

Local Intelligence Support

Making an impact with data locally



Our story so far...

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Director's Overview



We live in the digital age; the world around us is being transformed by the ever increasing power of data that enables better insight into how we live our lives. Businesses are investing in the transformational power of data to deliver new digitally based services that are changing the way we lead our lives; many of those that are not are failing. The choices facing public services are really no different, either the transformative power of data and digital is used to drive new ways of supporting citizens or we can retain outdated service models that will fail in responding to increasing demand.

Earlier this year the Government published its Digital Health and Care Strategy; we all need to work together to ensure we deliver its transformative vision.

Accepting that we need to up our game in how we make use of data; it is worth noting that ISD has a long history in building knowledge from data across a range of topic areas. However, that knowledge has tended to be held centrally and shared in a 'one size fits all' approach. The Local Intelligence Support (LIST) in its short history has given us glimpses of the transformative power of liberating national data and knowledge to support change at local levels. One of the keys to its success has been the ability to draw on the critical mass of analytical skills in ISD to develop bespoke solutions to local issues, whilst also being able where appropriate to spread practice across the country.

I am clear that we need to continue to leverage more of the knowledge and skills held at a national level into a local context. The move of ISD into Public Health Scotland in 2019 increases the imperative on us to do this, specifically with a focus on driving improvement across the recently published public health priorities. I passionately believe that marriage of national and local capabilities with the embracing of data and digital technologies are the keys to Scotland making progress against the most intractable of challenges contained within the public health priorities.

The following pages take you on a journey and showcase some of the work done by LIST and the local areas we have had the honour to work alongside. The results in the report therefore generally relate to local findings rather than presenting any national trends. We believe these stories demonstrate the value of coproduction and cross sector working locally, through the 'power of data'.

Phil Couser, Director of Public Health and Intelligence

Introduction

I joined LIST over a year ago to lead on the development of our extended service offering to support GP Clusters and Cluster quality working and my feet have yet to touch the ground. Prior to joining LIST I have a varied lived experience across ISD's specialist service areas.

Throughout my career I have never been shy of a challenge and the fast paced nature of LIST has certainly meant that no two days are the same. I think that is what it takes to work locally. Be prepared to move at pace, expect a challenge and do not think that tomorrow will be the same as yesterday. It is a testament of the resilience of the team that even in a pressured fast paced environment they continue to meet the demand and add value to the work being delivered locally.

The pages within this report tell just a few of our stories and work we have, and continue to, support locally. I would like to thank all those involved in pulling these stories together and their commitment to make this happen. It is not always easy to take time away from the day job whilst continuing to support local priorities.



David Baird, Service Manager

The main purpose of LIST is to help organisations deliver the best possible services across Scotland. And therefore to improve the lives of the people in Scotland.

This is a privileged position for us in LIST. We get the opportunity to work closely, locally, with colleagues across sectors – to understand their challenges in meeting the health and care (and wider) needs of the population. In ISD we have a duty to use data for the public good. LIST presents the opportunity to do this in new ways, to offer the specialist skills, national tools and data access of ISD to combine with local information, planning and practitioner expertise.

This can be challenging during a time of many changes – in resources, technology, treatments, expectations, structures and so on. However, the work is tremendously rewarding for LIST – helping us fulfil our duty to provide evidence to improve decision-making.

I hope this report that has been produced by David and LIST colleagues gives an insight to the benefits of working with ISD - and stimulates ideas for further collaborations, using the power of data.



Philip Johnston, Service Manager

What we Do

Meet the Team

What we Do – Meet the Team

"We can help our customers gain deeper insights into data where our advanced analytics allow you to access, blend, explore and analyse our many data sets."

Integration of health and social care has been introduced to change the way key services are delivered, with greater emphasis on supporting people in their own homes and communities and less inappropriate use of hospitals and care homes. The legislation requiring integration of Health and Social Care came into effect in April 2016 with the new Integration Authorities (IAs) having responsibility for managing budgets of over £8 billion.

In order for Integration Authorities to commission and deliver services that best meet the needs of local communities (and to intervene at an early stage to address health problems), it was recognised they would require access to information and analysis to support evidenced based decisions and service change.

In response to this, the Local Intelligence Support Team (LIST) was deployed within Integration Authorities across Scotland from April 2015. The LIST team is part of the Information Services Division (ISD) of National Services Scotland (NSS). NSS-ISD brings decades of experience and expertise in analysis to the task of improving local and national decision-making. One part of this wider holistic offering is the multi-disciplinary Local Intelligence Support Team (LIST).

During 2017 the Scottish Government invested, over a 3 year period, £50 million to address immediate workload and recruitment issues, as well as putting in place long-term, sustainable change within Primary Care. The planned increase in Primary Care funding focuses on the imperative to ensure such funding is spent wisely. The Audit Scotland report 'NHS in Scotland 2016' described the need for, and aim of, increased joint working between GPs and others, including Integration Authorities.

Over the course of 2017 LIST expanded its already successful service in to Primary Care. Expanding more formally in to Primary Care has ensured the LIST service has supported Cluster Quality working¹ leading to actionable intelligence and improved outcomes for service users. The expanded LIST service is a multi-disciplinary team, connected to other Teams across ISD, for example Primary Care (SPIRE), Prescribing, National Health and Social Care (Source) etc.



What we Do – Meet the Team

The role and function of LIST

The LIST team is deployed across Scotland to support Health and Social Care integration and Primary Care GP Clusters. LIST has been providing on-site expert analytical support helping to source, link and interpret data. The LIST service has provided local decision makers with meaningful and actionable intelligence, leading to improved outcomes for service users and patients.

Working alongside both local and national teams we have been:

- Improving information expertise by further developing capability and capacity by providing high value and value adding analytics, enabling knowledge transfer locally.
- Enabling access to national resources and specialist expertise to support local analytics, for example SPIRE, Source, Primary Care Dashboard etc.
- Improving local access to national information, which includes complimenting the switch on and use of SPIRE.
- Bringing people together across health care, social care, Primary Care and other organisations to support decision-making and service change.
- Sharing and learning from best practice across Scotland enabling a 'do it once for Scotland' approach.
- Providing insights to patient pathways, identifying where improvements might be made.
- Benchmarking, data visualisation, statistical analysis and interpretation.
- Identifying data gaps, streamlining data collections and developing new datasets.

LIST is made up of a mix of staff with varied skills (data analysts, data scientists, project managers, data managers, information managers, information governance and graphic and digital design) which has allowed the team to flex resource and skills across local areas and regions to meet local demands, priorities and requests for specific skill sets. This in turn has also enabled knowledge and skills transfer both locally and nationally.



What we Do – Meet the Team

In addition to supporting Health and Social Care Partnerships and Primary Care GP Clusters, we have also been working with Community Planning Partnerships, Local Authorities, Third Sector and Voluntary Organisations.

Within LIST we pride ourselves in helping our customers to gain deeper insights in to data where our advanced analytics allow our customers to access, blend, explore and analyse our many national and local data sets. Providing local decision makers with meaningful and actionable intelligence, leading to improved outcomes for service users and patients has been a key role for LIST.

We have also helped our customers to share learning and best practice across Scotland as well as providing insights in to people's pathways across the health and care setting. Working locally has also allowed us to bring people together across health care, social care, Primary Care and other organisations to support decision making and service change.

Additionally, we also help our customers to connect to other teams within NSS-ISD where further support is available. This includes sign posting to our many national products and services such as Discovery, Source, SPIRE and Primary Care Information Dashboard.



**How we are
helping**

**Health and
Social Care
Partnerships**

How we are helping - Health and Social Care Partnerships

"LIST has been a fantastic support, providing data for our Joint Needs Assessment, Locality Planning and Strategic Priorities. They have become part of the team and have brought a helpful, different perspective of available data"

Fiona McCulloch, East Dunbartonshire HSCP

Health and Social Care Integration has been instrumental in shifting the landscape over the last 3 to 4 years, as Integration Authorities across Scotland have taken responsibility for planning integrated health and social care services. It was acknowledged that data and intelligence would play a key part in moving forward the integration agenda helping to evaluate services, through providing evidence for change. LIST has been playing a key role in providing analytical support locally and supporting the integration agenda.

We have made an impact by working alongside local teams providing on-site, be-spoke, expert analytical support helping to source, link, analyse and interpret data. Working locally alongside Health and Social Care Partnerships has allowed us to better understand local priorities where we have produced analysis and interpretation that provides local decision makers with meaningful and actionable intelligence.

Below we have shared just a few of our stories on how we have worked with Health and Social Care Partnerships to co-produce and co-design analysis. This has, for example, included us supporting Strategic Commissioning Plans, Locality Profiles, Health Needs Assessments and Performance Measures, such as those required as part of the Ministerial Group Indicators (MSG).



How we are helping - Health and Social Care Partnerships

Homeless Needs Assessment

Homeless people are a key vulnerable group who experience health inequalities with higher morbidity and mortality than the rest of the population.

LIST analysts have been working with one Health and Social Care Partnership as part of their objective to reduce health inequalities by co-producing a health needs assessment for homeless people.

Linking client data from homelessness (HL1) applications with local and National Health Service data allowed in depth service utilisation analysis of this cohort, compared to the wider partnership population to be performed.

The analysis gave front line workers a greater insight into the needs of the homeless population and flagged up the considerably greater health burden experienced by this group, particularly in relation to mental health and substance misuse.

The intelligence from this analysis was used to inform and develop a multi-agency health and homelessness plan, which aims to improve outcomes for this vulnerable population.

At a Glance



A total of **1,957** people made a homeless application to this one partnership in 2014/15.

5x



The **HL1 cohort** was **five times more** likely to have attended A&E three times or more in the preceding year, compared to the **wider partnership population**.

3x



The percentage of new outpatient appointments not attended was **three times higher** for the **HL1 cohort**, compared to the **wider partnership population**.

10x



The rate of psychiatric admissions was **tenfold higher** for the **HL1 cohort** when compared to the **wider partnership population**.

3x



The rate of prescribed drugs under the anti-depressants group was **three times higher** in the **HL1 cohort** compared to the **wider partnership population**.

How we are helping - Health and Social Care Partnerships

Homeless Needs Assessment cont

At a Glance (key points)

- A total of 1,957 people made a homeless application to this one Partnership in 2014/15
- Younger adults under the age of 25 are disproportionately affected by homelessness.
- Almost half of all homeless applicants identify they have support needs, of which 23% have multiple needs. A small number of clients with multiple and complex needs can have difficulty sustaining accommodation.
- When compared to the wider Partnership population, the HL1 cohort was;
 - Five times more likely to have attended A&E three times or more in the preceding year.
 - 20 times more likely to have presented at A&E due to self harming
 - The rate of psychiatric admissions was tenfold higher.
 - The percentage of new outpatient appointments not attended was three times higher.
- The rate of prescribed drugs under the anti-depressants group was 3 times higher.

"I would like to take this opportunity to provide feedback on the positive contribution that the local LIST staff are making in helping us form the future for health and social care integration.

They have been exemplary professionals and have produced on time and to a very high level. We are now accessing intelligence that is enabling us to develop new approaches to the provision of health and social care.

This initiative is an excellent example of how a national body can fully support local systems"

Gabe Docherty NHS

How we are helping - Health and Social Care Partnerships

Accident & Emergency Frequent Attendees (FA)

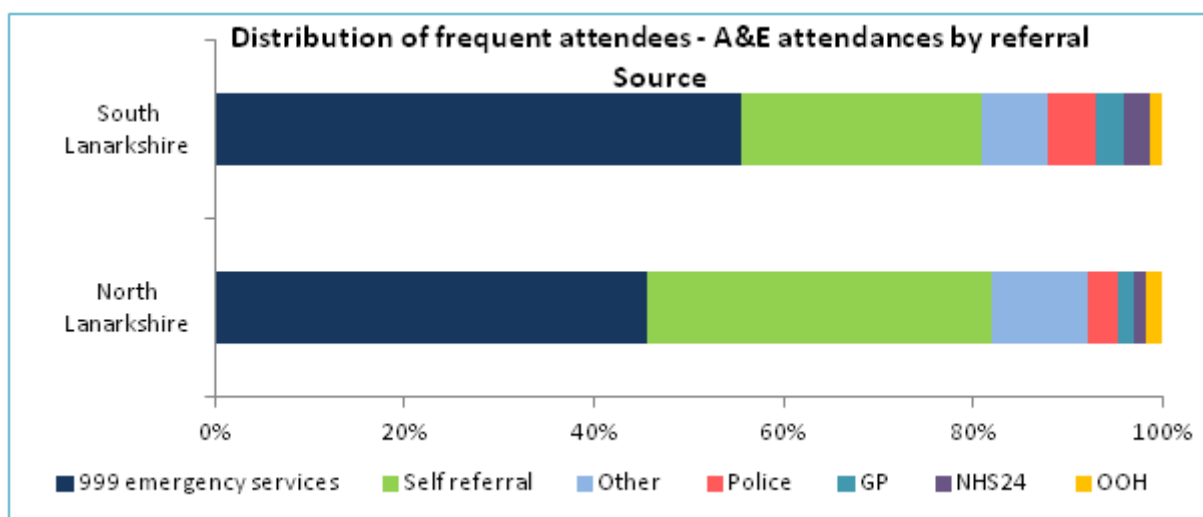
LIST analysts conducted a deeper dive analysis of A&E attendances for 2014/15 and 2015/16 that highlighted approximately 40% of the Top 100 attendees in 15/16 were also ranked in the Top 100 in the previous financial year. Some of these individuals had over 40 A&E attendances in a single year, the highest having 76 attendances in total.

The analysis identified that overall the majority of FA were male (57.5%), with a higher proportion being male in South Lanarkshire (62%) compared to North Lanarkshire (53%). Other notable characteristics included:

- 83% and 92% were under 65 years of age in North and South Lanarkshire respectively.
- 90% had at least one Long Term Condition (LTC), with 37% having more than five LTCs.
- 77% of FA lived in the most deprived areas (SIMD 1 and 2).
- Mental health related issues accounted for the top three reasons for A&E attendance, including 'mental health - alcohol' and 'mental health – feared complaint no diagnosis'. These are similar issues identified in a UK study that reviewed reasons for frequent attendances to A&E.
- FA attendances peak later on at night (4-9 pm), the general population's A&E attendances peak in mid-morning/afternoon (11am-1pm).

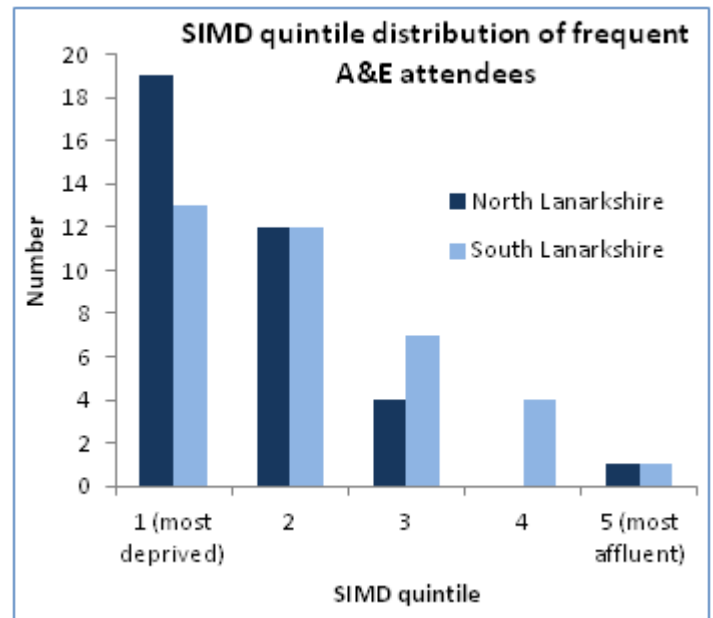
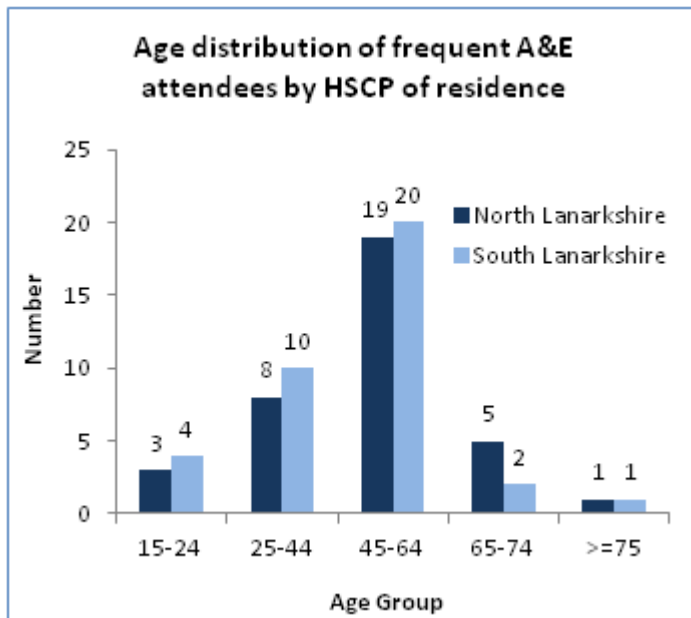
These data indicated that the FA within Lanarkshire are predominantly a younger cohort (i.e. not frail elderly), vulnerable and facing the multiple challenges of deprivation and poor health, both physical and mental.

Lanarkshire FA were more likely to present at A&E via 999 emergency services compared to all A&E attendances in 2014/15 (51% versus 21%). In addition, 4% were referred by the Police.



How we are helping - Health and Social Care Partnerships

Accident & Emergency Frequent Attendees (FA) continued



In light of this work a Short Life Working Group (SLWG) was established with the aim of leading a reduction in frequent A&E presentations, improve enhanced health and wellbeing outcomes for patients in this cohort and to ensure effective and efficient use of limited resources.

As part of the SLWG a multidisciplinary group met to review a sample of the relevant case notes related to the FA cohort, and to identify more depth and understanding of the common and recurrent themes in the attendances. This highlighted that a significant proportion of A&E attendances by FA are associated with vulnerability, isolation and loneliness.

The evidence from the analysis and the case note review has helped formulate a draft action plan which includes a number of recommendations; these are being considered by the Unscheduled Care Programme Improvement Board.

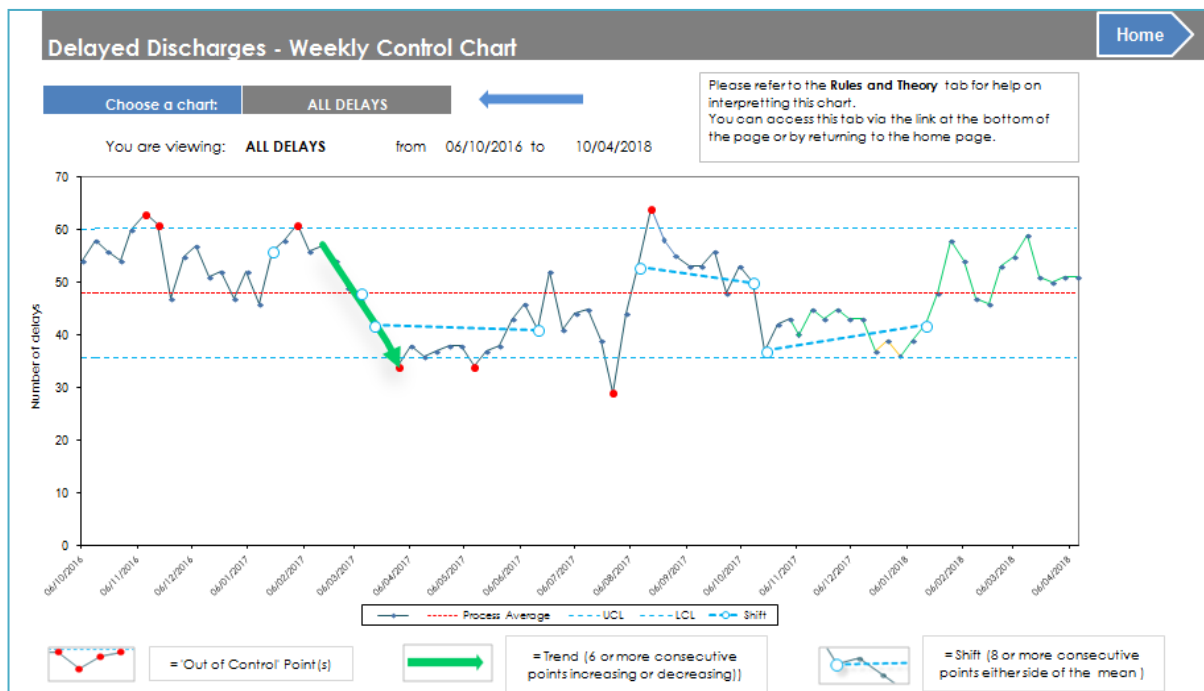


How we are helping - Health and Social Care Partnerships

Delayed Discharge Dashboard

One advantage of LIST being placed in local Health and Social Care Partnerships is they are able to look for opportunities to apply their skill set to support local operational managers. In one Health and Social Care Partnership they were asked to review the weekly reporting of delayed discharge information. LIST analysts recognised that there was an opportunity to apply new analytical techniques and presentation methods to support the operational manager's ability to interpret the data and monitor performance.

LIST developed a dashboard that utilised Statistical Process Control (SPC) methodology and presented the data in a visual manner that allows the Partnerships to better understand variation, evidence improvements and support decision making.



This approach has proved popular with local senior managers, including the Chief Officer, Head of Social Work and Service Managers, and the dashboard is to be expanded to support performance management and decision making across other social care services such as homecare.

The Delayed Discharge Dashboard presents concise, accessible, relevant and timeous discharge information in a visual manner that I find very supportive in my role of service manager. The information has afforded me the opportunity to interpret and monitor data with ease and recently it supported colleagues and I to undertake development work with regard to Adults with Incapacity processes which is improving outcomes for people within the FHSCP.

The LIST analysts are very open to suggestions re changes/additions and future developments and therefore I am confident the dashboard will continue to be exceptionally useful in the future

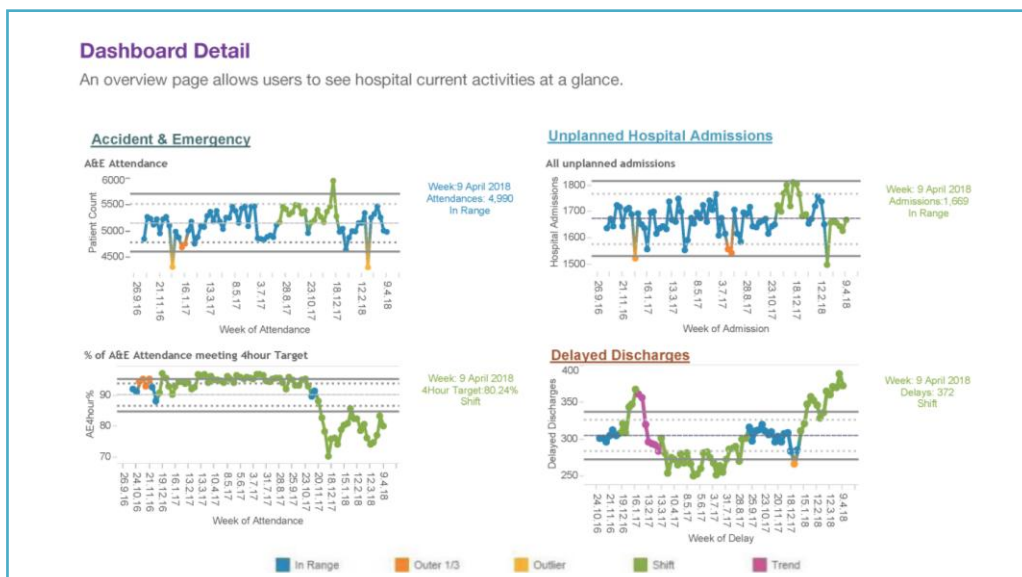
Gina Anderson - Service Manager Social Work Adult Services (Falkirk HSCP)

How we are helping - Health and Social Care Partnerships

Hospital Flow Dashboard

The four Lothian Health and Social Care Partnerships worked in collaboration with LIST to produce a dashboard to support both Health and Social Care staff in performance management and to support operational decision making. A be-spoke specification was agreed and LIST analysts built a 'Hospital Flow' dashboard in the visualisation tool 'Tableau', using the hospital's TRAK system data. The dashboard uses Statistical Process Control (SPC) methodology to identify 'special cause' variation. Where special cause variation is present, root cause analysis is undertaken to identify why. The Hospital Flow Dashboard is interactive, easy to use and statistically meaningful. Data can be filtered by Partnership, Locality, Hospital, Admission Type, Specialty and GP Practice; as well patient demographics (See Diagram 1 below). Understanding variation around service demand will help support quality improvement in the hospital and community.

To support use of the product each LIST member across the Partnership is assigned to a Locality Manager to act as a 'Buddy'. Managers can then approach their 'Buddy' with further questions and to aid with interpretation and further analysis.



Visualisations

The Local Intelligence Support Team (LIST) has spearheaded a new way of working locally with a broad range of public and third sector partners to deliver actionable intelligence in order to drive improved health and well being outcomes. The Team combines their specialist analytical and information skills with the knowledge of local staff. This joint working improves local capability and capacity, to help unlock the power of data. Utilising tools such as Microsoft Excel, R, and Tableau, LIST have produced visualisations (including dashboards) to make data more accessible and easier to interpret.

How we are helping - Health and Social Care Partnerships

Community Link Workers

“Scotland’s most deprived communities need additional support, so we will recruit at least 250 Community Link Workers to work in GP surgeries and direct people to local services and support”.

(A Plan for Scotland, SNP Manifesto 2016)

The Community Link Worker’s role was further established in North Ayrshire after the above Scottish Governments announcement. The Community Link Worker plays a key role in engaging with people through the provision of social prescribing services and aims to prevent contact with the GP through the programme.

LIST analysts have been working with the Primary Care Development Manager within North Ayrshire to help analyse the data collected by Community Link Workers and to produce dashboards in the visualisation tool, Tableau .

The data is recorded on EMIS (GP IT system) by the Community Link Workers within North Ayrshire, which is then extracted by the GP who sends the data to the Primary Care Development Manager. Using the data received, the LIST analyst developed a tableau dashboard to help analyse the data and visualise the main uses being made of this service. The tableau dashboard allows the user to drill through the data with the ability to look at locality, GP practice, age, gender and SIMD. The dashboards are updated and maintained on a regular basis to support on-going local use.

The analysis has given the Primary Care Development Manager a greater insight into the use of the service and flagged up the most common reasons for referral in relation to Mental and Financial health. It is anticipated that LIST analysts will help support evaluation of the service in terms of ‘avoided GP contact time’.

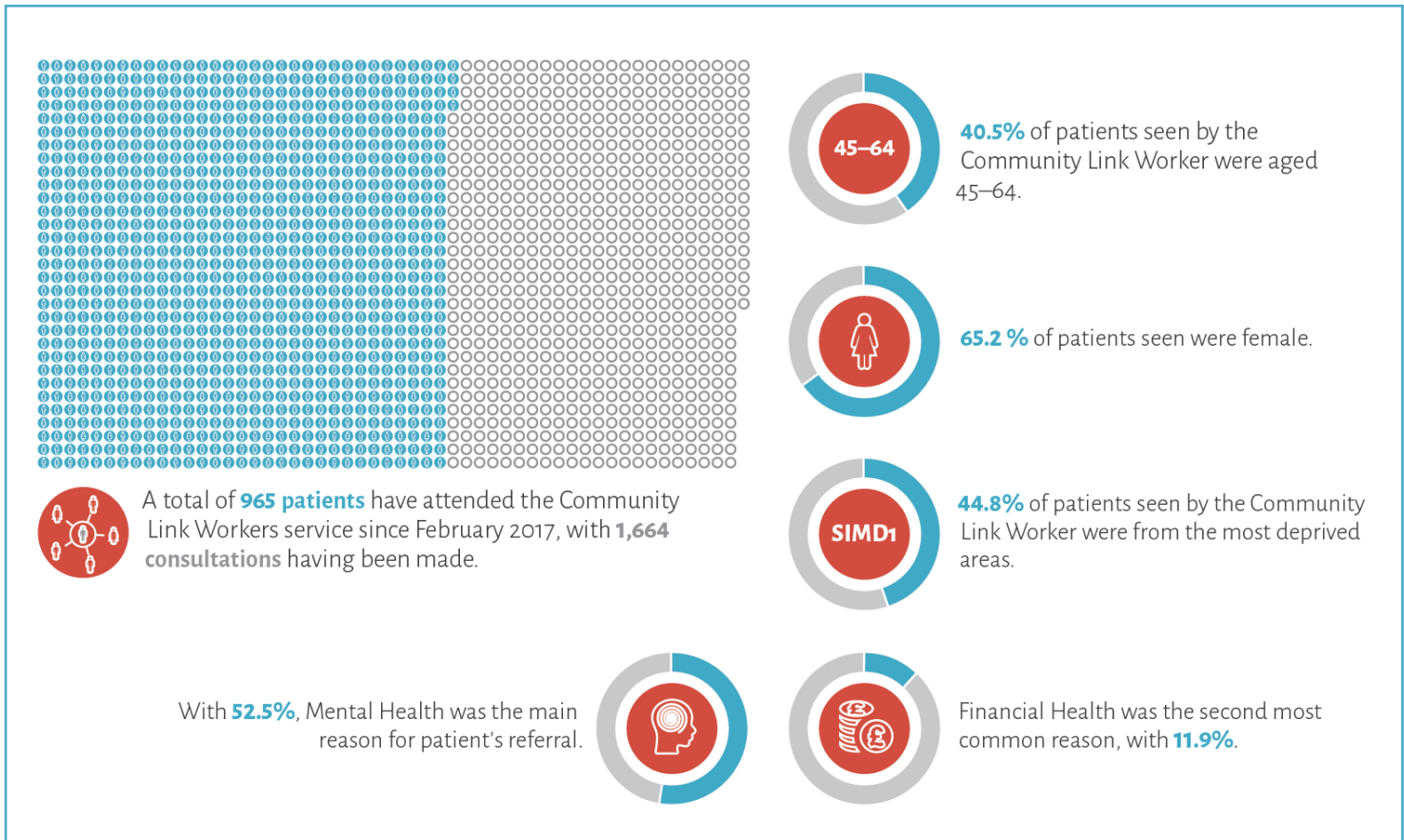
Further evaluation by Health Scotland is currently taking place on the Community Link Workers Programme throughout Scotland which will contribute to ongoing learning about the role of the programme in improving outcomes at an individual and Practice level, and within the Community and Third Sector.



How we are helping - Health and Social Care Partnerships

Community Link Workers continued

At a Glance



At a Glance (key points)

- A total of 965 patients have attended the Community Link Workers' service since February 2017. With 1664 consultations being made to the service.
- Those aged 45-64 were most likely to attend. With 40.5% of patients seen by the Community Link Worker in this age group.
- More than half of the patients seen were female (65.2%, 629).
- Those patients from the most deprived areas are more likely to attend the service with nearly half (44.8%) of patients who were seen by the Community Link Worker from SIMD 1.
- Mental Health was the main reason for patients' referrals, with 52.5% (1,301) referral reasons being for Mental Health. Financial health was the second most common reason for referral (11.9%).

How we are helping - Health and Social Care Partnerships

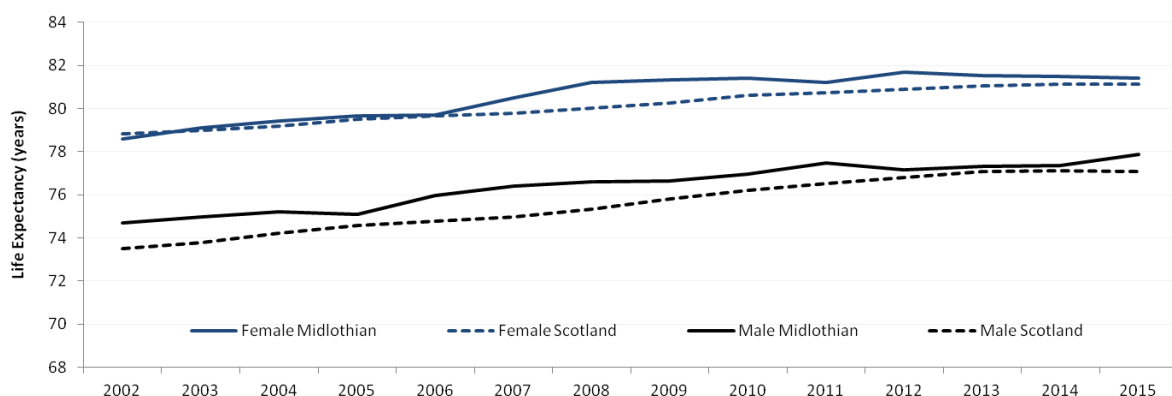
Mid Lothian Inequalities Project

The National Review of Health Inequalities, 'Fair Society, Healthy Lives', led by Sir Michael Marmot in England, drew on extensive global research into Health inequalities. It reflected on existing inequalities in the society and suggested that instead of taking a targeted approach wherein services are only aimed to improve the health of the most disadvantaged, a proportionate universalism approach is apt. In this approach, resources are allocated universally but at a scale and intensity that is proportionate to population need. Thus this would not only reduce the steepness of the social gradient in health, but also do this with a scale and intensity that is in proportion to the level of disadvantage.

LIST, in collaboration with public health consultants in Lothian, developed a set of inequality indicators. To this end, data from a variety of sources (NSS Discovery tool from ISD and ISD prescribing information, as well as from Education and NoMIS (UK labour market statistics) was synthesised and a range of reports are in progress to examine absolute inequalities Intelligence gathered from this piece of work. It is envisaged this work will help to identify opportunities to prevent and mitigate health inequalities. For instance, the life expectancy indicator is illustrated below.

Life expectancy: charts below show the estimated average life expectancy (for males and females) at birth. In recent years life expectancy for women in Midlothian has stalled at 81.4 years while male life expectancy at 77.9 years continues to increase. It should be noted that there was a downward move in 2012 for male life expectancy which has only just recovered. The plateau in female life expectancy is consistent with a UK trend and reasons for this stall and potential decline are being investigated. The gap in life expectancy between people living in most deprived communities is 8 years for males and 5 years for females. This is a reduction on previous years but it appears that life expectancy for a woman living in the most deprived communities has stalled.

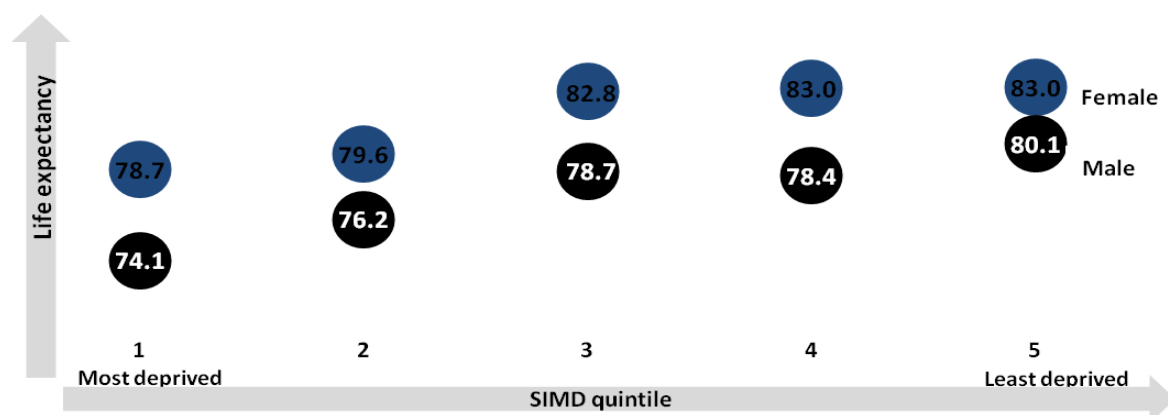
a) Life expectancy by sex for Midlothian and Scotland, 2002-2015



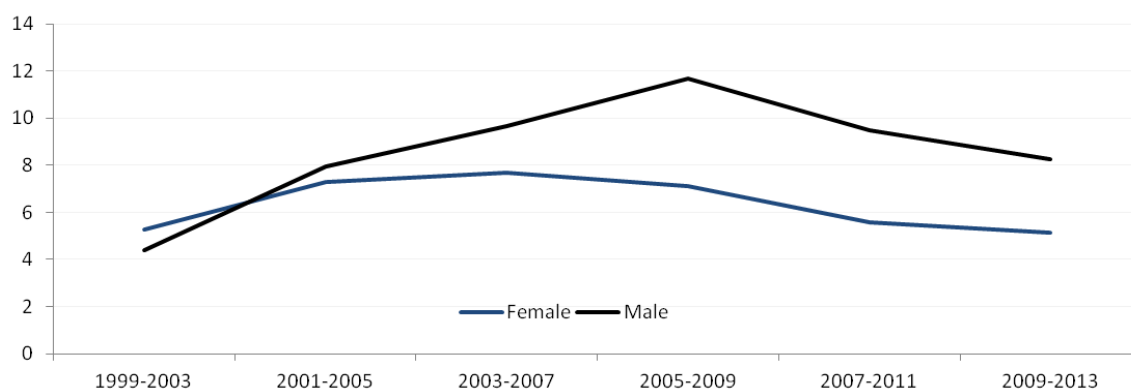
How we are helping - Health and Social Care Partnerships

Inequalities continued

b) Life expectancy by sex for Midlothian and Scotland, 2002-2015



c) SII for life expectancy by sex, 1999-2013 - Midlothian



References:

¹ Marmot M, Atkinson T, Bell J, Black C, Broadfoot P, Cumberlege J, et al. Fair Society, Healthy Lives. The Marmot Review. London: The Marmot Review, 2010.

² Slope Index of Inequality (SII) is the absolute difference between the least and most deprived, using a method that takes into account the trend over all five quintiles for each indicator.

³ Life expectancy at birth for an area is the number of years that a newborn baby would live if they experienced the age-specific mortality rates for that area, for the time period used, throughout their life. It is a theoretical measure which reflects recent mortality rates throughout life, rather than a true prediction of the life expectancy of the local population. Life expectancy is calculated using NRS mid-year population estimates and death registrations (by year of registration). The life expectancy by SIMD is based on the average life expectancy for the five year period (HSCP SIMD quintiles are used).

How we are helping - Health and Social Care Partnerships

Residential Care Redesign

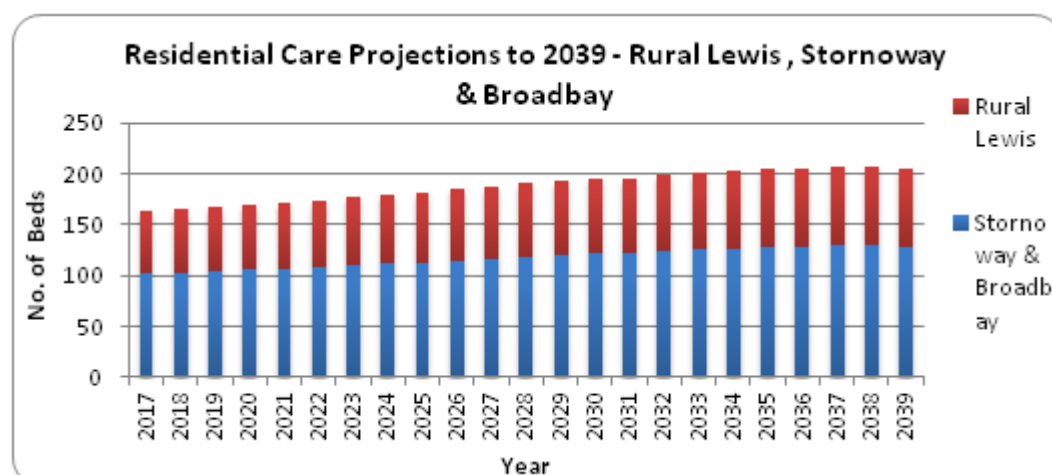
The Western Isles Integrated Joint Board had identified that the Residential Care estate servicing the population for two Localities required modernisation to meet changing needs and legislation. The LIST analyst worked with Health and Social Care team members to establish the factors that they identified in their professional capacities as important in determining when an individual required residential support and the types of support required.

Using this information, projections for the next 20 years surrounding Residential Care need were produced alongside in-depth information showing proportions of people expected to have selected Long Term Conditions. Additional analysis identifying which Communities people had spent the majority of their time prior to entering Residential Care was also included to support the IJB in deciding on the Estate distribution within the localities.

The information produced by LIST was used in a 'Design' workshop bringing together Health and Social Care Professionals and members of the Third Sector, such as Carers Groups. The information was used to support those present to make informed recommendations on the size, design and distribution of the new estate.

The chart below looked at projected Residential Care demand in the two localities. This was developed by reviewing use of the current estate and demand as length of time people wait for a Care Home Place for a 3 year period. The median value from this was used to forecast what demand would look to 2039. This supported by:

- Establishing the scale of potential demand helped the group understand the size of development that they would be designing to meet current and future needs.
- Looking at the two localities separately helped the IJB establish how their vision of delivering services close to peoples' Communities could be realised.



The Workshop outcome was to recommend that a mix of Housing with Extra Care and Residential Care be split across the two localities to meet the Health and Social Care needs of the population.

How we are helping - Health and Social Care Partnerships

Supporting Strategic Planning

A key function of the LIST team has been to provide robust data and intelligence to support the strategic planning process. Placed across both national and local organisations the LIST team has been able to take advantage of their unique understanding of the national data landscape to support the development of Strategic Needs Assessments.

Many members of the LIST team made significant contributions to local Strategic Needs Assessments across the country. Our LIST staff were able to combine their knowledge of the available data sources with clear and concise interpretation of the analysis to provide robust evidence to support the Health and Social Care Partnership Strategic Plans.

An important part of the Health and Social Care Integration legislation is the creation of Localities with Locality Plans. This is a way of bringing decision making about Health and Social Care Services closer to communities allowing decisions to be made by communities and those working in them. It also supports decisions to be made on Health and Social Care priorities and how these can be addressed.

In Fife, the Locality Planning process is an opportunity for service providers (clinical and non-clinical) to come together with people and communities who use these services to improve health and wellbeing outcomes.

In Fife, LIST analysts produced a locality profile for each of the seven localities. Data from a number of sources were used, including National Records Scotland, Scotland's Census, ScoPHO, Home Care Data, and from various health datasets held by ISD. Overall there were 90+ indicators reported on in each profile, where a comparison was made with the locality position compared to Fife as a whole.

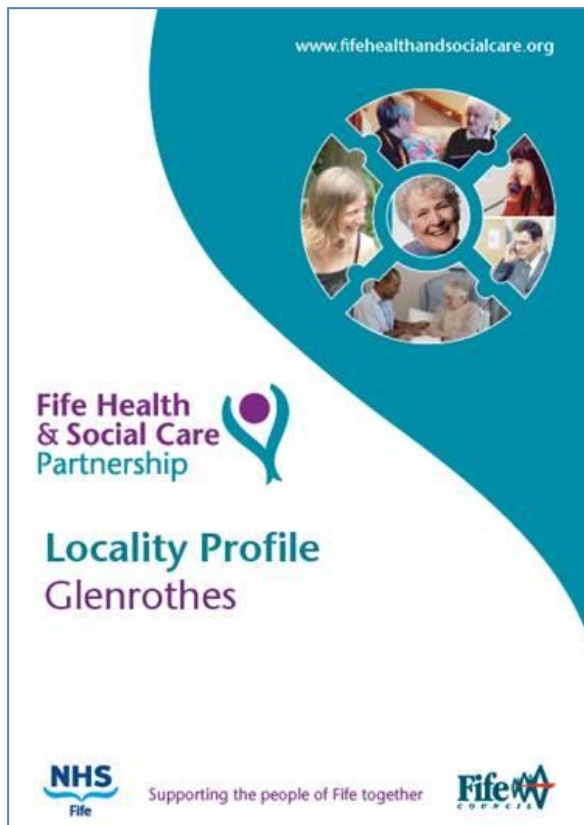
The key data in each of these profiles were presented to a series of "Creating Healthy Communities" road shows, one for each locality. These were made up of representatives from the Community, Primary Care, Secondary Care and Third Sector in each locality. From these events, Locality Planning Groups were created, for which the profiles are a vital asset to help identify and inform discussion around key priorities.

Once a priority is identified, further analysis can be provided to gain a better understanding of what lies behind the figures, for example a breakdown of psychiatric hospital admissions in a locality by age group, gender and GP Practice so that any resource could be better targeted.

How we are helping - Health and Social Care Partnerships

Supporting Strategic Planning cont

One of the key aims of the locality planning process in Fife is to use data for qualitative and quantitative research and evaluation, and this is something that LIST will also be involved in going forward.



As well as producing needs assessments on the wider system, LIST has led on a number of focussed Needs Assessments on topics such as Looked After and Accommodated Children. Currently LIST is developing a Needs Assessment for Palliative Care pathways in the Western Isles.

The foundation of the Needs Analysis will be data provided examining the pathways of people in the last six months of life. The analysis is examining differences between pathways based on condition type, locality and age group to determine where gaps exist in current service provision and establish equity of service and access where feasible to do so.

The scope of this work is wide ranging in that it incorporates:

- Health – Primary, Community & Acute
- Social Care
- 3rd Sector
- Carers
- Community groups

The analysis will review the provision of service not only for those within the pathway themselves but also the support that is available, or provided, to carers and family members /friends as the person approaches the end of their life.

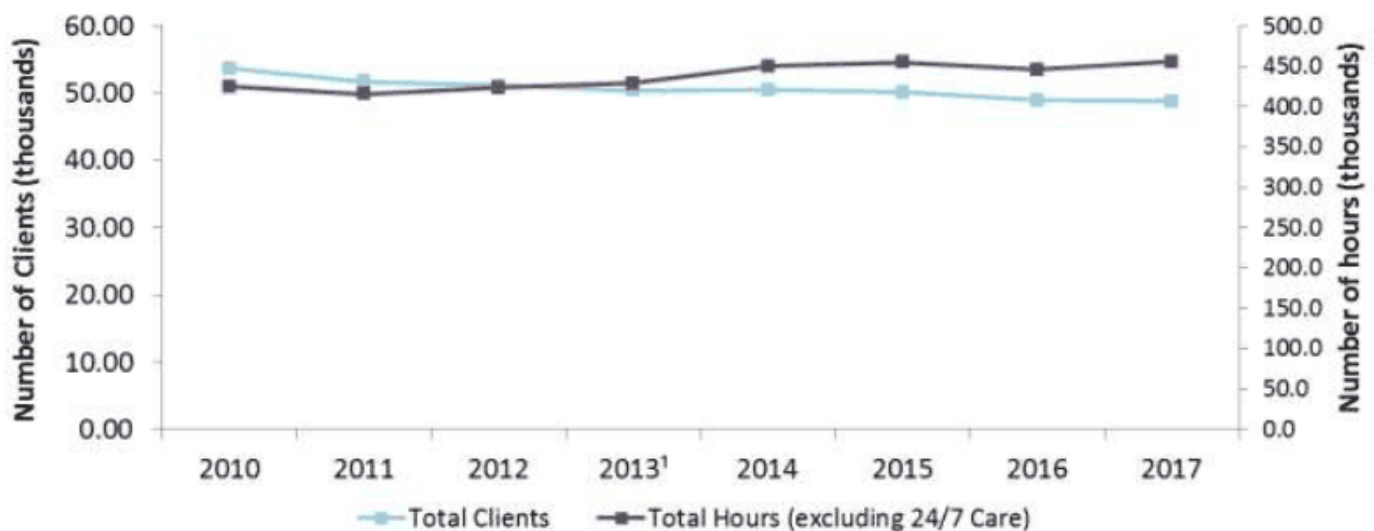
How we are helping - Health and Social Care Partnerships

Data Analysis Improves Carer Efficiency and Client Services

[Reshaping Care for Older People 2011-2021](#) states, “We are living longer. By 2032, the population aged 65 years and over is expected to increase by almost half (49%). During the same period, the population aged 90 and over will increase by one and a half times (149%). Approximately £5 billion of public funding is spent each year on Health and Social Care for people aged 65+. More than 60% of this funding is spent in hospitals and care homes.” The proposals in this policy envisage that older people should be helped to remain at home or in a homely setting for as long as possible, but less than 7% of funding is being spent on home care.

The Scottish Government Social Care Survey suggests that the number of people aged 65+ receiving Home Care has decreased slightly in 2017, however the number of Home Care hours provided has increased by 2% in 2017.

Home Care clients aged 65+ and hours provided, 2010 to 2017



An increasingly ageing population, complex care needs, multi-morbidity conditions and health disparities continue to put a substantial pressure on the demand for Health and Social Care services. To meet this demand, an innovative, person centred, digital revolution might be an answer, through which quality care could be provided more efficiently.

LIST is working in partnership with colleagues in a Council on the analysis of data derived from 'home care systems' ('CM2000' and 'carer record - smart phone') which has influenced service delivery, service evaluation and planning. The data generated from this technology is enabling to streamline service delivery, understand the number of patients, hours of care delivered, missed visits etc. This intelligence has facilitated accurate reports on planned versus actual delivery of care, missed visits, continuity of worker

How we are helping - Health and Social Care Partnerships

Data Analysis Improves Carer Efficiency and Client Services continued

It provides an opportunity to plan and deliver carer visits more efficiently and reducing 'down time'. This has contributed to better quality of care and better utilisation of limited resources.

This integration of data analytics from social care visits, is contributing to the improvement of Health and Social Care. This helps the council to know that services are being delivered appropriately and service levels are being maintained. This technological advancement has created a cost effective 'Home Care Service' enabling Councils to cater for current and any future demands by ensuring effective utilisation of the service without compromising its quality and timeliness.

Home Care services in some Councils in Scotland are trying to tackle this demand by using technology (cm2000) which could schedule visits, manage staff availability, minimise travel between visits, ensure staff were effectively utilised and clients are able to see the same carer. The traditional system required paper rotas and manual entry which was inefficient and time consuming. The new system is ensuring that the right people are in the right place at the right time.

This system provides an opportunity to plan and deliver carer visits more efficiently. By reducing travelling time, untapped capacity is identified which could help the carers to spend more time in the service users home and get to know them better. This system also tries to match the service user with the most suitable carer and tries to maintain the continuity of care by the same carer which helps to provide improved care for vulnerable people.

This work could be used as a model and adapted to suit various needs and demands that other Councils routinely have. LIST is keen to share their knowledge and expertise of best working practices and learning's from this work.

References:

¹ Publications; (<http://www.gov.scot/Publications/2017/06/8907/downloads>), (<http://www.healthscotland.scot/population-groups/homeless-people>, <http://www.gov.scot/Publications/2013/08/4508/5>), (http://www.audit-scotland.gov.uk/uploads/docs/report/2016/nr_160922_social_work.pdf)

² IRISS (2015) insights – evidence summaries to support social services in Scotland, prison leavers and homelessness: IRISS

³ Calculated from National Expenditure Returns: for local authorities: Scottish Government returns LFR3 and LGF4a; For NHS: Cost Book (2007/08); NRAC cost curves (2007/08); Population projections: GRO (Scotland) 2006-based population projections - <http://www.sks.org.uk/media/177080/reshaping%20care%20for%20older%20people.pdf>

⁴ CM2000 scheduling system; <https://www.cm2000.co.uk/>

⁵ Source: Scottish Government Social Care Survey 2017 - From 2013, Local Authorities were asked to class 24-7 care as Housing Support, not Home Care. 2017 Scotland figures are provisional as Angus council figures relate to 2016

How we are helping - Health and Social Care Partnerships

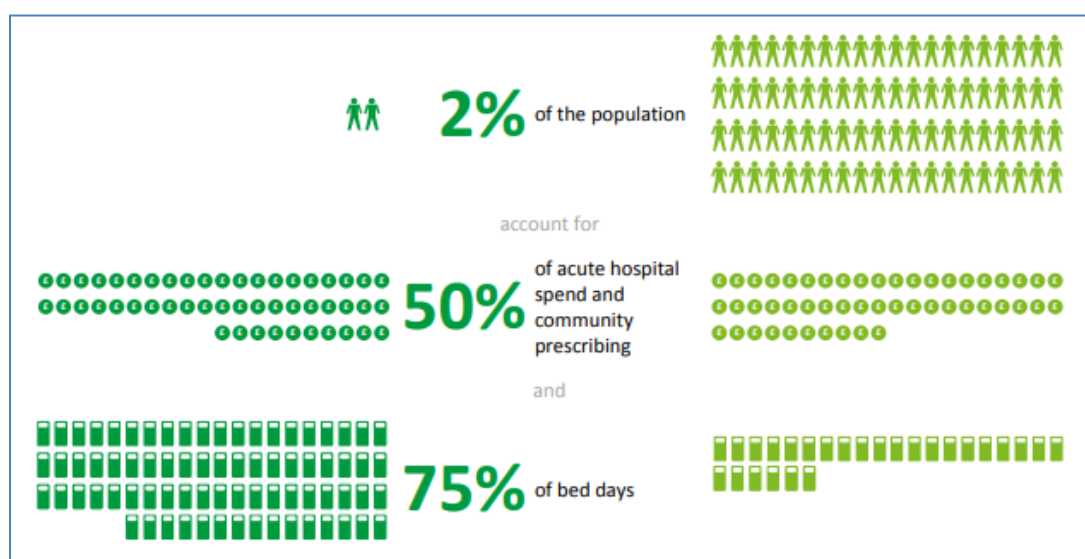
High Resource Individuals

Health and Social Care resources are not utilised evenly across the population and by understanding more about the cohort of individuals who account for this disproportionate spread could allow for more effective planning and delivery of services, and thus an improved service user experience.

The Health and Social Care team at ISD has undertaken cost per patient analysis on various health costs incurred throughout a patient's pathway to support Partnerships in deepening their knowledge of High Resource Individuals, including;

- Acute inpatient and day case activities
- Geriatric long stay
- Mental health and maternity activity
- New consultant-led outpatient attendances
- Accident & Emergency
- Community Prescribing

The analysis shows that Health and Social Care resources are not utilised evenly across the population. Understanding more about the cohort of individuals who account for this disproportionate spread could allow for more effective planning and delivery of services and thus an improved service user experience. Approximately 2% of the population account for 50% of hospital and community prescribing resources, including 75% of acute inpatient bed days. This cohort (2%) has become known as High Resource Individuals (HRI).



How we are helping - Health and Social Care Partnerships

High Resource Individuals continued

LIST has been working as the link between National and Local partners to enable key local decision makers understand how this high resource group utilises and flows through local services.

Initiatives have included delivering data 'Deep Dives' involving local and national partners such as multi-disciplinary Health and Social Care Partnership teams, Health Improvement Scotland (HIS) and the Scottish Government in order to support understanding and decisions relating to how this complex group access and interact with services.

References:

1. <https://ihub.scot/media/1216/20170213-full-hri-paper-12.pdf>
2. <https://ihub.scot/media/2468/short-hri-brochure.pdf>

**How we are
helping**

**General Practice
(GP) Cluster
Quality Working**

How we are helping - General Practice (GP) Cluster Quality Working

"I have had access to the superb report the LIST team pulled together for General Practice. We would very much appreciate a similar report for our Cluster"

[Improving Together: A National Framework for Quality and GP Clusters in Scotland](#)

published in January 2017 proposed a different, more collaborative approach for all those providing Primary Care Health Services, one where far greater emphasis would be placed upon improving together for the benefit of those within our local communities. Within this, the proposed new GMS Contract and the establishment of GP Clusters to further promote Quality improvement are key elements.

Having established itself as a key player within Health and Social Care integration over recent years, LIST expanded its service offering during 2017/18 to help provide support to Primary Care Cluster Quality working, and to help address the key requirements outlined within the '[Improving Together Framework](#)', including:

- Data
- Health Intelligence Analysis
- Facilitation
- Improvement Advice
- Leadership

During the course of 2017/18 LIST met and engaged with each of the 148 GP Clusters across Scotland. We used these engagement meetings (sessions) to demonstrate the types of support we can provide, the types of information available to support GP Cluster Quality working, and the range of Health and Social Care professionals and stakeholders we have worked with as part of our service offering. LIST is now actively working with GP Clusters where we are involved in a variety of different initiatives/projects with 'work' themes including;

Work Themes	- Audit of GP Workload
- Home Visits	- Demand and Capacity
- Appointments	- ACPs, Frailty and Risk Prediction
- Diabetes Prevalence	- Admissions and Readmissions
- Chronic Pain Management	- Impact of Pharmacy

There are a number of key projects that LIST has been at the forefront of, particularly that underpins the '[improving together](#)' ethos, whether releasing time to care for GPs, or allowing other members of the Primary Care Team to work to 'the top of their licence'. Below we have shared just a few of our stories on how we have been working locally with GP Clusters to co-produce and co-design analysis to support local decision making.

How we are helping - General Practice (GP) Cluster Quality Working

Inverclyde – GP New Ways Transformation pilot

In 2016, GP New Ways Transformation pilot was launched in Inverclyde. New Ways of GP working affords an opportunity to work together and LIST is supporting this work to test new methods and models which will impact across both Primary and Secondary care sectors. The overarching strategy is to enable clinical staff in the wider Primary Care Team, such as Practice and Community Nurses, Pharmacists and other Allied Health Professionals, to work to the top of their licence, facilitating a model of care which places the patient at the centre. This provides timely and appropriate treatment by the most suitable professional.

The pilot scheme is jointly led by the Scottish Government, NHS Greater Glasgow & Clyde, the BMA's Scottish GP Committee and Inverclyde HSCP. It is funded through the Scottish Government's Primary Care Transformation Fund. The results of the test projects helped to shape the new Scottish GP Contract.

Aims of LIST involvement included:

- Quality analysis of New Ways pilot project and work streams.
- Greater collaboration between HSCP, ISD and General Practice.
- Confidence from General Practice in the quality, accuracy and relevance of ISD outputs.
- Successful collaborative working with a range of different healthcare professionals.
- Lessons learned from the pilot help shape new working in General Practice and ISD are suitably prepared if projects are rolled out nationwide.

The pilot project identified work streams and topics where they would like to introduce different methods of working and test whether they affect the workload of GPs, such as Home Visits, Community Phlebotomy, Cluster based physiotherapy and the role of Advanced Nurse Practitioners.

We shall focus in some detail upon the Home Visits Test of Change later in this chapter of this report, but we have also provided a brief overview of some of the other Tests of Change contained within the New Ways project and that LIST supported.

LIST is providing support on various projects in Inverclyde



How we are helping - General Practice (GP) Cluster Quality Working

Musculoskeletal (MSK) first point of contact

The primary purpose of this pilot is to ensure best management and pathway for MSK conditions that impact on the work of the Health and Social Care Partnership as well as peoples' lives. The LIST team is supporting this work by carrying out an on-going review and evaluation based on utilisation of a variety of data and information, particularly the information recorded by GP Practices concerning MSK appointments and consultations, and the data gathered by the Physiotherapist for the patients that have taken part in the pilot project.

This data provides unique information about the pilot that allows the short-term, immediate impact of the pilot project to be assessed. The longer-term impact of the project is undergoing further analysis and evaluation.

Phlebotomy pilot

The primary outcome of this pilot was to reduce GP, Practice Nurse and Treatment room venepuncture. LIST helped to scope out the information needed on the referral form for the community phlebotomist and provided analytical expertise in order to assess the uptake of the service.

The local LIST analyst has been involved in establishing a number of key areas within this Test of Change and includes:

- Providing advice on community phlebotomist referral form content
- Co-ordinated the return of completed forms and provide secure storage of these
- Data management and analysis – weekly/monthly outputs, trend analysis etc.
- Co-ordinate regular data extracts from NHS Greater Glasgow and Clyde laboratory systems to assess service utilisation

Pharmacy pilot

This pilot tested an extension of the Prescribing Team's clinical and medicines management activities to include pharmacist-led clinics, the authorisation of special requests for prescribed medicines, and review of immediate discharge letters from acute hospital and outpatient letters.

LIST is supporting this project by assisting in the evaluation and auditing of activities undertaken by clinical staff. Recent audits noted a decline in GP workload related to prescribing and also positive responses from primary care staff, prescribing team and patients.

How we are helping - General Practice (GP) Cluster Quality Working

Advanced Nurse Practitioners (ANP)

The main focus of this pilot project was to up skill current Community or Practice Nurses to the ANP role and free up GP consultation time, where ANPs (who are Cluster based) perform home visits instead of GPs.

LIST is supporting this project by assisting in the evaluation and auditing of activities undertaken by ANPs.

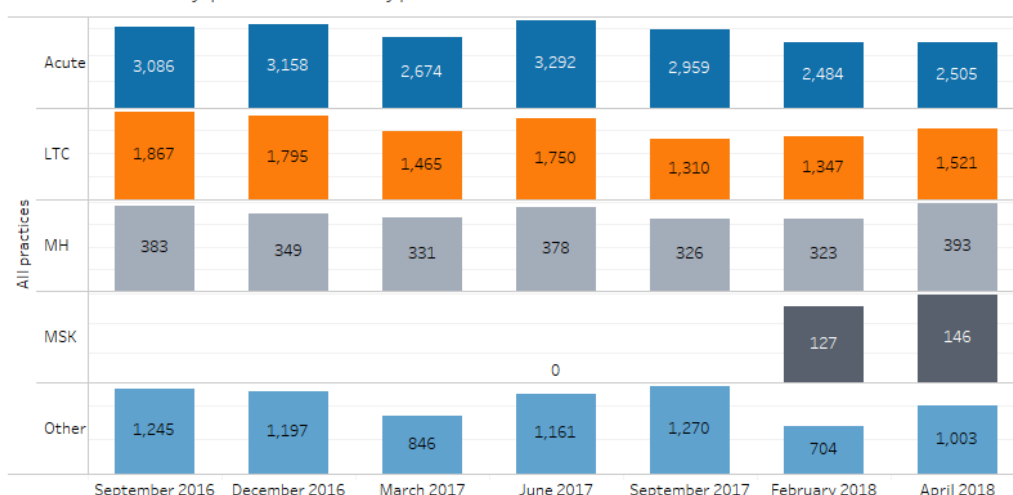
As a result, potential outcomes for the new ways of working included releasing time to care for GPs;

- Help to free GP time with a view to 15 min appointments.
- Ease the burden on GP time allowing them to focus on other areas which fully utilise their skill set e.g. complex cases.
- Decrease unnecessary GP home visits.
- Increased GP time for non MSK conditions.
- Release time for qualified staff.

To help underpin the Tests of Change undertaken throughout the project, LIST established a 'Week of Care' Audit system. Whilst not a specific Test of Change on its own, the Week of Care Audit process has assumed significant importance within overall GP New Ways programme, providing baseline activity levels against which various Tests of Change can be assessed. LIST helped to design the form that is returned by GPs and Practices to populate this tool. The output created with this tool is intended to be used as a point of discussion for GP Clusters, allowing them to identify topics and potential areas for improvement.

Number of problems - The chart below show the number of consultations that involved an acute, long term condition, mental health, musculo-skeletal complaint or other presentation for each audit between September 2016 and April 2018

Consultations by presentation type

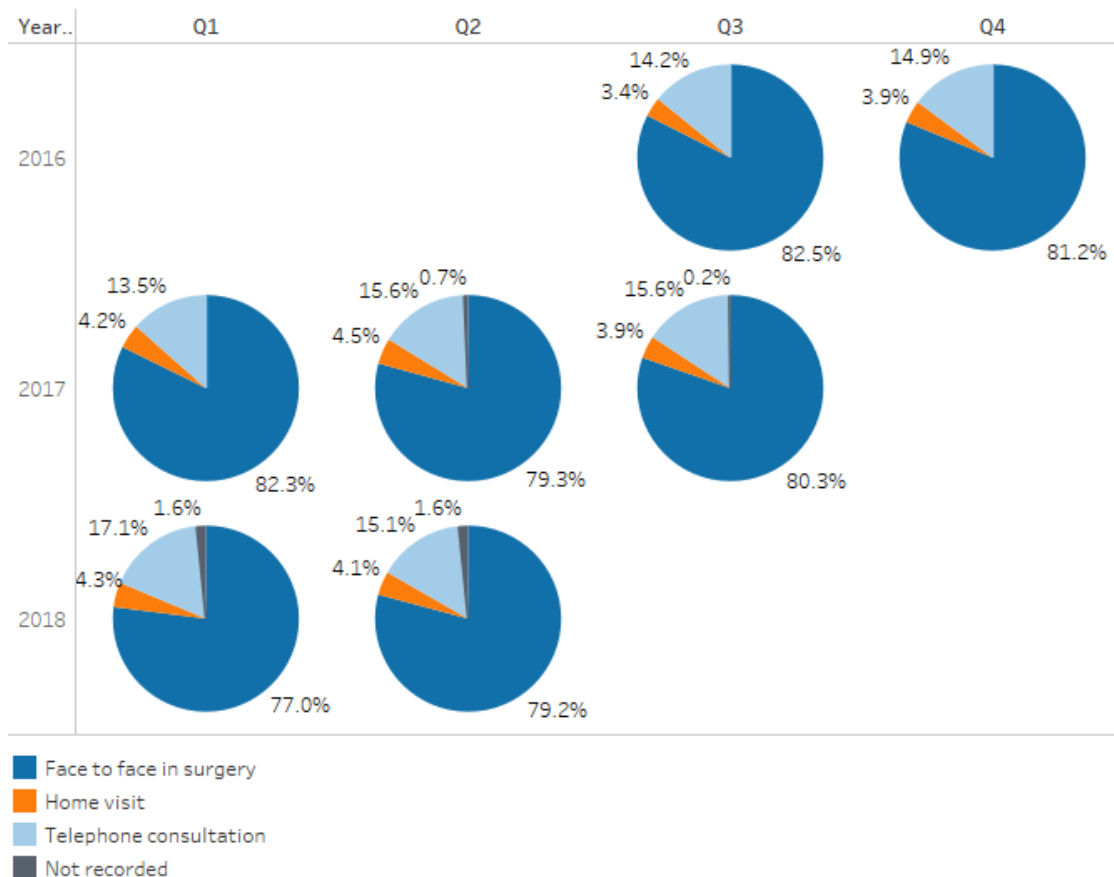


How we are helping - General Practice (GP) Cluster Quality Working

Advanced Nurse Practitioners (ANP) continued

Appointments by healthcare professional

Consultations by appointment type



The chart above demonstrates the percentage of consultations that were recorded that took place in the practice, at the patient's home or as a telephone consultation. Home visits represent about 4% of all activity for practices each time the data was collected. The time taken to perform this task was not recorded as part of the audit.

LIST involvement in the New Ways project can be viewed as having had a positive impact on patient care – more appropriate consultations, direct access to Physiotherapists, GP time freed up to expand consultation time for patients with more complex needs, whilst the Week of Care Audits are giving local GPs a greater understanding of the work undertaken in the Practices.

How we are helping - General Practice (GP) Cluster Quality Working

Home Visits Test of Change (Inverclyde New Ways)

Home visits are an established part of the role of the General Practitioner but the time and associated workload required to perform these visits take up a significant proportion of the overall workload. Methods and ways to reduce home visits were discussed at a Health and Social Care Partnership event and feedback from participants focussed on establishing triage for patients.

The test of change was based on telephone triage of patients who called a single surgery to request a home visit. The aims of the test were to:

- Manage the volume of workload.
- Help to free GP time with a view to offering 15 minute appointments.
- Ease the burden on GP time allowing them to focus on other areas which fully utilise their skill set e.g. complex cases.
- To reduce the time spent by GPs on home visits that could be safely managed by other members of the primary care team.

Triage was based on asking the patient a series of questions to ascertain their eligibility for a home visit. A flowchart was devised and based on the patient's responses a number of different pathways and outcomes were possible, including arranging an appointment in surgery as well as referral to other services. Triage was performed by the Practice Nurse for one hour each day between 19th July and 9th September 2016.

What we collected

A simple data collection form mirroring the triage flowchart was created. This form was completed retrospectively by extracting all home visit information during the time period from the Practice systems into the template provided. It detailed whether the patient was triaged, whether they received a home visit or not, and the outcome from the home visit request. Who would have been the most appropriate person to see the patient was also recorded.

What we learned

193 occasions where a patient called the Practice to request a home visit were recorded between 19th July and 9th September.

- Triage reduced the total number of home visits by 20% as 38 of the 193 requests did not result in a home visit.
- For the requests that were triaged, 56% of those requests did not result in a home visit.
- Triage resulted in GPs making home visits to more appropriate patients.

How we are helping - General Practice (GP) Cluster Quality Working

Home Visits Test of Change (Inverclyde New Ways) continued

Triage was successful in diverting patients who were not eligible for a home visit to the most appropriate person. Some patients only received advice over the phone but those who had more serious complaints were admitted to hospital or referred to another service.

This potentially resulted in patients being referred to acute services earlier than they would have had the referral been made after a home visit took place.

Triage - Outcomes for patients who did not receive home visit (N)

Practice Nurse advice/prescribing 20	GP Appointment in Practice 6	Referral to Secondary Care, including ED and other direct referrals to ward/dept 5
	GP Telephone consultation 4	Referral to other services (DN / physiotherapy) 3

Results include:

- 95% of the home visit requests were routine.
- Only half of the triaged routine requests received a home visit.
- Patient behaviour and culture to be addressed. If non-urgent and patient is not eligible for home visit why was the request made?

Ten of the total requests were classed as urgent, eight were triaged and only one received a home visit. Five of the urgent requests that were triaged were admitted to hospital or attended Accident and Emergency.

About a quarter of the patients made more than half of the requests during the test period.

What we did next

It will be a prerequisite for Practices taking part in these new tests of change that triage for home visit requests will be in place. The learning and experience of the Practice that took part in the initial triage test will be shared with other Practices in the Cluster involved in the new tests of change.

How we are helping - General Practice (GP) Cluster Quality Working

Appointments (Lothian)

LIST has engaged with Cluster Quality Leads and other key Primary Care stakeholders to better understand their information needs and how LIST, along with other ISD services, can support this. An example of this is the support LIST has been providing to a GP Practice to provide in depth analysis of appointment demands from patients.

Problem/Challenge

The Practice wanted to ensure the most appropriate professional saw the patient at the right time to ensure quality and timely care is provided. However, due to the absence of any information being analysed in a consistent manner, the GP Practice staff felt less confident at predicting demand and therefore plan appropriate services. This led to a feeling of frustration within the GP Practice as they felt disempowered to improve the situation.

“I have only been here 3 years, and coming from NHS Lothian and spending a lot of time as a manager responsible for waiting list management and targets, the lack of data in Primary Care was very frustrating. As there is no waiting list and no way of measuring, it is also very difficult to predict demand. Since starting here we have tried to collect data to at least give us some historic reference to capacity and activity and we are in a much better situation now with weekly forward planning meetings, but there still a lot of work to do” - Practice Manager

However, due to the lack of capacity and analytical expertise, the GP Practice staff were keen to plan and deliver their services efficiently so that they could meet the needs of their population both in terms of demand and quality of care.

“The main thing we want to take forward is a more in depth analysis of our frequent attenders, looking at who they are seeing, when, why and how often, and looking at interventions which may help them to better self manage and use the service as appropriately as possible. We are hopeful that this could free up some capacity in the system and improve the right person right time goal” -GP

To do this, the GP surgery wanted to better understand the following:

- Most popular type of appointments.
- Time trends: Hour of the day, day of the week, month of the year and annual trends by appointment type.
- Frequency of contact and by appointment type.
- Frequent attendees.

How we are helping - General Practice (GP) Cluster Quality Working

Appointments (Lothian) continued

Role of LIST

LIST analysts collaborated with the GP Practice and supported them to systematically gather and analyse data to produce intelligence. This was used to inform clinical decision making and enable staff to understand demand, and plan their capacity to provide quality care in an effective way

The data set (extract) comprised of 10,500 patients who made 65,000 appointments. The extract included the type of appointment, time, date and duration of appointment.

Less than 1% of appointment entries were excluded from some aspects of analysis due to poor record-keeping. There was also a lot of variation between the actual duration and recorded duration of home visits.

What we found

Key findings from the analysis performed showed that:

- Face-to-face GP consultations accounted for 82% of all appointments and 84% of the time.
- Phone appointments were identified as being more efficient for certain types of consultations. Phone calls were used in 9% of appointments but only took up 5% of time.
- Over 90% of home visits were to patients aged 65+, which confirmed the Practice's belief that they were being used appropriately.
- There was little change in the number of appointments each month throughout the year, suggesting that the GPs are working to capacity.

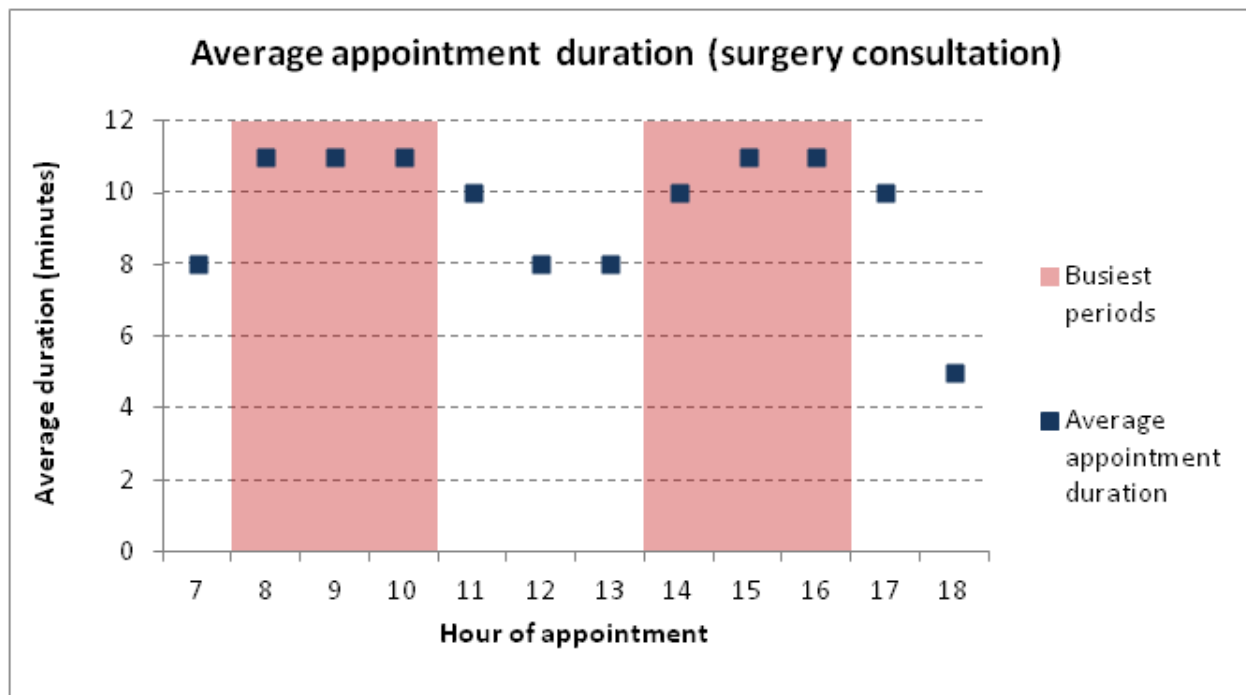
Analysis of the time of day of each type of appointment led to the heat map shown below.



How we are helping - General Practice (GP) Cluster Quality Working

Appointments (Lothian) continued

The Heat map shows the busy and relatively free periods for each type of consultation. It highlights that mornings (8-10am) and afternoon (2-3pm) sessions are extremely busy for the Practice, whereas evening sessions (after 5pm) appear to be relatively free. This intelligence gathered from the data has been used to inform staff scheduling and better planning of available resources allowing staff to have time to work on quality improvement projects.



The above chart highlights that the average appointment duration during two relatively busy consultation periods (see heat map) was above the scheduled appointment length of 10 minutes. This over run of appointments ultimately would lead to waiting times in the Practice. Using the data collected and analysed provides an opportunity to plan clinics differently.

“This information shows the power of data analysis, fascinating to see patterns emerge and to see how the data can be broken down to look for underlying messages”. Lothian GP

How we are helping - General Practice (GP) Cluster Quality Working

Appointments (Lothian) continued

Frequent Attenders

These were defined as patients who had 20 or more GP consultations in the year. This amounted to 230 patients, and accounted for 11% of all GP appointments, and totalled 38 hours, which is equivalent to a week's worth of GP time.

Difference made

Intelligence provided by LIST has provided the GP Practice with the insight needed to take decisions to shape future services more effectively, particularly for this cohort of patients. This is important when facing an increase of older people within the local population.

"Having analysed the use of the types of appointments we have now made some changes which has improved capacity and helped us to prioritise the patients. The DNA rate has also significantly reduced. There is still lots of work to be done e.g. work on the top 20 attenders and how we manage these patients" Lothian Practice Manager

Next Steps

Work with the GP Practice is ongoing with key areas to next focus on including:

- Deep dive into frequent attendees and split these into categories of 'appropriate' and 'not appropriate' appointments.
- Co-morbidity.
- Work with the Practice to support better data recording and data quality.
- Work with SPIRE for further insight and intelligence into the data.
- Capture and perform analysis: unmet demand; waiting time for appointments and missed appointments.



How we are helping - General Practice (GP) Cluster Quality Working

Demand and Capacity (Lanarkshire)

One particular Cluster within Lanarkshire had an interest in understanding the needs of an ageing local population and the impact that is having on demands for local GP services. As an initial overview, a summary document has been produced highlighting increasing list sizes since 2014 along with age and deprivation breakdowns. The population estimates/projections for the associated localities presented in the document show decreasing numbers for all ages but increasing figures for those aged 65+. Understanding the needs of this cohort of patients (aged 65+) will be key to focussing local resource as effectively as possible.

Additionally, the GPs suspect that the high numbers of local housing developments (not captured within population estimates) are also contributing to the demands on local GP services. LIST is working with South Lanarkshire Council to produce population estimates which incorporate these developments and are also working alongside GP IT Facilitators to extract aggregated data from GP systems.

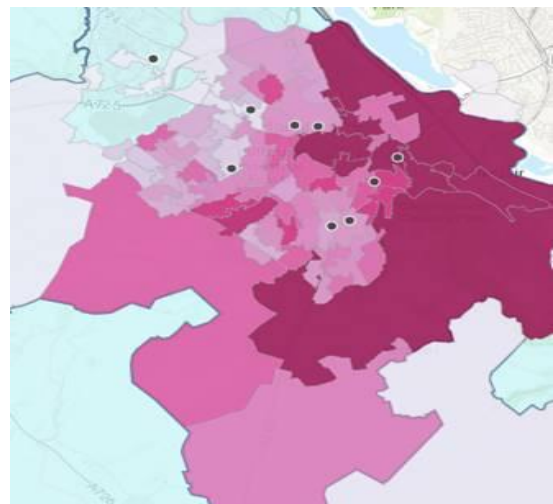
This is to provide evidence of an increasing population and the resulting effect on GP workload, highlighting the need for more funding for local services. To further emphasise this, profiling and analysis of local health needs (e.g. disease prevalence and multi-morbidity) will also be required, in particular around the 65+ cohort.

Mapping GP List sizes

Specialist mapping software has been used to produce a heat map showing each Practice within a group of localities and the distribution of patients registered to them according to the datazone where they reside.

This allows the user to more easily understand patient flow between different areas. In this example the user can select a GP practice of interest to map where their patients are coming from, with darker colours relating to a higher number of patients.

An example from Lanarkshire:



How we are helping - General Practice (GP) Cluster Quality Working

Prescribing support in Primary Care

A fundamental component of the support LIST provides to local partners throughout Scotland is not simply providing local intelligence, but also a 'One team' approach where we work in partnership with our National Intelligence colleagues at ISD. As part of this support, LIST offers Primary Care colleagues analytical support in relation to prescribing.

To date, LIST has provided prescribing analytical support on a wide range of projects, such as:

- Comparative prescribing patterns within the Health and Social Care Partnership area.
- Prescribing for 'Looked After Children with Long Term Conditions', where analysis on the rates of prescribing, for particular conditions, were compared to the rate of prescribing, for the selected conditions, to the overall child population of the Health and Social Care Partnership area .
- Development of new BOXi (business objects) reports showing prescribing costs in individual GP Practices by looking at their cost variance for a variety of drugs compared to national / Health and Social Care Partnership wide prescribing practices.
- Estimate of people on drugs for anxiety, depression and psychosis for 2016/17 by Datazone.



The case study below provides an in-depth overview of the LIST work carried out within Forth Valley that involved prescribing analysis.

How we are helping - General Practice (GP) Cluster Quality Working

Prescribing support in Primary Care continued

Comparative Analysis of the Bannockburn and Kersiebank 2C practices

Background

In May 2015, Bannockburn and Kersiebank Health Centres became NHS Board managed Practices (2C) and over the course of the last two years the model of care has significantly evolved with the development of a multidisciplinary approach. In the current model GPs see around 35% of day to day contacts. Advanced Nurse and Nurse Practitioners, Extended Scope Physiotherapists and Mental Health Nurses see the remaining contacts. The Practices also have additional pharmacy support.

Purpose of the Project

The 2C practices run on a considerably different model to other practices and this analysis aimed to prompt discussion on the effectiveness of this model by highlighting where changes had occurred since the shift.

This fits with the 2020 Vision as the 2C model aims to reduce the demand on GPs to another professional in the practice in a bid to provide more service in the community and reduce referral to secondary care.

Methodology

A collaborative approach between the LIST Team in Forth Valley and the NHS Forth Valley Primary Care Transformation team looked at a comparative analysis across a number of indicators between the 2C Practices, a comparator Practice and Forth Valley.

Data was gathered and analysed by the LIST team from national sources but also local teams where data was not routinely reported to ensure key areas were covered. Local and operational knowledge was key to the interpretation.

The analysis covered areas such as demographics, outpatient referrals, unscheduled care, prescribing, lab referrals and diagnostic referrals. Due to data availability a key gap was appointment data. However, work is underway to address this.

What we learned

The analysis was extensive and included a wide range of indicators. Some of the key findings from the initial project are outlined below.

How we are helping - General Practice (GP) Cluster Quality Working

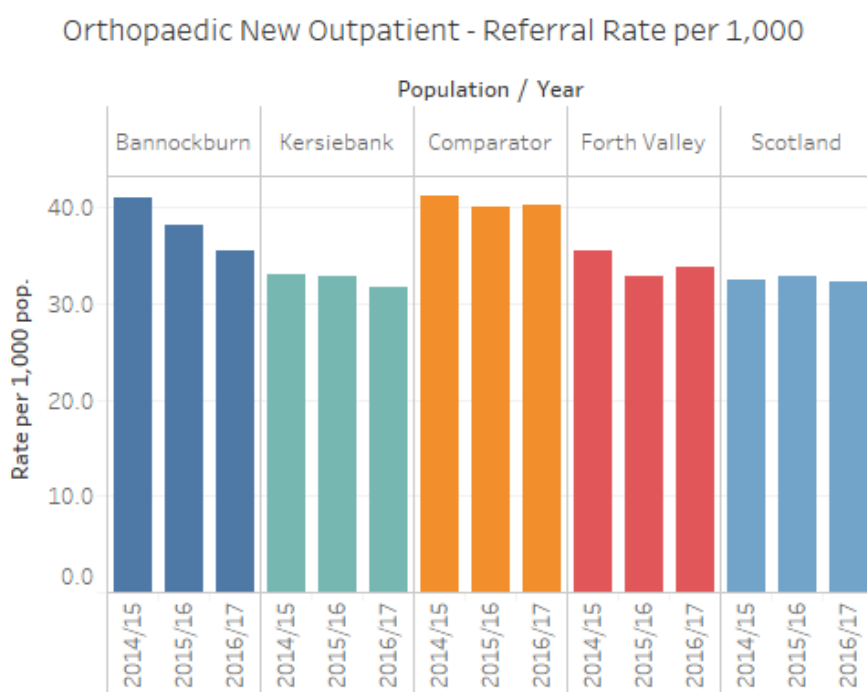
Prescribing support in Primary Care continued

Comparative Analysis of the Bannockburn and Kersiebank 2C practices continued

Bannockburn and Kersiebank Practices have seen a reduction in list size over the past 3 years of 6% and 9% respectively, whereas the comparator practice and Forth Valley as a whole have seen increases in list size.

Year	Bannockburn	Kersiebank	Comparator	Forth Valley	Scotland
2014/15	9,676	10,018	8,144	305,932	5,598,310
2015/16	9,177	9,088	8,569	314,467	5,628,263
2016/17	9,068	9,141	8,415	317,377	5,669,216

The chart below shows new outpatient referral rates for Orthopaedics. This is one outpatient specialty where we might expect to see some change with the introduction of additional Physiotherapist support to the two 2C practices.



Both Bannockburn and Kersiebank experienced a decrease in new Orthopaedic outpatient referrals with Bannockburn experiencing a greater decrease.

The same pattern was not witnessed at the comparator practice or across Forth Valley as a whole.

It is therefore possible that this is due to the impact of MSK Physiotherapists being introduced.

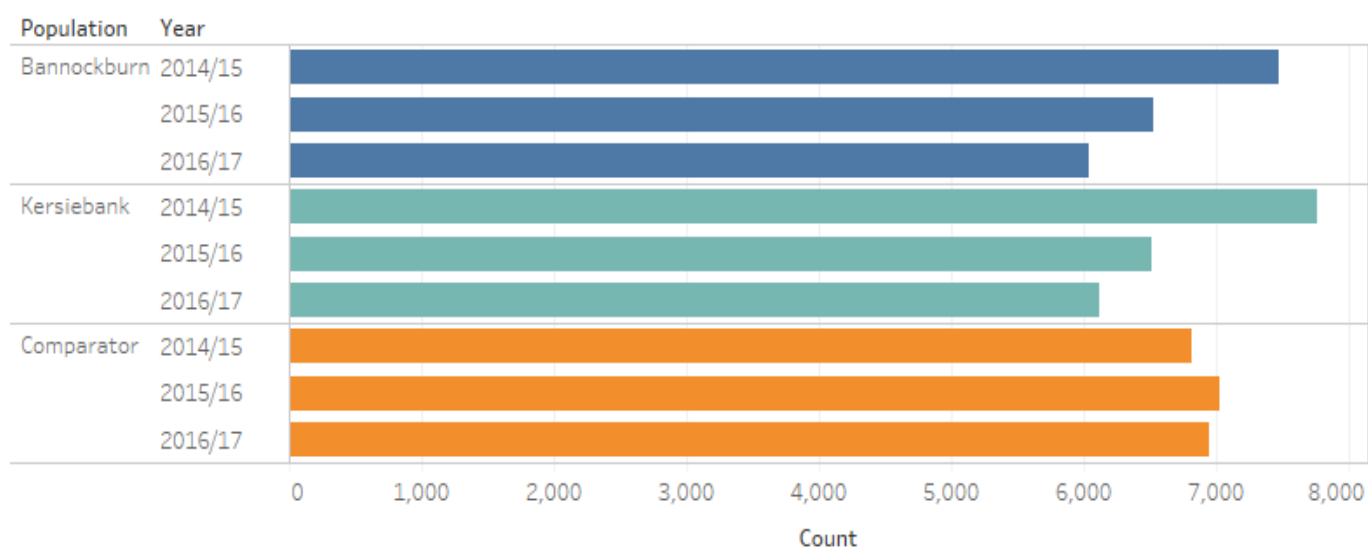
How we are helping - General Practice (GP) Cluster Quality Working

Prescribing support in Primary Care continued

Comparative Analysis of the Bannockburn and Kersiebank 2C practices continued

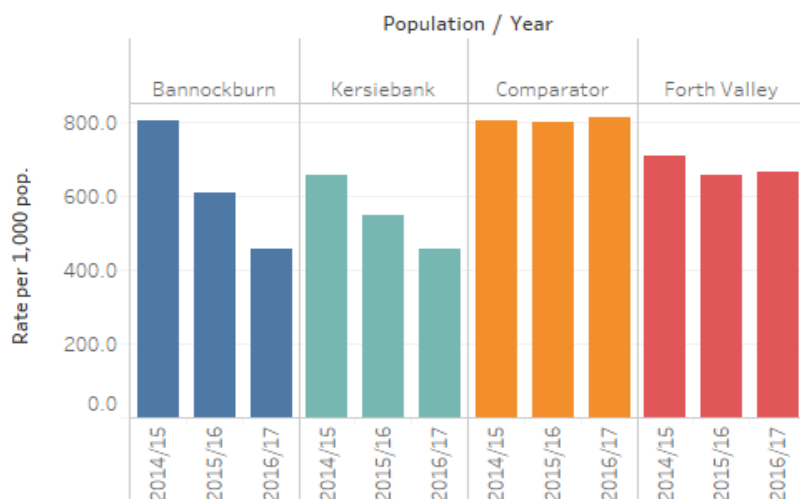
Prescribing data was sourced from PIS via the Discovery tool and from a bespoke request to the ISD prescribing team (in cooperation with the NHS Forth Valley prescribing team).

Number of patients dispensed items



The number of patients being dispensed items has seen a similar and substantial decrease over the past 3 years at both 2C Practices. Given that this is not reflected at the Comparator Practice, it seems more likely that this is linked to changes brought about since becoming a 2C Practice. Note; that whilst Practice sizes have decreased, the rate at which patients dispensed items has decreased is far greater.

Antibiotic Dispensed Items - Rate per 1,000 populations



Bannockburn and Kersiebank have seen respective drops of 19% and 21% in the numbers of patients prescribed items since 2014/15.

How we are helping - General Practice (GP) Cluster Quality Working

Prescribing support in Primary Care continued

Comparative Analysis of the Bannockburn and Kersiebank 2C practices continued

The rate of antibiotic prescribing at Bannockburn has almost halved since 2014/15 while Kersiebank has shown a steady decrease down to a similar level as Bannockburn. Both 2C Practices now have a much lower rate of antibiotic prescribing than the comparator Practice or Forth Valley on the whole.

The change in anti-biotic prescribing is significant and it may be related to multiple factors such as additional pharmacy support, longer appointments times, triage, as well as differing prescribing behaviours.

What we did next

After producing all the analysis the LIST analysts worked closely with the Primary Care Transformation Team, including staff at the 2C Practices, to discuss the findings and strengthen the interpretation. The findings have also been shared with Primary Care Services Group, Primary Care Transformation Group and the local Cluster Quality Leads (CQLs). LIST is now working collaboratively with NHS Forth Valley to better understand some of the findings around prescribing and to fill the gap by looking at activity data.

Quotes from our customers

“Currently early days on a few projects, however as a practice we have been very impressed at the communication and flexibility to explore ideas on data gathering”

“They seem very flexible to explore ideas”

“We had a useful presentation at Cluster Level”

“They have been delightful and have tried to be very helpful”

“I am A CQL, we invited a leader from LIST to give us a presentation - which was good”

**How we are
helping**

**Local
Authorities**

How we are helping - Local Authorities

"ISD's detailed and analytic approach to data management has allowed us to identify quantify and resolve a number of outstanding Quality Assurance issues within our Corporate Address Gazetteer (CAG)."

"The Data Management Plan for the Corporate Address Gazetteer (CAG) has been completely overhauled and updated, and will shortly be submitted to the Information Assurance Working Group for adoption. It is hoped that this Data Management Plan can be used as a template and best practice for other Corporate Information Assets."

Alistair McNeill
GIS Team Manager
North Lanarkshire Council

The LIST team have been working with Local Authorities to provide local information management support in the format of leading project developments, data management and transformational analysis. This has helped local decision making as well as supporting service re-design initiatives and strategies.

Working with Local Authority staff and third party consultants, such as software developers; our Information Management skills ensure architectures and technology is enabled to meet the end user needs for data integrity and analytical outputs.

We comply and tie-in with local policies helping to champion best practices and procedures that manage the full data lifecycle.

Below we have shared just a few of our stories on how we have been working with Local Authorities.



How we are helping – Local Authorities

Scottish Welfare Fund

Those who apply for help from the Scottish Welfare Fund (SWF) tend to be within the worst 15% deprived datazones. This vulnerable group experience financial hardship and inequalities with higher morbidity and mortality than the rest of the population.

LIST has been working with one Local Authority partnership with the prime objective to ensure that those in financial hardship are aware that the SWF exists.

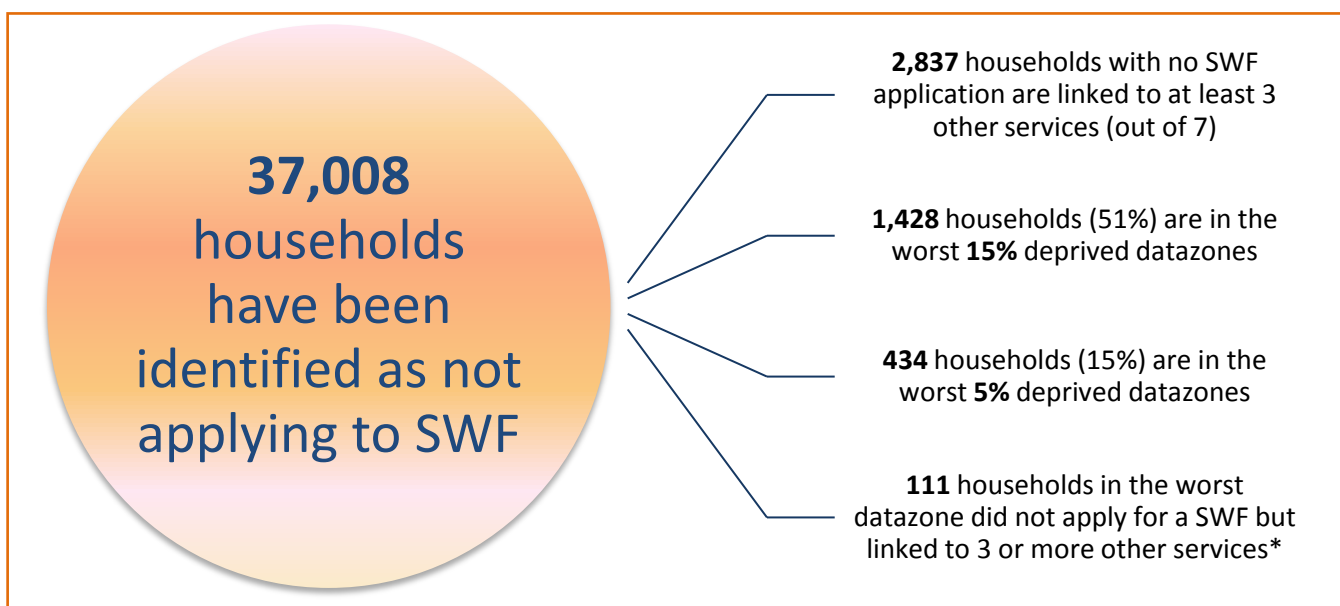
Data already held by the Council was linked to gain a better understanding of the partnership customers in relation to welfare and potentially their entitlement to apply for funds that they might not know about (e.g. SWF).

Eight Council datasets were made available for linking. The number of records used for linking, including SWF records, was 79,943. The data linkage resulted in 44,380 households being identified. The analysis LIST produced gave an undiscovered source of customer profiling which highlighted that a great number of those had not applied to the SWF:

Scottish Welfare Fund Applications Profile

Out of the 44,380 linked households, only 7,372 households had applied to the SWF

Households identified with no SWF application



This intelligence gave greater insight into the needs of the vulnerable population. The intelligence from this analysis was also used to inform and empower those in need who had not applied to the SWF.

How we are helping – Local Authorities

Scottish Welfare Fund continued

“What our customers said”

One year after this project, the SWF team set up a Food Poverty Referral Pathway. This was a direct result from the project outcomes

Not only did this project empower people to seek help, it also empowered the staff to seek a way to help those in need.



This project has become a game changer for our local authority. We have seen at first hand, the power of data analysis in action.

It's given us the ability to inform the challenging decisions that need to be taken when delivering services in a complex environment”

How we are helping – Local Authorities

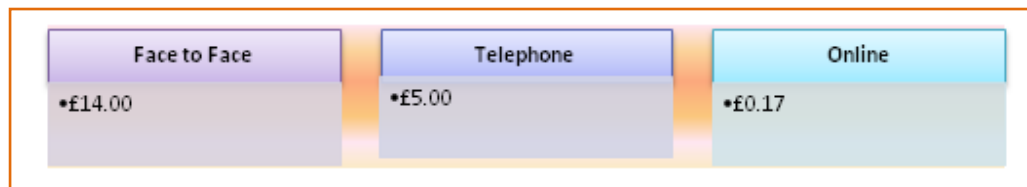
Channel Shift

With LIST support, a Local Authority (LA) has embarked on using data analytics to meet their strategic objectives around knowing their citizens interactions and communication channel better. This will be pivotal, improving service delivery and supporting the drive towards digital services.

The financial case for the introduction of digital services, “Channel Shift”, was delivered in the White Paper. “Channel Shift: Realising the benefits”

<http://www.digitalbydefaultnews.co.uk/wp-content/uploads/sites/8/2014/01/whitepaper-channelshift.pdf>

Quoted figures below were devised by the SOCITM (Society of IT Managers):



The LIST Information Manager is using cross sectional data on customer’s interaction with one particular Council to extract customers’ communication preferences from various communications types across disparate systems. Once analysed, this data will help in identifying households level communication preferences and provide a better understanding of the Councils customers. Furthermore, it will determine Council customer’s characteristics by highlighting the most common services used and their frequencies.

What change, impact or difference this could make?

Preliminary findings from this work have already started benefitting the Council by helping them to become aware of aspects relevant to their communities. Early results are helping to develop a possible action plan building on the LA existing customer focused strategy.

The outputs are already answering some questions such as:

- What communication preference do our customers prefer?
- What areas do we need to be more digitally led?
- Are our customer’s content with our service, e.g. customer satisfaction?

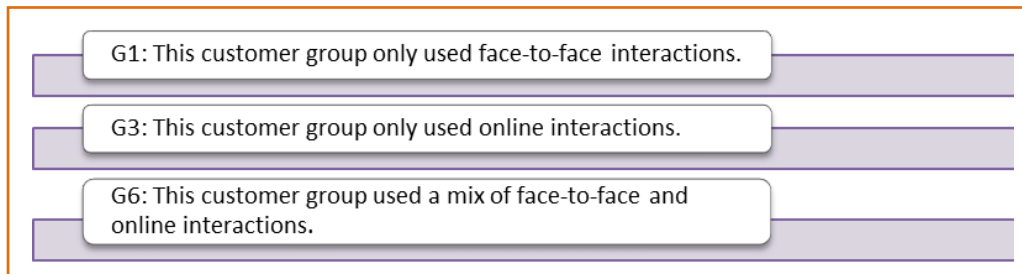
A subset from the ongoing project can be found below:

A collective sample contained 75,888 individual transactions.

The sample was collated in to a master table and a communication preference flag was attached to each transaction to determine communication type.

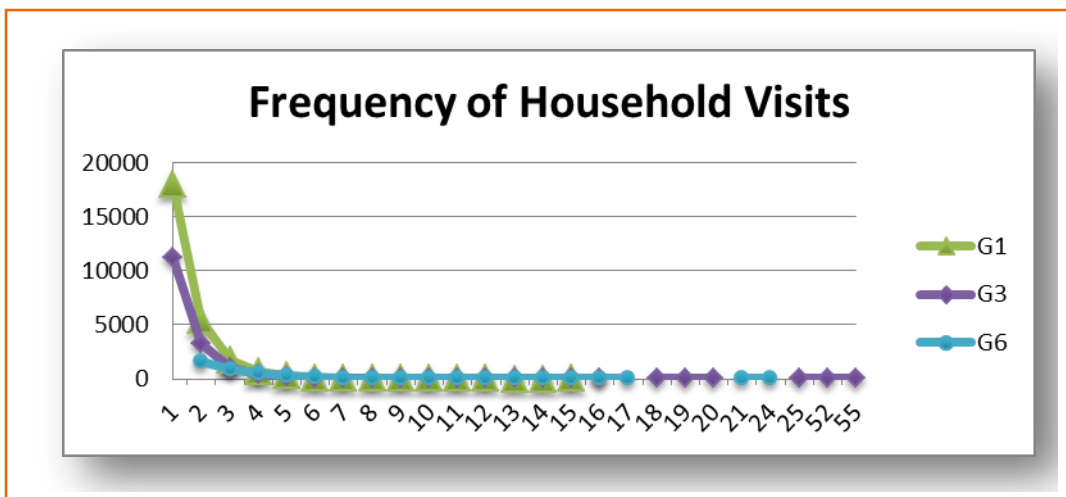
How we are helping – Local Authorities

Channel Shift continued

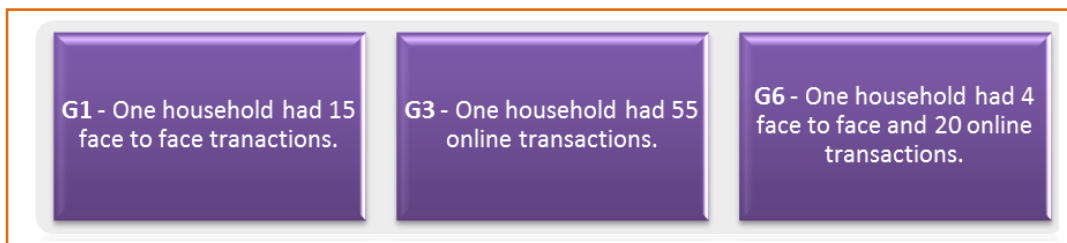


Frequency of interactions per household

From a Local Authority perspective, the normal ratio of interactions per household over a nine month period would be three or less interactions depending in the service. Anything above could indicate an issue with the service's response or an issue in the citizen's area such as fly tipping or vandalism.



Top Transactions from the frequency of Household Visits highlights:



Once completed the intelligence generated from this project will allow the Council to do the following:

- Make informed decisions about developing or enhancing their digital services
- Identify ways in which they could improve customer's experiences
- Prioritise resources and capacity utilisation to plan for budgetary cuts

How we are helping – Local Authorities

Championing Best Practice, Citizen Transformation Project

LIST understands that data analytics routinely influences our choices by making products and services more personalised and accessible. Councils have access to large amounts of customer information for the population area they serve. Most of the data is held in single use systems and is not interlinked to a central source. The data is largely untapped, yet it can inform a business on how people interact with its multiple services.

A number of Councils have embarked on using LIST to build a customer profile from linking multiple data sources within their own service to inform them about their own customers and improve on their service delivery

What is LIST Information Management doing?

LIST has been leading on the data information analytics within Local Authorities. Using multiple disparate datasets, LIST carries out a data quality assurance linkage to build a profile around customers, who for example, are receiving Housing Benefit, Council Tax reduction and other Benefits but are still in housing arrears.

The overall deliverables for this project is to:

- ❖ Improve Service Delivery
- ❖ Service Review
- ❖ Knowledge regarding Customers on benefits



North Lanarkshire Council has always realised that we're on a data journey, but we didn't truly understand the nature of destination or the best way to get there until we started working with LIST. Having a clear destination just makes everything so much simpler and having LIST with you makes it all the more achievable.

Peter Tolland (CIO) - North Lanarkshire Council

Analysis has already benefitted the Council by helping them to become aware of aspects relevant in their communities.

A subset of project deliverables are:

- Access to specialist skills in data information management and analytical insight
- Advancement of a goal in delivering customer insight.
- Identifying and targeting those vulnerable within the community.
- Improved targeting of council services and resources.
- Matching of council debt records from various legacy systems to provide information from a corporate debt perspective and thus provide assistance to citizens in most need

How we are helping – Local Authorities

Integrated Analytics

Story one – a Children's Services / Joint Services Review

LIST analysts worked closely with a Local Authority to deliver evidence based analysis for a Children's Service review and a subsequent joint review. LIST was fundamental in guiding the Local Authority on data linkage and the production of outcomes which lead to a successful evaluation of the service's needs.

An onsite data analyst was able to act as a conduit between local services and ISD to deliver the evidence based analytics. LIST provided the outcomes and proof to allow the end users to identify areas where targets had been met and also areas where improvements were required to be made.

Support was provided through the LIST resource for the original inspection that took place between April and June of 2015. LIST also fed in to the Inspection and Progress review in April 2018. The re-evaluation of the project that was carried out in April 2017 used the same LIST methodology used in 2015.

LIST carried out data linkage on each operational area, (Social Care, Allied Health Professionals, Acute and Dentistry). Part of the evaluation process highlighted individuals who were required for review. The outcome of the analysis also supported further analysis required on Children's' Services and Health.

The end result was that LIST was able to provide evidence on identifying areas where improvement was met or needed addressed.



How we are helping – Local Authorities

Integrated Analytics

Story two – Provision of Health Data to Support Council Decision Making

LIST provided data management, linkage and analytical support within the Council's Chief Executive Team. This was critical to the Council gaining access to health information and working on complex linkage methodologies. LIST enabled seamless delivery of the project and contributed in adding 'information of value' to the projects.

LIST improved the quality of decision making by including health information to inform decision making. Our connections to ISD added value to Local Authority and wider Community Planning Partnerships. This resulted in a shared knowledge and understanding that had not been possible previously.

Story three – Collaboration

LIST collaboration work led to further social work projects, the supporting of Third Sector partner agencies as well as multiple projects in tackling poverty and developing impact assessments. We provided health related statistics and analysis enabling the end-user to successfully tackle poverty, and lead to improving the wellbeing of those in need.



**How we are
helping**

**Community
Planning
Partnerships**

How we are helping – Community Planning Partnerships

“Thank you and your team for the support provided in developing the socio-economic analysis which will guide the development of our Local Outcome Improvement Plan. We have presented a report to our strategic working group and they will be discussing the key messages in the analysis, which will take us a significant step forward in developing our plan.”

Community Planning Team Leader

The Community Empowerment (Scotland) Act 2015 requires Community Planning Partnerships (CPP) to have a detailed socio-economic understanding of their communities, and to replace Single Outcome Agreements (SOA) with Local Outcome Improvement Plans (LOIP). The Act also requires the development of locality plans for areas experiencing the most marked inequality in outcomes.

Since inception, LIST has become an integral part of the Health and Social Care integration landscape within Scotland, and aims to replicate this within the community planning arena.

The Community Empowerment Act is a key component in trying to address the myriad health and socio-economic inequalities that exist within our local communities, and strives to build productive working between CPP partners and the communities they serve. The closer LIST can work with CPP partners, the better chance our work can have a positive impact on our local communities.

Below we have shared just a few of our stories on how we have been working with Community Planning Partnerships.



How we are helping – Community Planning Partnerships

Working with East Renfrewshire – Socio-economical Analyses

Having received an offer of support from NHS National Services Scotland (NSS), NHS Health Scotland and the Improvement Service to produce a Local Outcome Improvement Plan (LOIP), East Renfrewshire Community Planning Partnership (CPP) approached LIST to assist them in the production of this plan.

LIST was tasked with two main objectives:

- To update the socio-economic narrative in the current Single Outcome Agreement (SOA) for inclusion in the new LOIP.
- To provide an updated disaggregated small-area analysis of the socio-economic measures.

Utilising a range of local and national data sources, LIST updated the socio-economic narrative to accurately reflect the current and projected demographic make-up of East Renfrewshire, with specific emphasis on life expectancy, household projections, fertility rates, migration and education.

More detailed analysis of a range of health and socio-economic measures was undertaken, in order to allow rate comparisons between the eleven Community Council areas, and against those of East Renfrewshire as a whole, and Scotland. These indicators/rates included Early Years and Maternity, Children in 'out-of-work' households, Job Seekers and Disability Living Allowances, as well as Pension credits.

LIST, in partnership with East Renfrewshire CPP, conducted extensive small-area analysis to identify the key issues and trends within its communities. The provision of place-based analysis and actionable intelligence has been used as an evidence base for the development of a LOIP outcome collaborative (guided by a Strategic Working Group), which will roll out a targeted approach to prevention across all service areas.

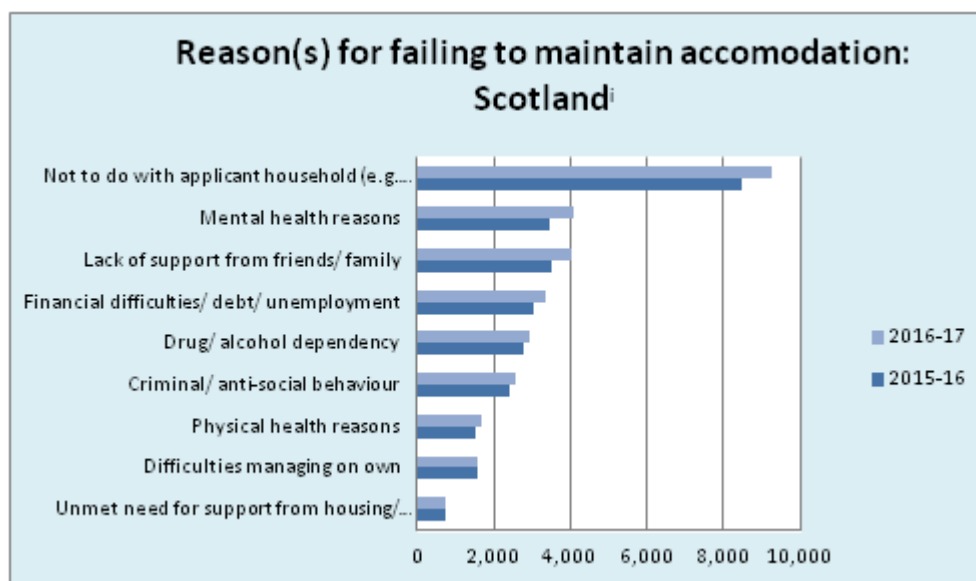
As well as providing robust analysis for the LOIP, much of the Early Years work (e.g. Low Birth weights, Breastfeeding) has been incorporated into the evidence base for the East Renfrewshire Children's Plan.



How we are helping – Community Planning Partnerships

Working with Renfrewshire - Homelessness

There are many complex reasons why individuals and families present to Scottish Local Authorities as homeless, and those leaving prison may fall into several (or multiple) of these categories.



With Renfrewshire Council experiencing a higher than average number of prison leavers presenting to their Homeless Service, they were keen to collaborate with LIST to better understand the scale and nature of the problem, and try to engineer a joint working approach between Housing, Social Work and Health that would break this cycle of repeat homelessness and poor outcomes.

LIST's South-West Glasgow Team has carried out analysis on an identified cohort of individuals, recently released from prison. The aim of this is to gain an insight into their unscheduled and secondary care interactions with health services in Renfrewshire.

We have since produced outputs for this cohort detailing topics such as; A&E attendances with the reasons for attendance, routine admissions to hospital and emergency admission breakdown where drugs and/or alcohol have been recorded as the primary reason for admission. We have also looked at Arrival Mode to A&E to provide an overview of additional resource.

LIST is continuing to work closely with CPP colleagues, and is now undertaking detailed analysis on 10 individuals. Further analysis includes analysing costs associated with this cohort, and potentially linking them to another Council-funded project which has provided housing solutions for the homeless, allowing the Council to compare costs of action against inaction.

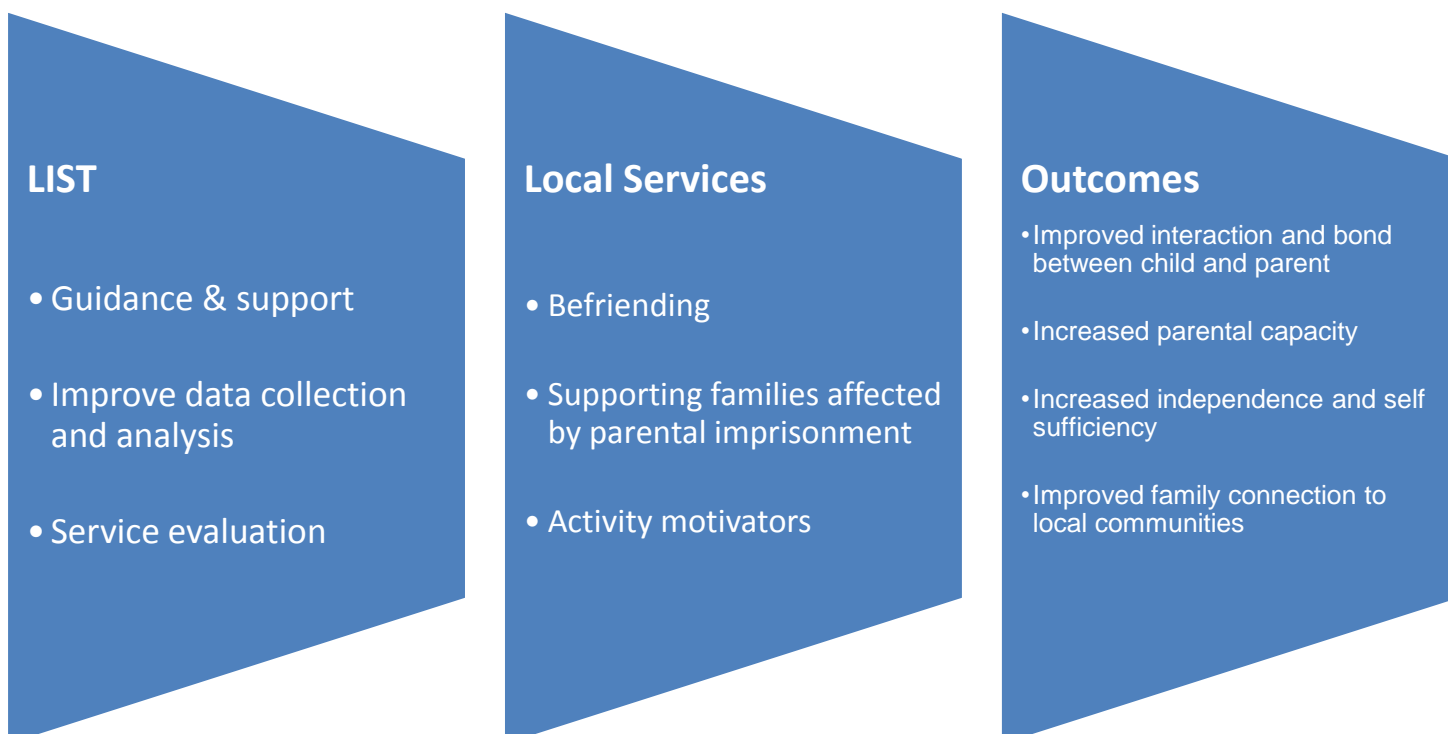
How we are helping – Community Planning Partnerships

Working with East Ayrshire – Play and Early Intervention

From initial discussions with senior members of the Vibrant Communities programme, LIST has been asked to provide data and intelligence support to East Ayrshire Council's Play and Early Intervention Service. This service works at the heart of some of East Ayrshire's most vulnerable communities:

- Befriending /Befriending Housing programmes – include support to formerly looked after children in their first tenancy, potentially in a new area.
- Services to support families affected by parental imprisonment, using a variety of techniques and services e.g.
 - Family Book share – delivered within prison to encourage bonding and social interaction between prisoner and child.
 - Bonding – play and bonding sessions between prisoner and child/family.
- Play and parenting training – develop understanding of importance of play, positive parenting and relationships.
- Activity motivators.
- Play @ Home – interventions to support the most vulnerable families.

LIST has been asked to work with East Ayrshire colleagues, in order to improve overall data collection, analysis and evaluation. The service is currently operating with a significant amount of paper-based systems, and this will be one of the key areas LIST will address.



How we are helping – Community Planning Partnerships

Working with Community Justice – Data Signposting

Linking in with National Services Scotland (NSS) expertise on Health and Justice, LIST is developing a data sources document that will provide signposting to data relevant to this field. This is an early piece of work and will provide clarity on the strategic and operational landscape that exists to underpin health in the justice system. It will identify and sign post analysts and decision makers to relevant organisations and data sources to support collaboration.

Impact/benefit

- Drafting the Health and Justice Document is the first time this landscape has been mapped out in one place. It will provide support to local teams as they engage with their local communities in driving forward priorities that impact on citizens linked into the justice system.
- Building relationships with Public sector partners out-with health, bringing greater potential for data sharing/linkage, adopting a multi-agency approach to tackle issues within local communities, scope for building portfolio of LIST work that can be 'packaged' and replicated in other areas.

Shared Learning

This work has been the result of LIST, Consultant in Public Health Medicine, the Community Justice Agency and Scottish Prisons Service coming together to share the work and conversations they are having within their own fields of expertise. We are working to identify where we can be mutually supportive towards a common goal.

Next Steps/Future

Linking in with the Community Justice Implementation Working Group and other strands of work within health and justice



How we are helping – Community Planning Partnerships

Working with Scottish Fire and Rescue Service

LIST has a longstanding working relationship with colleagues in Scottish Fire and Rescue Service (SFRS). Much of this work to date has involved providing health statistical data that has helped inform SFRS service planning, where comparative analysis of indicators by area and overview have been utilised in the context of service transformation.

Moving forward, LIST will continue to work alongside SFRS in order to help their service transformation agenda, aiming to help develop evidence bases on which to inform the development of more efficient and effective service redesign going forward, while seeking to achieve better outcomes for local communities.



**How we are
helping**

Third Sector

How we are helping – Third Sector

"The authentic life changing stories within the Third Sector that we experience every day here at Resonate Together enable our community to learn, connect and grow the positive interactions. The data that is supplied by the amazing team at LIST, supports us to make informed choices, ensuring that together we have a whole system approach to build resilience in our communities across Scotland."

Angela Beardsley FRSA
Founder & Executive Director

'Third sector organisations' is a term used to describe the range of organisations that are neither public sector nor private sector. They are independent of Government and it includes voluntary and community organisations (both registered charities and other organisations such as associations, self-help groups and community groups), social enterprises, mutual's and co-operatives. They are 'value-driven'. This means they are motivated by the desire to achieve social goals; for example, improving public welfare, the environment or economic well-being.

In 2011 the Christie Commission on the future delivery of public services made several recommendations regarding the reform of Scotland's public services, including the Third Sector. The report recognised the role of the Third Sector in regard to partnership working within local areas.

Third Sector organisations have been identified as key stakeholders within Health and Social Care Integration, and the legislation specifies that at least one seat on the Integrated Joint Board for each Partnership is reserved for a Third Sector body which carries out Health and Social Care functions.

As part of the LIST offering around supporting Health and Social Care, we have also been working with a number of different Third Sector organisations providing information and analytical support. The following pages contain examples of some of the work that we have been undertaking with the third sector.

Below we have shared just a few of our stories on how we have been working with Third Sector organisations.



Third Sector (some facts)

- Around 45,000 Third Sector and Voluntary organisations in Scotland.
- 130,000 paid staff, which is around 5% of Scotland's workforce.
- Over 1.2 million volunteers.
- Total turnover of around £3.2 billion per annum.

How we are helping – Third Sector

Leuchie House

“Respite is such a little word but in one place it has such a big meaning”

Leuchie House is a registered charity offering a specialist facility providing respite care to individuals and their families. Leuchie House specialises in caring for people with long term conditions such as Multiple Sclerosis, Parkinson’s, Motor Neurone Disease, Huntington’s, Cerebral Palsy, and the effects of Stroke and Spinal Injuries etc.

Leuchie house wanted to evaluate and compare the cost of the specialist care provided by their centre to ensure value compared to other similar facilities.

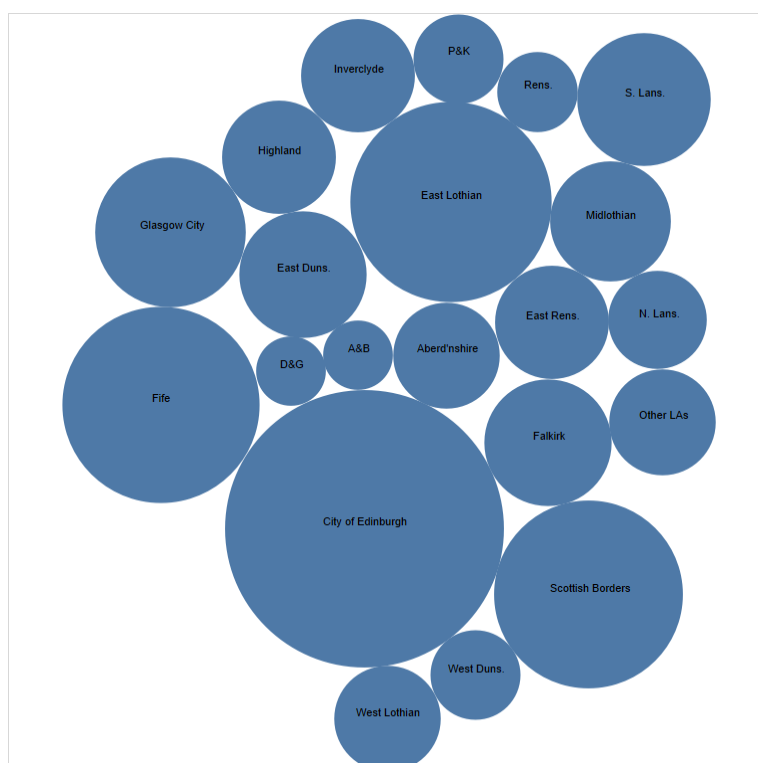


Some Stats for 2015:

- 6,200 respite care days
- 2,722 hours of time were given by volunteers

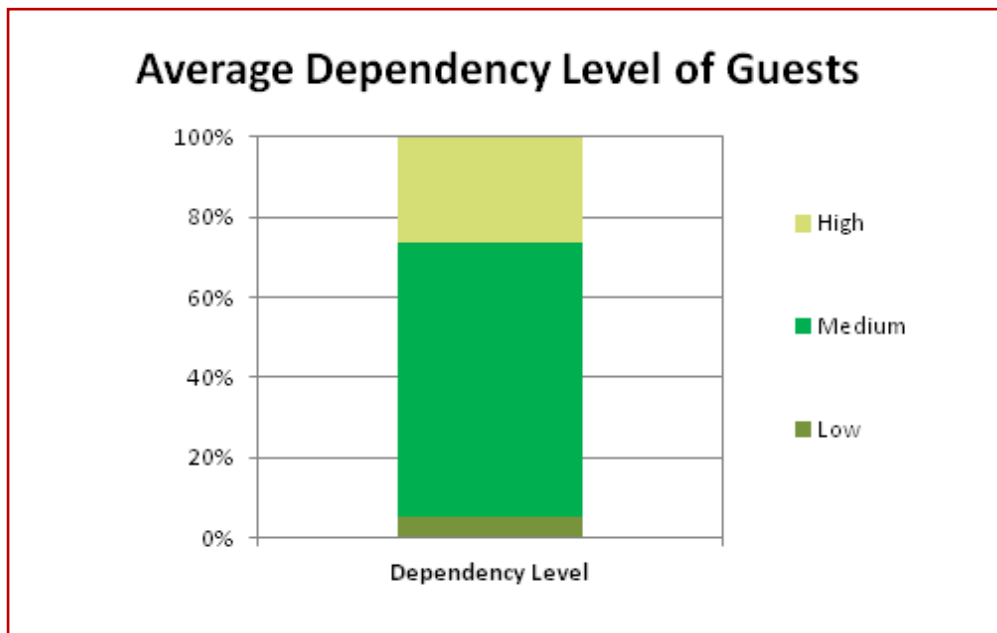
Using a variety of ISD data sources, LIST were able to provide information on a number of comparative services which included costing information. This allowed Leuchie House to create an evidence based case for the value of their highly specialised centre of care to be benchmarked against comparative service providers.

Patterns of referrals from across Scotland in 2015



How we are helping – Third Sector

Leuchie House continued



Using a variety of ISD data sources, LIST was able to provide information on a number of comparative services which included costing information. This allowed Leuchie House to create an evidence based case for the value of their highly specialised centre of care to be benchmarked against comparative service providers.

LIST/PHI provided health data interpretations to show the valued service that Leuchie House provides to high dependent patients who require respite care. LIST is now discussing further work for Leuchie House and the local H&SCP. Added 8 August

“Leuchie House is a charity only six years old. As we are an independent charity providing a unique service we were keen to try and benchmark with other comparative services though there is nothing that is a direct comparator. In our limited experience it was proving hard for us to determine value for money for Leuchie guests, NHS and local authorities.

The ISD team quickly grasped the situation and guided us through a process that was extremely helpful and supportive. They were quick in their response and helped us approach the issue from another angle.

Their consultant and consultative approach facilitated good teamwork and understanding.”

Mairi O’Keefe MBE, Chief Executive, Leuchie House

How we are helping – Third Sector

Dementia Carers Voices

In June 2016, ALLIANCE* Dementia Carer Voices partnered with NHS National Services (NSS) Scotland to perform analysis on the pledges received. In order to undertake the analysis NHS NSS used 6,000 pledges to identify the most common themes in the responses of Health and Social Care staff and students. The pledges are the personal commitments of the staff and students hearing the personal story of an unpaid carer and as such provide a valuable insight into the views, concerns and motivations of those who work, or will work in the Health and Social Care profession.

*The Health and Social Care Alliance Scotland (the ALLIANCE) is the national Third Sector intermediary for a range of Health and Social Care organisations. It brings together over 1,800 members, including a large network of national and local Third Sector organisations, associates in the statutory and private sectors and individuals.

LIST has provided support to the Dementia Carer Voices Pledge Project. Tommy Whitelaw from ALLIANCE asked LIST to review the data that had been collected in the form of free-text pledges. The aim was to create a structured method of collating the data electronically, improve data quality, and deliver data analysis.

The request of support to LIST was to create meaningful outputs/analysis from free text data which was collected via the pledges postcards. LIST created an excel based tool to allow the dementia project team to collate the data that had been collected on paper into electronic format; whilst also applying some structured standards around the data.

Once the data had been fully entered into the Excel tool, the final file was then submitted to LIST. The file was quality checked for completeness and erroneous data items. Any errors or queries found were discussed and corrected.

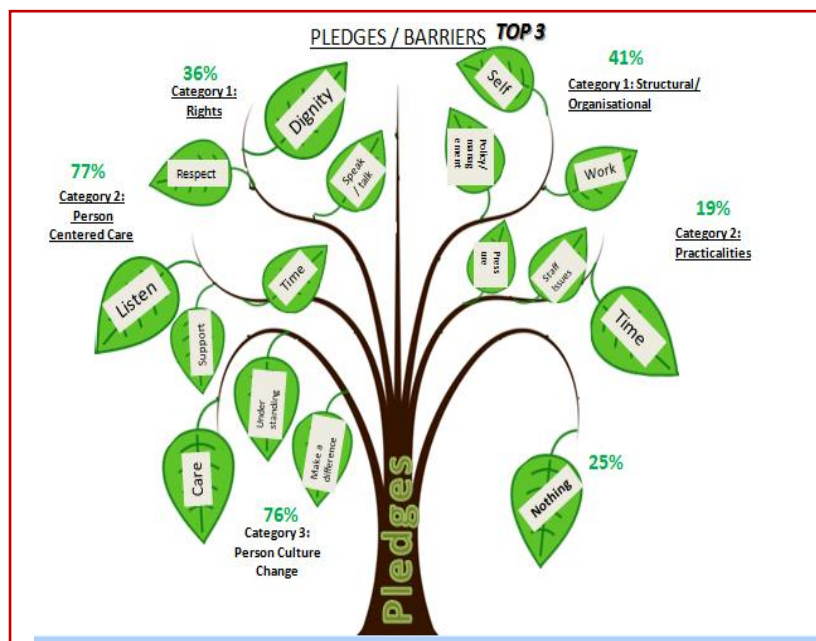
The data were then analysed and the findings are presented in the form of tables and charts. Some other benefits of the analysis produced are that they will feed in to the Dementia Care Strategy, be shared with dementia care professionals, which will essentially help improve the care of Dementia sufferers.

Examples of the Pledge tree that is populated and shared with participating organisations



How we are helping – Third Sector

Dementia Carers Voices continued



Analysis of the Pledges/Barriers data

“The ALLIANCE is incredibly grateful to the NHS NSS for the fantastic work they have done on the data analysis, especially to Themina Mohammed (LIST Team), who has contributed with her time and knowledge to help us analyse the pledges.”

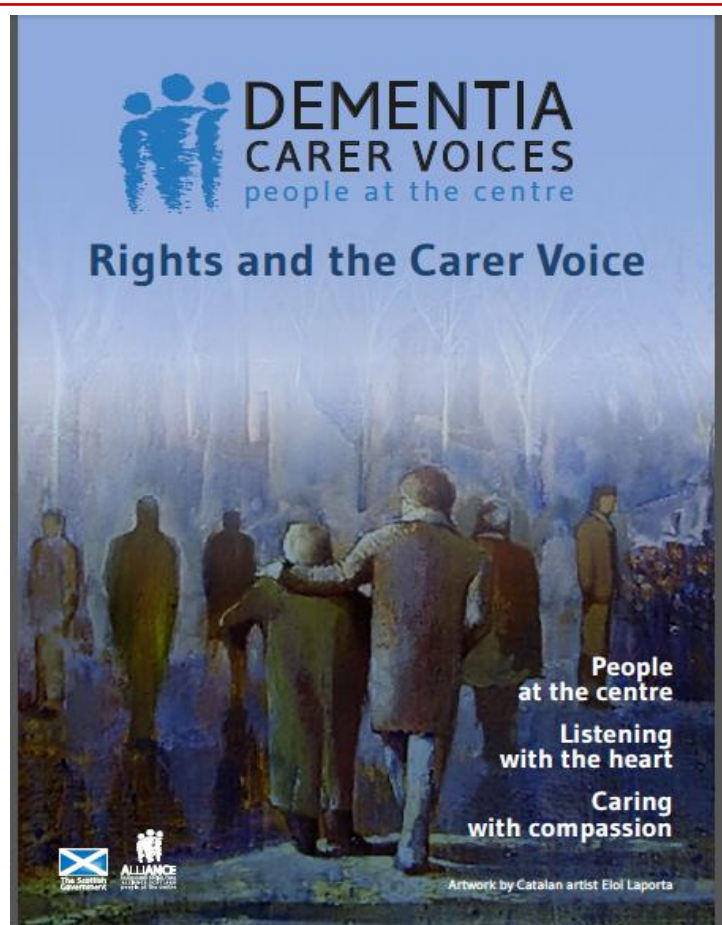
Tommy Whitelaw
UK Engagement Lead
The ALLIANCE

Final output included in the Dementia Carers Voices Report

“As part of our ‘make a difference’ campaign and tour across the country asking Health and Social Care professional how they will make a difference for people living with dementia, families and carers, we then had to tell the campaign story individually and collectively. Working closely with LIST helped us turn our good intentions into purposeful actions to represent PEOPLE AND PLEDGES in the best possible way.”

Tommy Whitelaw
UK Engagement Lead

The ALLIANCE has been commissioned by two NHS Board areas to carry out a similar project within each Board area to work with their staff on the care of Dementia. It is expected that LIST will again support this work.



How we are helping – Third Sector

Our Other Third Sector Projects

Perth and Kinross Association of Voluntary Services

This is a collaborative Pilot Pathways project between Perth and Kinross Health and Social Care Partnership, NHS Tayside, Perth and Kinross Association of Voluntary Service (PKAVS), Evaluation Services Scotland (ESS), and LIST. Understanding the role the third sector plays within the health and social care system and how we can best use Third Sector evidence to understand and demonstrate this was its main objective. Linking Health, Social Care and Third Sector data was a key requirement of this project.

Work is continuing on the pilot project. The data set reviews of the local organisations selected for the project have identified one specific organisation to work closely with to use their data locally for the purpose of the pilot.

Erskine Hospital – Care for Veterans

A data collection template has been created based on the requirements to evaluate the Advanced Nurse Practitioner service provision at Erskine. This will support their planning for the future and help them understand what future developments this service might provide that is clinically appropriate. LIST analysts will be involved in ensuring the relevant analysis is produced from these data, ensuring that appropriate Information Governance processes are followed.

MacMillan Cancer Care Pathways Project

LIST provided advice and guidance to this project, to assist them in planning and mapping out information pathways and data standards for data collection.

Resonate

This project involved LIST working with Resonate, a Social Enterprise organisation supporting communities in Alloa. LIST provided data analysis on local demographics, and health activity, to help identify trends/changes over the last five years (mainly in Mental Health); Resonate will use the data to help and plan the delivery of the services they offer to support the health and well-being to the local communities.

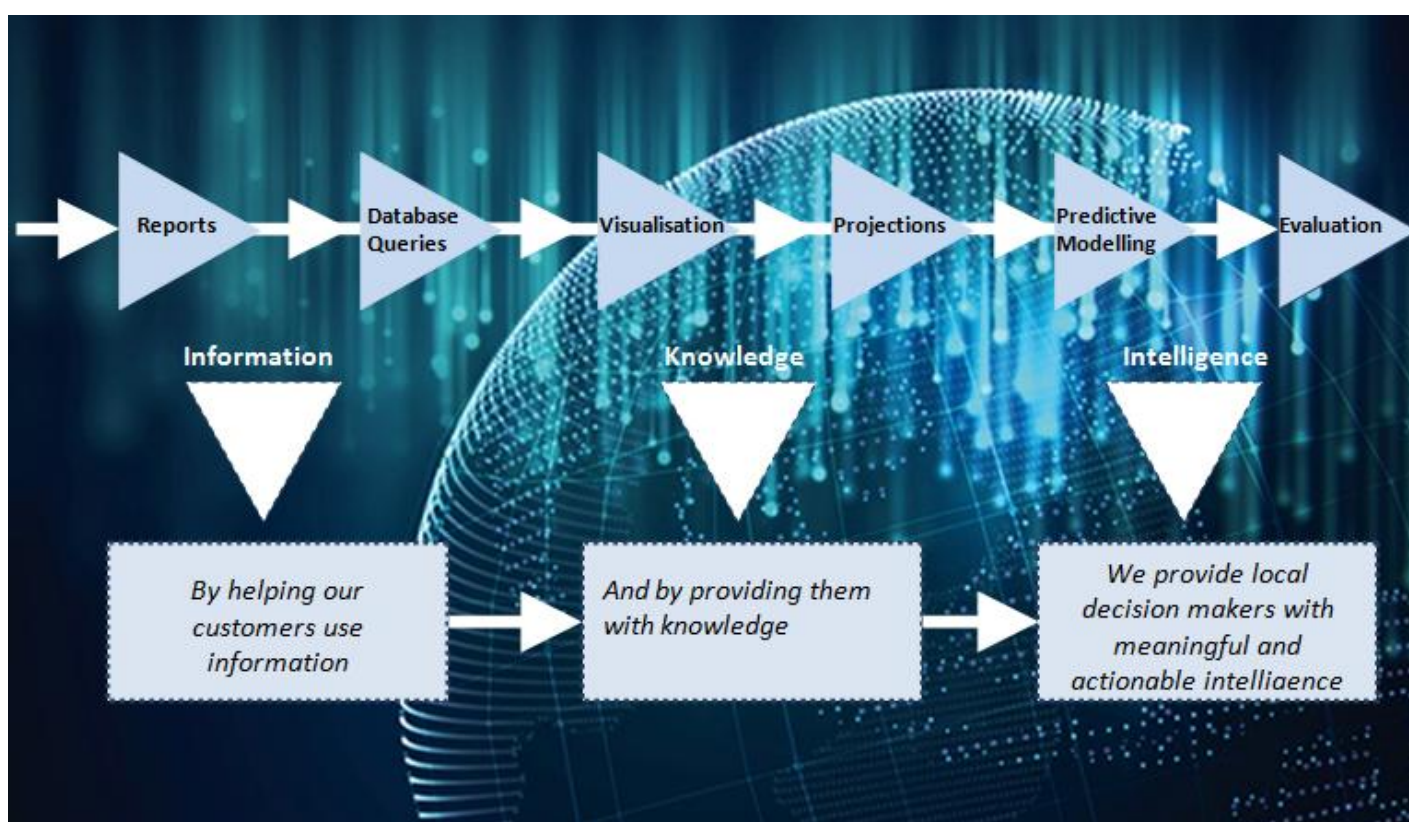
The logo for the Third Sector, featuring the words "Third" and "Sector" in a bold, white, sans-serif font, stacked vertically. The text is centered within a dark red rectangular background that has a subtle grid pattern.

**Ways we can
support you**

Ways we can support you

Within LIST we pride ourselves in helping our customers to gain deeper insights in to data where our advanced analytics allows our customers to access, blend, explore and analyse our many data sets, including local data.

We have been providing local decision makers with meaningful and actionable intelligence, leading to improved outcomes for service users and patients.



Our Team is deployed across Scotland where we have been supporting Health and Social Care integration, GP Cluster Quality working as well as working with Community Planning Partnerships, Local Authorities and Third Sector organisations. Our multi disciplinary team consists of a variety of professionals, who have specialist knowledge, training and experience in a wide range of areas such as Child Health, Cancer, social care systems etc.

We have helped our customers to share learning and best practice across Scotland. Working locally has also allowed us to bring people together across Health Care, Social Care, Primary Care and other organisations to support decision-making and service change.

Ways we can support you

How we can help

"We can help our customers gain deeper insights into data where our advanced analytics allows you to access, blend, explore and analyse our many data sets."

- ❖ Understand the data landscape and information that is available to you.
- ❖ Map data flows to better understand how and where information is collected.
- ❖ Identify data gaps, streamline data collections and develop new data sets.
- ❖ Work to improve data quality and enrich your data.
- ❖ Source, link and interpret data helping you to understand service user pathways and project patterns of service demand.
- ❖ Build bespoke analytics such as, visualisation, demographics, trend analysis, forecasting, profiling and targeting of service user population.
- ❖ Quantify the needs of your population e.g. high rate of people in nursing homes. Provide access to our many products, such as the 'Source' platform and Discovery.

Shifting
the
Balance

Workforce

Long
Term
Conditions

Evaluation

Modelling
Techniques

Health
Inequalities

Forecasting

Tests
Of
Change

Data Quality /
Data Process

Releasing
Time
To
Care

Linked
Data

Pathways

Ways we can support you

Shifting the Balance

The Health and Social delivery plans sets out the vision of shifting the balance of care – ‘ensuring care and support is transferred from hospital to community care settings and to individual homes when that is the best thing to do’.

LIST analysts can support this vision by providing information and intelligence with regards to:

- **Activity** – trend analysis of unscheduled/scheduled activity and associated bed days by Health Board, Partnership and Locality.
- **Impact analysis** – provide Partnerships with the ability to run scenarios to consider options for service redesign or transfer of activity/resources (unscheduled and scheduled care activity and associated costs).
- **Deep dive analysis** – detailed analysis of cohorts (conditions, such as dementia or service delayed discharges). Measures such as resource consumption in both activity (duration of care, length of stays, waits) and costs will allow quantifiable measures to put in to context the scale problems/opportunities.

Workforce

The LIST team can work alongside local teams to support local workforce planning initiatives. We can enable access to national resources and specialist expertise within ISD who can provide further support. Specifically, examples of analysis that can be carried out to support local workforce planning includes:

- **Locality profiling** – summary of local health needs and demands as well as understanding GP list size, GP appointments (duration, where appointment takes place etc).
- **Population profiling** – understand your local population, including deprivation and future population projections.
- **Workforce supply (staffing)** – understand current and future needs of multi-disciplinary team, exploring current profile, deployment and variation.
- **Test of change** – provide evidence to support service delivery change including evaluation of impact, benefit and outcomes.
- **Shared learning** – sharing learning's and knowledge from other areas.

Ways we can support you

Long Term Conditions

The increasing prevalence of long-term conditions, and the complex needs that arise from an ageing population living longer with multiple long-term conditions, is a significant pressure for the health and social care system.

Providing local intelligence of disease prevalence will allow planners to redesign services to cope with the increased demand for health and social care services. This would include linking hospital and GP community prescribing information to provide:

- **Prevalence** – trend analysis of disease prevalence at Health Board, Partnership and GP Cluster for identified conditions.
- **Multi-morbidity** - information on patients living with multiple long term conditions and their service utilisation.
- **Co morbidity** – providing information on the interactions of disease at partnership/cluster level will allow planners to plan and design services to cope with increased demand.

Evaluation

Organisations are increasingly looking to provide systematic evidence for the effectiveness of new interventions and to support service redesign. Service evaluation can help planners make informed decisions on how resources are utilised, and consider the wider impact of change. LIST can guide the service evaluation process by:

- Working with local partners to consider how new services are to be rolled out, and include the relevant evaluation criteria.
- Being involved in the planning stage, LIST can collaborate with key stakeholders to design a streamlined data collection process and create a rigorous analytical outline for evaluation.
- Building a strong evidence base for effectiveness of interventions.
- Work with decision-makers to ensure all outcomes of the evaluation are clearly understood to promote confident decision-making.

Ways we can support you

Modelling Techniques

Modelling techniques, such as simulation and predictive modelling can be embedded across all of the LIST offerings where relevant.

- Predictive modelling (AI) can be used to identify those people for whom an intervention is likely to avoid an escalation of need.
- System Dynamics is a way of visually representing complex systems, and understanding how different parts of the system interact with each other. The effect that changing one variable has on the rest of the system can be better understood through the identification of feedback loops.

System Dynamics lends itself well to systems whose behaviour changes over time and the benefits of modelling using this technique are that it allows for different scenarios to be simulated, and their outputs represented in a visual and comparative way.

System dynamic modelling has been used to better understand the future need for Older People's care home places, given a growing, ageing population.

Health Inequalities

There continues to be a disparity between many individuals and communities throughout Scotland, in terms of health outcomes. The challenge facing the NHS in Scotland is two-fold: how do we address any barriers to service access that may be exacerbating these inequalities; and how do we identify the varying levels of need within our communities.

Through our Scotland-wide network of analytical and data management support, LIST is ideally placed to work with local partners to provide key inequalities intelligence. LIST can help to provide:

- Inequalities tool – utilising health, education and socio-economic data to calculate the 'Slope Index' of inequality that exists locally
- Bespoke Locality profiling
- Advising on appropriate use of Performance Indicators
- Small-area geography analysis (e.g. Community Council areas)
- Support to Target finite local resources
- Provide link into national teams & expertise (e.g. Child Health, ScotPHO)

Ways we can support you

Forecasting

Advances in computer science and computational power means that LIST can now leverage the wealth of health big data that Scotland has, from a national to local level.

LIST has traditionally offered retrospective trend analysis and descriptive statistical information but we can now offer more accurate predictive analytics based on Machine Learning. These techniques not only identify the root causes of an issue but also offer modelling and simulations of the data to give excellent intelligence on what the most likely future outcomes or scenarios are.

LIST analysts can help you to explore areas such as Delayed Discharge, Length of Stay and Community Care. The latest techniques in computer science would allow us to not only very accurately predict the length of stay of a person in hospital but also how this changes as their health needs change.

“Planning involves determining the appropriate actions that are required to make your forecasts match your goals.”

Tests of Change

The ability to manage demand and improve patient access is increasingly reliant upon the ability to effectively test and evaluate new methods of working. LIST have assisted local partners to carry out tests of change and employed analytical techniques to measure the impact of those tests. LIST can assist the Test of Change process through:

- Providing instruction and guidance on data usefulness and data quality, in order that aims and objectives can be measured successfully.
- Designing tools and templates to make it easy for GP practices to gather data for measurement. This includes baseline data collection before the tests commence and also whilst the tests are in operation.
- Providing regular feedback and analytical outputs to stakeholders in the form of written reports as well as visualisations of data to allow them to make quick and informed adjustments to tests if necessary.
- Presenting overall measurement based on comparison of baseline and test of change data, to demonstrate shifts in practice and changes to systems.

Ways we can support you

Data Quality / Data Process

Underpinning a strong analytics function in support of integration requires data that is robust, of high quality, up to date and complete.

As we work closely with our customers from a range of organisations within Health, Local Authority, Third Sector and other Public Sector Providers we identify where little or no data is collected in order to support the provision of intelligence for informed decision making. In order to plug this gap LIST has expertise in data process mapping, developing minimum datasets to meet the data gap, data standards expertise and drafting option appraisals to support local decision making on the way forward. Examples we have delivered include:

- Diabetic foot pathway information flow analysis
- Observing and mapping information processes within a District Nursing Team to identify areas that might be focussed on to improve service delivery.
- Developing a minimum data set across local authorities and health as part of a Single Shared Assessment project.

Releasing Time to Care

Working locally with you we can help to identify opportunities to streamline data collection and data processes helping to release time to direct patient care. A past example of work LIST supported was working with a local District Nursing team to:

- Reduce duplication of data entry and improving the data quality.
- Supporting the team in terms of delivering on key elements of the project that would release administrative time from the District Nurses once all the phases were implemented.
- Supporting the liaison with the District Nurses in the negotiations with IT to get the changes to systems implemented.

Ways we can support you

Linked Data

Linking data is often a crucial precursor to the development of information and intelligence relating to integrated services.

LIST have the skills and experience to develop linked datasets incorporating a range of Health and Social Care (or related) services.

Access to ISD's CHI seeding service means datasets without CHI can also be linked.

Pre-linked data, based on national data collections is also available and can act as a core linked dataset.

Pathways

The application of service user pathway analysis can provide a holistic view of populations', cohorts' or individuals' care experience throughout the Health and Social Care system.

LIST has developed specialist skills and experience in applying a process mining approach to the derivation and visualisation of service user pathways.

LIST can further provide support and interpretation on the use of these outputs to support service planning and redesign and link in with system modelling capabilities.

Shared Learning

Shared Learning

As part of our close, often on-site working with colleagues in Partnerships and GP Clusters, we have been identifying commonality in information needs across multiple Health and Social Care Partnerships and GP Clusters.

Where national data sources can be used to support these needs, LIST and ISD colleagues are repackaging some of this data on a “Do Once for Many Areas” basis, and offer the output to all relevant organisations that we support.

LIST is actively looking for common themes and is identifying what areas data can be packaged up and offered more proactively to our customers. As this evolves there will be benefits in reducing duplication of data requests to ISD, whilst also informing our product development plans to incrementally build upon the range of information that is available routinely on a “self service” basis.

What have we done?

We have established an internal mechanism to capture LIST activity that is ongoing locally, and this is reviewed regularly to identify common themes. This provides oversight that enables LIST analysts to see if there is similar work occurring in other areas. This means emerging projects can build on work that might already be underway in other parts of Scotland. Linking in with each other enables the sharing of experience and learning. We are building a stock of generic toolkits that includes both frameworks and outputs that means we aren't always working from a blank piece of paper, and can apply learning from our experience elsewhere.

We have a programme of shared learning within LIST and wider ISD that strengthens and reinforces our expertise, creating an environment of active learning and knowledge sharing.



Shared Learning

Our stories around shared learning

Guidance on Developing Population Needs Assessments

LIST has worked closely with ISD's Consultants in Public Health Medicine to produce advice on the process of drafting a Needs Assessment for two specific population groups; Health and Social Care Partnerships and GP Clusters.

The purpose of a Population Needs Assessment is to gather the information needed to understand the type and distribution of services required for a population to gain the maximum benefit. This requires an understanding of the Health and Wellbeing needs of the population in order to support improvement through Health and Care services and other initiatives.

Guidance which we have published will support LIST analysts and others in following best practice in developing a needs assessment.

Data Sources Signposting

It can be challenging to keep track of nationally available data, with a huge range of statistics either publicly available in aggregate form, or available in more detail to authorised NHS and Social Care staff.

Signposting to available data and facilitating access to it is a key part of the LIST offering. In 2017/18 we have worked to update and publish a [Data Sources](#) guide to assist colleagues across Health and Social Care Partnerships in navigating their way to some of the key data available.

Additionally, a new signposting guide for [Primary Care](#) data has also been published to help support local analysts and Primary Care professionals in understanding what is available to them. This also provides clear links to the Health and Social Care Partnership Data Sources document as there are relevant data sources documented there too.

Recognising that Health and Social Care Integration will rely on wider data sources on vulnerable populations, we are also in the process of finalising a Data Sources document that covers [Health and Justice](#) data too. This will be published in the summer of 2018.

Shared Learning

Our stories around shared learning continued

Supporting standardisation in statistical definitions and analytical approaches

Standardisation and consistency of approach are key foundations for robust statistics and information. Accurate decision making relies on high quality data along with local contextual knowledge. LIST is working with a range of groups and bodies to ensure that local feedback is taken into consideration when developing such tools and methodologies.

An example of this area of work is LIST's involvement in supporting the monitoring of progress of Health and Social Care Integration by the Ministerial Steering Group (MSG). The Ministerial Strategic Group (MSG) is a key strategic decision taking group in relation to transformational change in Health and Community Care in Scotland. Membership includes Health Ministers and other various senior Scottish Government staff, as well as representation from organisations such as COSLA and NHS Scotland. The group provides a forum for members to discuss mutual interests, providing leadership and direction, with the nine national outcomes for Health and Wellbeing at the centre of its work.

More recently, one of their main aims has been to monitor the progress of Health and Social Care Integration, assisted by six key high level indicators including emergency bed days, delayed discharges and end of life care delivered in the community. This has been complemented by Health and Social Care Partnerships submitting objectives for those indicators for the next 1 to 2 years with the expectation that there will be a reduction in overall hospital activity and an increase in care in the community.

LIST has been:

- Assisting Partnerships in the completion of objectives by providing guidance on requirements as well as relevant data outputs and projections.
- Acting as a liaison between Partnership and the ISD national Health and Social Care Team who are coordinating objective returns nationally.
- Contributing to multiple working groups, providing feedback from Partnerships and suggestions on how to enhance outputs and generally develop the work further.
- Presenting at national events.

LIST has also supported the defining of integration localities for statistical purposes. Legislation requires that Health and Social Care Partnerships must plan and deliver services at locality level as well as across the whole Partnership area, and that planning should be supported by relevant data. Whilst there is no formal requirement for localities to be defined in a specific way, from a practical point of view Health and Social Care Partnerships need to be able to obtain locality-level statistics from national organisations as well as to generate them locally. IST has been pro-active in working with H&SCP colleagues to define localities in a nationally consistent way where possible.

Shared Learning

Our stories around shared learning continued

Supporting standardisation in statistical definitions and analytical approaches continued

This consistency is allowing LIST, other teams in ISD (such as Source and ScotPHO) and our colleagues in Health and Social Care Partnerships to grow and improve access to data at locality level. This work will continue with our colleagues in ISD to formalise the locality definitions in an increasing range of analytical reference files and information products.

Having the right LIST analyst contacts embedded in Local Councils really helps speed up the process of making the right local contacts. I'm sure that a quick conversation with you has often saved me many long winded emails or phone calls trying to find the right local person who can inform the decisions I need to make.

It's my feeling that what really helps is having someone like you who understands the language and context of both the [local and national] setting and can translate or make connections that might not be obvious to someone only familiar with one of these settings.

Vicky Elliott, Principal Information Analyst, ScotPHO

Information Governance

LIST has been supporting our wide range of customers on the Information Governance journey to enable data to be shared appropriately and securely. We have developed a process around Data Sharing Agreements which provides clarity around roles and responsibilities for specific projects across a number of organisations. We have worked closely with local information governance teams to ensure we meet local compliance. Memorandums of Understanding have also been developed to help facilitate our work with GP Clusters.

Establishing a clear process on Information Governance ensures that risks to appropriate management of data are kept to a minimum. This is particularly appropriate as we make more use of data through linkage. The processes we have established have also helped support our colleagues locally.

Cluster Profiling

We are working closely with a few GP Cluster pilots to better understand what their information requirements are in developing a population profile, so that we can then package elements of this up and deliver them across the country if necessary; potentially reducing number of bespoke data requests for individual Clusters as far as possible.

Shared Learning

Our stories around shared learning continued

Potential High Health Gains

We can now provide a list of patients to GPs who are predicted to be vulnerable and/or have complex needs in the coming year. This is known as patients with the potential for 'High Health Gain'.

ISD's national Health and Social Care Team will provide data on request following receipt of an appropriate data access form – and the LIST analyst can help with this process. We are proactively sharing this with GP Practices and encouraging them to review these lists and consider whether patients identified would benefit from Anticipatory Care Planning and/or additional support, a multi-disciplinary discussion and/or review.

We are planning to make these data available to GPs via the [Primary Care Information dashboards](#) during 2018.

Enhancing National Products: ScotPHO profiles

Health and Wellbeing Profiles data published by the Scottish Public Health Observatory (ScotPHO) are of interest and use to a wide range of customers in Local Authorities, NHS Boards, Community Planning Partnerships and Health and Social Care Partnerships.

The team that supports ScotPHO has been working to change the software that make the profiles data public, review the list of indicators included, and expand the range of geographical areas for which they publish data. LIST, themselves keen customers of ScotPHO, has been helping to support the on-going development of ScotPHO by providing a bridge/link between our colleagues in the ScotPHO team and those with whom we work in H&SCP areas.

"Julie...

...you working both in the Borders and up at the Gyle was instrumental in getting Local Authority representation on the ScotPHO profiles group (leading to the collaborative). This was because you could introduce people and had a view to see both sides of the data / information requirement for the profiles. "

Erin Murray, Research and Policy Officer, Scottish Borders Council

Shared Learning

Our examples of scalability / reuse of local projects

Potentially Preventable Admissions

Replication of a local project, scaled up to be provided across Scotland, looking at potentially preventable admissions is nearing conclusion. This is the development of a tool-kit that enables data to be drilled down to locality level, comparing a range of conditions to see if they are outliers in terms of admissions. This should stimulate discussion locally to see where there might be scope to potentially prevent some of these admissions.

Home Visits Toolkit

A framework to approach Home Visits test of change in primary care used successfully in one Partnership and is available for reuse in other areas. Data collection templates are available for adaptation.

GP Practice workload audits

We have supported GP Practices in various parts of Scotland in auditing the workload of their GPs (and often other Practice staff) to examine how much of their work could potentially be done by other members of the local Primary Care team. For example, how much of the work done by GPs could be led by highly trained Advanced Nurse Practitioners. Data collection templates are available for adaptation and use in other parts of Scotland.

Sharing of data capture screen designs within Excel

Newly appointed Community Link Practitioners has identified an immediate data gap that needs to be plugged in order to ensure appropriate evaluation can be carried out on their impact. Sharing of data capture tools in Excel has occurred and with some adaptation is being reused in another area. The data capture is also linking in with data standards that are in development nationally.



Shared Learning

Ways we share the learning

LIST has been instrumental in initiating and organising a national annual gathering, bringing together colleagues across Health, Social Care, Third Sector and Community organisations to learn and share experiences. This has provided a forum to exchange views on areas where challenges still need to be ironed out, workshops to share specific projects and data collection methods, and an opportunity to network with professionals from a wide range of backgrounds seeking to progress true Health and Social Care Integration.

LIST works hard to ensure strong internal communications and proactively delivers regular learning fora internally (and in some cases externally) via Web conferences. This means LIST is able to capitalise on the shared learning rapidly and effectively within the communities we serve.

In order to ensure fuller sharing of emerging ideas, themes and projects with our key stakeholders, LIST has been developing an interactive GP Cluster map to enable us (and colleagues in Primary Care) illustrate the types of work we are undertaking / themes we are exploring in each area. This will help us to further identify commonalities between areas and promote more sharing of ideas and methods.



Moving Forward

Moving forward

Some of your feedback

Working locally alongside our customers also means we get rapid feedback around the work we have supported. This feedback ensures we are continually evaluating our service offerings and products and that they are aligned to our customers' needs. Some of the feedback you have provided includes;

- LIST need to work more closely in partnership with Public Health and information staff in local NHS to prevent duplication of effort. No added value comes from LIST analysts doing work that was once done by other staff in the health board area.
- Help us to better describe patient pathways and exploring variation.
- Support with the development of bespoke measures which reflect local variations for performance reporting.
- I am A CQL, we invited a leader from LIST to give us a presentation which was good but are still struggling to find how LIST can help us. More worked examples please with meaningful outcomes demonstrated for GP practices.
- Possibly could provide more learning for local staff.
- Added value work, giving access to ISD expertise - no point in doing work we can do locally, other than the increase in capacity.

Regional planning

The Health and Social Care Delivery Plan was published in December 2016 and made a commitment to put in place new arrangements for the regional planning of services. NHS boards have been asked to work together in three regional groups, North, West and East and produce a first draft plan with a view to setting out how services will evolve over the next 15 to 20 years, in line with the National Clinical Strategy.

In order to provide the regions with this added value support, Regional Planning will now be supported via Local Intelligence Support. This will ensure that the LIST service continues to provide local, regional and national decision makers with actionable intelligence, leading to improved outcomes for service users and patients and efficient services.

Moving forward continued

National Collaborative

The Health and Social Care Delivery Plan confirmed a requirement for the 8 National Boards to bring forward a National Delivery Plan demonstrating how they would collaborate to deliver common services and functions on a “once for Scotland” basis, reducing unnecessary variation wherever possible, whilst ensuring critical services are sustainable and realise value for reinvesting in direct patient care.

Within ISD and LIST we have continued to work with other national bodies to support the above ambition. Some examples include;

- Working with Health Improvement Scotland (HIS) on, for example; Lothian Older People Psychology Service (LOPPS) with the aim of understanding demand, capacity, and flow around dementia services, eFrailty and unscheduled care comparing various cohorts and intensive mentoring to people with hepatitis who have had difficulty attending appointments.
- Exploring how best Health Scotland (HS), Health Improvement Scotland (HIS) and LIST can support the ‘evaluation of services’ using established methodologies alongside local and national data.
- Working with Health Scotland (HS), Health Improvement Scotland (HIS) and ISD to map the themes and topics we have been asked to support across Scotland, the tools and approaches we are using and how best we can achieve a ‘Once for Scotland’ approach.
- Working with NHS24 to explore programmes of work to complement across a number of different themes including Primary Care and Long Term Conditions.

Moving forward continued

Public Health Reform

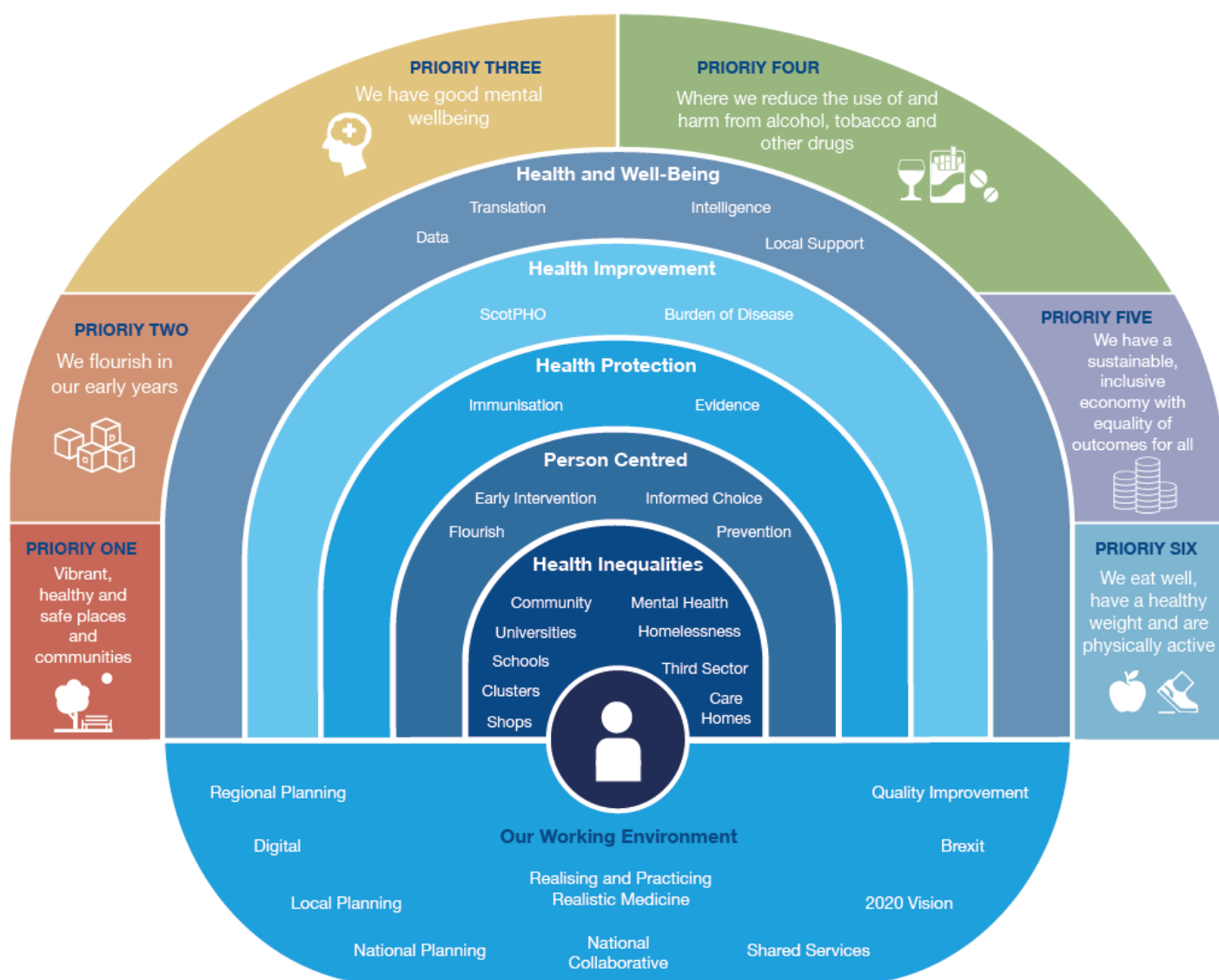
During 2019, LIST will become part of Public Health Scotland and will be well placed to lead, drive, support and enable a public health system fit for the challenges of the 21st century.

Vision:

“A Scotland where everybody thrives”

Mission:

“To lead, drive, support and enable a public health system fit for the challenges of the 21st century”



Contact Us And Useful Links

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Local Intelligence Support Team across Scotland - [contact details](#)

Useful Links

LIST Product Catalogue

<http://www.isdscotland.org/Muse-Product-Catalogue-Responsive/index.html>

LIST Locally Deployed Teams (short video)

https://m.youtube.com/watch?v=Scb1_o1S1lc&feature=youtu.be

LIST Stories (4 short narrations)-

https://m.youtube.com/watch?v=Scb1_o1S1lc&feature=youtu.be

Health and Social Care Delivery Plan

<https://www.gov.scot/Resource/0051/00511950.pdf>

Digital Health and Care Strategy

<https://www.gov.scot/Resource/0053/00534657.pdf>

Targets and Indicators in Health and Social Care in Scotland

<https://www.gov.scot/Resource/0052/00527689.pdf>

Leading across health and social care in Scotland

https://www.kingsfund.org.uk/sites/default/files/2018-06/Scottish_officers_full_final_0.pdf

Health and Homelessness in Scotland

<https://www.gov.scot/Resource/0053/00536909.pdf>

Public Health Priorities for Scotland

<https://www.gov.scot/Resource/0053/00536757.pdf>

General Medical Services Contract in Scotland

<https://www.gov.scot/Resource/0052/00527530.pdf>

Practising Realistic Medicine

<https://beta.gov.scot/publications/practising-realistic-medicine/documents/00534374.pdf?inline=true>

Improving Together

<https://ihub.scot/primary-care-portfolio/improving-together-interactive-iti/>

Burden of Disease

<https://www.scotpho.org.uk/media/1474/sbod2015-overview-report-july17.pdf>

Useful Links continued

Tackling the attainment gap by preventing and responding to Adverse Childhood Experiences (ACEs)

<http://www.healthscotland.scot/media/1517/tackling-the-attainment-gap-by-preventing-and-responding-to-adverse-childhood-experiences.pdf>

ISD Scotland

<http://www.isdscotland.org/>

DISCOVERY

<http://www.nssdiscovery.scot.nhs.uk/>

SPIRE

<http://spire.scot/>

PCI

<http://www.isdscotland.org/Health-Topics/General-Practice/PCI/>

Health Improvement Scotland

<http://www.healthcareimprovementscotland.org/>

Health Scotland

<http://www.healthscotland.scot/>

NES

<https://www.nes.scot.nhs.uk/>

Care Opinion

<https://www.careopinion.org.uk/>

Local Intelligence Support

LIST is part of Information Services Division (ISD)