THE BALANCED SYSTEM® FOR ALLIED HEALTH PROFESSIONALS WORKING WITH CHILDREN AND YOUNG PEOPLE IN SCOTLAND

A PILOT PROJECT TO EXPLORE THE IMPACT OF UNDERSTANDING NEED AND MAPPING PROVISION

PROJECT OVERVIEW REPORT

MARIE GASCOIGNE

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INTRODUCTION

Pauline Beirne, AHP Lead for Children and Young People for Scottish Government commissioned Better Communication CIC to deliver a pilot project to explore the triangulation of quantitative and qualitative datasets and how these data can be used to inform planning and delivery of services delivered by AHPs. The pilot involved four NHS Health Boards, encompassing ten Local Authority areas and included various combinations of speech and language therapy (SLT), occupational therapy (OT), physiotherapy (PT) and dietetic services.
Table 1 summarises the four areas involved in the pilot and the therapies involved in each.

The four Health Board areas were selected following a competitive application where AHP leads were invited to propose a project to investigate and aspect of their AHP activity relative to an analysis of need. Applicants were encouraged to have either a multi-professional project in mind or to have a specific question which would have implications for outcomes for children and young people beyond their own professional sphere of practice.

A strategic decision was made to use the discrete funds available to allow four areas to access the pilot as opposed to an alternative to work in detail with one area. The advantages of this approach were predicted to be that the project would access a wider cross section of data and professional areas thereby offering a broader analysis of the benefits of taking a systematic approach to service analysis and appraisal. The risks associated with this approach were that there were four pilot projects with no common thread other than the participation of the speech and language therapy team in all cases. The decision to include dietetics and nutrition services from NHS Tayside was taken on the basis of a keenness to co-produce the core outcome descriptors for a comprehensive service offer. This became a sub-project of its own within the wider pilot scheme.

Each Health Board area pilot and professional group have a report generated from the Balanced System® online tools summarising their project and data capture. These are available alongside this overview summary and contain the detail of their analysis.

Table 1: Summary of participating organisations and professional groups

Health Board	SLT	OT	PT	Dietetics	Schools
NHS Tayside	✓	✓	✓	✓	
NHS Dumfries & Galloway	✓	✓	✓		
NHS Forth Valley	✓				✓
NHS Ayrshire & Arran	✓				

AIMS

The overall aims of the pilot were as follows:

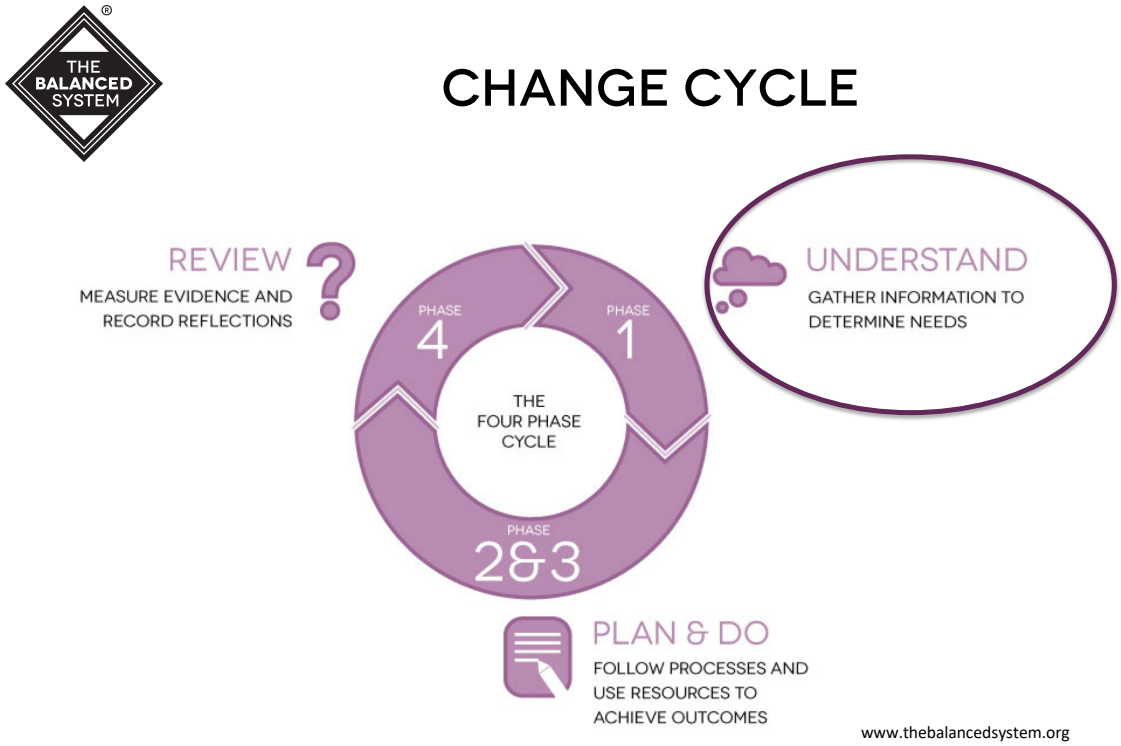
- To have evidence of the benefits and challenges to services of analysing the population need including local demographic factors
- To have qualitative mapping data which describes current provision and identified gaps in a systematic framework which can be related to the Ready to Act ambitions and an emerging data set that captures what AHPs do in a child and young person centred way
- To have an understanding of the implications of the analysis for service delivery and workforce planning

METHODOLOGY

THE MODEL

The model used was The Balanced System® framework and tools together with facilitation from the author, Marie Gascoigne. The Balanced System® uses an understand, plan, do, review methodology for transformation based on outcomes. This project focused on the understand element of the cycle although some projects were able to continue through to action planning and delivering change within the time frame.

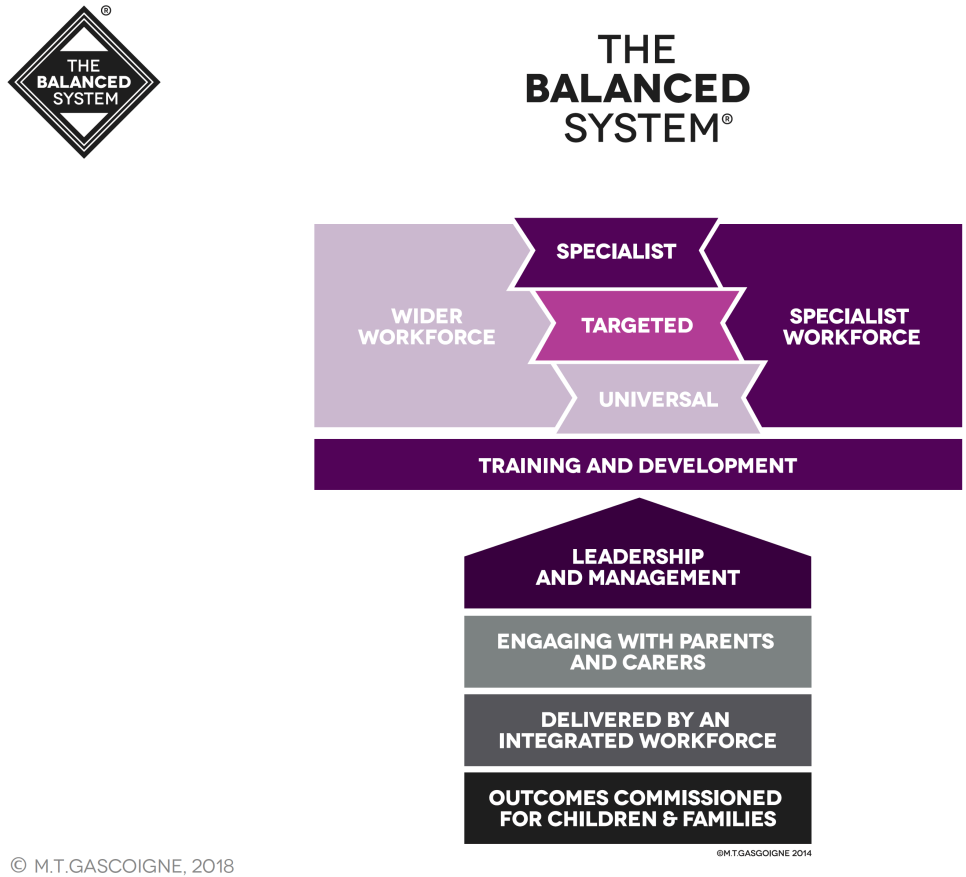
Figure 1 Framework for change



The Balanced System® is an outcomes based strategic framework for understanding and delivering a whole systems approach for children and young people. The framework and accompanying online platform have been developed over a decade and used widely throughout the UK. The accompanying Balanced System® Scheme for Schools and Settings was used in a parallel project with schools in Falkirk which then contributed to the NHS Forth Valley pilot within this project.

The core model is shown in Figure 2 below. The framework identifies the core components of the system required to achieve outcomes for children and young people.

Figure 2 The Balanced System® Core Framework



The service delivery model and the tools that support the analysis and design are based around the Balanced System® Five Strands across three levels of Universal, Targeted and Specialist support (figure 3 below). The importance of understanding the complex interaction between population, intervention and workforce is core to the model (see figure 4). These concepts have been incorporated into the literature produced as part of the Ready to Act programme (figure 5 below) and are therefore directly relevant to AHPs in Scotland.

Figure 3 The Balanced System® Five Strands and

Figure 4 Relationship between population, intervention and workforce

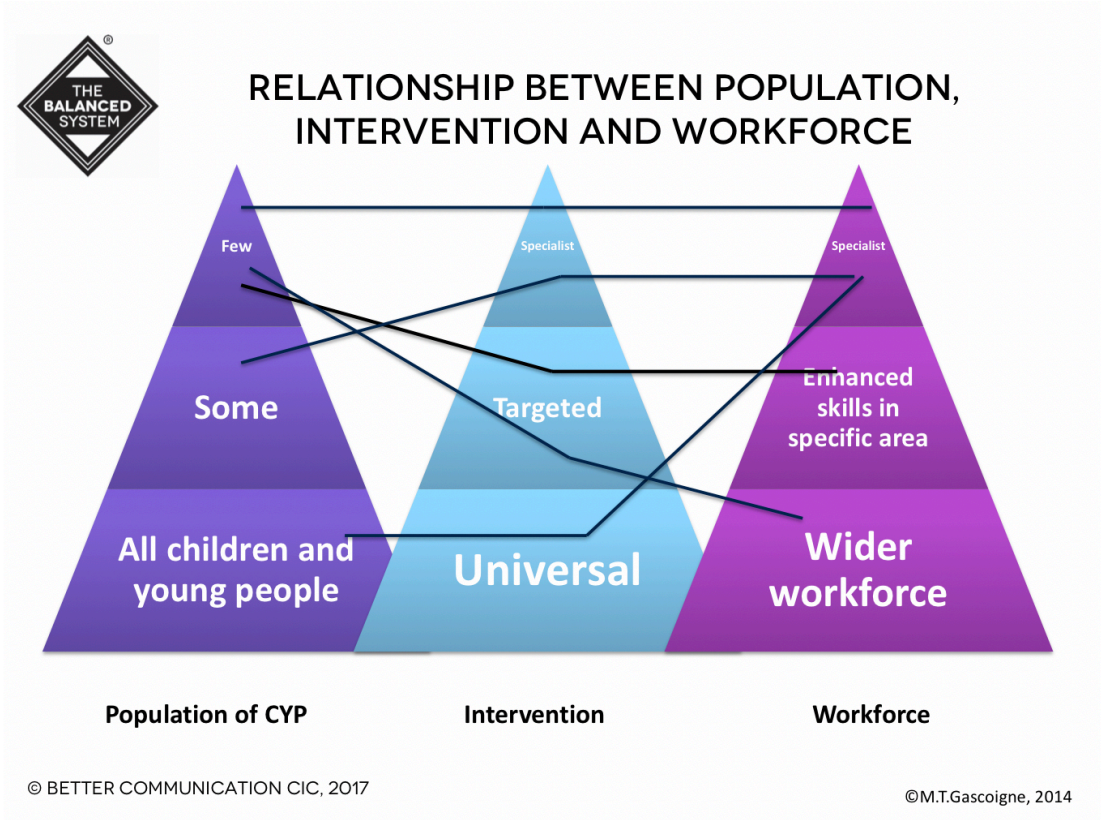
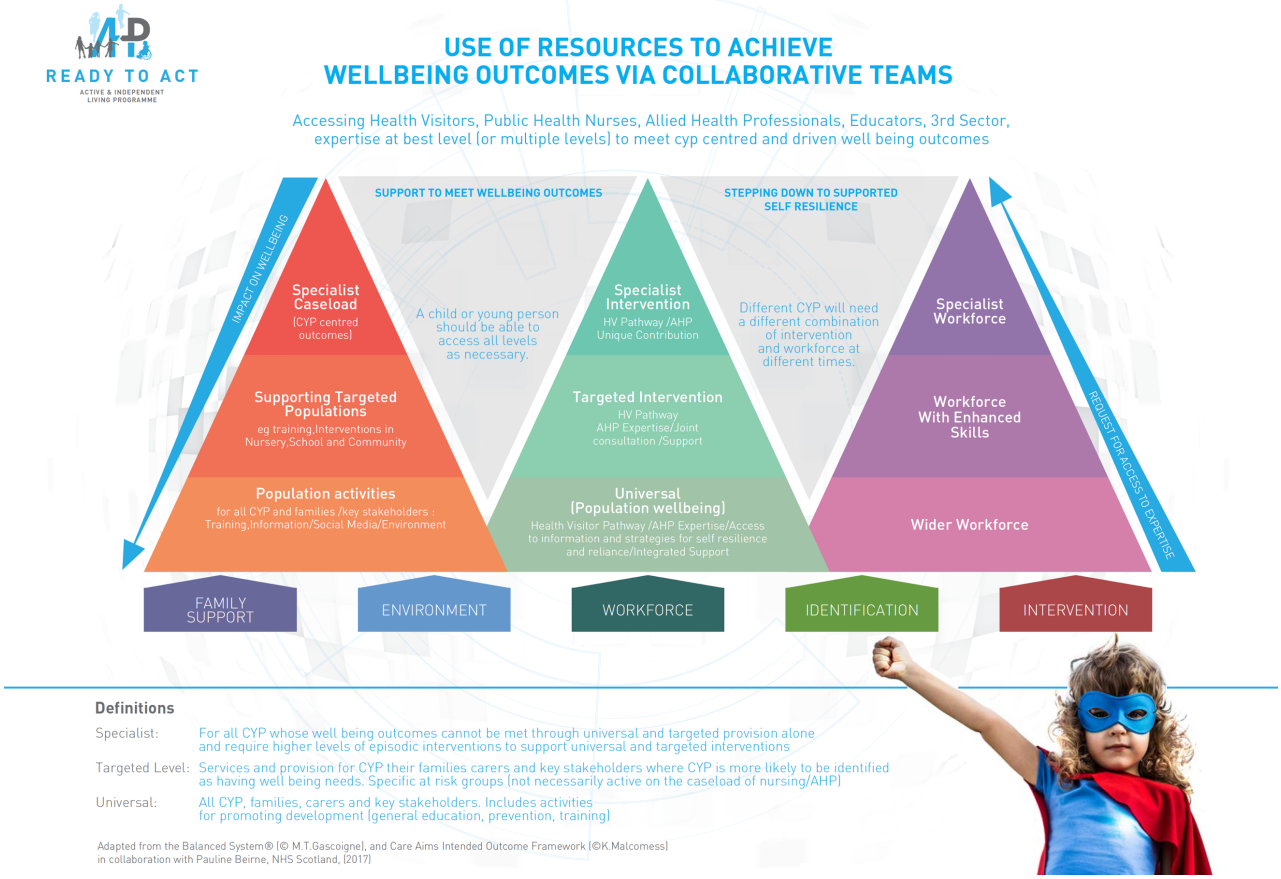


Figure 5 Ready to Act outcomes-based approach



UNDERSTAND PHASE METHODOLOGY

Each pilot area was provided to access to an online account for the Balanced System® and asked to nominate a lead for each participating profession as well as one overall lead for the project. Three face to face workshops were held with these leads – one at the outset, another mid-way and a final workshop to look at the data and support the analysis and writing of the narrative by the local leads within their accounts. In addition, online and phone support was available as needed as well as some specific group calls to check on progress.

The understand phase uses both quantitative and qualitative data to triangulate need with demand and provision. This involves taking population, demographic and prevalence data and triangulating these with the relevant evidence base and then with demand as evidenced by service data and resource as evidenced by workforce. The qualitative analysis comes through the use of the unique Balanced System® Mapping Tool which allows the services to capture a comprehensive map of what the offer is for children and young people across the Five Strands and three levels but tied to outcome areas. The framework also allows for this analysis to be developed into action plans to address gaps in provision and has inbuilt outcome measures and evidence collection. More information about the system can be found at www.balancedsystem.org and a demonstration account for this project will be made available in due course.

The understand phase methodology begins with the population of children and young people. Data are taken directly from the Office of National Statistics (ONS) datasets where available or from more local datasets as necessary. The online tools auto populate the population, disadvantage and prevalence data for each Local Authority within each Health Board area.

POPULATION

Figures 6, 7 and 8 provide an example of the data capture for part of the NHS Forth Valley account. The data can be viewed at the LA level or at multi-member ward (MMW) or intermediate zone (IZ) level. This allows a very detailed picture of the numbers of children in quite small areas which can then be linked to schools and settings.

Figure 6 Overall population data for Local Authority areas within Forth Valley

Area	0-4 years	5-9 years	10-14 years	15-18 years	0-18 TOTAL	19-24 years
NHS Forth Valley	16000	17200	16500	14100	63593	24200
Proportion of total population (all ages)	5.2%	5.6%	5.4%	4.6%	20.9%	7.9%
Clackmannanshire	2900	2900)	2800	2400	10845	3600
Proportion of total population (all ages)	5.6%	5.6%	5.3%	4.7%	21.1%	6.9%

SHOW MMWs

SHOW IZs

Falkirk	8700	9500)	8600	7000	33616	11000
Proportion of total population (all ages)	5.4%	5.9%	5.4%	4.3%	21.1%	6.8%

SHOW MMWs

SHOW IZs

Stirling	4500	4900)	5200	4800	19132	9800
Proportion of total population (all ages)	4.7%	5.2%	5.5%	5%	20.4%	10.4%

SHOW MMWs

SHOW IZs

Figure 7 Clackmananshire expanded to show Multi-Member Wards

Area	0-4 years	5-9 years	10-14 years	15-18 years	0-18 TOTAL	19-24 years
NHS Forth Valley	16000	17200	16500	14100	63593	24200
Proportion of total population (all ages)	5.2%	5.6%	5.4%	4.6%	20.9%	7.9%
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HIDE MMWs

Multi Member Ward	0-4 years	5-9 years	10-14 years	15-18 years	0-18 TOTAL	19-24 years
Clackmannanshire Central Ward	536	441	419	426	1822	640
Clackmannanshire East Ward	340	399	451	420	1610	404
Clackmannanshire North Ward	553	510	560	479	2102	926
Clackmannanshire South Ward	694	682	608	559	2543	837
Clackmannanshire West Ward	724	800	703	524	2751	754

Figure 8 Clackmananshire expanded to show Intermediate Zones

Area	0-4 years	5-9 years	10-14 years	15-18 years	0-18 TOTAL	19-24 years
NHS Forth Valley	16000	17200	16500	14100	63593	24200
Proportion of total population (all ages)	5.2%	5.6%	5.4%	4.6%	20.9%	7.9%
Clackmannanshire	2900	2900)	2800	2400	10845	3600
Proportion of total population (all ages)	5.6%	5.6%	5.3%	4.7%	21.1%	6.9%

HIDE MMWs

HIDE IZs

Intermediate Zone	0-4 years	5-9 years	10-14 years	15-18 years	0-18 TOTAL	19-24 years
Alloa North	328	302	277	281	1188	433
Alloa South and East	323	259	266	225	1073	422
Alloa West	145	202	169	152	668	185
Alva	215	188	213	189	805	372
Clackmannan, Kennet and Forestmill	295	255	221	244	1015	308
Dollar and Muckhart	128	205	282	219	834	153
Fishcross, Devon Village and Coalsnaughton	124	87	120	101	432	145
Menstrie	163	214	147	79	603	145
Sauchie	343	277	274	273	1167	371
Tillicoultry	197	209	213	184	803	308
Tullibody North and Glenochil	321	372	318	251	1262	383
Tullibody South	265	262	241	210	978	336
Falkirk	8700	9500)	8600	7000	33616	11000
Proportion of total population (all ages)	5.4%	5.9%	5.4%	4.3%	21.1%	6.8%

SOCIAL DISADVANTAGE

Scottish Indices of Multiple Deprivation and Social Mobility Index data are auto-populated for the designated account and are available again at Local Authority, MMW and IZ levels. Figure 9 shows an example of the data for Dundee City. The data are colour coded in quintiles. Figure 9 demonstrates that whilst Dundee City is amongst the most socially disadvantaged Local Authorities in Scotland, there are two MMWs that are amongst the *least* disadvantaged.

Figure 9 Showing an example of the social disadvantage data within the Balanced System® tools

Dundee City

Local Authority	LA SIMD	Social Mobility
Dundee City	36.70% (5)	29

SHOW MMWs

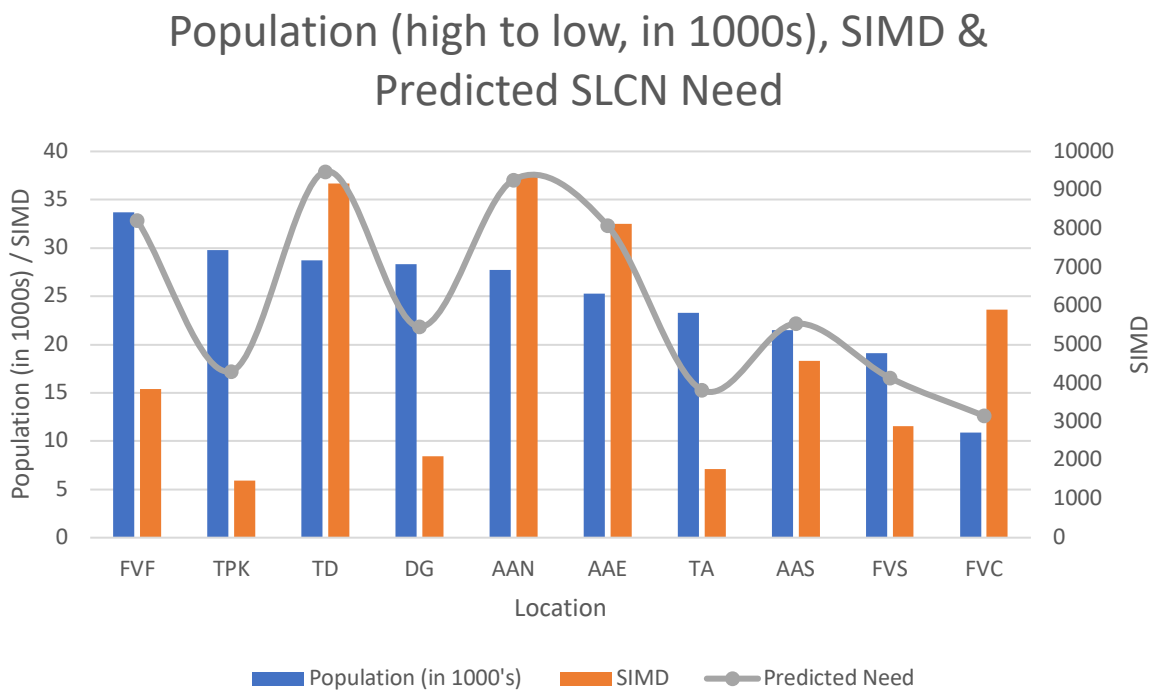
Multi Member Ward	MMW SIMD
Coldside Ward	54.17% (21)
East End Ward	63.64% (6)
Lochee Ward	56.52% (17)
Maryfield Ward	33.33% (70)
North East Ward	38.1% (58)
Strathmartine Ward	42.86% (43)
The Ferry Ward	0% (215)
West End Ward	8.33% (178)

PREVALENCE AND PREDICTION OF NEED

Prevalence data for a range of relevant diagnostic areas are auto-calculated by Local Authority Area across the age bands. These are not exhaustive but represent the evidence base for key conditions that have been identified as pertinent to the AHP services. However, the Balanced System® is a population based approach, so work is ongoing to also predict need in a way that will facilitate preventative approaches to be deployed tactically. This is currently possible for speech, language and communication needs where a drawing together of different elements of the research base allows a prediction of the potential range of speech, language and communication need within a given population to be generated that takes into account the demography of the area as well as population size.

Figure 10 provides an overview of the data for the ten Local Authority areas within the four pilot Health Boards combining population (Falkirk within NHS Forth Valley being the largest population), with social disadvantage (North Ayrshire within NHS Ayrshire and Arran being the most disadvantaged) and prediction of SLCN. This last addition represented by the grey line, illustrates that the combination of population and disadvantage produces the predicted need with one of the lowest predicted need areas being Perth and Kinross within NHS Tayside despite this being the second largest population.

Figure 10 showing population, social disadvantage and prediction of SLCN



A similar methodology is being developed for Developmental Co-ordination Disorder which is a high frequency need impacting on Occupational Therapy and Physiotherapy services and the approach has potential for triangulation for childhood obesity within the Dietetics and Nutrition areas.

TRIANGULATION WITH DEMAND AND KNOWN NEED

The datasets provided in the accounts for each area were then triangulated with the known caseload and workforce data for the services.

Referrals and discharges over a 12 month period by age band were entered for each service along with waiting lists on a given day designated by the project lead and the caseload. Caseload data was captured by age band but also place of delivery of service.

The caseload numbers are automatically used by the tools to provide a % reach into both the population as a whole and where available against the predicted need. Figure 11 below shows the caseload for physiotherapy in one area. The bottom row indicates the caseload as a percentage of the population in each age band whilst the totals in the right hand column allow an 'at a glance' view of where most intervention is offered. Figure 12 shows the predicted SLCN for the same area and the percentage reach of the caseload.

Figure 11 Showing caseload data for Physiotherapy for Dumfries & Galloway

CASELOAD DATA

Based on a snapshot from a given day (determined by the account holder)

Area : Dumfries & Galloway	0-4 years	5-9 years	10-14 years	15-18 years	19-24 years	Total
Home setting	27	9	7	3	0	46
Early years / pre-school setting	9	2				11
Clinic / other health setting	32	23	26	7	0	88
Primary schools setting		14	8			22
Primary school resource bases setting		9	0			9
Secondary schools setting			9	2		11
Secondary school resource bases setting			5	3		8
16+ / FE / youth justice setting				0	0	0
Special schools setting	0	0	1	2	0	3
Total caseload	68	57	56	17	0	198
Total population	6780	7805	7528	6242	9280	37635
Caseload as % of population	1%	0.7%	0.7%	0.3%	0%	0.5%

Figure 12 Showing predicted SLCN for Dumfries & Galloway and the percentage reach of the caseload

PREDICTED SLCN

District	0-4 years	5-9 years	10-14 years	15-18 years	19-24 years	0 - 18	0 - 24
Dumfries & Galloway							
Dumfries & Galloway population	6780	7805	7528	6242	9280	28355	37635
Dumfries & Galloway prediction of SLCN	1659	1910	1184	710	325	5463	5788
Total SLCN	1659	1910	1184	710	325	5463	5788
Total caseload	197	193	85	17	0	492	492
Caseload as % of predicted SLCN	11.9%	10.1%	7.2%	2.4%	0%	9%	8.5%
Total prediction of SLCN	1659	1910	1184	710	325	5463	5788
Total caseload	197	193	85	17	0	492	492
Total caseload as % of predicted SLCN	11.9%	10.1%	7.2%	2.4%	0%	9%	8.5%

It was not possible to examine caseload trends across the areas and across the AHP groups due to the small sample size but it would be relatively straightforward to obtain a national data set using this methodology which would then allow benchmarking.

WORKFORCE

The services were asked to provide workforce data by Agenda for Change Band in whole time equivalent and head count and by funding stream. This last parameter was particularly relevant for speech and language therapy services where significant proportions of the total funding comes from the Local Authority or even directly from schools in addition to the core NHS funding.

The pilot areas all included SLT services and therefore more analysis across the project has been possible with these than with the other AHP service where there were fewer examples. However it was possible to illustrate the variation in workforce per 10,000 children for all of the areas for SLT across all ten Local Authorities and for OT and PT across the four participating Local Authority areas.

Figures 13 and 14 show the variation in workforce within the occupational therapy and physiotherapy services. With such a small sample it is not possible to comment on trend, however the service lead for NHS Tayside was able to identify that many of the specialist physiotherapy services for the whole health board are based in Dundee City which in part explains the concentration of workforce in that area. Encouraging this process of enquiry was one of the aims of the pilot and on reflection access to provision in Angus may be reviewed as a consequence of this analysis.

Figure 13 OT workforce per 10,000 child population

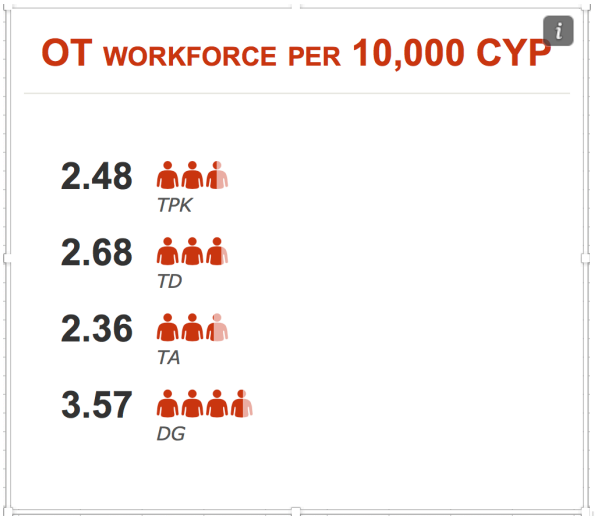


Figure 14 PT workforce per 10,000 child population

SPEECH AND LANGUAGE THERAPY WORKFORCE DATA

All ten Local Authority areas across the four Health Boards provided SLT data. In addition, the prediction of SLCN data allowed a more detailed analysis of patterns.

Figure 15 presents similar data to that shown for OT and PT above. However, the larger sample shows a clearer spread with clear tails for North Ayrshire having the lowest ratio and Dundee City the highest.

However, Figure 16 presents a more interesting picture as the ratio is of SLT workforce to predicted SLCN. In this case the ratio is relative to the need of the population and when this factor is applied Perth & Kinross becomes the highest ratio. Of greater concern is that North and East Ayrshire remain the lowest by some way.

Triangulating these data back to the caseload data provides another layer of analysis. Dumfries & Galloway caseload data in Figure 12 above indicated a caseload reach of 9% across the age range 0-18. Figure 16 below shows that there are 34.5 wte per 10,000 predicted SLCN. For East Ayrshire, the caseload reach is 3.9% of predicted need with a workforce of 10.4 per 10,000 predicted SLCN. This represents a caseload reach of 43% that of Dumfries and Galloway with 30% of the workforce.

As with the caseload data, there would be great value in obtaining a national dataset for Scotland using this methodology.

Figure 15 SLT workforce per 10,000 child population

Figure 16 SLT workforce data per 10,000 predicted SLC need

Predicting the workforce to meet need is a tool in development. This tool was applied offline to these data. The need in Ayrshire and Arran suggests a significant shortfall in workforce in the region of 19 whole time equivalent SLTs. Analysis of the sources of funding shows that where LA funding to be withdrawn from those areas with higher workforce ratios a similar pattern would emerge. The NHS only funding is unlikely to meet needs of children going forward.

QUALITATIVE MAPPING

The quantitative data above provides a useful but incomplete analysis of provision to meet children and young peoples' outcomes as different models of service delivery will naturally yield different workforce ratios and caseload figures.

In order to fully understand the offer for children and young people, provision and gaps were mapped across all the participating services using the online Balanced System® Mapping Tool. Figures 17 and 18 show the structure of the Mapping Tool based around the Five Strands and three levels and the outcome measurement framework with an emphasis on moving toward impact measures at Level 4 as opposed to over reliance on input measures at Level 1. This is crucial for service transformation as strategic decisions are often still made on the basis of activity and input data which is in itself of limited value and rarely predicates evidence of impact on a child's outcomes.

Figure 17 Showing the structure of the Balanced System® delivery model and mapping tool

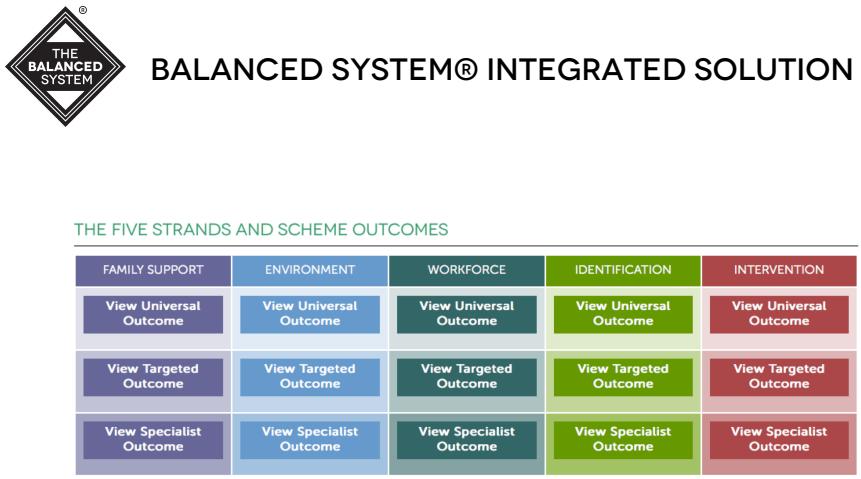
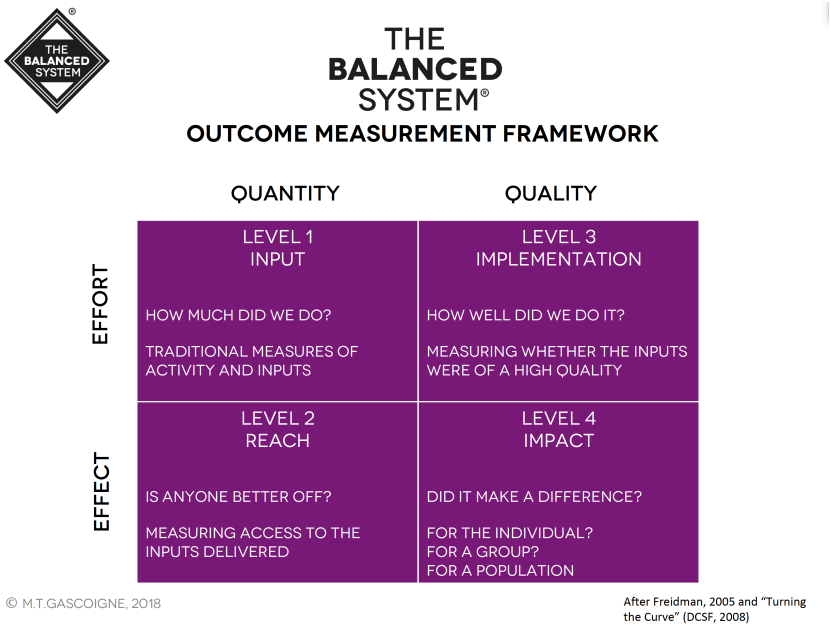


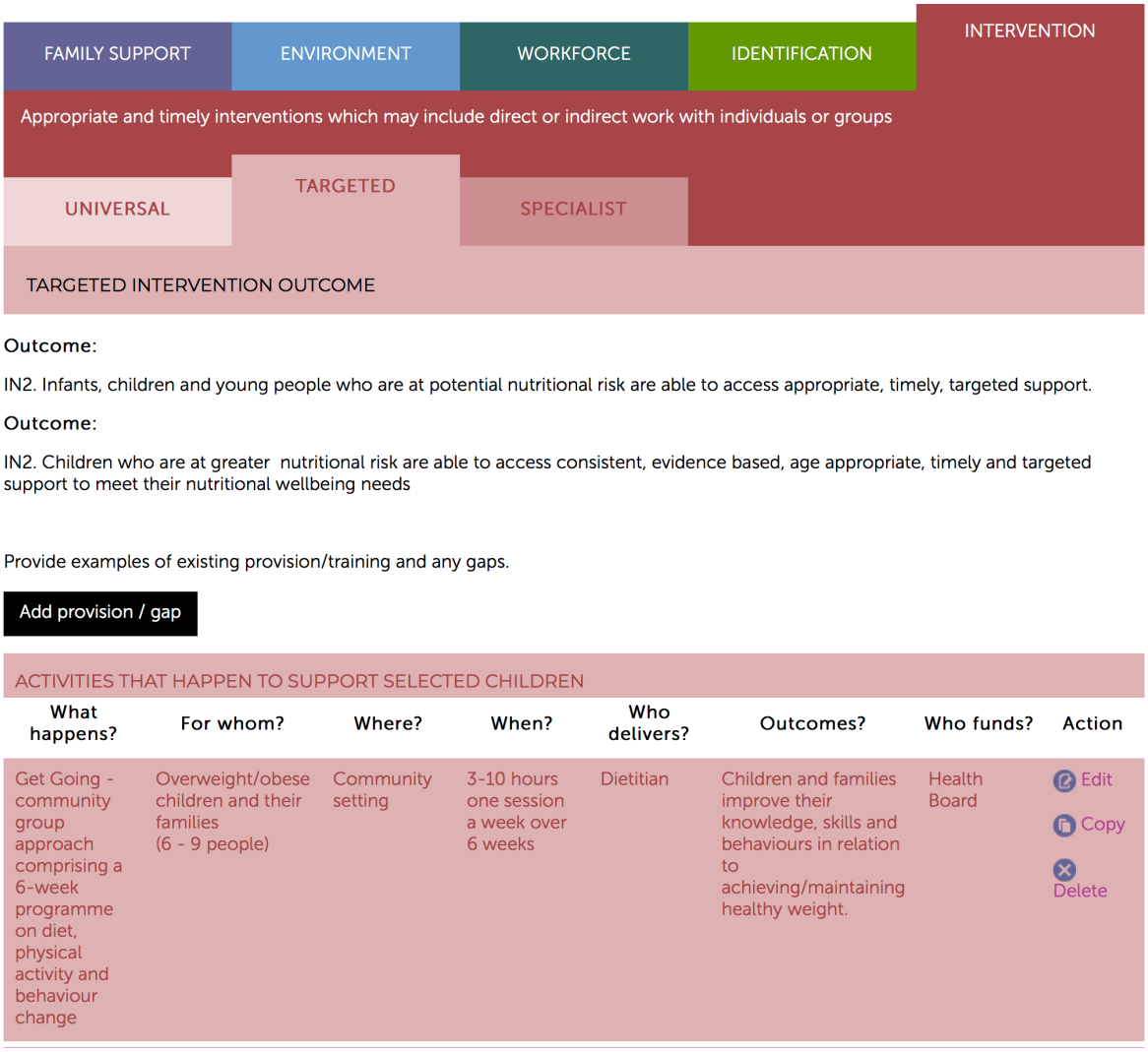
Figure 18 Showing the four level outcome measurement framework



All of the services were asked to enter qualitative descriptors of the provision available for children and young people in respect of their professional area and where there was evidence of outcome to also provide examples.

A typical entry is show below in Figure 19 which is taken from the Dietetics Mapping Tool as part of the NHS Tayside pilot. This example describes a targeted intervention with a clearly defined outcome that can be monitored in terms of impact.

Figure 19 Showing an example from the Balanced System® Mapping Tool



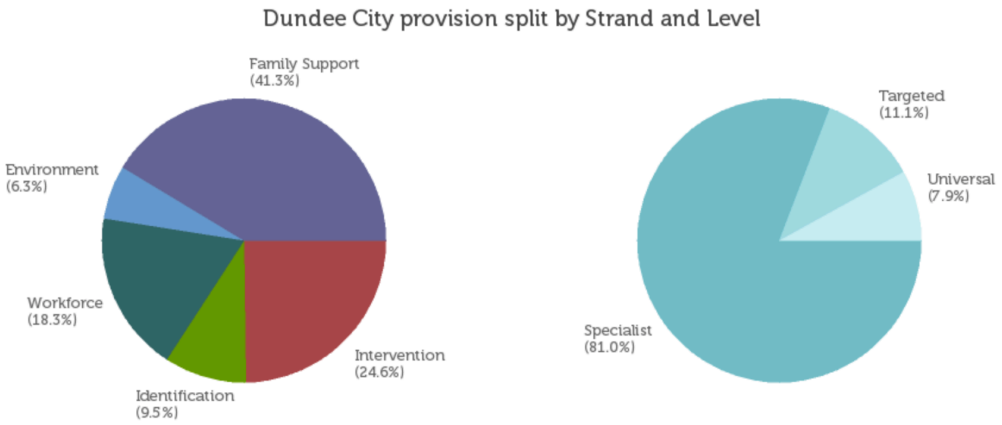
The Mapping Data is analysed in a number of ways. A 'live' heat map is produced by the tools automatically which shows where the balance of provisions or gaps are located within the five strands and three levels at any one time. This is a high level quick visual but is dependent on there being a reasonably comprehensive data set in the Mapping Tool. The tool also provides an at a glance overview of the balance of provisions between the five strands and across the three levels

Figure 20 below shows the mapping tool high level visual representations for Occupational Therapy in NHS Tayside for Dundee City, whilst Figure 21 below shows similar information for SLT in Falkirk as part of NHS Forth Valley.

Figure 20 Showing heat map, distribution pie charts and word cloud for OT in Dundee City

DUNDEE CITY

LEVEL	FAMILY SUPPORT	ENVIRONMENT	WORKFORCE	IDENTIFICATION	INTERVENTION
Specialist	Provisions: 48	Provisions: 7	Provisions: 11	Provisions: 8	Provisions: 28
Targeted	Provisions: 3	Provisions: 1	Provisions: 6	Provisions: 2	Provisions: 2
Universal	Provisions: 1	Provisions: 0	Provisions: 6	Provisions: 2	Provisions: 1



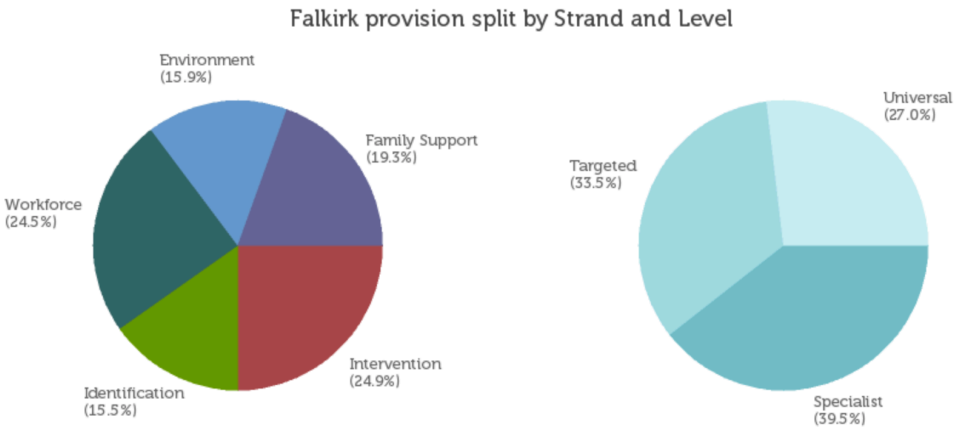
DUNDEE CITY "WHAT HAPPENS" WORD CLOUD

Figure 21 Showing heat map and distribution pie charts for SLT in Falkirk

SLCN PROVISION HEAT MAP

FALKIRK

LEVEL	FAMILY SUPPORT	ENVIRONMENT	WORKFORCE	IDENTIFICATION	INTERVENTION
Specialist	Provisions: 19	Provisions: 14	Provisions: 14	Provisions: 13	Provisions: 32
Targeted	Provisions: 13	Provisions: 9	Provisions: 28	Provisions: 13	Provisions: 15
Universal	Provisions: 13	Provisions: 14	Provisions: 15	Provisions: 10	Provisions: 11



DETAILED OUTPUTS

The individual teams were able to output their data in a number of formats for use in a variety of ways. A summary pdf report can be autogenerated with filters set by the user dependent on the focus or level of detail required. Summary reports have been downloaded as appendices to this report for all the teams that took part.

In addition, the content of the Mapping Tool can be downloaded as a free standing pdf summarising all the provisions and gaps identified and these data can also be downloaded in Excel to allow further analysis offline.

Individual responses to the Mapping tool can be exported – so for example a specific set of provisions offered as part of a specialist caseload vs the whole range of provisions in a geographical area.

Whilst the focus of this pilot was on the understand phase, it is possible to move through to the plan and do with action planning templates and to record evidence of impact and upload examples of evidence if desired which in turn can be added to the overarching summary document.

The outputs from the tools have been used functionally by participants since the initial data entry phase. Recently, an AHP lead was able to use an excel download of mapping data to provide a high level report at short notice. The reflection on this was as follows:

"I have to say what the offer is, what age group it is for who it is targeted at and what the outcome/impact is that we are looking for. This could have been quite a long job for me and could have included going to a range of people to ask them for information - followed by potential of chasing them up again in a few days when they haven't managed to give me this data. Hours of work would have been needed to do this. In reality, because we already have nearly all of this information inputted to the Balanced System, you have just helped me in less than half an hour to export this into a spread sheet. I can now work with this to change/add a few bits and pieces and then cut and paste into a word doc to send off. Wow - what a time saver for me!"

TRANSFORMATION THROUGH THE PROCESS

The pilot had as an additional aim exploring the teams' learning journeys in dealing with data which to the majority was not in their day to day skill set despite being in leadership positions. 'Theory of change' methodology questions were embedded in the tools at key points in order to capture this element.

An example of the reflection questions from two of the teams.

Example 1

SLCN INITIAL ANALYSIS

What do you need to understand better about the needs of the population you serve?	We need to have a better understanding of our local population related to deprivation, prevalence and predicted SLCN need.
Why is this important?	This is important because it will highlight to our service and key stakeholders the level of need and potentially unmet need.
How will it help you in your service planning and delivery?	With greater understanding of the population we serve, we can ensure that we are targeting the local areas with highest need and redistribute services and /or develop new services accordingly.
How do you think the Balanced System Framework and tools might help?	We believe that the Balanced System fully complements and will facilitate the transformational change as described in Ready to Act. The balanced system will allow us to map our service, demonstrate what is already in place across the five strands and identify gaps, particularly as we seek to more effectively deliver quality universal one, universal two and targeted services.
What does success look like?	1. The service will have improved understanding of our communication needs population in order to inform most effective support of children with speech, language and communication needs in Forth Valley. 2.To have a shared understanding and language of the current gaps and provisions within the service in order to inform more effective service delivery in line with Ready to Act. 3. To have powerful data to demonstrate our value and impact in order to influence key stakeholders.
How will you know if it has helped?	The service will have an informed plan to reshape services based on population need, gaps and strengths. The service will begin to action the plan in developing provision to address gaps in service, while maintaining strengths.

What might slow down progress?	Shared understanding of strands and levels. Time and resources to input into the mapping tool. Prioritisation of other key drivers

SLCN PLAN AND DO ANALYSIS

What are your main aspirations for the plan and do phase projects?	To upscale projects with a universal and targeted reach. To address the transient language gap. Upskill the staff in universal and targeted approaches.
What challenges do you anticipate?	Workforce availability, flexibility, training opportunities Short term funding challenges. Balancing on-going caseload work and expectations of LA funding for ASN Knowledge and understanding of our stakeholders, requesters, partners
To what extent are your plan and do phase projects the same or different from what you expected at the beginning of the understand phase and the whole process?	Expected to need to develop our targeted work, and especially our universal work as well as developing our triage systems. Unexpected to need to consider resource allocation to certain areas.

SLCN FINAL ANALYSIS

How has provision for Speech and Language Therapy changed from the start of the project/review?	This varies across the three local authorities. One local authority has interventions and approaches that have a broader reach. This learning is now transferring to other areas and engaging a wider range of staff in these projects.
What is the key difference?	SLT staff demonstrate a greater understanding of the importance of Universal, Targeted and Specialist Services. There also appears to be a great acceptance that these provisions are key aspect of quality services for children with communication needs.
What have different stakeholders noticed?	We have not formally shared the outcomes with stakeholders yet but is a key action from the understand phase. Stakeholders have increasingly engaged in our triage conversations and shown understanding that assistance from our service can be offered in different ways.
What has had the greatest impact on provision for Speech and Language Therapy?	The process has expedited the development of a draft plan that will facilitate higher quality, well balanced services in Forth Valley.
What are the key things that need to happen next?	Agreed concrete actions included in ready to act local action plans Feedback to SLT team leads Share with SLT staff group and other AHP colleagues Share with stakeholders through impact reports and presentations.

What would have happened if you hadn't made changes to your provision for Speech and Language Therapy?	caseload increase practitioner resistance to change
One piece of guidance for a service embarking on the process from the beginning	This will take a big investment of time. However if staff are released to engage with the process it will facilitate changes in thinking, shared vision and improved service delivery.

Example 2

INITIAL ANALYSIS

What do you need to understand better about the needs of the population you serve?	We need to understand: The demographic profile of children & young people (CYP) in Tayside - current and future population size by age, gender, geographic location, urban-rural location, ethnicity, deprivation etc *The level of need for Child Health Allied Health Profession (CHAHP) services *The current pattern of and level of supply of CHAHP services *The current impact of CHAHP services *The extent of the gap between need and supply *The extent of inequalities *The changes needed to CHAHP services in order to minimise waste, unwarranted variation and harm and, achieve better outcomes
Why is this important?	It is necessary to gather information about CYP in Tayside in order to understand the type and distribution of CHAHP services which are required for this population to gain the maximum benefit from CHAHP Services. Improvement to CHAHP services and other initiatives including self management requires support because: *Demand led CHAHP services are unsustainable, perpetuate health inequalities and a dependency on health and social care services *There are increasingly long waits to access some CHAHP services *CHAHP services are undervalued due to the lack of accessible and understandable data which describes the full range of CHAHP services and their impact
How will it help you in your service planning and delivery?	The population needs assessment will assist decision making in CHAHP service planning and delivery but it is only one piece of information that will inform decisions about priorities. The needs assessment will give an indication of the size and impact of a problem in CHAHP terms but it needs to be combined with information about effectiveness and cost effectiveness of available interventions. Decisions about priorities will also need to reflect national and local priorities and circumstances and, they also need to be informed by available resources and by what is thought locally to be feasible in practice. Understanding the health and wellbeing status of CYP and the levels of risk factors relevant to CHAHP services will help identify clear and direct links to possible interventions designed to reduce such risk factors. This data provides a necessary basis with which to engage with stakeholders in order to have a shared understanding about current and future level of need as a guide to a partnership approach to planning CHAHP services.
How do you think the Balanced System Framework and tools might help?	The Balance System provides an active and structured online framework which facilitates the entry, collation, interrogation and reporting of data relating to CYP need, CHAHP service delivery, service gaps, and outcomes, and other interventions delivered by partners. Therefore the framework also provides a mechanism for CHAHPs to communicate using a common language which will enable the identification of areas for improvement which may require additional resource,
What does success look like?	AHP services provide a balanced approach to universal, targeted and specialist provision that is person centred, safe, effective, efficient, equitable and timely: *CYP (or their guardians) are able to look after and improve their own health and wellbeing as well as their children *CYP including those with disabilities or long term conditions are able to live at home *CYP and/or their guardians using CHAHP services have positive experiences and their dignity respected â€¢ CHAHP staff are supported to continually improve the information, support, care and treatment they provide and feel engaged with the work they do *CHAHP services contribute to reducing health inequalities *CYP who use CHAHP services are safe from harm *Resources are used effectively and without waste
How will you know if it has helped?	CHAHP services are sustainable and reduce health inequalities and a dependency on CHAHP services *Stakeholders are signed up to a whole system approach i.e. a strategic integrated approach to planning and delivering services which encompasses local health & social care provision and any other service that impacts on such care * Universal, targeted and specialist CHAHP services are in place. * Easy access to CHAHP services * CHAHP services are valued *Data describes the full range of CHAHP services and their impact *Agreed improvements to CHAHP services might include: o Additional investment where required o Stopping of ineffective services o Provision of services in a different way o Reinvestment of resources elsewhere o Redesign of services so that they can be more efficient o Improved patient experience and feedback from service users indicating positive impact and that they were at the centre of all our interventions
What might slow down progress?	*Face-to-face clinical care is valued much more than activities to support prevention, self management and, early intervention *Partner organisations require to acknowledge that they are jointly responsible for the outcomes associated with CHAHP services *Lack of good evidence about the interventions addressing the risk factors relevant to CYP that can produce real benefits in terms of better outcomes.

What have you noticed about needs are supported for the population you serve?	There is a higher prevalence of need compared to what is provided by C&YP AHP services at present. This points to a greater need to deliver at a universal and targeted level as well as ensuring that we are working with families for outcomes and impact and not because the diagnosis dictates a particular pathway irrespective of need/impact. SLT currently provides a very specialist service with highest proportion at intervention specialist level. There is also a bigger percentage of time/workforce/activity for primary school age children than pre-school. Secondary age children have a very small offer. There is not a balance across the localities to meet SIMD needs Physio is currently predominantly a specialist service up it does not show in the data as we have limited insight since the focus has been on activities relating to workforce. OT sees equity of provision based on capacity but this may not reflect need.
What has surprised you most?	We were aware that our services are currently balanced to specialist intervention, but it is helpful to evidence it and see it mapped out. We are surprised by the large percentage imbalance in SLT across the three localities in terms of workforce allocation. Need to clarify/revise the following statements (MD 4th Oct 17) Dundee physio does have a higher proportion of the staffing capacity. Some services are centralised in Dundee.
Have there been any immediate changes to provision because of the 'Understand phase'?	W are already on the journey of a redesign process whereby a more balanced approach to provision is applied. The data from this system will be very useful to share with clinicians to help them see and understand the need for change.
What will help you achieve change(s) to provision for Physiotherapy?	We need to work towards a shared and common understanding as to the overall outcome(s) that we are trying to achieve in partnership with others.
Summary and conclusions from the Understand phase	All the AHP services have a strong imbalance of provision at present and are still demand led rather than needs led. There is a strong tradition and expectation within services and across agencies of delivery at specialist intervention

FINAL ANALYSIS

How has provision changed from the start of the project/review?	Working towards more targeted and universal provision. Also making us look at priority areas, consider equity of access, acknowledge poor data quality and collection issues and recognition of the need to design services based on need as oppose demand.
What is the key difference?	Providing an organised and evidenced approach to reorientate services towards needs based as oppose demand lead.
What have different stakeholders noticed?	We are having conversations about a population approach in relation to Ready to Act but no focus on TBS so far. To date the majority of effort has also focused on CHAHP staff to reorientate them towards this new philosophy.
What has had the greatest impact on provision?	To date it has been demand. Now Moving further up stream to apply prevention, self managemental, early intervention etc.
What are the key things that need to happen next?	All CHAHPs need to commit to entering full data set and finding the capacity and capability to do so. Engage with partners to coproduce the joint outcomes that we are all aspiring to. Consider partner contributions to the overall outcomes. Start using the data and sharing with staff groups and discussions with partners. Dietetics needs to widen to embrace the entire nutrition and dietetic needs of the population.
What would have happened if you hadn't made changes to your provision?	Continue to be a demand led service which can't cope currently. Reinforces the medical model and therefore undermines person centredness, asset based approaches etc. Inability to deliver on R2A.

One piece of guidance for a service embarking on the process from the beginning	Develop a common understanding about a population approach and the overall outcome and impact you are trying to achieve and what the CHAHP and partner contributions can be. Access to report examples would help.

SUMMARY AND CONCLUSIONS

This report is a summary of a complex project involving nine teams of AHPs across four Health Boards over an 18 month period. It must be read in the context of the detailed reports from each of the teams and not in isolation. The pilots were by design all different from each other but the common goal was to be able to trace a thread:

Population
to demographic
to need
to demand
to observed caseload and workforce
to service model of delivery
to outcomes and outcome measure.

Throughout the project the teams were asked to keep two simple phrases at the forefront of their thinking:

So what? Why are we doing what we do? How do we know it is the right thing in the right place? What is driving our decision making?

Prove it! Can you evidence what you are doing? Is it making a difference? How do you know or how will you tell?

The aims at the outset were:

- To have evidence of the benefits and challenges to services of analysing the population need including local demographic factor
- To have qualitative mapping data which describes current provision and identified gaps in a systematic framework which can be related to the Ready to Act ambitions and an emerging data set that captures what AHPs do in a child and young person centred way
- To have an understanding of the implications of the analysis for service delivery and workforce planning

The quantitative data analysis is in some respects the most straightforward however it would be considerably more powerful with a national dataset against which to compare. The data derived in this project that can inform workforce planning is based on trying to identify the workforce to meet the needs of the population served including an acknowledgement of those as yet un-identified. The data from the relatively poorly resourced Ayrshire and Arran suggest significant under-identification and therefore lost opportunities for prevention and early intervention. The workforce modelling is based on what the whole 'balanced' system needs to operate to achieve outcomes rather than modelling the workforce needed to deliver a pre-determined set of inputs – this is a key difference with many workforce approaches. There is an opportunity here to develop a comprehensive dataset for AHPs.

The qualitative data collection and analysis is the more time consuming aspect of this approach but once a mapping tool is completed it can be refreshed and updated and progress recorded. Identification of gaps in provision through the mapping process facilitates the production of useful summary documents to be used in service development and in seeking resource to meet identified need.
The pilot teams need to continue to use the data in their mapping tools as evidenced by the example above from the AHP lead drawing on it for a report.

The reflections from the teams evidence a journey in the use of data to inform and shape service planning and also to influence both within and beyond the services.

The tools are organic and continue to evolve. The pilot teams contributed through their feedback and this has been an iterative process. One element of learning is that an amount of coaching and support at the outset saves time and adds to quality of outcome. However, through this pilot process there is now a small team of AHPs who have the potential to provide local mentorship for any that wish to follow the process. Since the conclusion of the active phase of the project one Health Board area has funded the extension of the project to occupational therapy.

Marie Gascoigne
April, 2018

Associated documents

NHS Forth Valley summary report
NHS Tayside summary report
NHS Dumfries & Galloway summary report
NHS Ayrshire & Arran summary report