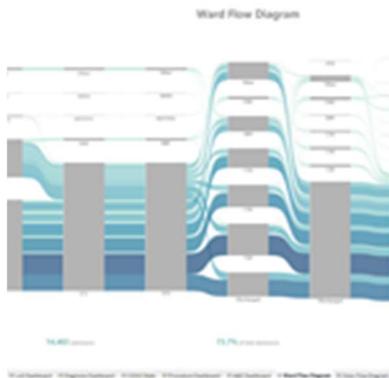


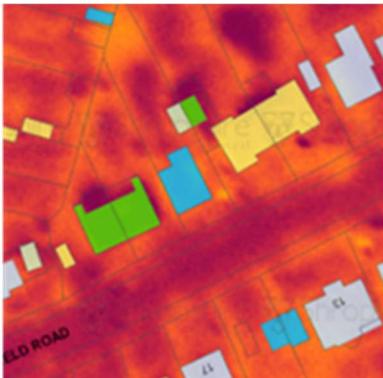
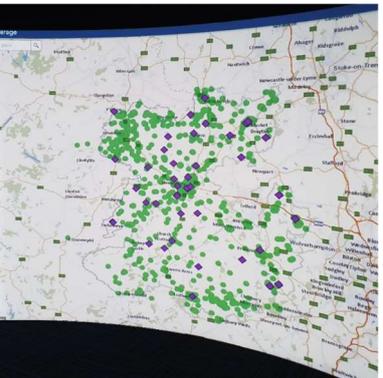
RECAP

Redesign and Empower the Care Provider market

Data visualisation approach dependent on aggregating data to improve commissioning approaches to reduce demand for care.



IMPLEMENTATION PHASE REVIEW 2019



The best way to
predict the future is
to create it

Abraham Lincoln



west midlands
ACADEMIC HEALTH SCIENCE NETWORK

SCDIP Implementation Phase Review

May 2019

Name of the council: Shropshire Council

Project Name: Redesign and Empower the Care Provider market (RECaP)

Project Summary: Data visualisation approach dependent on aggregating data to improve commissioning approaches to reduce demand for care.

This report sets out the key findings from the Shropshire Council RECaP project. You can read about the use cases that have resulted from the project including:

1. Economic forecasting – to support commissioning decisions
2. Market insight – to visualise provider market supply and demand
3. Hidden demand – using data to predict possible future demand for better prevention

The final page outlines the development road map for the Bridge. This includes the latest project incorporating health data to improve social prescribing interventions, reducing high frequency A&E users by 25%.

We hope you will find this report engaging and of interest to you. Please do feel free to contact us via the details below should you have any questions, comments or feedback.

Email: Richard.james@shropshire.gov.uk

Subject: SCDIP implementation phase review questions

See the video from the ADASS Spring conference here:

<https://vimeo.com/333756034/8c3d19aaf1>

SUMMARY

In 2018 Shropshire Council developed a new data analytics platform in partnership with local technology companies and national agencies such as NHS-X and the LGA.

The challenge was to address the poor quality spatial understanding of the health and social care economy. This hindered strategic planning, impacting on the quality and efficiency of services during a time of increasing demand and diminishing recourse.

In response Shropshire developed the Bridge, an unique intelligence platform that harnessed both quantitative data on needs and assets, and more granular qualitative data across different areas and demographics in the region.

The Bridge was implemented in 2019 and is being used to map and understand where and how current and future needs overlap with community assets and other key demographics. This Insight has successfully helped to break through silos in budget and practice.

The Bridge has improved market stability using improved e-brokerage and inform targeted interventions to reduce A&E admittance by up to 60% amongst high risk individual. The Bridge provides commissioners with a dynamic economic forecasting tool that uses the 'economic multiplier' effect to help social care become a driver for the local economy.

The Bridge is now being prepared for commercialisation to ensure the sustainability of the platform and resource further development.

Background

The publication of the Government's [Transformation Strategy](#) effectively kick-started digital transformation across local government, which is increasingly playing a significant role in meeting the needs and expectations of citizens.

In light of this, NHS Digital and the LGA created the Social Care Digital Innovation Program to support local government research projects, with the aim of better understanding new ways of harnessing technology to improve efficiency and provide better social care services.

Modern authorities are expected to do more with less, over the years we have seen how smarter decision making can make this possible. These smarter decisions are driven by better data and greater insight. For many authorities this business intelligence is provided by a performance team and as such there is a limit to what can be done at any given time.

The first version of "The Bridge" was developed by Shropshire Council and VRSS, a local games developer, after being challenged by the Director of Adult Social Care to build a forecasting model for presentation at the ADASS spring conference 2018.

The Bridge is an original tool that has been designed to visualise public sector data and offer unique insight into problems facing the social care provider market and cast light on possible solutions.

Working with VRSS and building on the work of WM ADASS and economist, Sherman Wong, the RECaP project used the "[Caring, jobs and growth](#)" report to build the foundations of a modelling tool that visualises the otherwise hidden economic power of the Adult social care market. The final tool was called The Bridge.

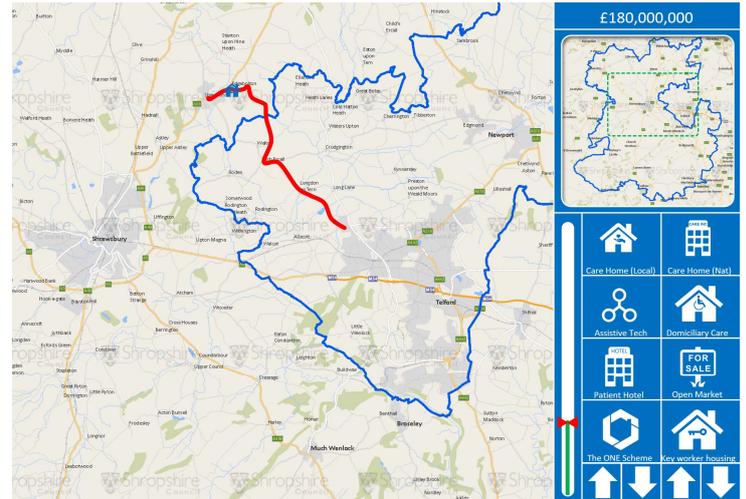
Like the bridge of a ship offers a captain the tools to plot a course, avoid obstacles communicate and affect change, the Bridge informs decisions by visualising council data. This new tool helps to highlight areas of past, present and possible future demand. Council data can 'plug in' to the model and in seconds, visualise the economic impact of commissioning decisions in an area.

The Bridge uses new modelling and visualisation techniques to inform decisions that have helped shape and strengthen local care provider markets and inform the development of future policy and strategy.

Use Case – Economic impact forecasting

The Bridge builds on the work of economist Sherman Wong who was commissioned by WM ADASS in early 2018 to quantify the economic impact of adult social care decisions.

By applying local council data to the model it is possible to visualise and understand the economic impact of social care decisions on an economy. This is currently being used to inform strategic discussions in the council.



Original concept design of the Bridge modelling UI

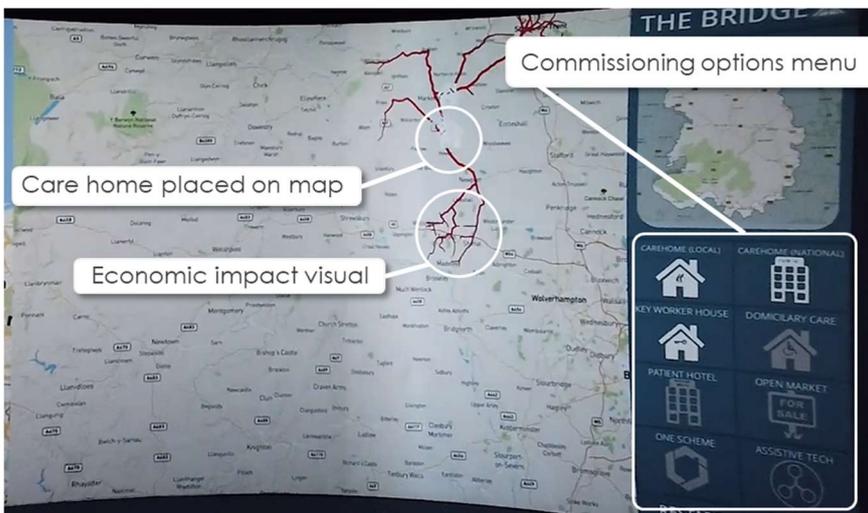


Photo of latest modelling wall in use at ADASS Spring 2019

In this example, the Bridge is helping to visualise how the sector contributes or could contribute to wider economic, social and place-shaping objectives.

Using the Bridge to build the evidence base for alternative models of care provision, map how current & future care needs overlap with community assets and demographics to make the system as a whole more resilient and person-centred.

The Bridge is being tested for use as tool to form the core of economic policy development using insight on peoples actual needs, everyday lives and assets of the communities within an area – rather than grand, regional based strategies that ‘trickle down’ to those on the geographic and demographic periphery.



Metrics wall quantifying impact values from commissioning decision

Use Cases – Market Insight

Across the West Midlands Social Care represents a major economic sector, contributing £4.2bn to the regional economy and employing 165,000 people, of which 15% work in Shropshire.

Social care providers are under increasing pressure to provide more services for less. The provider market is regarded by some as on the brink of, if not already in, crisis. This situation is set to become worse with The West Midlands' population of over-65s expected to increase by 19% by 2025 alone.

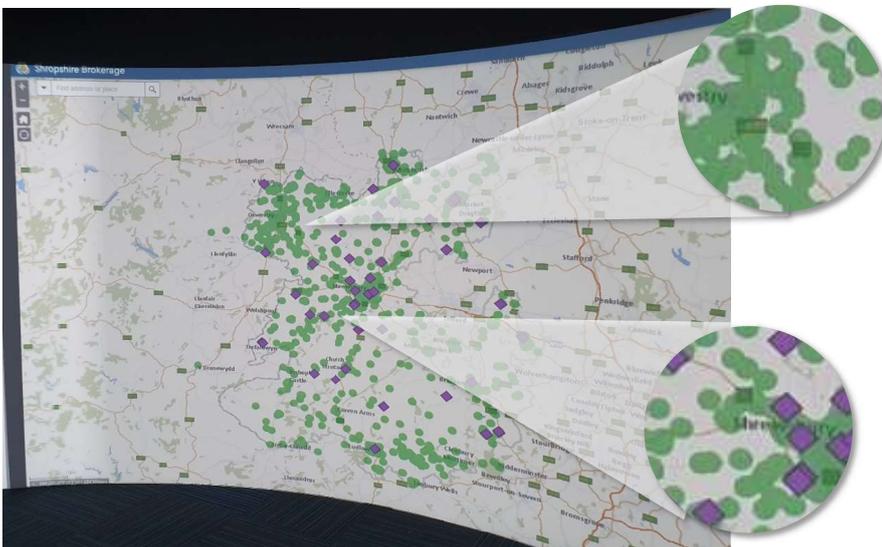
The care provider market has become increasingly unstable after social care budgets being reduced by £7bn across the UK since 2010, an aging population, and a dysfunctional system dominated by 'too big to fail' companies.

This is seen as such an issue that the West Midlands Combined Authority has made one of their top priorities the improvement of care provision using cooperative, mutual or social enterprise models.



The Bridge assists in delivery by helping inform priorities for more small-scale enterprises in economic plans and level the playing field for contracts so they can become more competitive in their locality.

The latest iteration of the bridge incorporates an e-brokerage tool developed by Shropshire Council using the SharePoint platform.



E-brokerage wall displaying care demand and provision.

The green dots indicate care packages that are being delivered. Clusters of green dots demonstrate hotspots of care **supply**.

The purple diamonds indicate requests for care that have not yet been met. This shows where adult social care **demand** is clustered.

Commissioners can now easily visualise areas of supply and demand as well as compare care package prices across the region, making it possible to negotiate better rates and in some cases leading to reductions of up to £5 per hour for care packages, helping deliver significant savings over time.

There was some initial resistance from providers, however the demand data, represented by the purple diamonds, offers providers a pipeline of work helping them to forward plan and improve their competitiveness.

Supporting commissioners and providers to make better decisions together, has helped strengthen the local provider market.

Use Cases – Invisible Demand

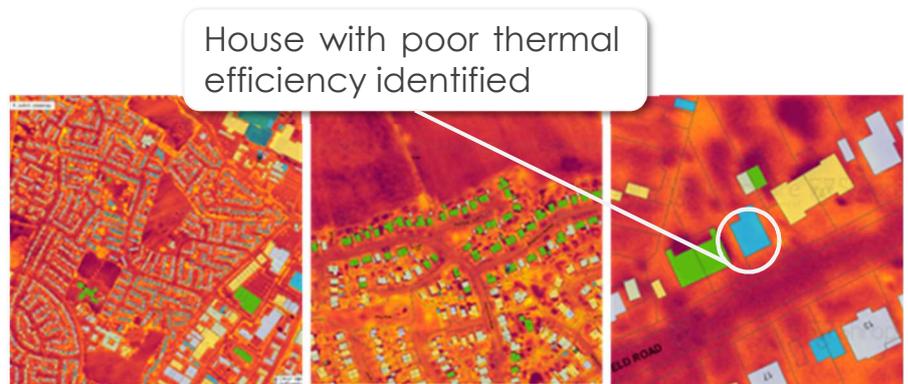
The Secretary of State for Health and Social Care, Matt Hancock, launched his [prevention vision](#) in 2018, making it a key priority alongside technology and workforce. This new vision from the Secretary of State represents a seminal moment for public health.

Good health underpins a healthy economy and for years we have known that prevention is better than cure. Helping people to stay well and in work for longer, helps reduce the number of people reliant on health and social care services later in life. When people become unwell, it's important to help them stay independent in their own home for longer, avoiding a move into hospital or the care sector.

The Bridge is able to indicate areas of hidden future demand using 3 sets of data:

- Household occupancy
- Care records
- Thermal mapping

Layering this data created a risk matrix identifying areas with a high concentration of people over 65, living alone, in cold homes and not in receipt of services. These people are traditionally invisible to us.

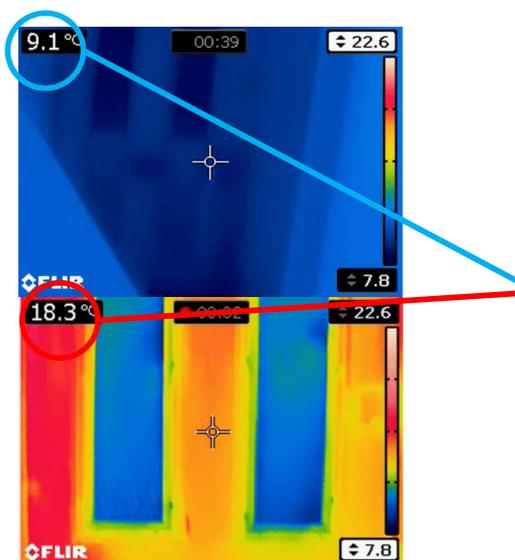


Thermal imaging highlighting properties thermal efficiency

Those at high risk ordinarily enter services after reaching “crisis point. Crisis point interventions are arguably the most expensive and the least effective when compared to preventative interventions.

Work with hospital trust concluded that there was an **80%** chance that someone identified as high risk would be admitted to A&E within a year.

Using this data to inform HeatSavers interventions reduced the likelihood of entering A&E by **20%**, saving the NHS **£400 per bed, per day**. Delaying admittance into a care home would save adult social care **£52,000 per person, per year**.



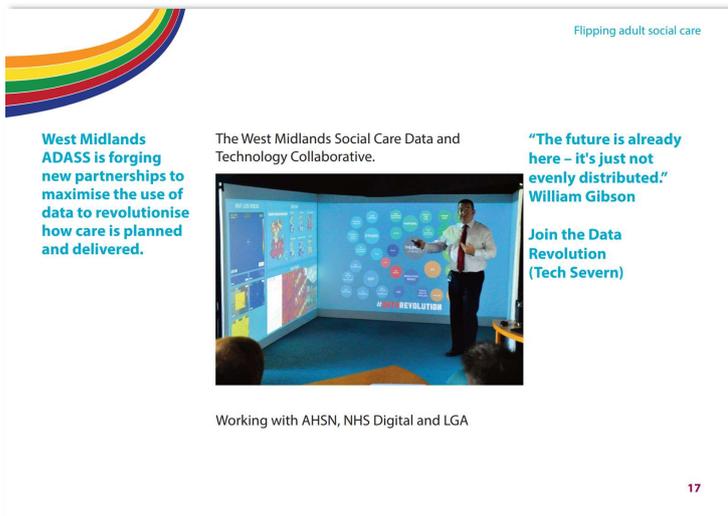
Thermal capture, before and after a heat savers intervention

In one case, we visited a gentleman with arthritis who was living in a cold home, he regularly attended A&E due to trips and falls relating to dizzy spells from UTI's. With the HeatSavers scheme his broken boiler was replaced and heating system cleared. Following the intervention the average temperature of his house rose from **9°C** to **18°C**. We have since seen improvements in his health, fewer GP & hospital visits and better wellbeing now that he feels more comfortable inviting friends and family into his home.

By using just 3 lines of data it is possible to identify hidden demand and engage in true primary prevention leading to improved results, better outcomes at much lower cost.

West Midlands impact

The project has had a significant impact amongst Directors of Adult Social Services and their leadership teams in the region. The prototype of The Bridge has been used to engage Directors, the Regional Commissioning and Performance Networks and has led to more than 50 individual contributions to testing how the concept can be applied to our regional commitment to translate the large-scale data that Councils hold into insight that can assist both in identifying current pressures but also in anticipating future demands.



The Regional Commissioning Network has committed to using The Bridge to visualise the pressures in the care market and regional ADASS has committed some resource to plot the locations of care providers and bed capacity across the region. The Regional Performance and Knowledge Network have interrogated the opportunities to better present performance data and specifically the development of a virtual score card to assist all 14 Councils in sharing and comparing good practice and areas for improvement.

ADASS 2019 [prospectus](#) p.g.17

The Bridge has also led to activity with our partners including the Academic Health Science Network with whom a collaborative has been established which has identified data visualisation as a key focus for joint activity. This approach has been endorsed by the 14 Directors in the region with the Bridge providing a regional stimulus for thinking differently about our approach to the use of data and the potential for social care services to exploit the data that they hold to much better effect.

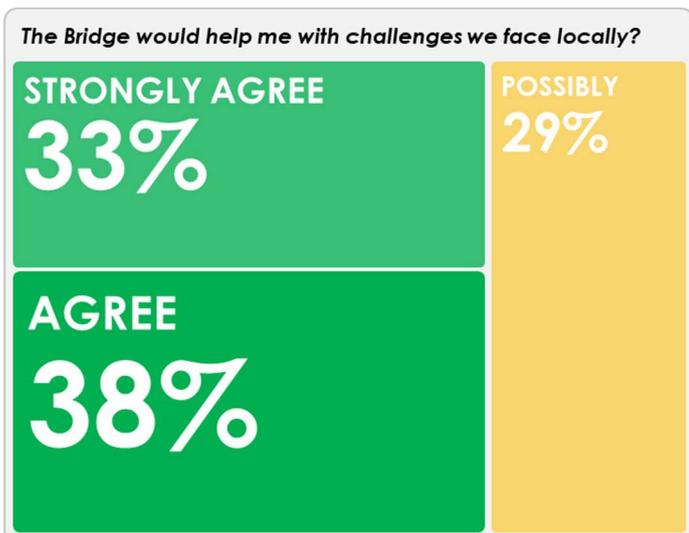


The Science Network, WM ADASS partnership have co-created a vision to build a region with a sustainable health and care system, that supports thriving economies and communities; promoting independence and social justice.

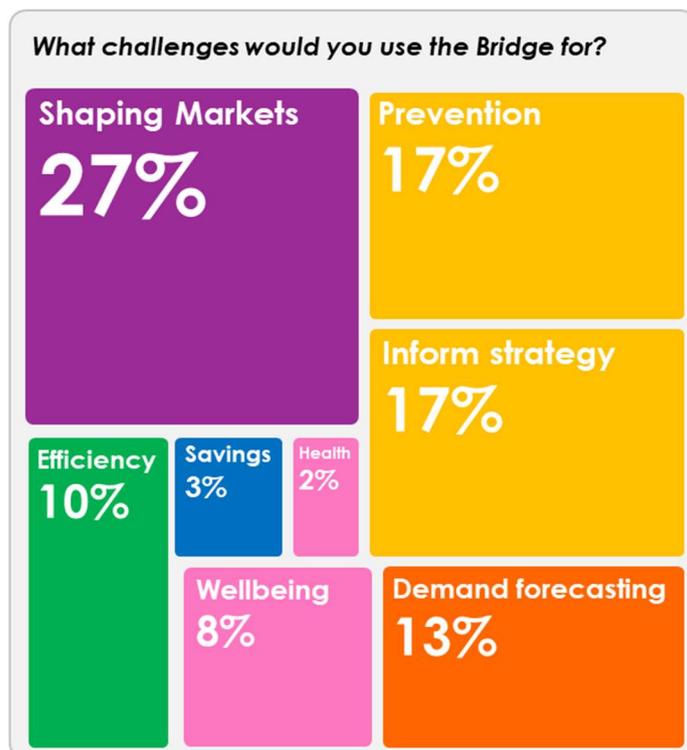
Together they have identified further development of the Bridge as their first key priority.

Feedback and sector insight.

The latest version of the Bridge from this project was presented to 140 Directors of adult social care from across the UK at the ADASS Spring Conference 2019. There was a great deal of interest for the future development of the Bridge to include the integration of health data.

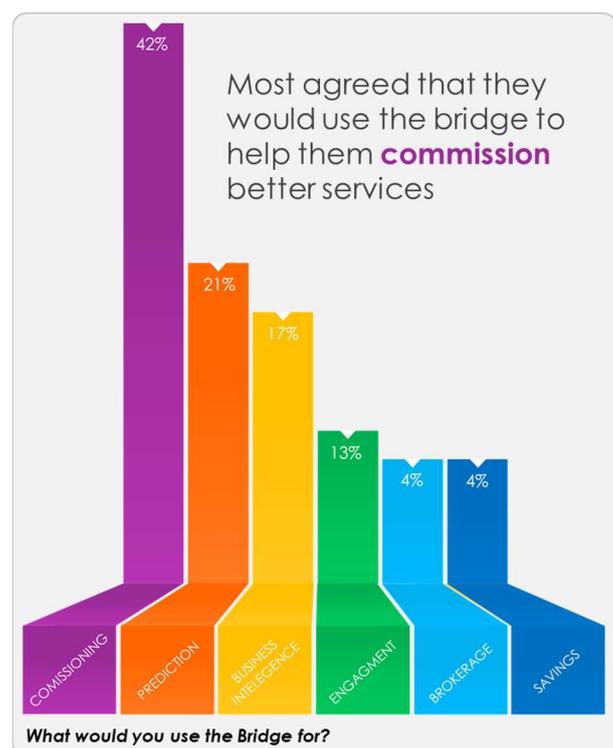


Over **70%** of people agreed the Bridge could help them with **local challenges**.



The majority agreed the Bridge would be most effective if used to **shape markets**, using data to inform conversations and **improve strategies** for service delivery.

Uses



Click [here](#) for the video

Future Sustainability

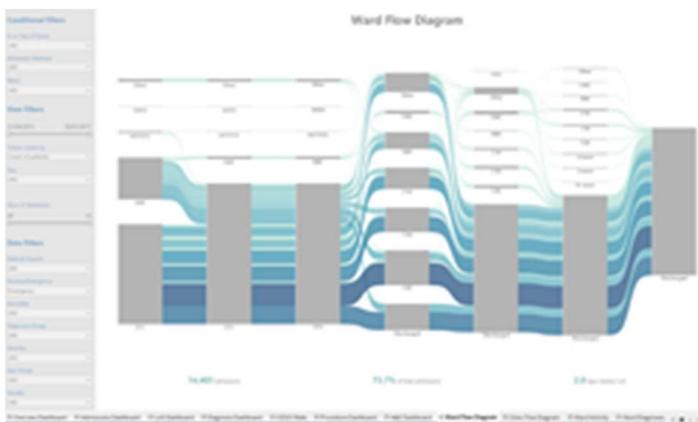
In response to the demand from the sector, development has begun to look at integrating social care data with health sector and community data from IOT devices.

The Bridge is regularly used in meetings to facilitate digital knowledge sharing across the Authority including training & workshops. With improvements being felt in understanding and quality of insight, improving confidence amongst stakeholders, around decisions being made.

The vision for the Bridge is for it to evolve, and begin informing systemic interventions across health and social care. The next stage will further develop tools for pathway analysis to reduce failure demand associated with bottle necks in A&E.



Work has begun with innovative, London based, health analytics company, [33N](#) to link in with other project work that has successfully tracked patient flow through the A&E system. The predicted outcome is to reduce A&E admissions from 'high frequency users' by 25% within 6 months of operation, in real terms this represents a reduction in A&E attendance by 300, reducing demand for vital services and saving a minimum of £90,000 per year.



Snakey diagram tracking patient flow through A&E

The Bridge will take advantage of live health data from the community as part of Shropshire Council's collaboration with Samsung on the [ActivAge](#) project. Data from volunteers can help predict and prevent the onset of conditions that would require a health or social care intervention, helping to enhance the regions social prescribing work and improve market stability by reducing demand.



Moving forward the team that developed the Bridge will expand the remit and capability of the bridge to include more datasets to cover a wider array of sectors including housing, health and economic development. Options for commercialisation will be explored to ensure the sustainability of the platform and Shropshire's search for expertise and collaboration with private and public sector organisations will continue for the foreseeable future.

