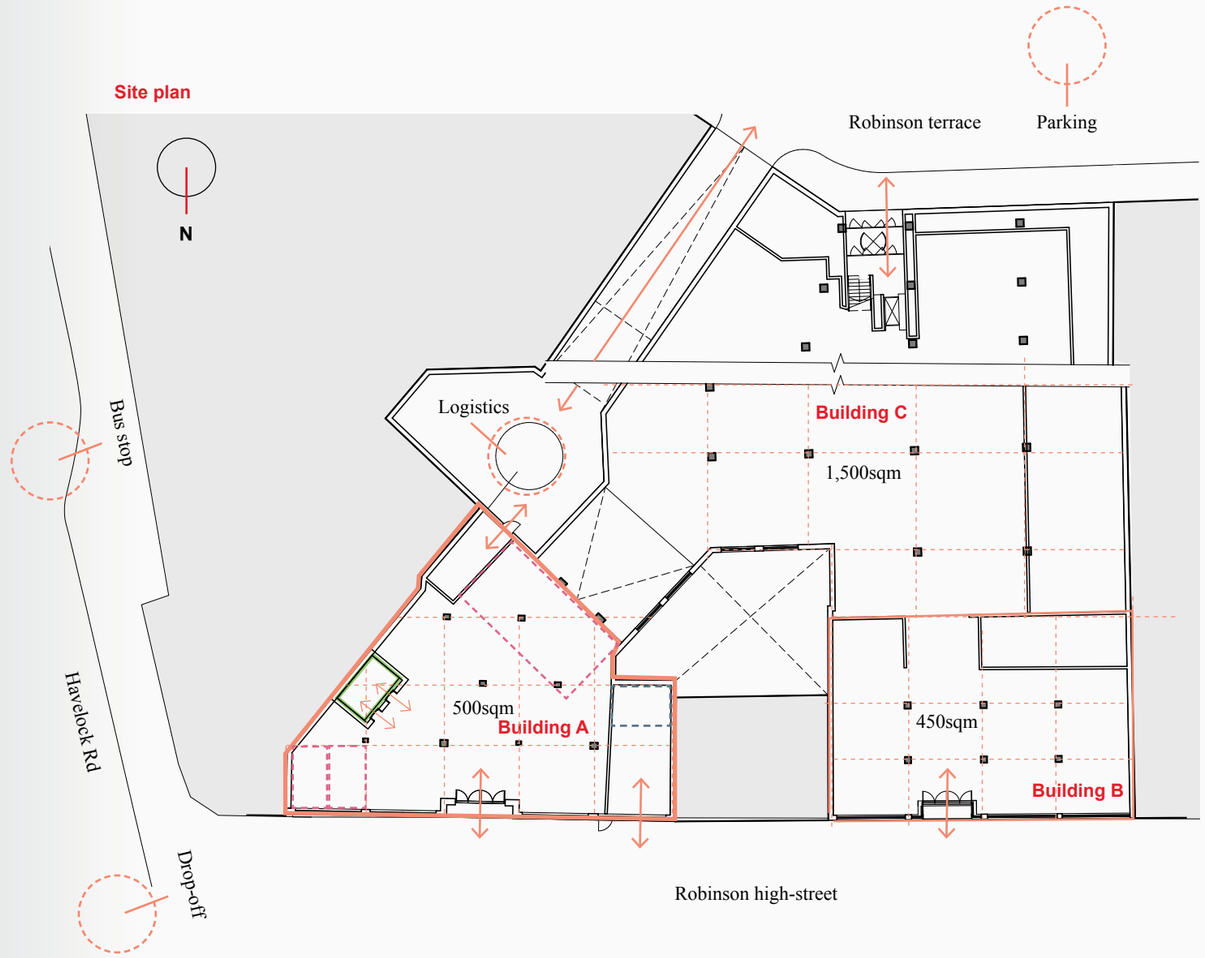
Ambulance and logistics

For ambulance and logistics, the vehicle access corridor off Robinson Terrace provides a route, and there is potential to retain existing "out-of-hours" logistics access from Robertson Street.

Pedestrian step-free access

Is provided directly off Robertson Street.

Site plan



Services, structure, and fire considerations

- The proposed site incorporates well positioned lift shafts with wheelchair access, that are positioned near the entrance supporting intuitive way finding.
- The existing floor to ceiling heights allow for the retrofit of HTM (Health Technical Memorandum) compliant ventilation and servicing provision with the exception of the top storey.
- The short-span grid layout of 6.5m supports the distribution of generic consultation rooms and the longer spans provide flexibility for larger equipment areas.
- It is likely that additional escape stairs would have to be provided to meet escape distance compliance.

Site heritage

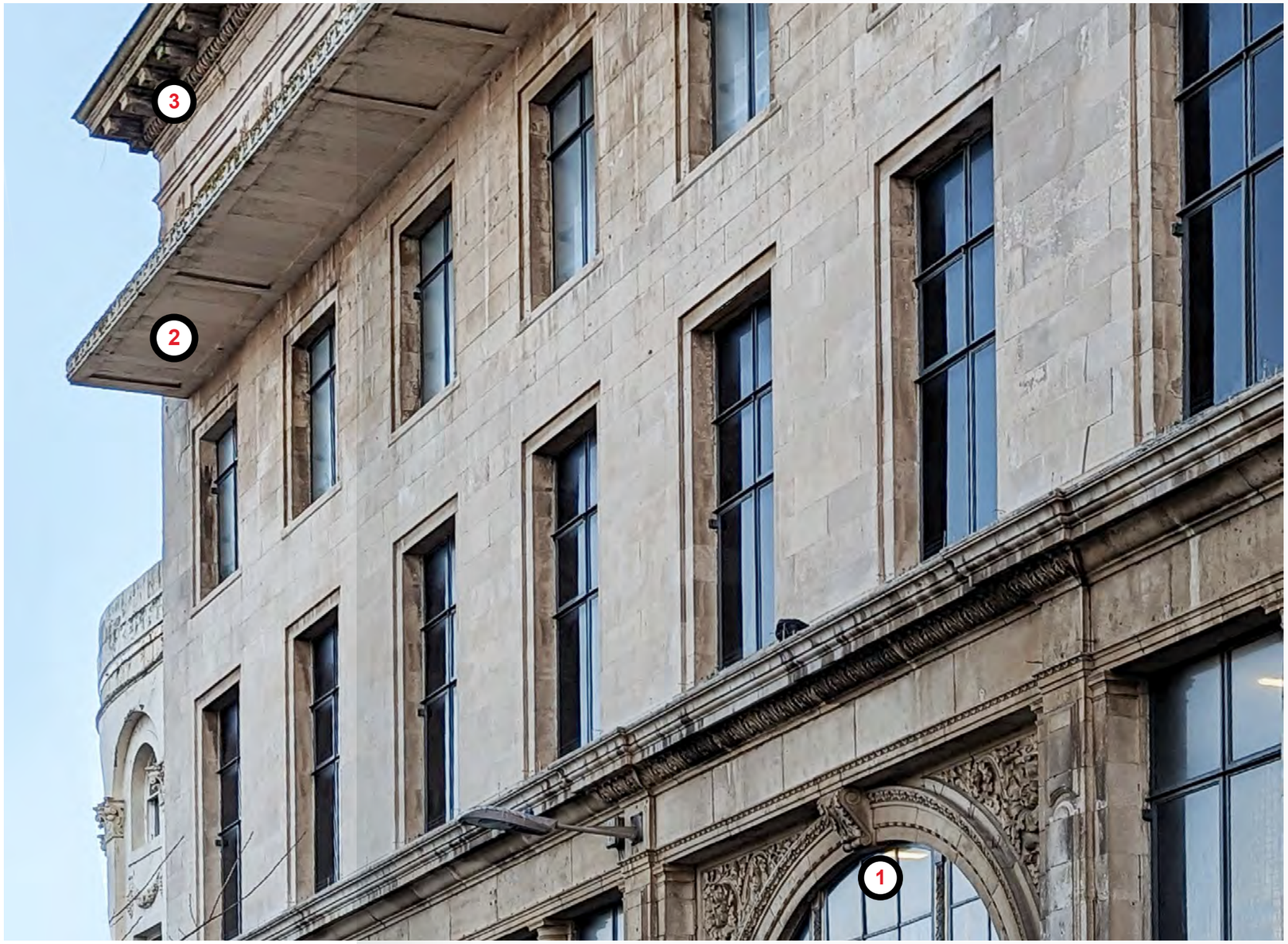
The site, while not listed, is a significant building in a prominent location. The principal building was constructed in 1927 for debenhams hastings and later acquired by the Debenham Group, which has since ceased trading. The building was designed by the architect Henry Ward, who also designed numerous large public buildings in and around Hastings, East Sussex, some of which are now listed.

The building's façade comprises six storeys, including the loft, with symmetric sash windows with recessed surrounds. The entrance, located in the centre of the façade, features a semi-circular window on the first floor **(1)** and a carved keystone over it. The façade also boasts interesting details such as an ornate cornice with modillions **(3)**, a canopy over the windows **(2)** of the fourth floor with a geometric pattern on the underside, and a top floor within the mansard roof formed with wide shed dormers.

The front elevation was altered at ground level in the 1950s, with new glazed screen shop fronts and chrome frames installed on a small black marble plinth, replacing the original 1927 fronts. A new entrance and roller shutter screen were added at a later stage. The openings are vertically aligned up the building's façade, with equally spaced marble piers located immediately beneath the rendered capitals on the first floor. The capitals extend up to the moulded architrave detail at the head of the windows on the first floor.

Beyond its physical features it's also important to consider the role of collective memory as a key feature of establishing a familiar anchor within the town centre. This building has occupied a prominent position on the high-street for many years and therefore represents an important touchstone for cultural connection.

Building A façade



Summary of context drivers

The programme matrix on the following page provides a summary of the topics covered in this section. In the next section, it will map the proposed programme against these topics to ensure that the proposal addresses all key drivers.

Site elevation

Drawing provided by Hastings Planning Department

Planning constraints

In addition, Hastings Borough Council outlined the following planning constraints for Building A:

A Retain, enhance and reuse the building to provided uses that continue to provide an anchor for Hastings Town Centre.

B Provide active uses at ground floor level which should include retail, leisure or other ‘town centre’ complementary uses which might extend to the first floor given the building form. and the upper levels of the building would be suitable for residential or hotel uses.

C Preserve and enhance the setting of the Hastings Town Centre Conservation Area and views to Hastings Castle.

- Respond to the town square setting at memorial and Harold Place and public realm at Robertson Terrace.
- Introduce policy compliant greening to the site in a form appropriate to the urban setting.

Category	Driver	High-street healthy retail hall, assisted care tech	Frailty multi-dis assessment	Diagnostics hub	Rehabilitation	Outpatient & primary care consultation	Community respite	Staff and research work space	Garden
		Proposed services							
Health drivers	**Increase in age of population**								
	Ageing Population - highest percentage of over 85's England		■	■	■	■	■		
	East Sussex will see significant an increase in LTC, Dementia, and Frailty		■	■	■	■	■		
	Hastings has low Health Life Expectancy (59.3 for men, 61.2 women)	■		■	■	■			
	Increase in long-term- conditions								
	East Sussex estimated increase of people with Long-Term-Conditions of 20,000 people		■	■	■	■	■		
	Increase in Chronic Obstructive Pulmonary Disease		■	■		■			
	Increase in Diabetes	■	■		■	■			
	Increase in Arthritis		■			■	■		
	Increase in Hypertension		■			■			
	Increase in dementia								
	Hastings and Bexhill Dementia increase 14% by 2028		■			■	■		■
	Increase in fragility								
	East Sussex Frailty increase by 22% (15,800 people) by 2028		■	■					
	Increase in informal care burnout								
	Informal Carers under increasing pressure to provide care at home						■	■	■
Health estate drivers	**General**								
	Increasing backlog of unseen patients		■	■		■			
	Overly clinical design leading to lack of engagement	■					■	■	■
	Not enough focus on prevention and early intervention	■		■	■	■	■		
	Fragmented Services across multiple sites, leading to duplication and lack of coordination		■						
	Social care								
	Domiciliary Care providers cannot meet rise in demand						■		■
	Lack of engagement with Day Centre provision				■	■	■		
	Preference for staying at home rather than move to assisted-living	■			■	■	■		
	Day Centres difficult to reach using public transport					■	■		
	Community service								
	Fragmented Community Services across multiple sites						■		
	Difficulty attracting volunteers due to location	■					■	■	■
	East Sussex ICB proposes integrated community centre to address challenges						■		
	Primary care								
	Primary care main point of contact for LTC		■	■	■	■			
	Increasing demand for services					■			
	Need for multi-dis teams to serve needs of LTC		■			■			
	Limited accessibility of Primary care estate	■				■			
	Retaining staff proven to be an issue due to lack of opportunities					■		■	
	Staff also ageing with no handover in place					■		■	
	Acute care services								
	Conquest Hospital has a Critical Infrastructure Risk of £2.1m		■	■	■				
	Lack of in-patient beds		■						
	Need to avoid nosocomial infections		■	■	■	■			
	Frailty services should be provided in community		■						
	Rehabilitation services should be provided in the community				■				
	Outpatient services not conveniently located (dermatology, respiratory, gastroenterology, neurology and cardiology)					■			
	Diagnostics could be placed in the community (Xray, phlebotomy, CT, ultrasound)			■					

Category	Driver	High-street healthy retail hall, assisted care tech	Frailty multi-dis assessment	Diagnostics hub	Rehabilitation	Outpatient & primary care consultation	Community respite	Staff and research work space	Garden
		Proposed services							
Health estate drivers	**Home and high-street**								
	Majority Victorian housing stock limited accessibility	■							
	Need to access shops and services on the High-street	■							
	Challenges								
	Lack of housing		■	■	■	■	■		
	Hastings is the 13th most deprived town in England	■						■	
	Lack of career and training opportunities						■	■	
	Poor connections with London due to limited train line								
	Anti-social behaviour along Wellington Place	■							
	Climate Change - centre of town currently floods therefore avoid clinical uses on ground plane	■							■
	Priorities								
	Enhance the historic environment of the town through reuse of existing heritage buildings	■							■
	Animate public realm and provide passive surveillance	■							
	Regenerate the centre	■							
	Lack of public toilets in the town centre	■					■		
	Reduce use of private transport to meet sustainability targets	■					■	■	
	Use development to promote further growth by creating a critical mass of activity	■	■	■	■	■	■	■	■
	Promote active travel	■					■	■	
	Focus development on three central sites: TC4, TC6, TC11	■							
	Architecture								
	Three building's with potential for split tenancy	■	■	■	■	■	■	■	■
	Short span upper levels with natural light					■	■		
	Long span lower levels with limited natural light		■	■	■				
	Access								
	Public transport access 25m from entrance	■							
	Drop-off and ambulance access to the south	■							
	Public car parking provision to the south	■							
	Pedestrian access to high-street and other services	■							
	Loading access from rear loading bay and high-street bay	■							
	Services								
	Lifts sufficient for accessible circulation		■	■	■	■	■	■	■
	Generous floor to ceiling heights (exception of top floor Building A)	■	■	■	■	■	■	■	
	Natural ventilation possible along perimeter edge		■		■	■	■	■	
	Structure can support arrangement of clinical spaces		■	■	■	■	■	■	
	Fire may require a second means of escape	■							
	Heritage								
	Henry Ward designed Building A as a department store in the 1920's	■							
	Ground floor façade has been adapted for retail glazing	■							
	Planning								
	Provide an anchor to the town centre	■	■	■	■	■	■	■	■
	Provide active uses at ground level	■							
	Provide and enhance views to Hastings Castle								■
	Respond to town square setting	■							
	Introduce policy of greening to the site appropriate to urban setting								■

Programme matrix

Summary of context drivers mapped against proposed programme

Defining the design

The High Street Integrated Care Hub prototype responds to the specific challenges, priorities, and opportunities of Hastings.

Defining the design

Introduction to the Hasting's HICH prototype

The previous section has identified the health challenges, health estate challenges, local needs, and site priorities. By bringing these considerations together the study has firstly established the potential programme elements to be consolidated from existing services - as articulated in the programme matrix on the previous page - second, the selection of TC4 Building A as a potential site to accommodate the proposed programme.

By calibrating the proposed functions within the constraints and opportunities of Building A, the study proposes the following functions for the prototype:

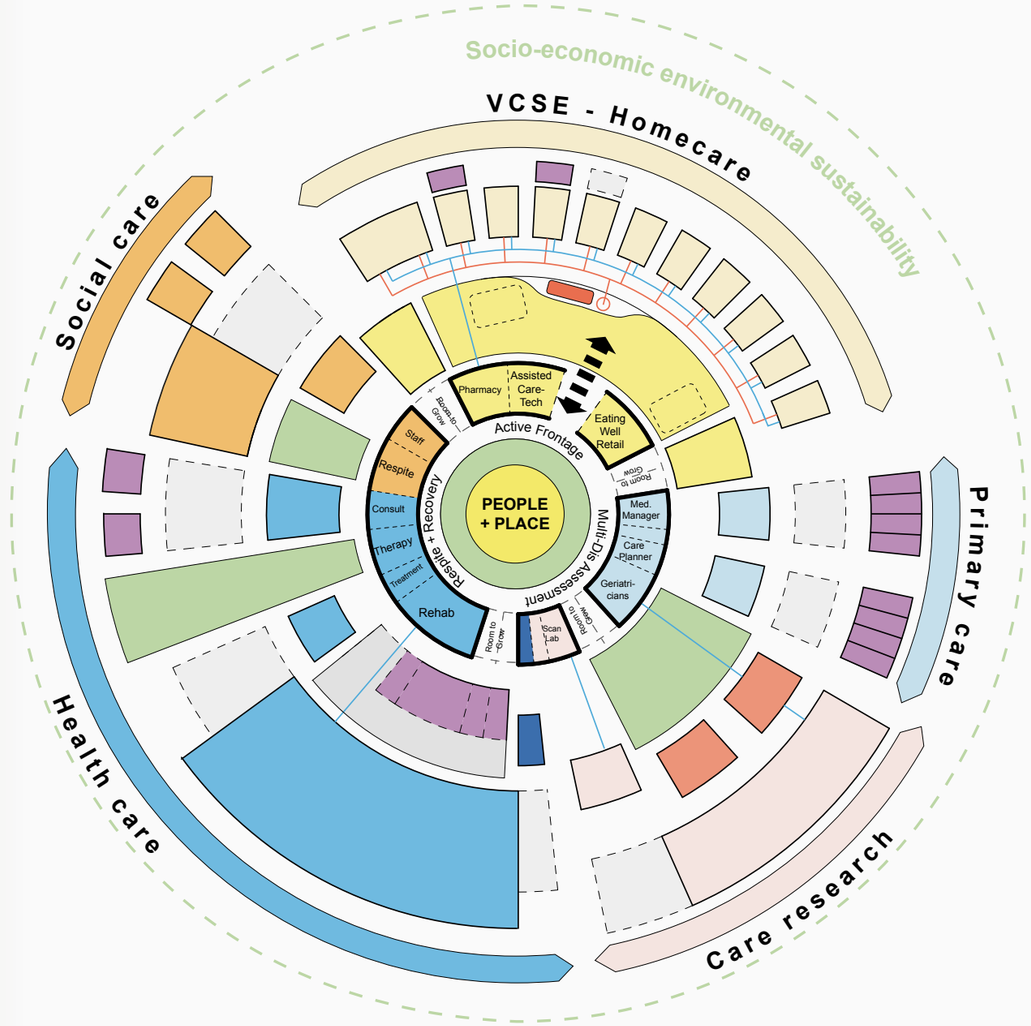
- Reception Foyer - cafe, waiting, reception, and dispensary provision.
- Frailty Multi-disciplinary Assessment - a onestop- shop for people living with frailty.
- Diagnostics - co-located rapid x-ray, ultrasound, and phlebotomy services.
- Rehabilitation - accessible physio gym, physio treatment, and physiotherapy spaces.
- Outpatient and Primary care consultation - flexible consultation and treatment rooms for GPs and specialist consultants.
- Community Respite - VCSE-led day respite service, with therapy and multi-purpose rooms.
- Shared staff and research workspace - an allowance for training, collaboration, and research partnerships.
- Community Garden - sheltered and restorative external garden space with views of the English Channel and Hastings Castle.

Structure of defining the design

By taking these functions as an outline brief for the prototype the purpose of the following section is:

- Firstly, to map each of the programme elements within the wider 'health and care ecosystem' specifically highlighting benefits to services, place, and people, to ensure these provide maximal value for Hastings.
- Secondly, to establish the form and arrangement of the prototype, identifying key interdisciplinary design features and considerations.
- Thirdly, to describe the benefits of the proposal through a patient journey, mapping the routes taken before and after its implementation.

The adjacent diagram illustrates the potential services that have been consolidated within the Hastings prototype and, in doing so, the opportunities created within the wider health and care ecosystem. For example, relocating some outpatient services from the acute hospital site (blue) into the prototype (the central ring) creates an opportunity to extend hospital inpatient services and/or allow for critical maintenance to be undertaken. This reduction in outpatients, in turn, reduces the need for extensive car parking, enabling the construction of new housing. This hidden value is true for each sector, and will be explored across the following section.



Community and social care

There is a lack of care home beds to support the projected dependent population in Hastings (ONS, 2021). There are also not enough domiciliary services to support people's preference for staying at home. Over-reliance on the informal care provided by a partner can often result in accelerated deterioration, thereby putting greater strain on the public health services (NELHP, 2021).

Day and community centres can provide beneficial support for informal carers and those living with long-term conditions, but these are unhelpfully associated with decline, reducing engagement (Crowther, 2022). In addition, they are currently delivered through a fragmented distribution of buildings, far from local amenities. This results in users having to travel farther than necessary to access support. For staff, it results in disjointed teams and an inability to recruit volunteers or provide training.

The HICH prototype will drive the transformation of community and social-based care through the consolidation of services into a community respite service. This will be a VCSE-led service providing daily respite for carers and individuals living with LTCs, dementia, and frailty, accommodating a community garden, therapy, multi-purpose, and social spaces.

The co-location of this social service with mental health and memory clinic practitioners will enable users to receive joined-up and holistic care. In addition, the high-street location will allow volunteers to easily and regularly access the services, and informal carers to more easily perform routine errands. For individuals living in isolation, this service will provide an important bridge to receiving support and early diagnosis.

Benefits for services

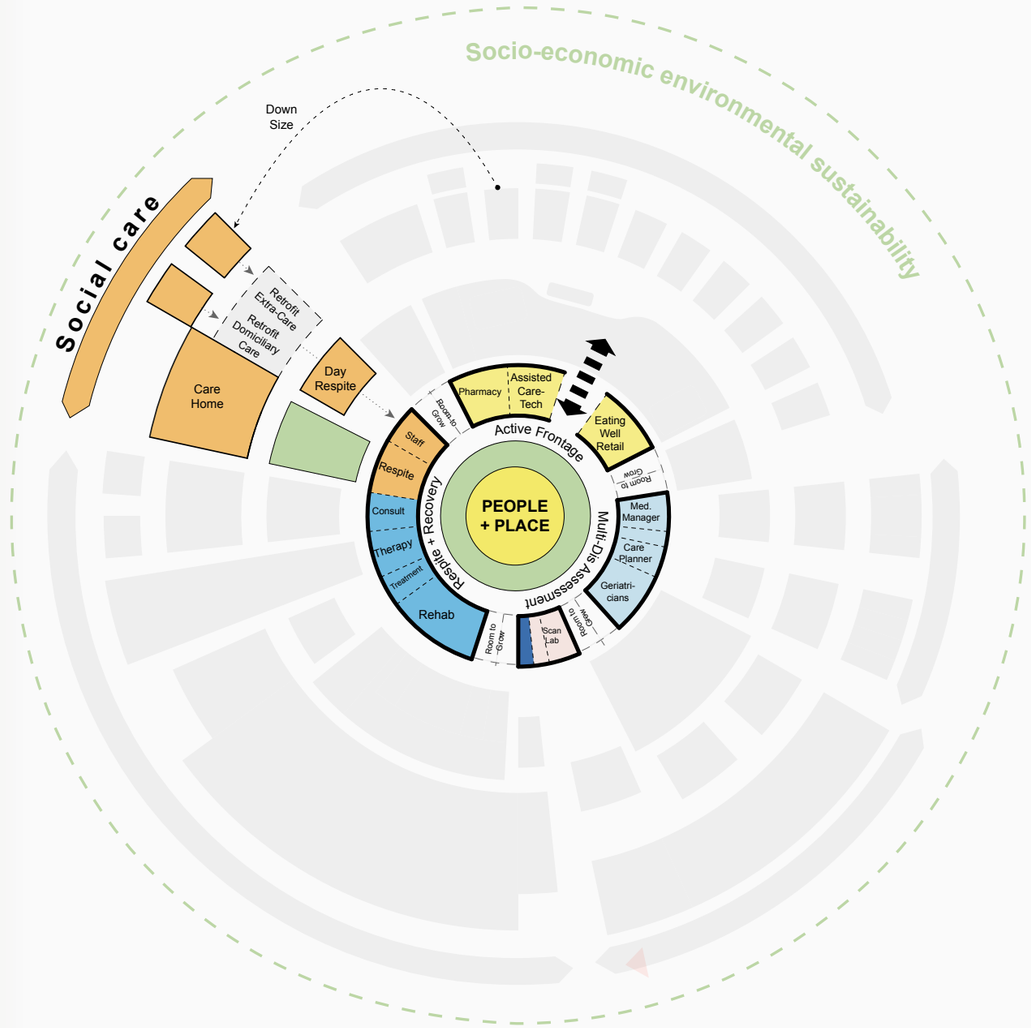
- Reduction in avoidable hospitalization as a result of stretched domiciliary care services.
- Reduction in the number of inpatient beds occupied by patients better served in the community.
- Integration of services to more efficiently support co-occurring conditions across social and health sectors.
- Access to both community and outpatient specialists in one building will help provide an enhanced community offer to patients and help prevent hospital admissions.

Benefits for place

- Increased footfall and regular commercial activity on the high street as routine errands are undertaken.
- Day respite sites can be redeveloped for use as extra-care accommodation.
- Provision of services locally, in one place, by integrated teams eliminating the need to travel.
- Community sites can be retrofitted into housing.

Benefits for people

- People with LTCs can remain at home and independent for longer.
- Informal carers and people living with LTCs can seek support in a non-institutional or 'declineassociated' setting.
- People can access peer-support and care planning services.
- Social, civil, and commercial engagement is supported through a central location.
- Incorporation of community services into the HICH can support the promotion of self-care and prevention education to improve local health outcomes.
- Improved access to family, voluntary, and community sector (VCS) resources and social care services will reduce delays in arranging packages of care.



Healthcare

Frailty and rehabilitation Services

The proportion of people with dementia or frailty in East Sussex is significantly higher than the UK average and is projected to increase (East Sussex, 2021). There is a recognition that the system is over-reliant on reactive acute hospital care for these patients.

Frailty is considered a reversible condition if captured and managed in the early stages (Travers, 2019). The longer elderly patients stay in the hospital, the more likely they are to deteriorate and lose functionality and independence. This calls for a need to devise a service model for frail older people that moves from an individual provider focus to a system-wide perspective, with an emphasis on proactive care. At the same time, healthcare services are all coming under greater pressure as a result of an ageing population with growing demand for services.

The HICH prototype will accommodate multi-disciplinary frailty assessment co-located with diagnostics to enable the support of people living with frailty closer to home. Rehabilitation facilities will also be provided, supporting ongoing treatment and independence, and same-day guidance for those new to the service.

Benefits for services

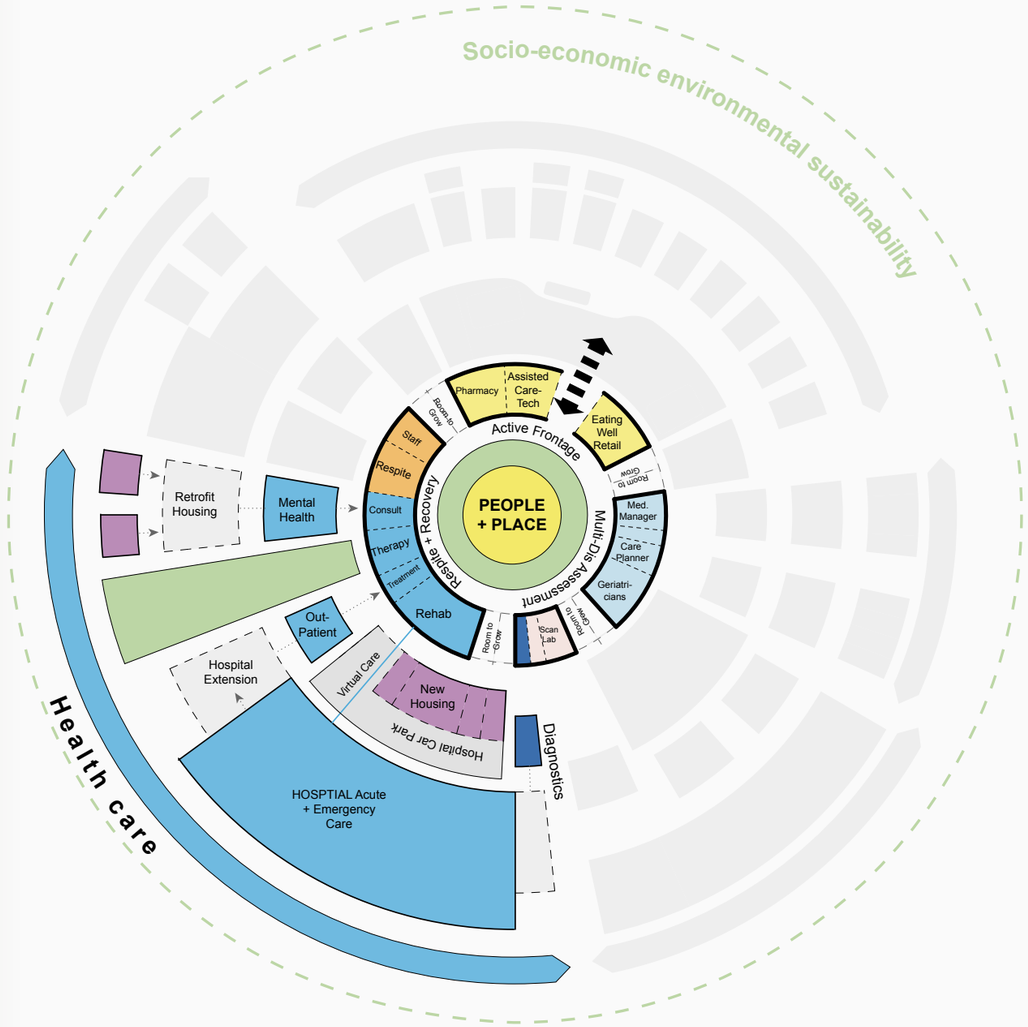
- Equivalent community-based frailty services have saved, on average, medication costs of £110.17 per patient per annum. They have also seen a 15% reduction in A&E attendances and a 29% reduction in emergency admissions. (Murtagh et al., 2023).
- Increased capacity at Conquest hospital can be used to expand in-patient services or carry out critical maintenance.
- Staff can coordinate care needs around complex patients more effectively.
- Conquest Hospital can manage infection control more effectively, moving high-risk patients away from acute sites.

Benefits for place

- Proposed rehabilitation unit will provide increased regular footfall on the high-street.

Benefits for people

- There are opportunities to reverse the symptoms of frailty if identified early on and managed effectively.
- Care provided closer to home can be more easily accessed by public transport.



Outpatients

Outpatient services at Conquest Hospital are not always accessible or conveniently located for patients (DHSC, 2022). Many hospital-based clinics could be provided in the community, bringing services closer to the patient's home and freeing up capacity in the acute setting.

The prototype will provide a range of outpatient services to meet the demand for increased capacity, support the development of integrated care pathways for complex conditions, and improve the patient experience by providing another point of access closer to home. The space dedicated to outpatient services will be multifunctional and used flexibly by different specialties according to changes in system demand.

Delivery of outpatient services co-located with the frailty service and other community services could benefit the integration of pathways for patients requiring input from multiple teams.

Benefits for services

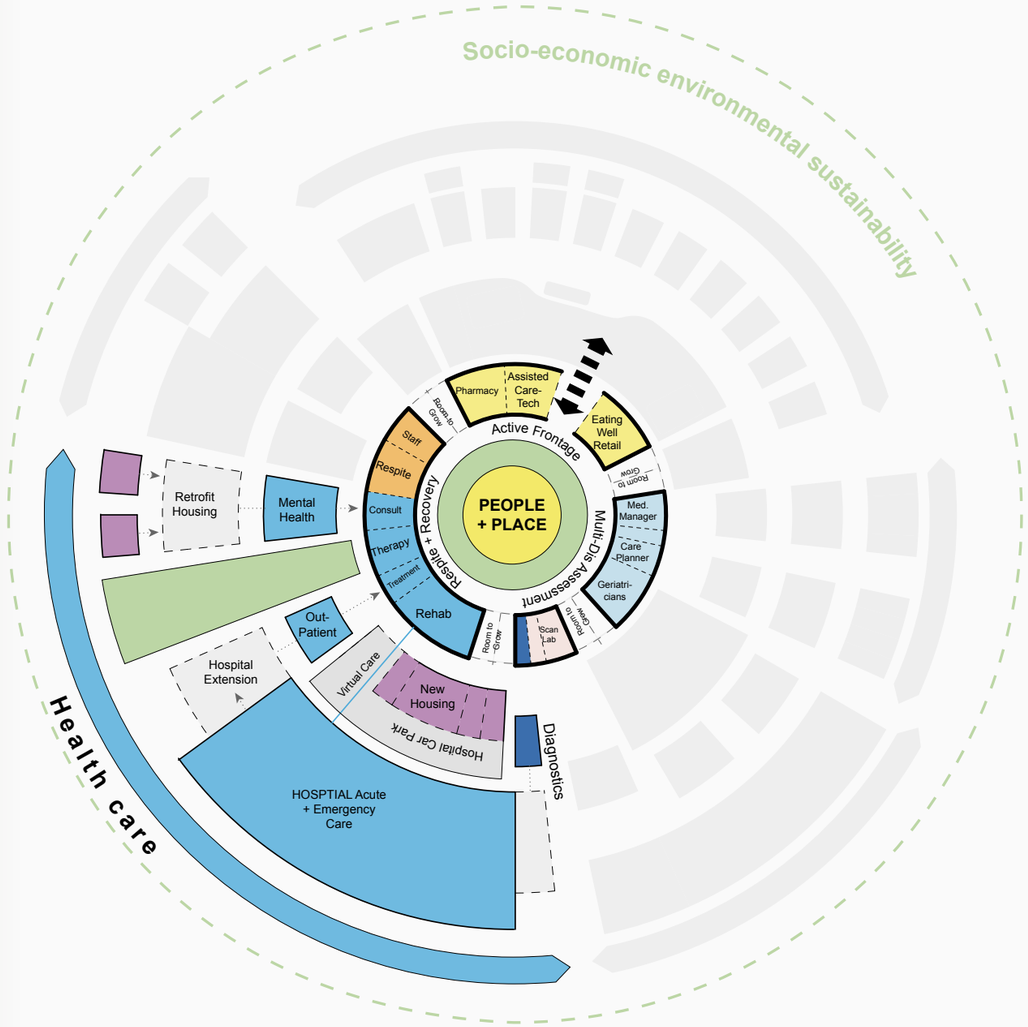
- Increased capacity at Conquest Hospital can be used to expand inpatient services or carry out critical maintenance.
- Conquest Hospital can manage infection control more effectively by moving high-risk patients away from acute sites.

Benefits for place

- Outpatient footfall moved to the high-street, increasing activity and opportunity for civic, social, and commercial engagement.
- Reduction in outpatient visitors will reduce the need for car parking at the acute site. This could be developed into new housing.
- Reduction in carbon emissions through the utilisation of public transport network.

Benefits for people

- Care provided closer to home and more easily accessed by public transport.
- Improved coordination of care between multidisciplinary specialists.
- Reduced risk of hospital admission.



Primary care

There are projected capacity and capability challenges for the primary care estate in the coming year, as staff retire with no succession plans in place (NELHP, 2021). This is against the backdrop of an ageing population and a concomitant growth in multiple long-term conditions. In addition, the primary care estate is underfunded and housed in unsuitable, poorly converted domestic buildings with physical barriers to access, such as patients being unable to reach upstairs clinic rooms. These buildings are unlikely to support future models of primary care.

The HICH prototype offers the potential to invest in the future of primary care for Hastings through the rationalisation and improvement of the primary care estate. Primary care services could be delivered within an integrated setting with improved facilities, enhancing the overall integrated model of care.

Access to primary care provides early detection and treatment of disease, chronic disease management, and preventative care. The more timely the access to that care, the better the health outcomes for the patient. This was starkly demonstrated during the COVID-19 pandemic, where a large drop in GP consultations resulted in a significant increase in late detection of disease and chronic conditions.

Benefits for services

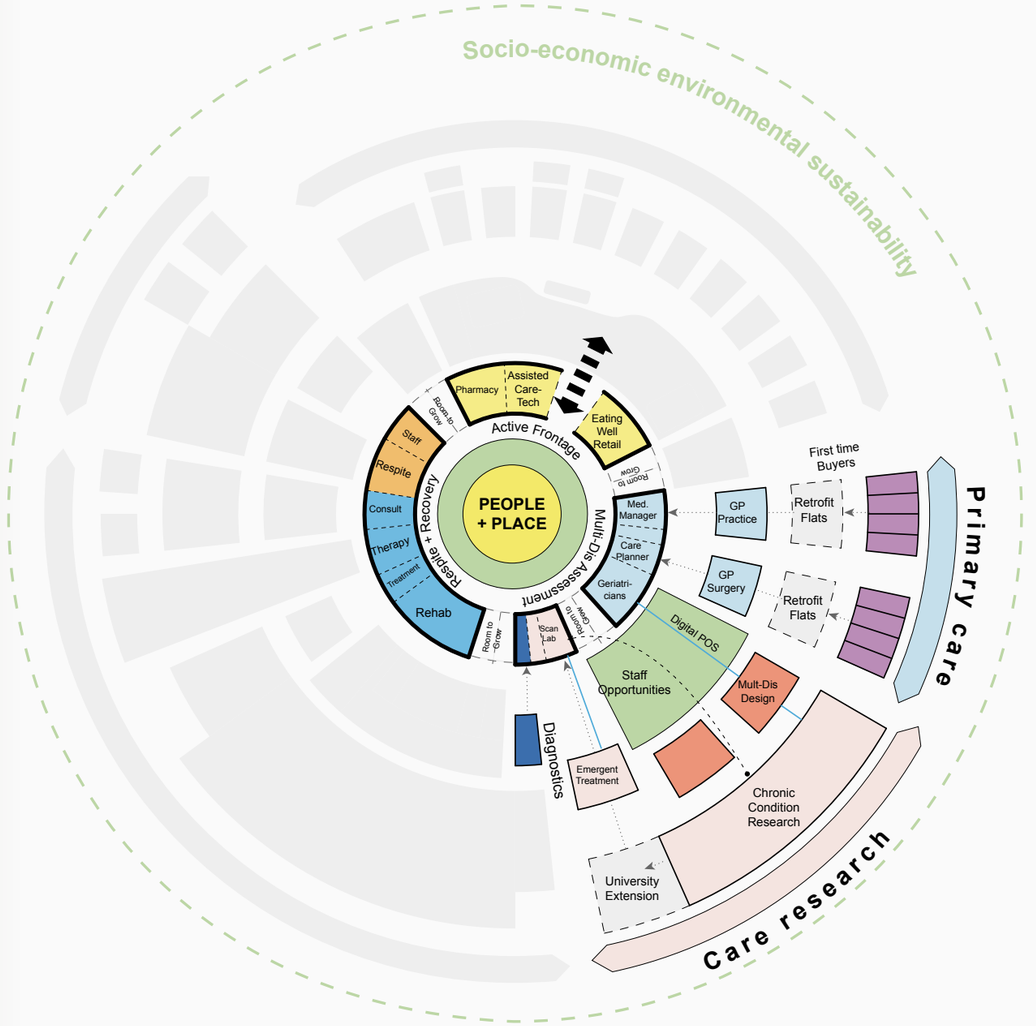
- The central development of the HICH model is an opportunity to attract a younger and more varied workforce into primary care, increasing capacity.
- Co-locating primary care with diagnostics can help align and reduce delays in care pathways.

Benefits for place

- The primary care estate can be retrofitted into affordable flats for first-time buyers.
- Increased footfall on the high-street creates opportunities for civil, social, and commercial engagement.
- Reduction in carbon emissions through the utilization of public transport network.

Benefits for people

- Easy access to primary care supports early detection and treatment of disease, chronic disease management, and preventative care.



Diagnostics and research

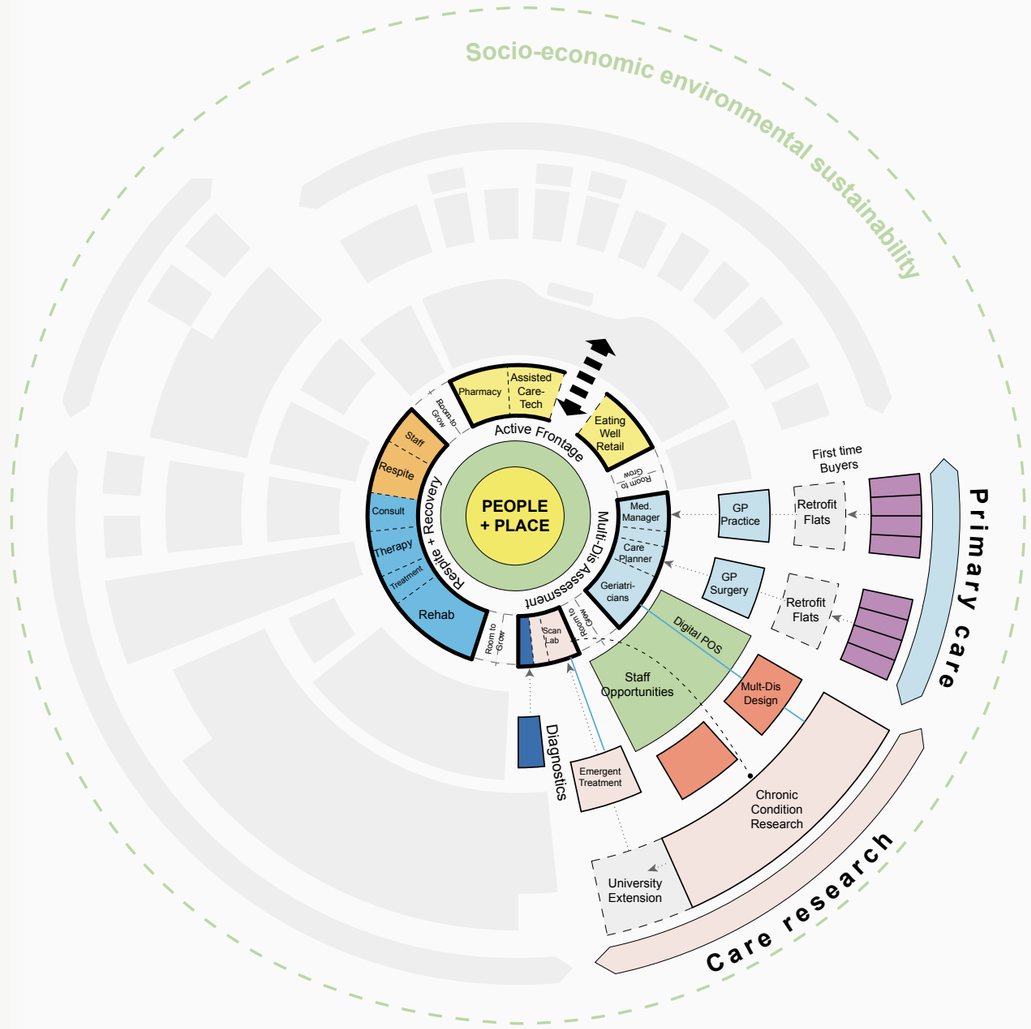
The provision of community-based diagnostics will support the integrated care activities proposed as part of the HICH prototype and provide rapid access to diagnostics, which, as highlighted in the previous section, are vital for ensuring the timely diagnosis of LTCs. In addition, in light of the recent pandemic and increasing antibiotic resistance, diagnosing patients within the community, away from acute sites, introduces flexibility and resilience into the healthcare system as a whole.

By placing the diagnostics unit in an easily accessible, central, and desirable location, there is also an opportunity to attract and partner with research institutions. For the majority of LTCs, early diagnosis will become increasingly essential in the coming years as emergent treatments that slow progression continue to become more readily available. Partnering with a university can create opportunities for cutting-edge diagnostic techniques to be utilized and for consistent patient groups to be engaged. This, in turn, can lead to staff training and publication opportunities, as well as increased funding.

Benefits for services
- Co-locating diagnostics with primary care can help align and reduce delays in care pathways.
- Reducing demand on Conquest Hospital and introducing resilience into the system.
- Increasing capacity provides opportunities for staff training and research exchange.
- Improving the efficiency of the diagnostics unit.
- Conquest Hospital can manage infection control more effectively by moving high-risk patients away from acute sites.

Benefits for place
- Diagnostic footfall moved to the high-street, increasing activity and opportunities for civic, social, and commercial engagement.
- Research partnership will expand opportunities for commercial growth in the town centre.

Benefits for people
- Increased population health outcomes with early diagnosis.
- Reduction in health inequalities and meeting local needs.
- Early diagnosis with subsequent increased independence.



Home and the high-Street

The majority of elderly individuals want to remain in their own homes for as long as possible. However, the Victorian housing stock in Hastings is not ideal for supporting this aim. Nevertheless, retrofitting people's homes with assist ive technologies will become increasingly straightforward as time progresses. That being said, access to external support will still be required, as over-reliance on informal or domiciliary care networks can lead to worse outcomes.

Residents have highlighted the social, civil, and physical importance of undertaking routine errands such as grocery shopping to structure their daily lives. Commercial providers are showing interest in facilitating this need with the emergence of dementia-friendly shop designs. Additionally, Hastings Borough Council has expressed the need to promote a "critical mass" of activity to support the regeneration of the town centre, which has seen a decline in footfall.

The majority of Hastings' public transport networks originate and terminate within a 5-minute walking radius of the proposed site. Therefore, accessibility for patients, staff, volunteers, visiting specialists, and carers is greatly improved. In addition, proximity to public amenities such as shops, restaurants, the beach, and cafés is also improved, encouraging the regeneration of the town centre.

As outlined in the previous section, the HICH prototype is connected to an additional 2,900 sqm of retail space (Building B) and 2,000 sqm of highstreet frontage (Building C). Therefore, there is a potential opportunity to partner with a commercial provider who would benefit from the regular footfall generated by the HICH prototype. This could take the form of services oriented towards the needs of users, such as a "Healthy Food Hall" or an "Assisted Tech Showroom", further integrating health and care into the daily activities of life. The following design allows for the later development of Buildings B and C while retaining the functionality of Building A.

Benefits for services

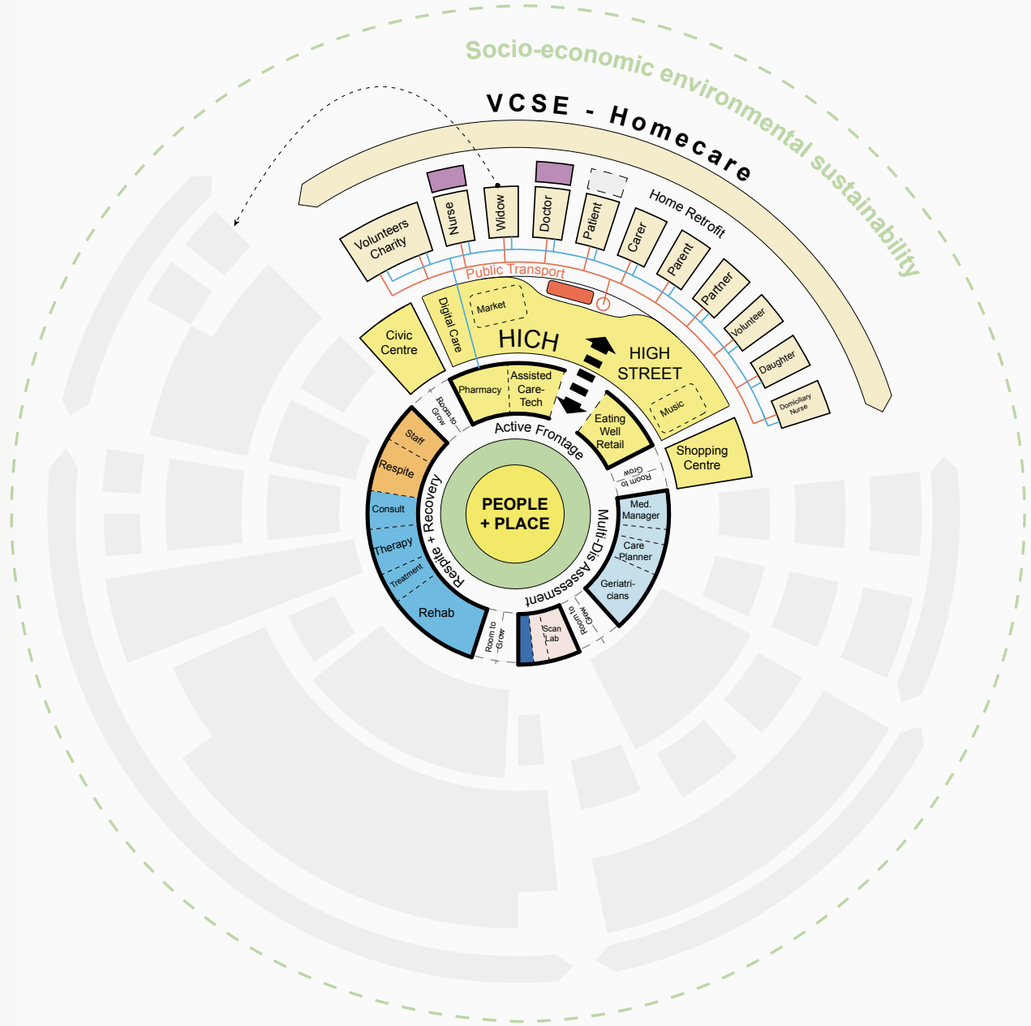
- Improved retention and accessibility for staff, with the potential to work more flexible hours due to multiple transport options.
- Access to a wider volunteer base and social prescribing opportunities.
- Reduction in the need for acute and institutional services.
- Reduction in the need for domiciliary services.
- Reduction in the cost and carbon footprint in creating a new facility.

Benefits for place

- Regeneration of the town centre with the opportunity to further develop the commercial offering.
- Increased activity and engagement in the town centre, improving the quality of the street-scape.
- Reduction in carbon emissions through the utilization of the public transport network.

Benefits for people

- Increased access to health and care and other civil, social, digital, and commercial services.
- Inclusion and engagement within the wider community.



Defining the schedule of areas

A full capacity and demand estimate was beyond the scope of this study, however based on the established healthcare need in Hastings and the scope of services outlined, a Schedule of Accommodation (SoA) was developed. The total area was then benchmarked against other Integrated Care Hubs and their respective patient groups.

	Jean Bishop ICH	St George ICH	HICH prototype
Patient group	12,000	13,000	10,000
Total area (GIA) m²	2,800	4,500	**2,700**
Sqm per patient	0.23	0.34	0.27

The accompanying SoA demonstrates how the proposed function align with this total area and categorises the functions under the following headings:

Core

Essential element without which the project will not accommodate the areas of highest risk addressed in the previous chapter.

Desirable

Elements with which the project can potentially justify on a cost/benefit and will contribute to developing the integrated model of care.

Optimal

Possible elements which the project can potentially justify on a marginal low cost and affordability basis.

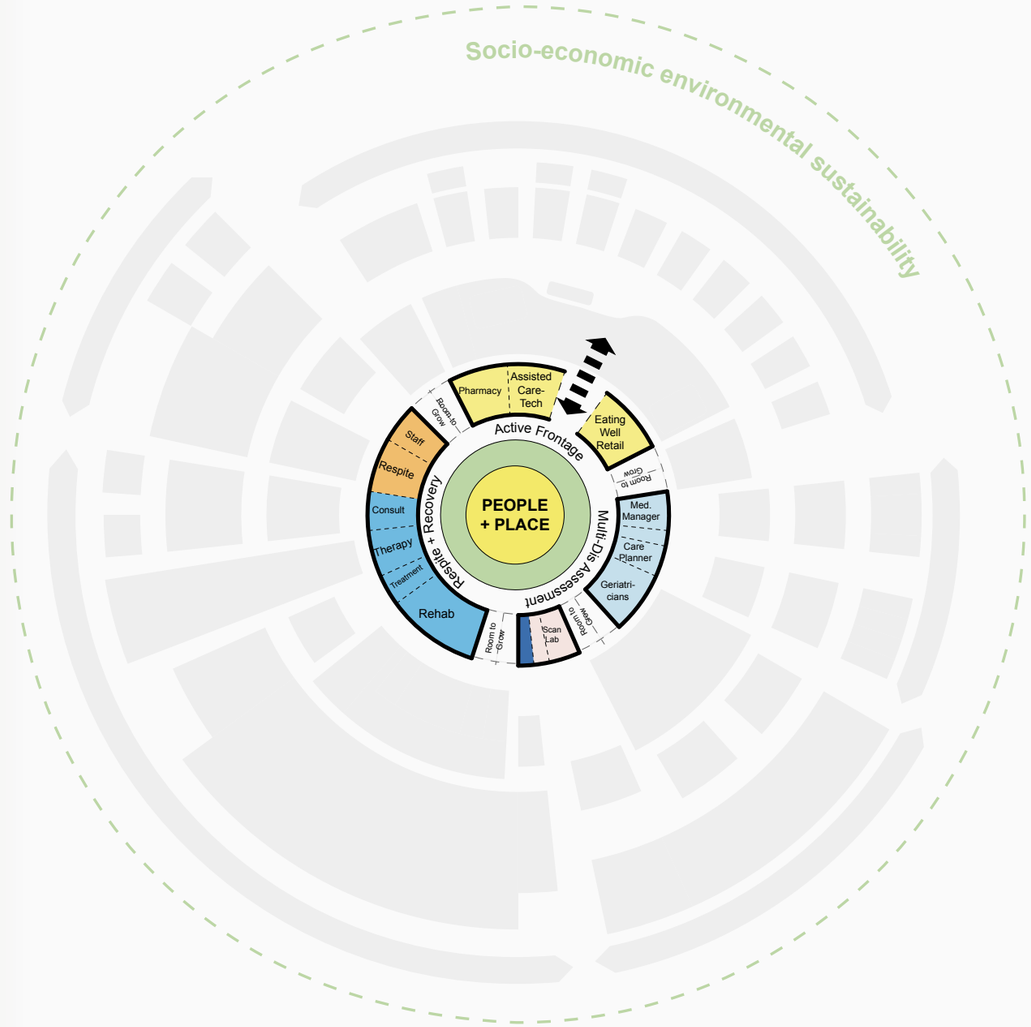
In doing so the proposal provides some flexibility in meeting the demand, however for the purposes of this study the prototype will assume the optimal option.

As a future consideration the potential retail space within the building is:

*Building B future retail = 2,000 sqm
Building C future retail = 2,900 sqm

Function	Areas (GIA) sqm Core	Desirable	Optimal
Reception / waiting / circulation	270		
Café			50
Dispensary	25		
Shared facilities	120		
Changing place	12		
Family WC		11	
Plant room	55		
Logistics	30		
Frailty assessment (6 pods)	72		
Communal areas	111		
Utility	100		
Diagnostics	60		
Ct scan			25
Changing lockers	40		
Physio-treatment	50		
Physio-therapy	38		
Rehab gym	70		
Outpatient consultation (5 rooms)	60		
Outpatient treatment (1 room)		20	
Staff research office	124		
Primary consultation (5 rooms)	60		
Primary treatment (1 room)		20	
Group therapy (3 rooms)		42	
Community space	50		
Staff respite		30	
Multi-purpose	30		
Terrace			20
Roof garden			50
Circulation	825		
Risers / BOH	230		
Total	**2,432**	**2,555**	**2,700**

Schedule of Accommodation



Design concept

"It's easier to go down a hill than up it but the view is much better at the top."

Henry Ward, architect of Building A

The design process took a light-touch approach to minimize the impact on the existing building and preserve its character. The two notable interventions required to accommodate the defined clinical programme were the replacement of the constrained 'loft' storey and the insertion of a central void to allow for light, ventilation, and vertical circulation.

Strategic design moves

The first strategic design move therefore was to remove the top floor and propose a new lightweight prefabricated timber structure that would accommodate the requirements of the Community Respite Centre. This created space for sheltered roof gardens overlooking the English Channel.

Removing the top floor then created the opportunity to form the void through the centre of the building, bringing in light and air, allowing elements to be craned in during construction, and providing a space for the principal circulation route through the building. A timber ambulant accessible staircase was then inserted into the void. This staircase takes users from the street below to the gardens above and in many ways mirrors the meandering route from the town centre to the castle above. A key feature of this ambulant staircase was to make it as accessible as possible and thereby encourage its use. This was achieved by providing a gentle incline, extended treads, generous width, and frequent rest stops.

General arrangement

A key principle of the design was to keep the ground floor open to the street, and therefore, the majority of the clinical functions are located in the storeys above. Additionally, since the area is prone to flooding, minimizing damage to medical equipment was viewed as a priority. Generally speaking, the higher acuity spaces were located closer to the ground to allow for ease of access, and the lower acuity on the storeys above. The deep plan retail space on the south side of the building provided a suitable location for larger span rooms such as diagnostics, and the north façade accommodated the more cellular spaces. The following provides a brief description of the main elements' function and design.

Hastings Castle
© Google Images

Description of arrangement

Key functions

The following section describes and illustrates the HICH prototype by floor, using the exploded axonometrics on the accompanying page as a guide.

Entrance foyer (Ground floor)

The entrance foyer faces directly onto the High Street with step-free access to local public transport links. A centrally located reception desk positioned beneath the staircase provides an easy-to-locate welcome point with clear visual access to the lifts.

A cafe is located to the right of the reception space with views of the high street, and a dispensary area with waiting to the left. A route through to the colocated retail has been allowed for with the potential for a "Healthy Food Hall" and "Assisted-Tech- Showroom" in future phases.

Logistics, fire escape, discrete ambulance access, and plant maintenance have all been considered on this floor, located immediately adjacent to externally accessible areas, reducing unnecessary circulation space.

Frailty assessment (First floor)

Located in close proximity to the Foyer, Frailty Assessment accommodates six "frailty assessment pods," requiring some medical equipment but designed as a non-clinical environment. These pods will support comprehensive and multi-disciplinary geriatric assessment, diagnostic scan, observations, clinical review, and care planning completed throughout a 2-hour attendance.

Discrete communal areas are provided on each floor of the building and have been located centrally to minimise walking distances and located within the user's line of vision as they exit the stairs.

Diagnostics

Diagnostics are co-located adjacent to the pods to reduce the distance of travel for patients and provide effective patient flow through the unit. Facilities are provided to perform the following procedures: Ultrasound, Dexa, Head and Chest X-ray, ECG, and Phlebotomy. Expansion has been allowed for future CT scan facilities.

Rehabilitation (Second floor)

The rehabilitation area will provide a range of rehabilitation services supporting the rapid access of long-term care management. This will include a Physio Gym, Physio Treatment, and Physio Therapy spaces. These are located in close proximity to the ground floor and maximise natural light and ventilation.

Visual of physio-therapy room

Outpatient and primary consultation (Floors 3,4)
The Outpatient and Primary care Consultation Services will facilitate access and diagnosis for longterm condition management. These services will be provided across ten generic consultation rooms and two treatment rooms that can be used flexibly for various services as needs change. It is expected that GP's, therapists, and visiting specialists will primarily utilise these services for Cardiology, Rheumatology, Orthopaedic, Rehabilitation, Geriatric Medicine, General Medicine, Diabetes, Oncology, Ophthalmology, Podiatry, Dietetics, and Retinal Screening.

WC's have been provided on each floor, with visual access from the central stair and waiting areas. These services have been vertically stacked to improve the efficiency of the building.

Staff and research workspace (Floors 3,4)
Open plan flexible workspace is available for both staff and visiting research use. It is provided in close proximity to consultation rooms to allow staff to move quickly between the two. These rooms also face south to benefit from natural light and reduce the need for east/west glare control.

Community respite (Floor 5)
The community respite area will offer daily volunteer, social, and peer-led support for carers and individuals living with long-term conditions. This upper zone is designed to provide a calming and therapeutic environment with group therapy rooms for care and end-of-life planning. It will also provide access to a small kitchen, a multi-purpose garden, and staff respite spaces.

Future adaptability
The group therapy rooms can be easily adapted into infusion spaces for emergent treatments such as Lecanemab for dementia. They offer views over the town of Hastings.

Visual of group therapy / infusion room

HICH: Key design considerations

Patient journey

An example of a typical patient journey, before and after has been developed to illustrate how the HICH prototype will benefit both the patient and those associated with their care.

Cathy and Henry before

Cathy is 82 and lives in Silverhill, north Hastings, with her husband Henry who is 85. They have lived in the area for many years and own their house outright, and have no intention of moving despite the difficulty of navigating the steep path to the front door. Cathy has been experiencing some health issues recently, causing her to feel unwell, disoriented, and forgetful. Henry is doing his best to support her, but he himself is struggling with mobility issues and finding it difficult to cook their daily meals.

During a regular visit to her GP, the doctor suggests that Cathy undergo a needs assessment, but she forgets to book one. Shortly after, Cathy suffers a fall at home and is taken to Conquest hospital via ambulance. After waiting for three hours, she is eventually admitted to the ward and diagnosed with a urinary infection and a fractured arm. She remains in the hospital for ten days to recover, but unfortunately, she develops muscle weakness during her stay and a nosocomial infection. After being deemed medically fit to leave, she is evaluated for a care package and discharged with the assistance of caregivers.

Returning home, Henry cannot keep up with Cathy's increasing care needs and cannot access additional domiciliary support. His medication is causing him to not sleep properly, and they both feel increasingly isolated. After a month, Cathy's condition deteriorates, and Henry makes the decision to move her into a nursing home. He struggles to see her because of the home's remote location.

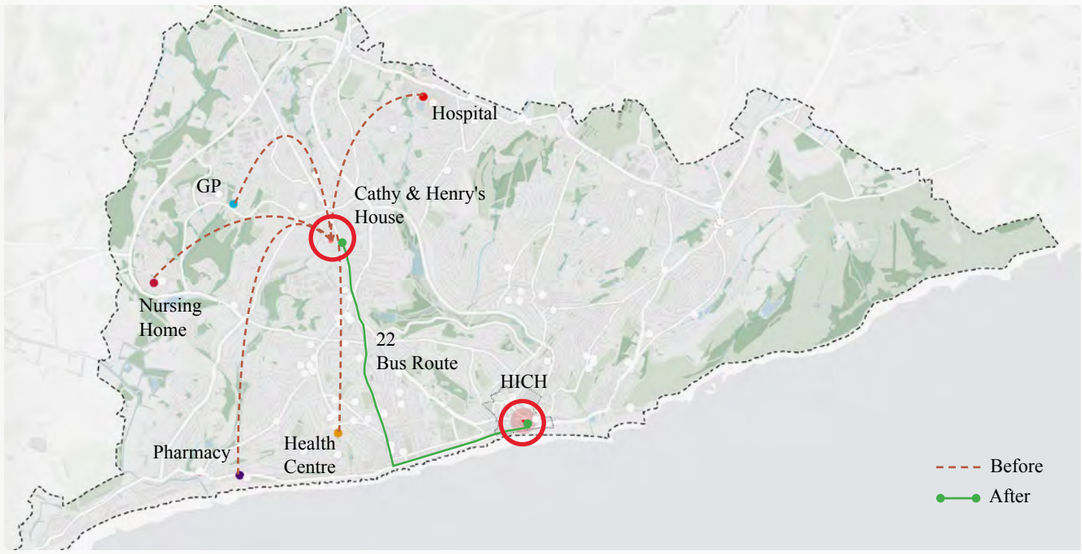
Cathy and Henry after

Cathy takes the number 22 bus to attend a weekly community flower arranging group at the HICH, where she meets Claire, who also suffers from low moods in conjunction with her dementia diagnosis. Talking with each other and the trainee therapist who supports them, they find it easier to plan for the future and take steps to mitigate the effects of memory loss.

Henry chooses from a selection of easy-to-make meals at the adjacent store. His medication no longer keeps him awake after receiving regular reviews from the clinical pharmacist. The day before, he received a chest x-ray for suspected lung cancer, but the consultant was able to correctly diagnose worsening COPD, leading a resident researcher to redesign an active patient study.

Cathy gets a timely referral from her GP for a comprehensive geriatric review with the frailty team at the HICH as her condition becomes harder to manage. The team reviews her treatments and updates her care plan within just a few hours, allowing her continued support at home. Henry feels more able to support Cathy after receiving regular physio appointments with a consultant who recently moved to the area in order to take advantage of the new affordable housing and benefits from the HICH's multi- disciplinary training opportunities.

AI generated image - © Stable Diffusion



Hastings

Defining the costs

Integration can be best achieved through the consolidation of existing services, re-use of existing buildings, and leveraging of existing networks.

Defining the costs

Cost of an ageing population

As individuals age, their healthcare needs tend to increase, with healthcare expenses rising significantly from approximately age 65. This is also true for social care costs. About 20% of 75-year-olds have difficulty washing and dressing, rising to almost 50% by the age of 85 (ONS, 2021). As the population ages, with fewer working-age taxpayers, it becomes increasingly untenable to support this demand, leading to many of the public service challenges we see today. To illustrate the extent of the interconnected economic impact of an ageing population, it is useful to adopt the services, place, people framework utilised in the previous chapter:

Services

The Nuffield Trust estimates that an 85-year-old man costs the NHS 7 times more than a 30-year-old, approximately £7,000 a year. A large contributor to this cost is attributed to the elderly getting stuck in hospital beds costing upwards of £2,000 a week, where they would be better served in the community at a quarter of the cost (Wittenberg, 2019). As a result, fewer beds are available to treat acute conditions, leading to increased delays, which in turn lead to further avoidable hospitalisation.

Place

Net adult social care expenditure in the UK in 2022 was £19 billion (ONS, 2021); this is expected to increase by a further £14.4 billion a year by 2030. Social care costs are frequently cited as local authorities' largest expenditure, and with increasing budget cuts, many are not receiving the support they need, resulting in more pressure on informal carers, ultimately leading to further avoidable hospitalisation.

People

Due to the shortage in public services, the average UK adult now faces lifetime care costs of approximately £100,000 (DHSC, 2021). This puts more pressure on informal carers to provide unpaid care. Though spouses are often the primary 'in-house' caregivers, daughters are also the most likely 'out-of-house' caregivers, and many leave their jobs to do so. This results in fewer active participants in the economy, resulting in less tax revenue and a further reduction in public funding. Carers UK estimated the value of informal care across the UK is equivalent to £530 million a day (CU, 2022).

Finally, at a macro-economic level, David Willetts makes the argument that the present housing crisis is, in part, due to the rising costs and prevalence of care (Willetts, 2011). People's homes have become a necessary savings account for the end of life, reducing incentives for more housing. This reduces young people's ability to afford housing and start a family, further skewing the demographics towards old age. Taken together, it is clear why the implementation of health and care services for an ageing population is not only necessary but its value should be considered in much broader terms than its immediate costs.


© Getty Images / Dean Mitchell

Valuing the HICH prototype

The HICH prototype is located on the High Street, which results in higher land costs compared to the periphery brownfield sites typically used for new health and care constructions. However, the following section argues that these costs can be offset through the adaptive reuse of existing services, buildings, and networks. Additionally, it highlights the subsequent health and social benefits of its implementation, which when combined with the development opportunities it creates on consolidated sites, provides a robust economic case for its construction.

Capital cost efficiencies

The East Sussex Building for our Future programme has identified the need for building a new rehabilitation and community centre. Opting for the adaptive reuse of an already existing building, utilising its basement, and avoiding potential ground risks can lead to substantial capital savings compared to constructing a brand new facility. For instance, the proposed 2,700 sqm of clinical space in the HICH could result in a saving of £5m, assuming typical refurbishment expenses of £2,000 per square meter and new build expenses of £4,000 per square meter.

Conquest hospital costs reduced

Conquest Hospital requires £2.1m to reduce the critical maintenance backlog. It has also identified the need for increased in-patient, emergency, endoscopy, and pathology services. Comprehensive refurbishment of current hospital sites is typically expensive due to high decant costs and the requirement to maintain the remaining facility operations throughout the project. These expenses are unique to each site but typically account for approximately 5% of the capital costs in a refurbishment project with a simple decant process. In cases where complex phased works are being carried out in a heavily populated tertiary hospital, the combined costs of service disruption and decant expenses are expected to be considerably higher. Therefore, utilizing the HICH for outpatient services during this time could reduce these costs.

City and hospital infrastructure

Investment Urban cores serve as a hub for transportation systems such as buses and trains, as well as ecofriendly travel options such as secure pedestrian and cycling routes. Directing the transportation needs of healthcare patients, who often require frequent travel, towards city centres allows for optimal utilization of government-funded infrastructure, resulting in a higher return on investment and lower capital investment per journey. The proposed Towns Fund work is currently costed at £8.7m and looks to provide a more accessible city centre which would dovetail with the proposed location of the HICH model and support its operation.

Business rates

High streets around the UK have been struggling to cope with the rising share of online shopping and the competition provided by out-of-town shopping centres. The COVID-19 pandemic was only an accelerator of an already alarming pattern of decline: between 2009 and 2019, footfall in England's high street fell by 20.5%, bringing with it a record high vacancy rate of 11.7% in 2022. Vacant units can cost local economies. This issue can be further exacerbated as streets and shop fronts fall into disrepair, discouraging investments, reducing the offer, and resulting in a loss of footfall, looping back to increased vacancy. To break this downward cycle and recover Local Authority business rates, high streets need to reinvent themselves by introducing uses other than retail.

Considering the estimated 10,000 patient group, in combination with staff, volunteers, and informal carers, there is an argument to be made for a significant increase in footfall to the town centre. Recognising that this would not only be in the local community but the council's financial interest, the council has identified a further £400,000 from the Town's Fund to support the redevelopment of the site, further reducing costs to the NHS.

Carbon costs

Studies have shown that, in most cases, the carbon emissions generated from constructing a new building exceed those from a refurbishment project. A report by the UK Green Building Council estimated that a typical refurbishment project could save up to 50% of carbon emissions compared to constructing a new building (UKGBC, 2019). The NHS has made a commitment to reducing its carbon emissions and has set a target of achieving net-zero emissions by 2040. Considering the carbon savings from increased use of public transport instead of private vehicles, the HICH model supports this aim.

Institutional costs

A preventative and proactive approach to LTC, dementia, and frailty is expected to reduce hospital admissions and time spent in institutional care. Benchmarking against previous studies, the HICH could reduce frailty A&E admissions by 28% at £192 per visit and in-patient admission by 2 bed days per person per year at £342 per bed day. (Murtagh et al., 2023). A reduction in care home bed days is also expected, averaging out to 8-16 weeks per person.

Mitigated staff absence costs

Staff sick rates within the NHS are between 4-6% and are significantly correlated with physiological well-being and burnout. The HICH model aims to support the needs of staff and allow for more flexible working arrangements. A 10% reduction in staff absence would provide a £2-4m boost to the Sussex ICS budget.

Primary care estate and car park development

Moving outpatient and diagnostic facilities to the HICH could reduce car parking numbers by 15%. Conquest Hospital currently has 869 car parking spaces, equating to a potential 2,000 sqm of development land. Similarly, consolidation of existing primary care buildings could provide flat conversion opportunities.

Missed appointments

Presently, the NHS has a 77% appointment attendance rate, equating to £1 billion annually (Bell, 2021). Travel distances and transportation issues are often cited as the strongest barriers to accessing health centres and surgeries. They are one of the main reasons people miss outpatient appointments. One of the primary objectives of the HICH is to reduce missed appointments by improving accessibility to the site. Volunteer and training absences and engagement would also be improved for the same reason.

Operation and partnerships

Staff operation

Lack of staff is a fundamental limitation to all proposals outlined in both in the developmental and policy strategic literature. Therefore, attracting, retaining, and training staff should take precedence over the development of additional facilities.
The proposal outlined would require a significant number of staff to provide fully integrative health and care. These staff numbers are unlikely to be met considering the present shortages in East Sussex.
It is essential therefore that development responds to the changing availability of staff and promotes volunteer and peer-support where possible.

Commercial and health partnerships

Unique to the Hastings HICH model is the potential for partnerships with commercial providers occupying the vacant retail space on ground and first floors. The advantage to the commercial provider is a reliable footfall through the site and consistent customer profile. This symbiotic relationship could improve the viability and business case for the development of site and allow for the implementation of higher quality facilities.

Added value long term leases

One of the principal design features of the Hastings HICH is the introduction of the community space and roof gardens. For the property owner this would add significant value to the asset and the potential for long-term leases would also improve viability.

Closing statement

In conclusion, this study has explored and defined the HICH typology through the considered design of a prototype within Hastings.

In doing so it has provided an outline for the potential, process, viability and benefits of such an approach.

Closing statement

Speaking with representatives from the NHS there is real optimism that the shift towards integration and approaches such as the HICH could hold significant value for the future of care not just in the UK, but globally.

However it must also be acknowledged the aims of integration are complex and require overcoming the many challenges and limitations currently posed by the multifaceted nature of the problem. There are very few individuals, practices, or organisations that have detailed enough knowledge across all the relevant sectors to fully address the challenges and opportunities of integration. However, this is not to say steps cannot be taken to make integration a reality.

In order to help facilitate better health and care integration design teams can support clients in navigating this complexity by bringing together interdisciplinary knowledge from across construction sectors that may not be typically associated with healthcare but, as this study has demonstrated, have as much of a role to play in achieving integration as any other.

Looking ahead, there is not only a clear need to integrate health and care provision but also to think about integration within the process of design. The data sets, technologies, and tools now available to designers have huge potential to integrate crosssectional research and knowledge into the design process. As highlighted at the outset, the HBN's lag far behind the recent shift towards integrated forms of healthcare and as such there is an opportunity to both define the future of healthcare but also support its application through the adoption of integrative technology.

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Abbreviations

A&E	Accident and Emergency
BIM	Building Information Management
BREEAM	Building Research Establishment Environmental Assessment
CCG	Clinical Commissioning Group
CHP	Community Health Partnerships
CIL	Community Infrastructure Levy
CIR	Critical Infrastructure Risk
CVD	Cardiovascular Diseases
CQC	Care Quality Commission
DHSC	Department of Health and Social care
GIA	Gross Internal Area
GP	General Practitioner
HBN	Health Building Notes
HIP	Health Infrastructure Plan
HICH	High-street Integrated Care Hub
HLY	Healthy Life Years
HTM	Health Technical Memoranda
ICH	Integrated Care Hub
ICS	Integrated Care System
IMD	Index Multiple Deprivation
IM&T	Information Management and Technology
IPC	Infection Prevention and Control
LA	Local Authority
LTCs	Long Term Conditions
M&E	Mechanical and Electrical
MMC	Modern Methods of Construction
NHSPS	NHS Property Services Ltd
NIA	Net Internal Area
NPSV	Net Present Societal Value
OJEU	Official Journal of the European Union
ONS	Office for National Statistics
PCN	Primary Care Network
RIBA	Royal Institute of British Architects
SHLAA	Strategic Housing Land Availability Assessment
SME	Subject Matter Expert
SoA	Schedule of Accommodation
STP	Sustainability and Transformation Partnership
VCSE	Voluntary, Community and Social Enterprise
VSC	Voluntary and Community Sector

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