Manchester Health & Care Commissioning

A partnership between Manchester City Council and NHS Manchester CCG

MANCHESTER CITY COUNCIL

NHS Manchester Clinical Commissioning Group

Data and analysis to support health and care integration, service transformation and population health improvement in Manchester

Neil Bendel, Public Health Specialist (Health Intelligence), Manchester City Council

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Manchester Health and Care Commissioning (MHCC)

- Formed on 1 April 2007 as a partnership between Manchester City Council and NHS Manchester CCG
- 5 key aims:
  - Improve the health and wellbeing of the people of Manchester
  - Strengthen the social determinants of health and promote healthy lifestyles
  - Ensure services are safe, equitable and of a high standard with less variations
  - Enable people and communities to be active partners on their health and wellbeing
  - Achieve a sustainable system
- Delivered through a more joined up and effective approach to commissioning health and social care services and improving population health

Developing an Integrated Health and Social Care Data Warehouse for Commissioning

Graham Hayler, Head of Business Intelligence

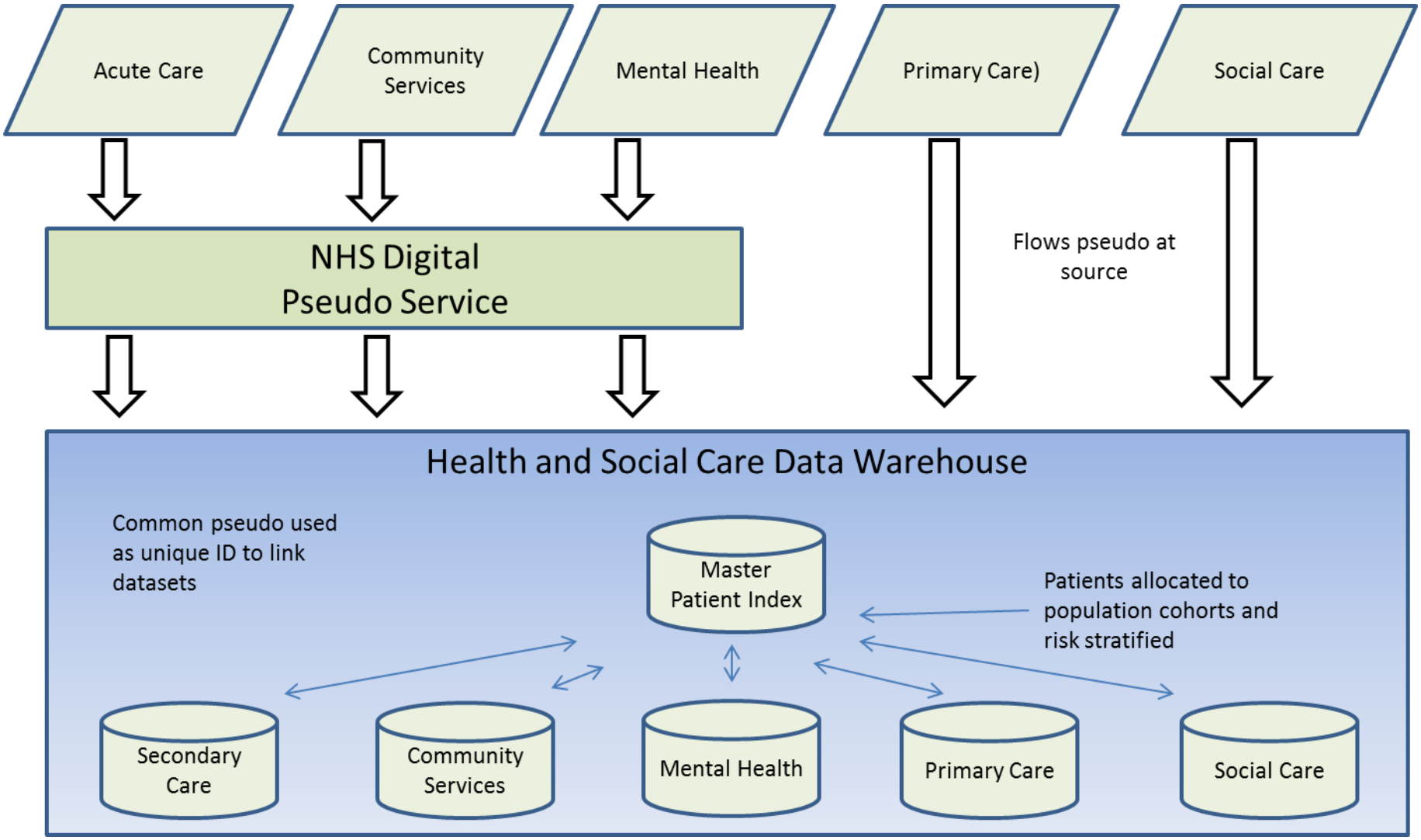
Context

- The Health and Social Care Act 2012 introduced new data processing legislation for commissioning organisations:
  - NHS Digital (NHSD) is the only organisation allowed to process datasets containing patient identifiable data (PID) for commissioning purposes
  - PID identifiers include NHS Number, name and full postcode
  - Data Services for Commissioners Regional Offices (DSCRO) established to provide additional capacity to meet data processing requirements
  - All datasets containing PID must flow through DSCRO but they are not authorised to process primary and social care datasets containing PID
- Section 251 cover is provided to allow the processing of a subset of primary care data for risk stratification purposes only

MHCC Data Warehouse

- Brings together health and social care datasets that can be linked together at a person level
- Data used to support direct patient care via the Manchester Care Record and provide intelligence for the commissioning of health and care services
- Clinical Dashboards developed to support case finding and the management of patients with LTCs
- Creates the ability to link and analyse datasets for commissioning purposes

Data flows



Datasets linked together via common person pseudonym derived from NHS Number

Datasets

Dataset	Description	Source
Master Patient Index	Demographic information for every patient registered with a Manchester GP Practice e.g. GP Practice, Age, Gender, Location	Exeter System Can be sourced via Graphnet or NHSD
Primary Care	All coded events recorded in General Practice	Graphnet GP Extracts
Community Services	Referrals, Community Contacts and Intermediate Care	Local datasets specified within Provider contracts
Social Care	Assessments, Care Packages, Contacts, Carers, Demographics and Health Conditions	Local dataset agreed with Local Authority
Secondary Care	A&E Commissioning Dataset Inpatient Commissioning Dataset Outpatient Commissioning Dataset	NHSD Secondary Uses Service (SUS+)
Mental Health	Referrals, Inpatient and Community Contacts	Local dataset specified within Provider contracts

Data Sharing Agreements

Area	Data Controller(s)	Data Processor(s)	Agreement
Master Patient Index	NHS Digital	NHS Digital Manchester CCG	Data Sharing Contract Data Sharing Agreement Note: primary purpose for flow to support direct patient care via the Manchester Care Record.
Primary Care	GP Practices	Manchester CCG	Data Sharing Contract covering use of information for commissioning purposes
Community Services	Providers	NHS Digital Manchester CCG	Datasets specified within NHS Standard Contracts held with Providers
Social Care	Provider	Manchester CCG	Data Sharing Agreement
Secondary Care	Providers	NHS Digital Manchester CCG	Datasets specified within NHS Standard Contracts held with Providers
Mental Health	Provider	NHS Digital Manchester CCG	Datasets specified within NHS Standard Contracts held with Providers

Population Segmentation

Every registered patient has been allocated to one of the following population cohorts:

1. Children and Young People with Long Term Conditions, Mental Health Needs or Learning Disabilities
2. Frail Older People
3. Adults with Multiple Long Term Conditions or End of Life
4. Complex Lifestyles
5. Mental Health, Learning Disabilities or Dementia
6. Maternity
7. Good Health - Older People
8. Good Health – Children
9. Good Health - Adults
10. Adults with Wider Determinants of Need

Risk of emergency admission score calculated for every patient each month

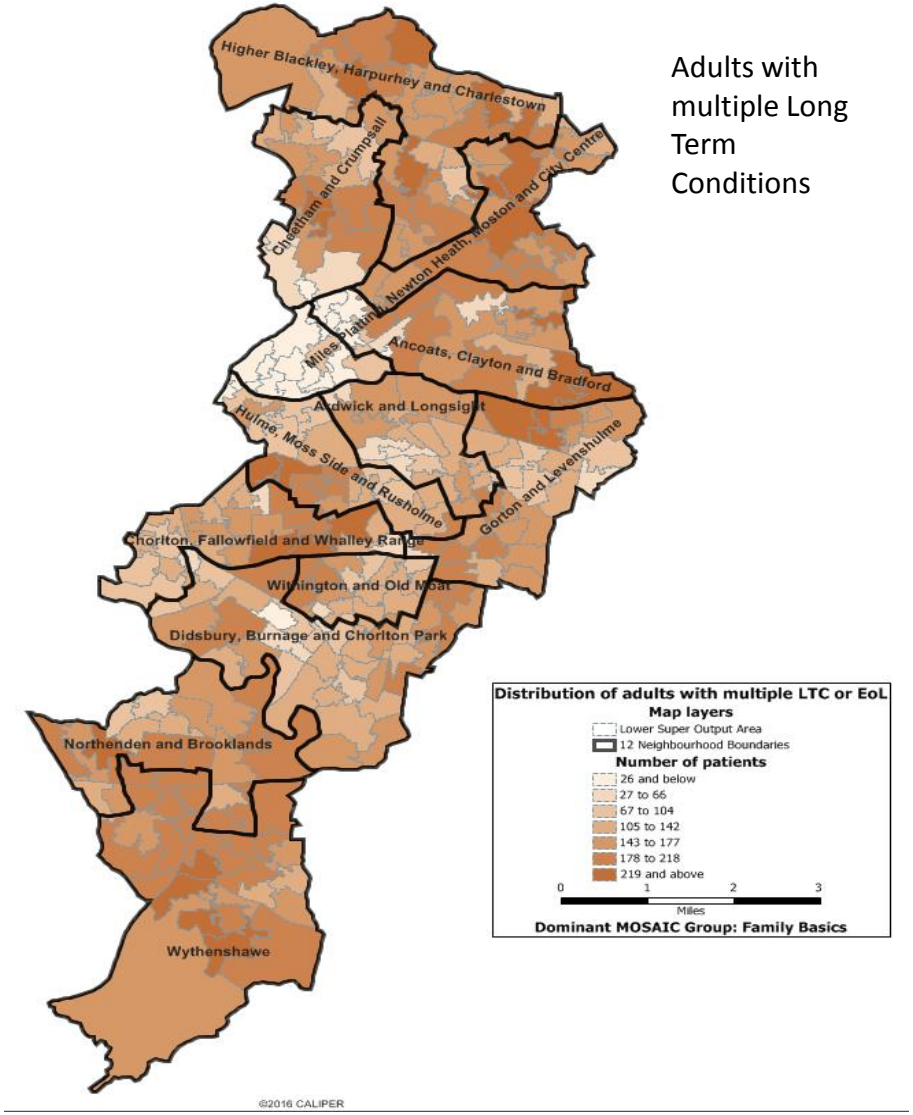
Analytical outputs

Population cohort and neighbourhood profiles describing health and care need by locality and neighbourhood.

Available from:

http://www.manchester.gov.uk/info/500230/joint_strategic_needs_assessment/7011/area_profiles

Cost Benefit Analysis produced by population cohort and neighbourhood to support future investment asks and care model development



Adults with multiple Long Term Conditions

Clinical Dashboards

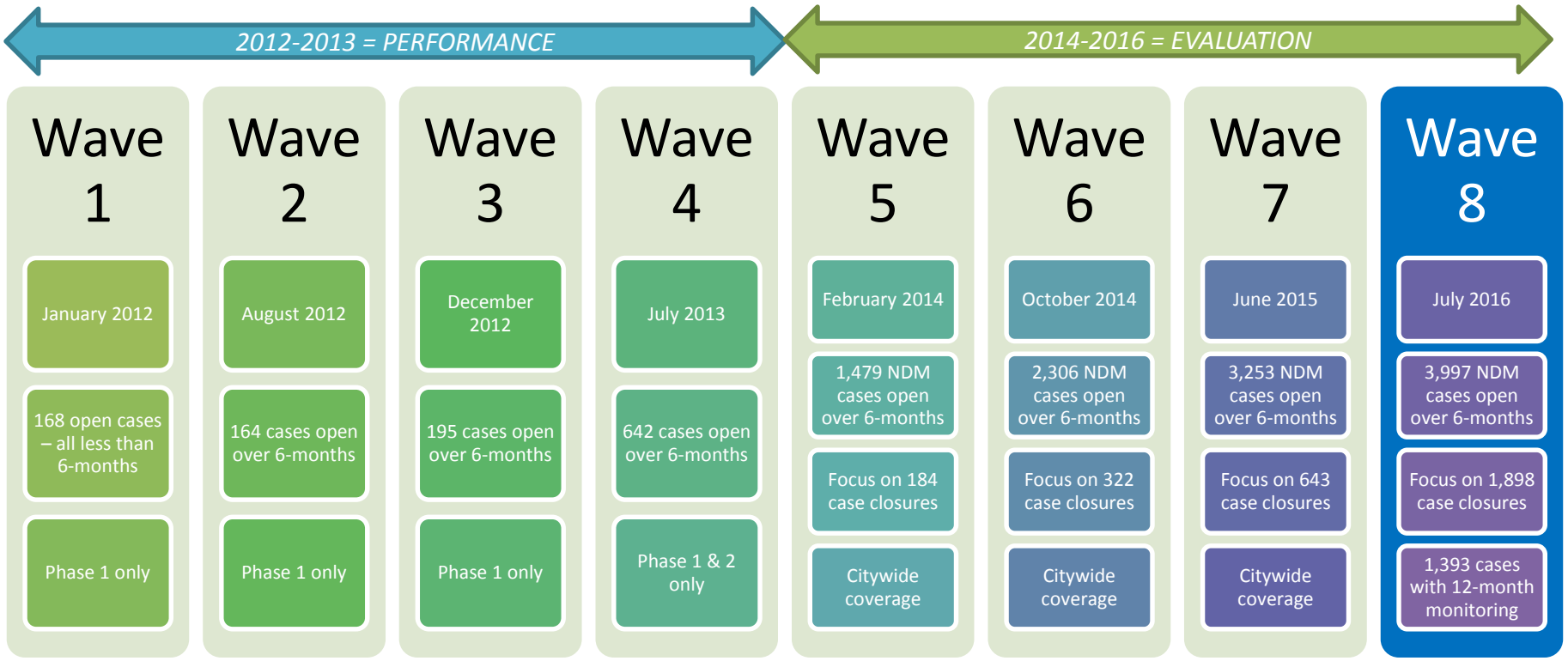
Automated data feeds into the North of England CSU's RAIDR system have been established to provide clinical dashboards to support GPs with patient care. The functionality includes:

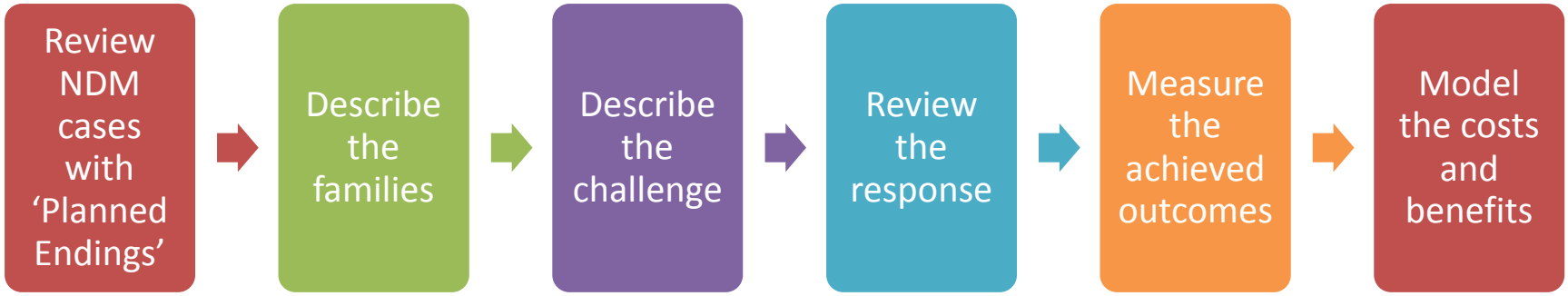
- **Admission risk:** identifies patient at risk of emergency admission
- **Diseases register validation:** dashboards that identify patients with diagnosis recorded in secondary care not on the appropriate GP register, and patients on medication without a diagnosis recorded
- **Long Term Condition case finding and management** dashboards for Atrial Fibrillation, COPD, Dementia, Learning Disability and Fracture risk

Evaluation of the Early Help Programme in Manchester

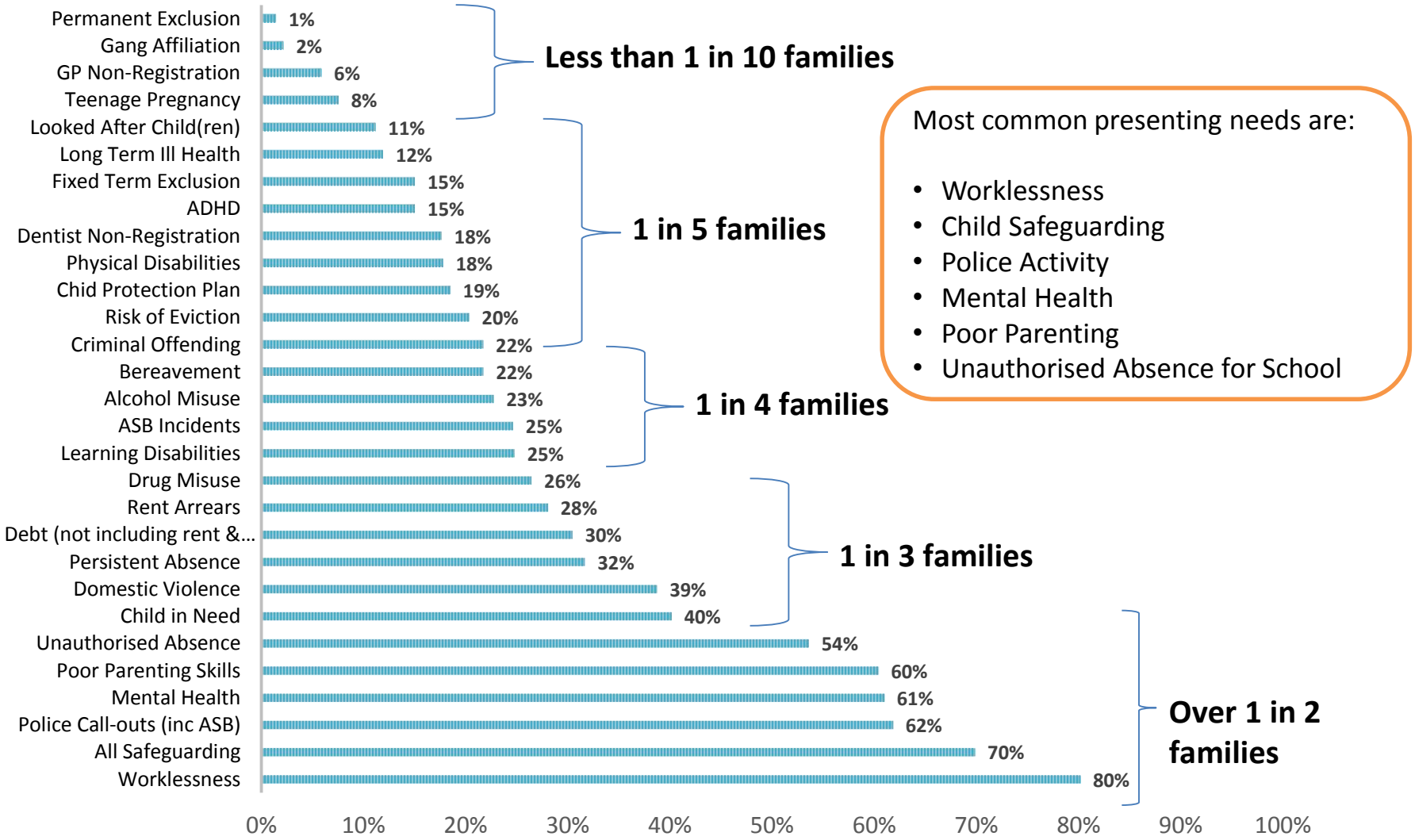
Paul Holme, Research and Intelligence Manager, Manchester City Council

Tracking the programme since 2012





Presenting Needs are wide ranging



Most common presenting needs are:

- Worklessness
- Child Safeguarding
- Police Activity
- Mental Health
- Poor Parenting
- Unauthorised Absence for School

Based on 3,997 families

Presenting Needs are complex

Families with these Presenting Needs... / also have these Presenting Needs	Presenting Need	Parmanent Exclusion	Gang Affiliation	GP Non Registration	Teenage Pregnancy	Looked After Child(ren)	Long Term Ill Health	Fixed Term Exclusion	ADHD	Dentist Non Registration	Physical Disabilities	Child Protection Plan	Risk of eviction	Criminal Offending	Bereavement / loss seperation	Alcohol Misuse	ASB Incidents	Learning Disabilities	Drug Misuse	Rent arrears	Debt Issues (other than Rent)	Persistent Absence	Domestic Violence	Child in Need	Poor Parenting Skills	Mental Health	Police Call-outs (inc ASB)	All Safeguarding	Worklessness
Parmanent Exclusion	1%	100%	7%	0%	7%	0%	7%	71%	21%	14%	29%	29%	29%	57%	29%	29%	71%	29%	43%	29%	57%	86%	71%	50%	64%	86%	86%	79%	79%
Gang Affiliation	2%	5%	100%	14%	24%	19%	14%	38%	48%	33%	14%	33%	48%	67%	29%	43%	62%	33%	62%	48%	62%	48%	67%	33%	90%	67%	86%	86%	81%
GP Non Registration	6%	0%	5%	100%	15%	15%	12%	8%	5%	86%	17%	32%	29%	29%	37%	31%	44%	31%	32%	44%	37%	29%	71%	41%	73%	58%	78%	88%	78%
Teenage Pregnancy	8%	1%	7%	12%	100%	11%	17%	29%	19%	43%	24%	41%	31%	43%	45%	37%	60%	35%	45%	45%	45%	37%	76%	37%	76%	76%	81%	89%	91%
Looked After Child(ren)	11%	0%	3%	7%	6%	100%	7%	25%	15%	19%	18%	0%	20%	40%	24%	26%	42%	33%	34%	28%	28%	37%	72%	0%	65%	64%	86%	100%	82%
Long Term Ill Health	12%	1%	2%	6%	11%	7%	100%	19%	24%	27%	53%	30%	20%	29%	33%	35%	45%	62%	26%	31%	38%	38%	65%	37%	75%	80%	81%	75%	89%
Fixed Term Exclusion	15%	5%	4%	3%	11%	16%	12%	100%	29%	17%	17%	27%	24%	47%	24%	30%	52%	35%	40%	36%	41%	71%	71%	43%	69%	72%	90%	86%	87%
ADHD	15%	2%	6%	2%	9%	12%	18%	34%	100%	17%	30%	22%	25%	33%	25%	30%	51%	55%	40%	32%	40%	47%	70%	44%	78%	80%	84%	78%	93%
Dentist Non Registration	18%	1%	4%	29%	18%	14%	19%	18%	15%	100%	25%	37%	34%	32%	33%	37%	49%	32%	40%	41%	46%	33%	73%	34%	71%	71%	85%	85%	88%
Physical Disabilities	18%	2%	2%	5%	10%	12%	35%	18%	26%	23%	100%	28%	23%	28%	35%	36%	44%	51%	31%	35%	44%	43%	64%	37%	76%	76%	77%	77%	89%
Child Protection Plan	19%	1%	3%	7%	11%	0%	14%	19%	13%	24%	19%	100%	23%	36%	27%	34%	47%	30%	35%	34%	37%	40%	76%	0%	73%	67%	89%	100%	90%
Risk of eviction	20%	2%	5%	8%	11%	12%	12%	21%	19%	28%	20%	29%	100%	40%	23%	32%	59%	26%	39%	68%	50%	43%	69%	31%	69%	76%	87%	71%	87%
Criminal Offending	22%	3%	5%	6%	11%	18%	13%	32%	19%	20%	19%	34%	30%	100%	26%	33%	57%	28%	39%	37%	37%	50%	76%	33%	66%	67%	94%	85%	89%
Bereavement / loss seperation	22%	2%	3%	10%	15%	13%	18%	21%	18%	25%	29%	32%	21%	32%	100%	36%	50%	34%	41%	35%	46%	39%	71%	37%	77%	81%	84%	82%	87%
Alcohol Misuse	23%	2%	4%	8%	12%	14%	18%	24%	20%	27%	28%	39%	29%	40%	35%	100%	53%	31%	52%	37%	43%	43%	77%	35%	72%	82%	87%	87%	93%
ASB Incidents	25%	3%	3%	7%	12%	14%	14%	26%	22%	22%	22%	33%	33%	42%	30%	33%	100%	29%	37%	37%	40%	49%	79%	34%	71%	74%	98%	81%	89%
Learning Disabilities	25%	2%	3%	7%	10%	16%	29%	25%	34%	21%	37%	31%	21%	30%	30%	29%	42%	100%	33%	34%	37%	40%	66%	35%	75%	80%	81%	81%	90%
Drug Misuse	26%	2%	5%	7%	13%	16%	12%	29%	25%	27%	22%	36%	32%	42%	36%	47%	54%	33%	100%	38%	44%	47%	79%	36%	73%	83%	89%	88%	90%
Rent arrears	28%	1%	3%	9%	12%	12%	13%	24%	18%	25%	23%	31%	50%	36%	27%	31%	48%	31%	34%	100%	57%	42%	69%	34%	68%	72%	85%	78%	88%
Debt Issues (other than Rent)	30%	3%	4%	7%	11%	11%	15%	25%	21%	26%	27%	32%	34%	33%	34%	33%	49%	31%	37%	53%	100%	44%	70%	35%	72%	78%	86%	77%	89%
Persistent Absence	32%	3%	3%	5%	8%	12%	13%	37%	21%	16%	22%	29%	25%	38%	24%	28%	50%	28%	34%	33%	38%	100%	69%	42%	71%	72%	88%	84%	88%
Domestic Violence	39%	2%	2%	7%	9%	14%	13%	22%	18%	21%	19%	33%	24%	35%	26%	30%	49%	28%	34%	32%	35%	41%	100%	37%	68%	70%	90%	84%	87%
Child in Need	40%	2%	2%	6%	7%	0%	12%	22%	19%	16%	18%	0%	17%	25%	22%	22%	35%	24%	25%	26%	28%	41%	60%	100%	63%	59%	74%	100%	81%
Poor Parenting Skills	60%	1%	3%	7%	9%	13%	14%	21%	20%	20%	22%	31%	23%	29%	28%	27%	43%	31%	30%	31%	35%	41%	66%	38%	100%	70%	82%	81%	84%
Mental Health	61%	2%	2%	5%	9%	13%	16%	22%	21%	20%	23%	29%	26%	30%	29%	31%	45%	33%	35%	33%	39%	42%	69%	35%	70%	100%	85%	77%	87%
Police Call-outs (inc ASB)	62%	2%	2%	6%	8%	14%	13%	22%	17%	19%	18%	31%	24%	34%	24%	26%	48%	27%	30%	31%	34%	42%	71%	36%	67%	68%	100%	80%	87%
All Safeguarding	70%	1%	2%	7%	9%	16%	12%	21%	16%	19%	19%	35%	20%	31%	24%	27%	[illegible]	28%	30%	29%	31%	40%	67%	49%	67%	62%	81%	100%	84%
Worklessness	80%	1%	2%	6%	8%	12%	13%	20%	18%	19%	20%	29%	23%	31%	24%	27%	[illegible]	29%	29%	31%	34%	39%	66%	37%	64%	66%	[illegible]	[illegible]	100%

61% of families have a Mental Health issue = c.2,400 families

For Example

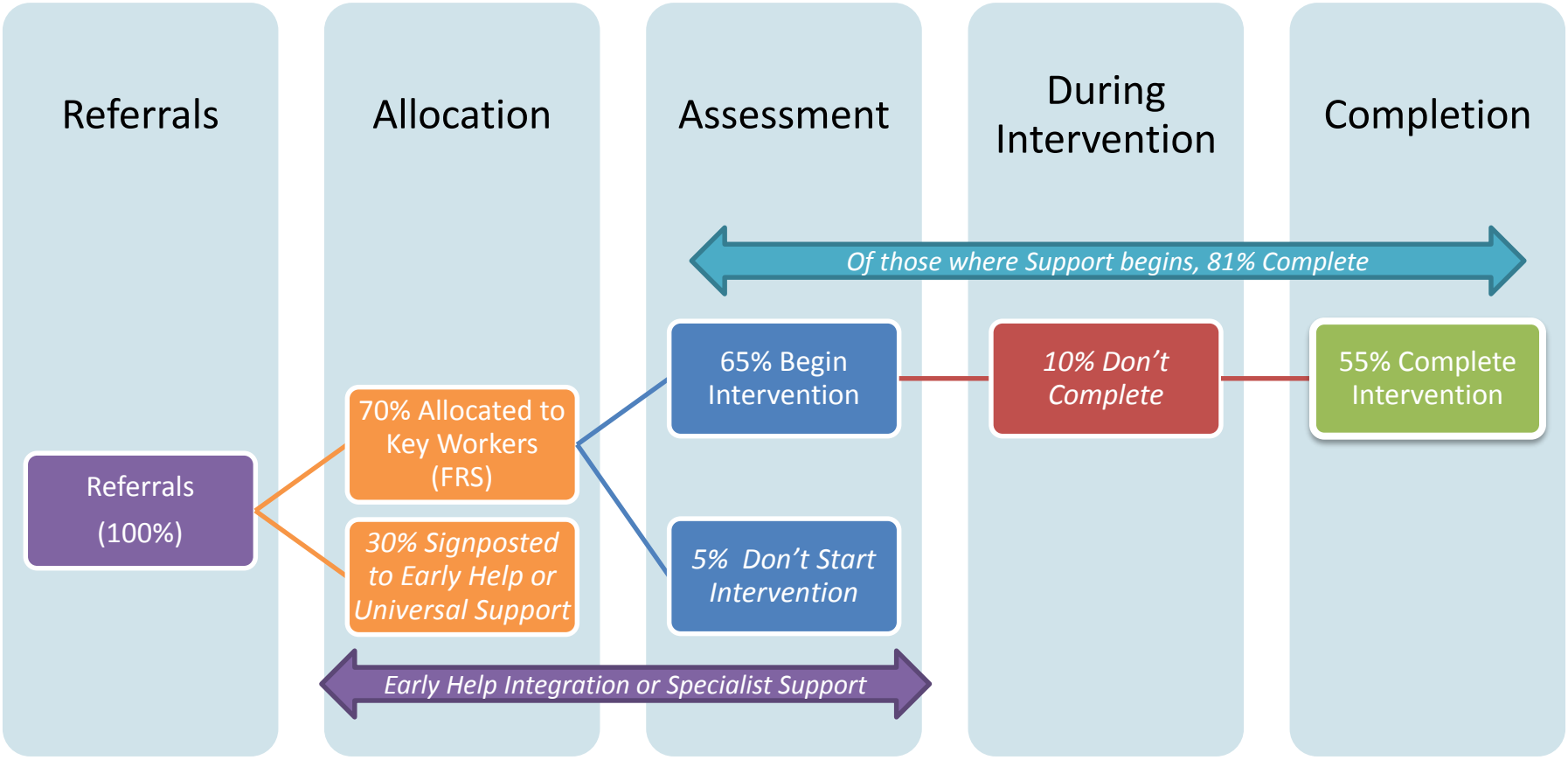
45% of families with a Mental Health issue are also linked to ASB = c1,000 out of c.2,400 families

77% of families also have Safeguarding = c1,800 out of c.2,400

Based on 3,997 families

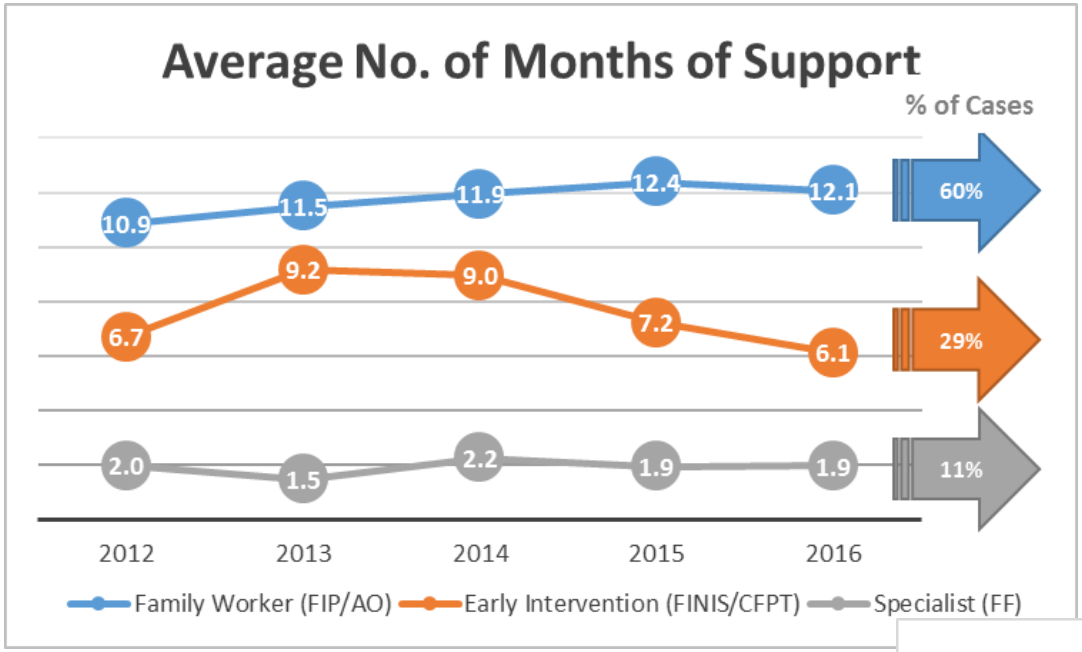
Common Assessments = better use of resources

Effective triage & allocation seeing people get right support at right time



- Invest in triage and allocation for 100% (based on 2015) = 1,300 referrals
- Invest in assessment for 70% = 910 cases
- Invest in intervention for 65% = 845 cases
- Expect outcomes from 55% = 715 cases

Tailoring services to meet demand



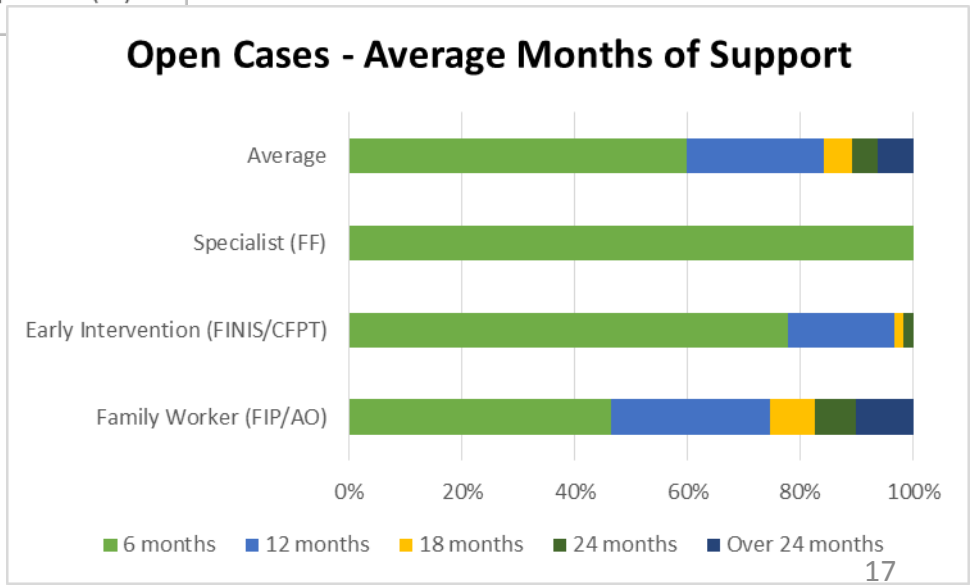
Predicting the average support needs – need to review relationship with complexity and severity of needs

Length of Intervention

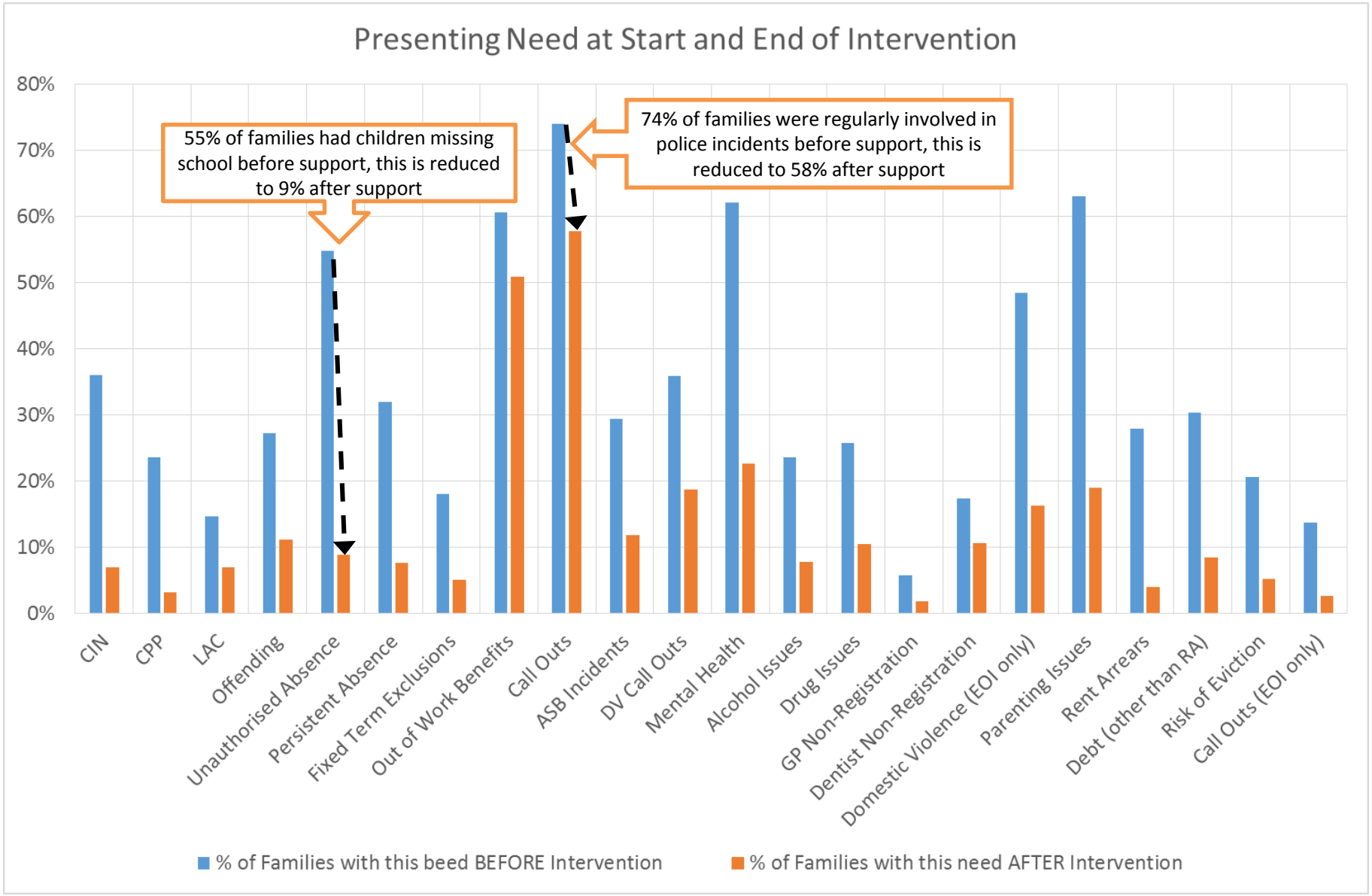
Avg. Months		Complexity		
		Low	Medium	High
Family Size	Small	6.0	6.8	11.1
	Medium	6.4	7.8	12.6
	Large	5.3	8.0	12.4

Assessing current cases

- **75% of Family Worker Cases are below 12-month average**
- **80% of Early Intervention Cases are below 6 – month average**
- **100% of Specialist Cases are below 2 month average**
- **Overall 6% of open cases have been open for more that 2-years**



Support has led to reduced needs



Based on 1,393 families

Impacts are sustainable

	Presenting Need	Impact (12 months)	Recidivism
CIN	36%	81%	14%
CPP	24%	87%	5%
LAC	15%	53%	7%
Offending	27%	59%	15%
Unauthorised Absence	55%	84%	13%
Persistent Absence	32%	76%	16%
Fixed Term Exclusions	18%	72%	9%
Out of Work Benefits	61%	16%	20%
Call Outs	74%	22%	32%
ASB Incidents	29%	60%	18%
DV Call Outs	36%	48%	25%
Mental Health	62%	64%	n/a
Alcohol Issues	24%	67%	n/a
Drug Issues	26%	59%	n/a
GP Non-Registration	6%	68%	n/a
Dentist Non-Registration	17%	39%	n/a
Domestic Violence (EOI only)	48%	66%	n/a
Parenting Issues	63%	70%	n/a
Rent Arrears	28%	86%	n/a
Debt (other than RA)	30%	72%	n/a
Risk of Eviction	21%	75%	n/a
Call Outs (EOI only)	14%	81%	n/a

Based on 1,393 families

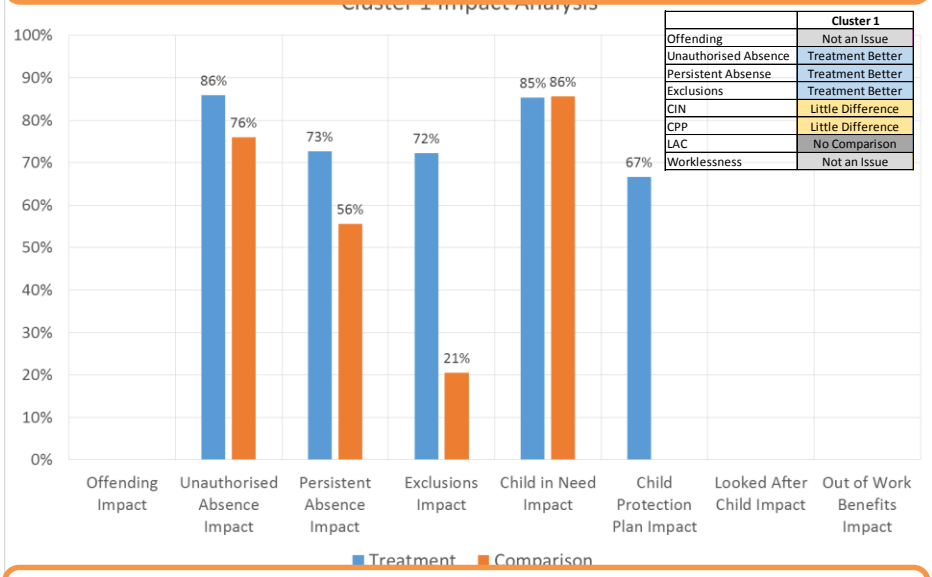
- **Presenting Need** = % of families affected
- **Impact (12 months)** = % of those families with the Presenting Need where the issue has improved
- **Recidivism** = % of those families who improved, where there issues have returned with 6-months

For example (from the top line of table):

- 36% of families (c.500) have 1 or more children with a CIN status
- 81% of families (c.405) see all CIN statuses removed within 12-months of the intervention ending
- 14% of families (c.57) where all CIN statuses were removed, see CIN status re-introduced within 6-months

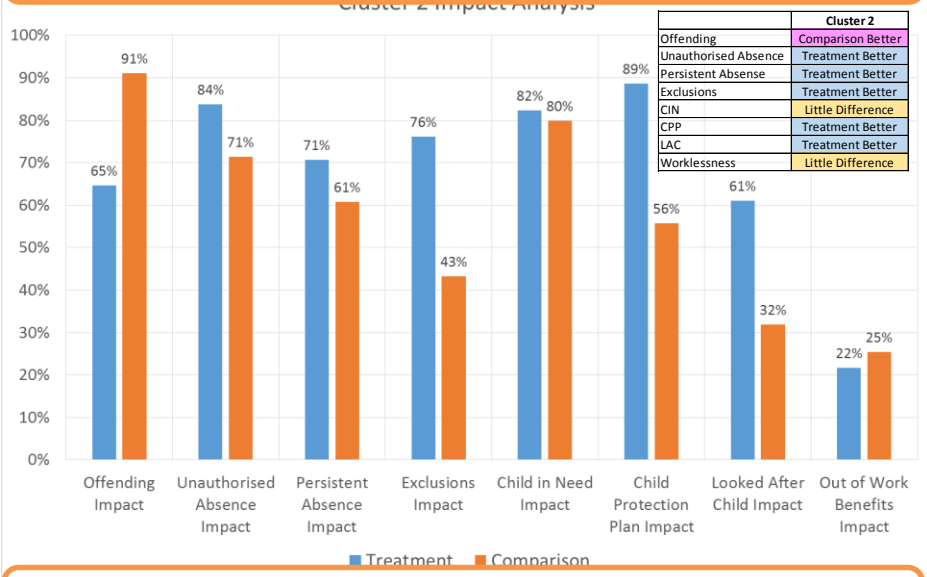
But not one size fits all

Cluster 1 – Families who are in work, have no offending, but low to medium child safeguarding (CIN & LAC) and school issues



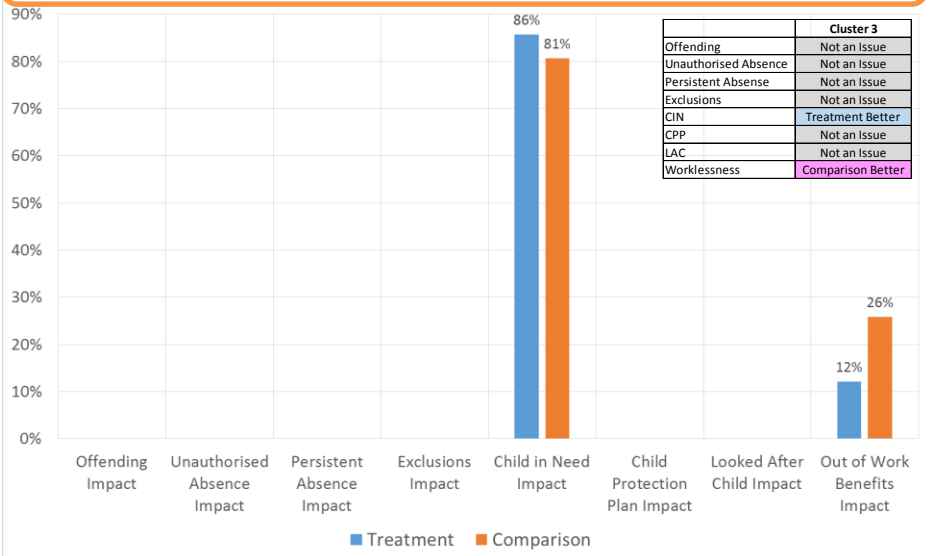
	Cluster 1
Offending	Not an Issue
Unauthorised Absence	Treatment Better
Persistent Absense	Treatment Better
Exclusions	Treatment Better
CIN	Little Difference
CPP	Little Difference
LAC	No Comparison
Worklessness	Not an Issue

Cluster 2 – Families with complex needs, higher level child safeguarding (CPP & LAC), offending, school issues & worklessness



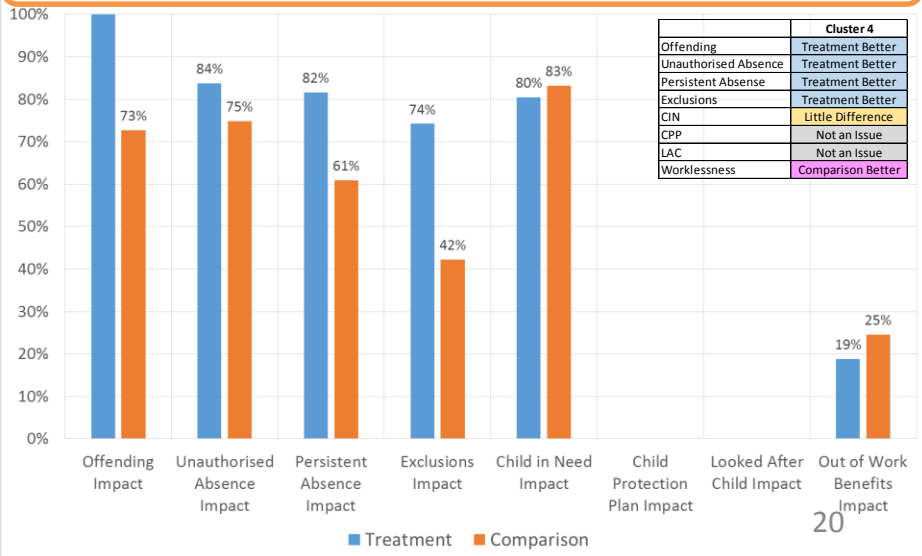
	Cluster 2
Offending	Comparison Better
Unauthorised Absence	Treatment Better
Persistent Absense	Treatment Better
Exclusions	Treatment Better
CIN	Little Difference
CPP	Treatment Better
LAC	Treatment Better
Worklessness	Little Difference

Cluster 3 – Families who are all workless and have 'children in need' (excluding CPP & LAC).



	Cluster 3
Offending	Not an Issue
Unauthorised Absence	Not an Issue
Persistent Absense	Not an Issue
Exclusions	Not an Issue
CIN	Treatment Better
CPP	Not an Issue
LAC	Not an Issue
Worklessness	Comparison Better

Cluster 4 – Families who are all workless, have 'children in need' (excluding CPP & LAC), but also school issues and some offending.



	Cluster 4
Offending	Treatment Better
Unauthorised Absence	Treatment Better
Persistent Absense	Treatment Better
Exclusions	Treatment Better
CIN	Little Difference
CPP	Not an Issue
LAC	Not an Issue
Worklessness	Comparison Better

Key Messages

- Investing time in Evaluation is critical to the reform agenda, as it:
  - provides intelligence to support decision making
  - provides transparency & accountability
  - encourages partnership working and stakeholder engagement

- But only if it is embedded and supports ongoing Action Learning (can't be after the event)

- This evaluation supported:
  - the design of operating models
  - policy focus and strategic design
  - financial planning and business case making

Exploring patterns of hospital admissions in current, former and non-smokers using data collected in primary care

Neil Bendel, Public Health Specialist (Health Intelligence)

Manchester Tobacco Control Strategy

- Work being led by multi-agency Tobacco Alliance, chaired by the Director of Population Health and Wellbeing
- Aim of reducing smoking prevalence in Manchester to 15% or less by 2020/21 as part of a broader ambition to become a “Smokefree” city (defined by government as a smoking prevalence of 5% or less)
- Focus on reducing smoking among priority vulnerable groups e.g. pregnant women, people with mental health problems, people in routine and manual occupations, LGBT community, people with COPD and other complex long term conditions
- Incorporates work to assess potential for smoking cessation in secondary care (the CURE programme) based on Ottawa Model for Smoking Cessation

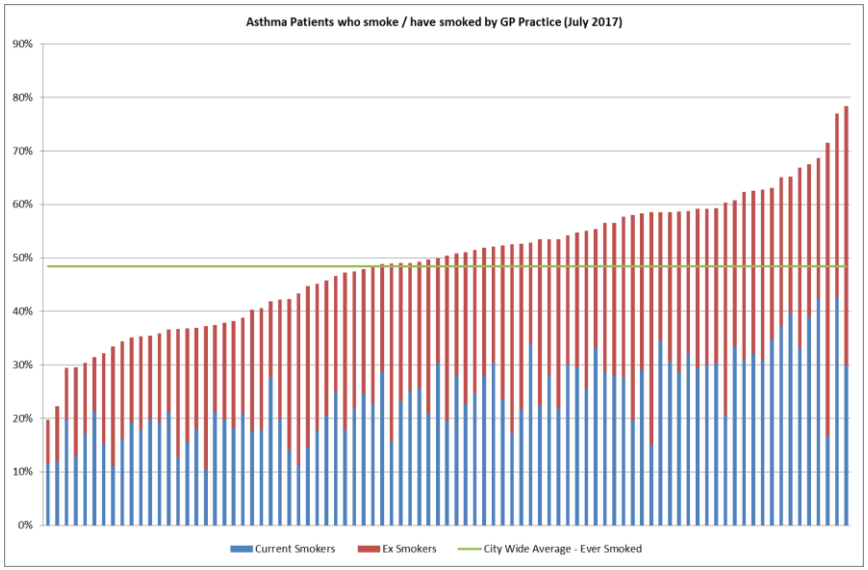
Primary care data

- MHCC has access to GP data across Manchester via the Graphnet system used for the Manchester Care Record
- Information is coded in Read Codes (soon to be SNOMED CT)
- Information recorded includes:
  - Demographic Information
  - Long Term Conditions
  - Management of patients (annual reviews etc.)
  - Referrals
  - Medication
- Patients who currently smoke or have ever smoked can be identified using the Quality and Outcomes Framework (QoF) definition and linked with other patient level datasets

Smoking prevalence, lung disease and hospital admissions

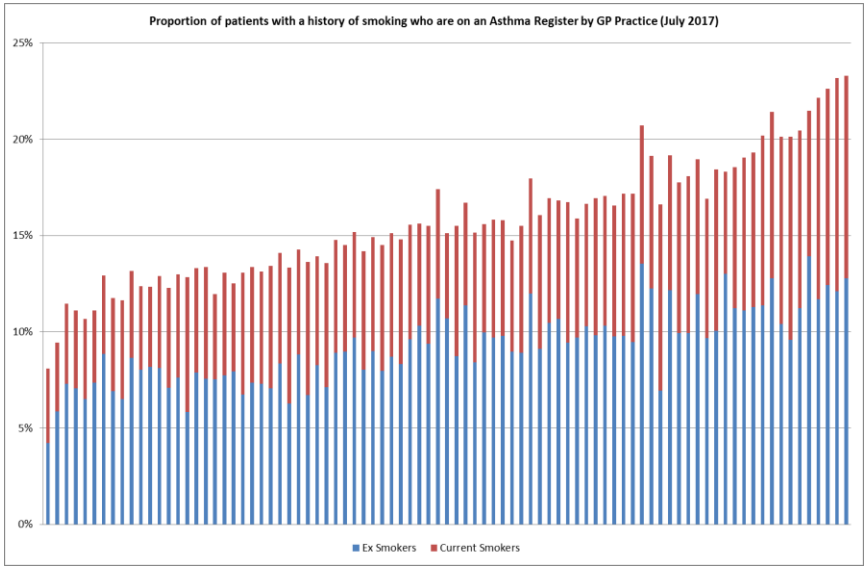
- Data on smoking status linked with data from disease registers and secondary care at individual patient level
- Analyses to date include:
  - % of patients with COPD/Asthma who are recorded as active/current smokers or as ever having smoked (i.e. current or ex-smokers combined) on GP systems
  - % of patients with a history of smoking (i.e. current or ex-smokers) who are on a COPD or asthma register in primary care
  - Rate, cost and complexity of non-elective admissions for respiratory conditions (incl. COPD and asthma) and CVD among smokers compared with ex-smokers (and non-smokers)
- Emerging evidence of impact of smoking on use and cost of admitted patient care among current and ex-smokers
- Used to help model potential cost benefits of smoking cessation in secondary care based on 'real' data

Smoking prevalence and lung disease

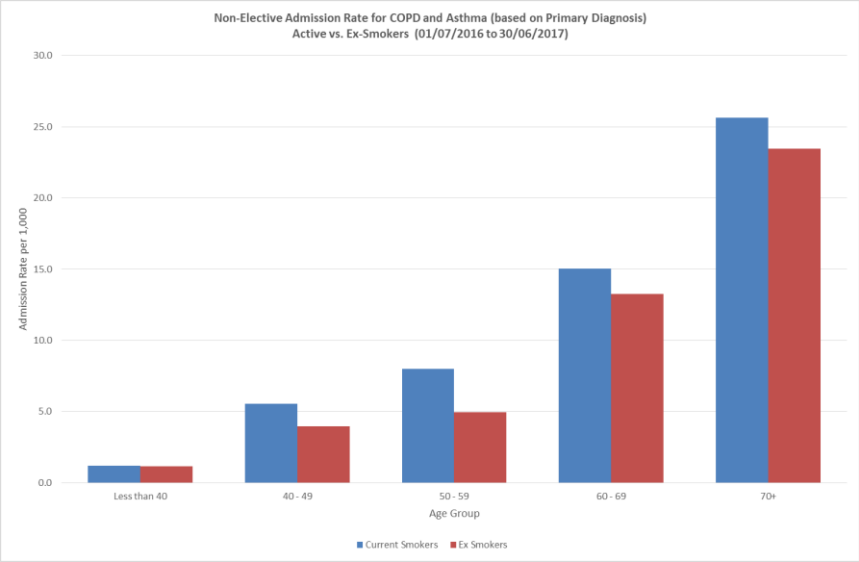


- 48% of patients with COPD and 25% of patients with Asthma are recorded as active/current smokers on GP systems
- 96% of patients with COPD and 48% of patients with Asthma in Manchester are recorded as ever having smoked (i.e. current or ex-smokers combined)

- 5% of patients with a history of smoking (i.e. current or ex-smokers) are on a COPD register in primary care and 8% are on an asthma register
- Impact of higher prevalence of smoking among young people not yet shown itself in terms of prevalence of respiratory diseases

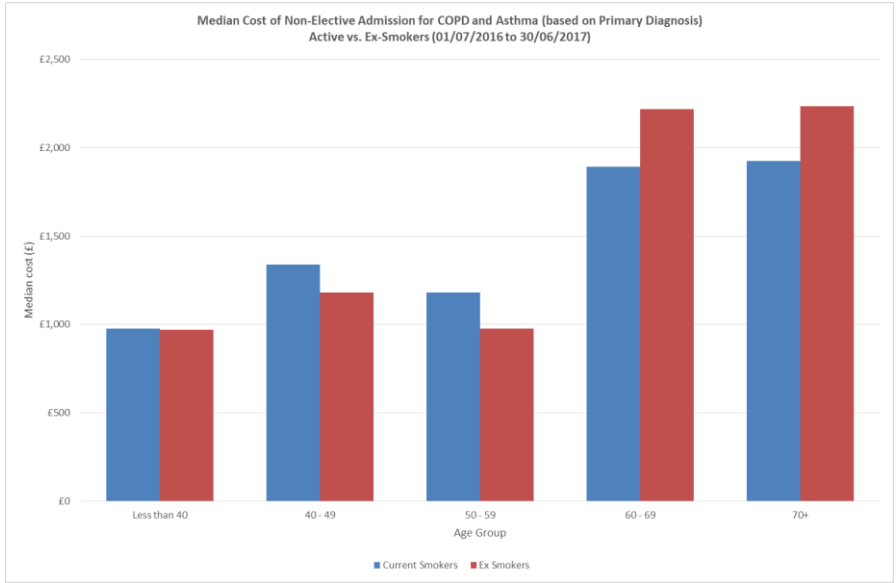


Smoking prevalence and use of admitted patient care



- Higher rates of non-elective hospital admissions for COPD and asthma (primary diagnosis) among current smokers compared with ex-smokers
- Pattern persists across all age groups although 'excess' highest in patients aged 40-60 years

- Median cost of non-elective hospital admissions for COPD and asthma higher in current smokers compared with ex-smokers aged under 60
- Higher costs of admissions in ex-smokers aged 60+ reflects residual effects of previous smoking history on severity of condition

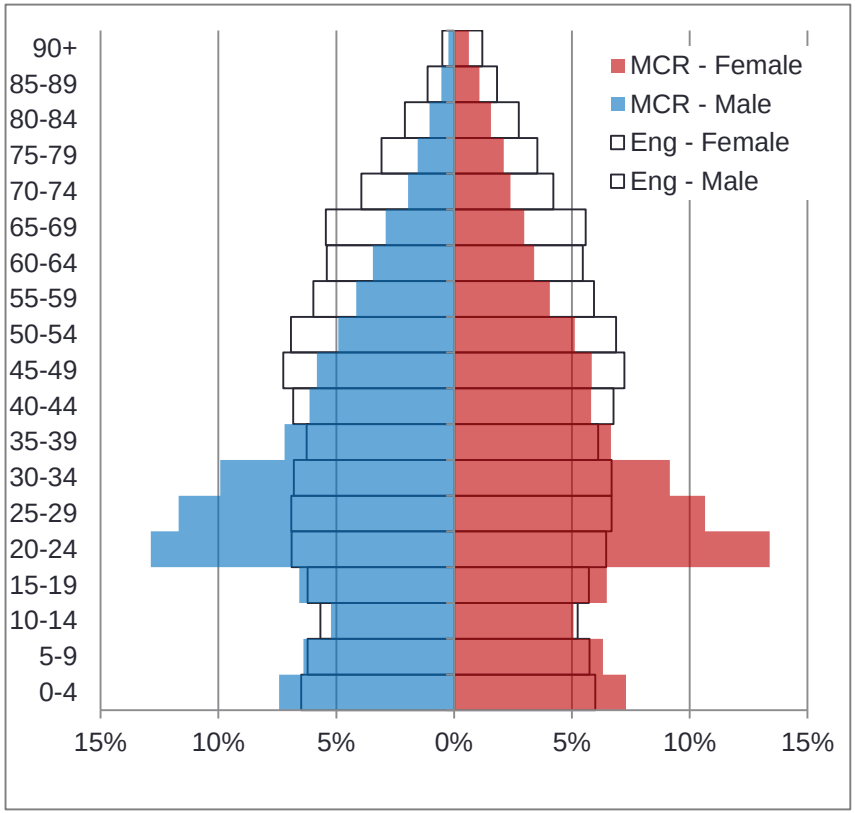


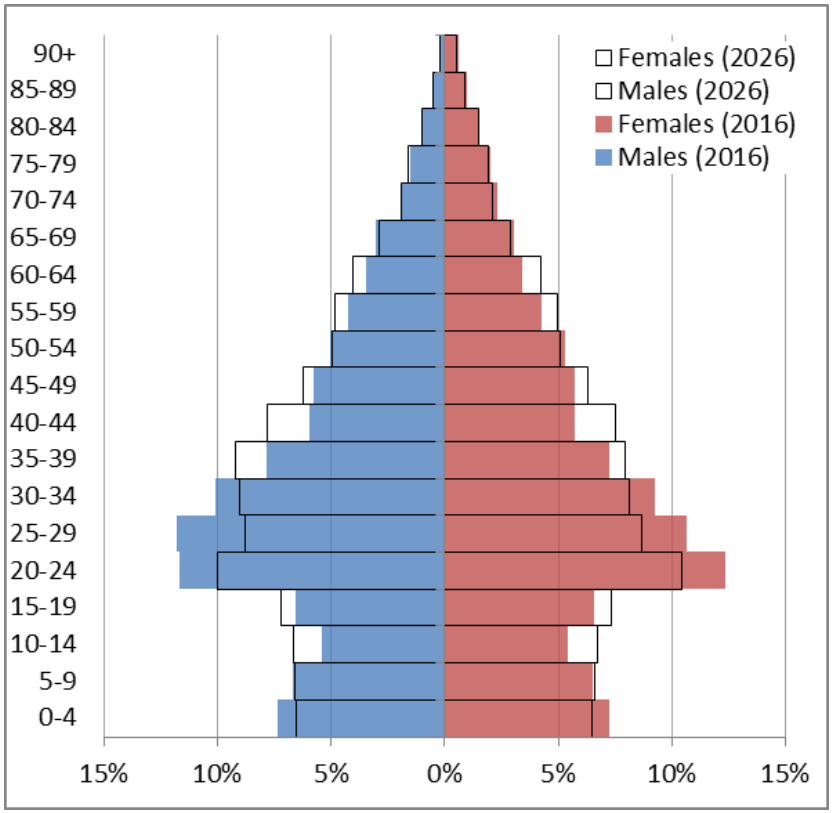
Data analysis to understand the impact of health and social care integration in Manchester

Leo Wall, Senior Researcher,
Manchester City Council

Understanding Demand – Population change

Population profiles – comparisons to England and how we expect it to change

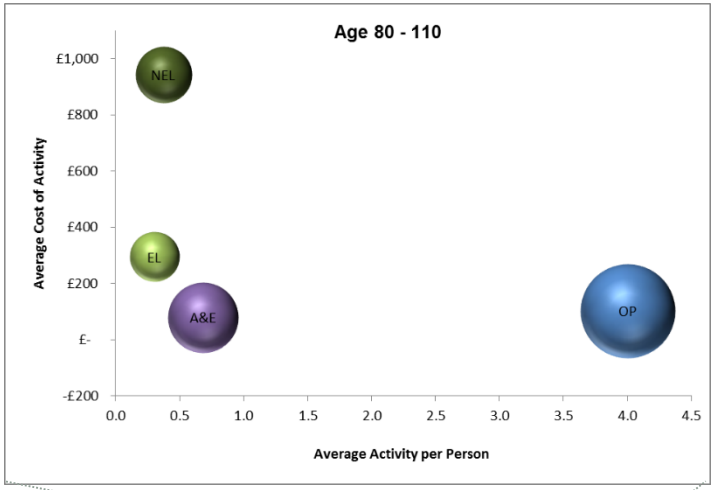


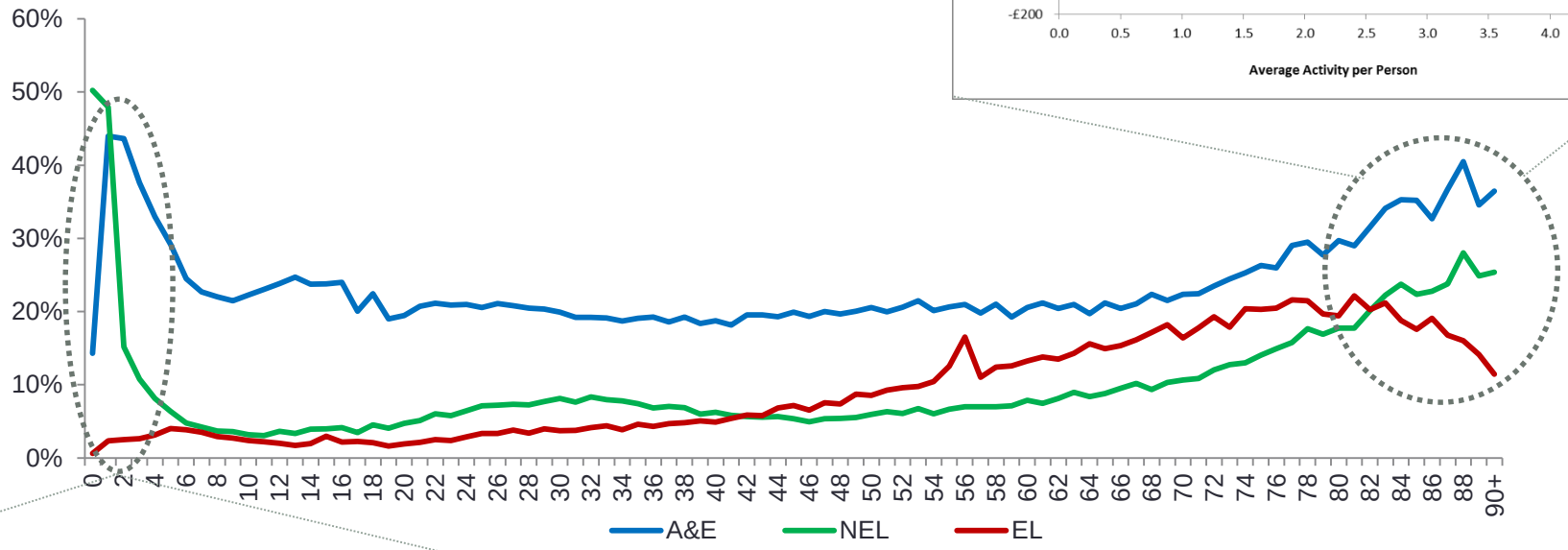


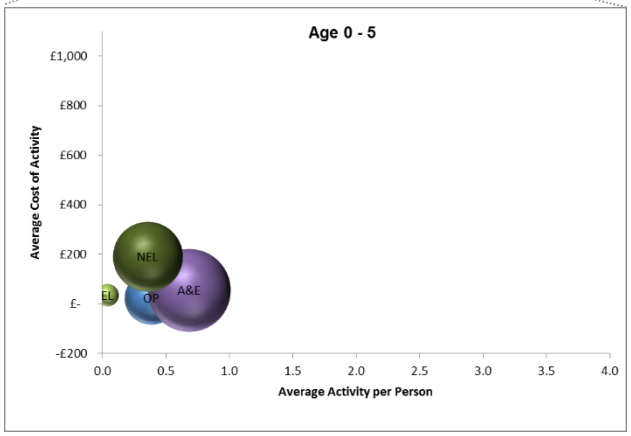
Manchester Population (coloured bars) compared to England Population (black outline bars)

Manchester Population Change from 2016 (coloured bars) to 2026 (black outline bars)

Understanding Demand – Acute Hospitals

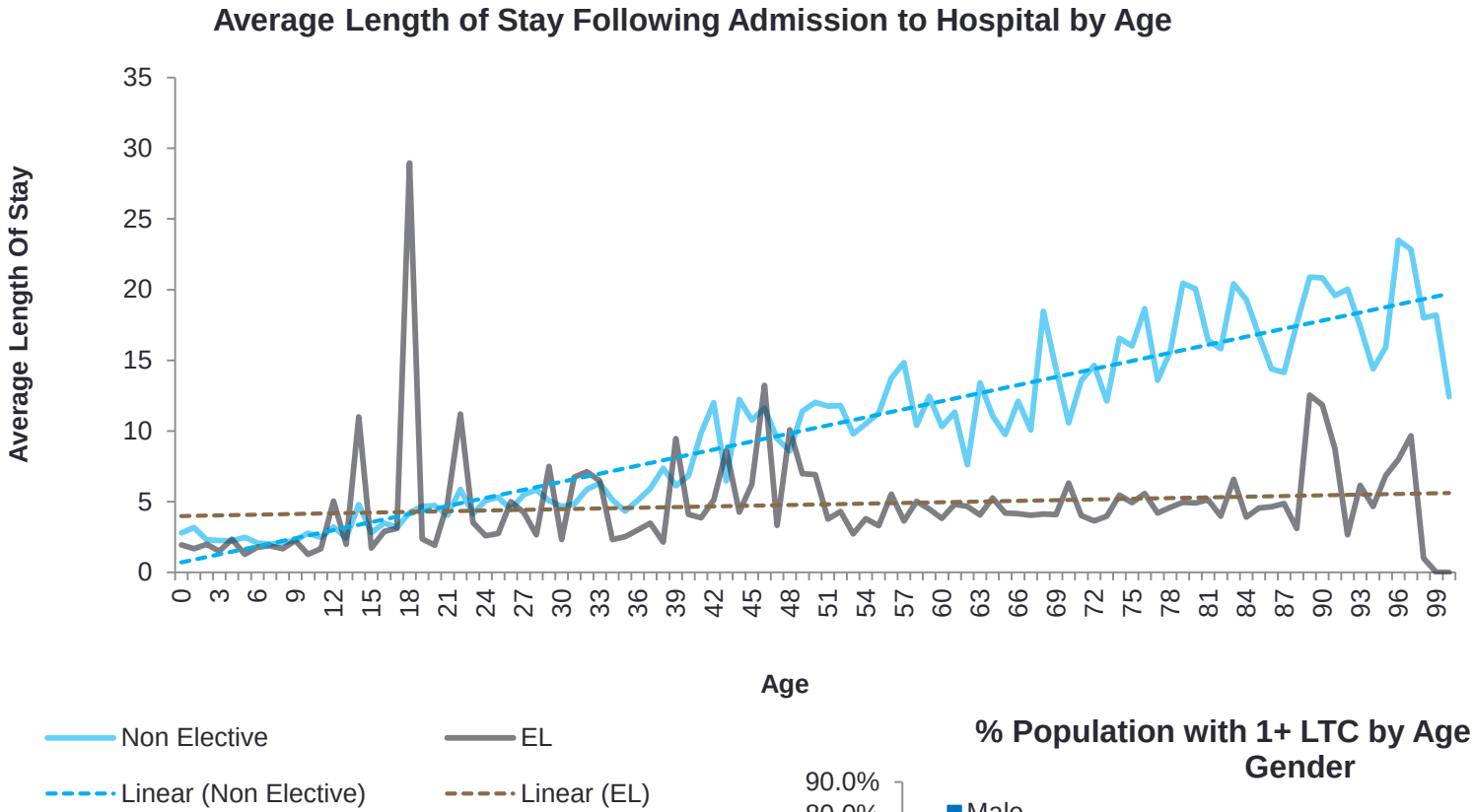


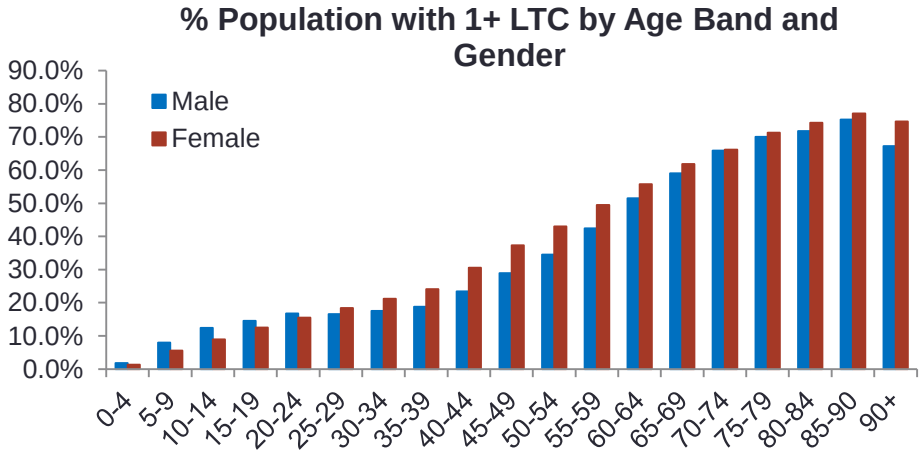




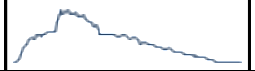
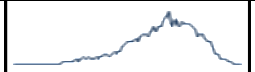
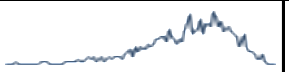
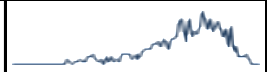
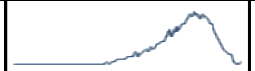
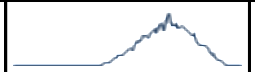
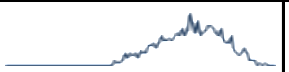
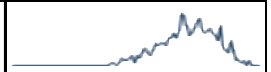
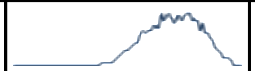
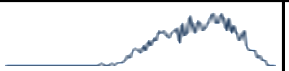
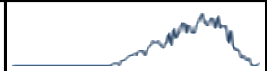
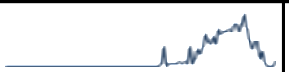
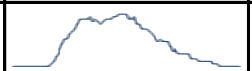
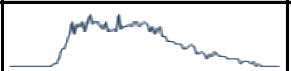
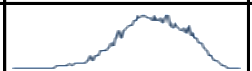
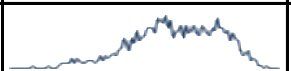
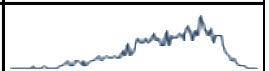
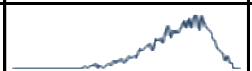
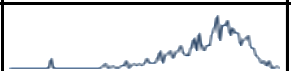
% of GP registered population with 1 or more spell of acute hospital activity during 2014/15

Understanding Demand – Length of Stay in hospital





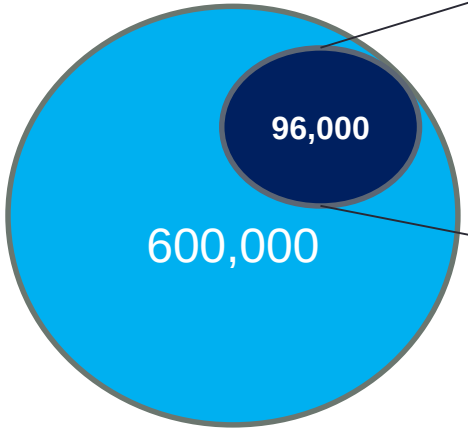
Understanding Demand – Long Term Conditions

	Number of Patients	% Patients aged	Number of other LTCs	Average number of A&E Attendances	Average number of NEL Attendances
		0 20 40 60 80 100	01234567	0 20 40 60 80 100	0 20 40 60 80 100
Asthma	52721				
Atrial Fibrillation	4867				
Cancer	8985				
Chronic Kidney Disease (18+)	10805				
COPD	9773				
Coronary Heart Disease	12869				
Dementia	2417				
Depression (18+)	53905				
Diabetes (17+)	24686				
Heart Failure	3308				
Hypertension	52386				

Produced by MCC Public Intelligence (PRI) and Manchester NHS CCGs Business Intelligence

Development of New Care Models

- Target Population

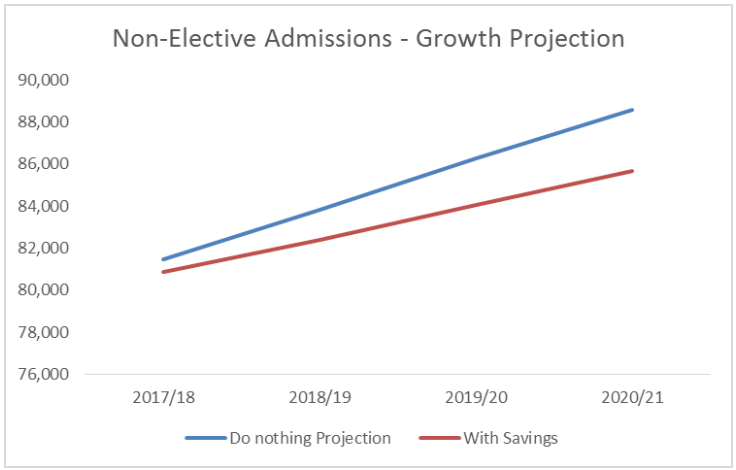


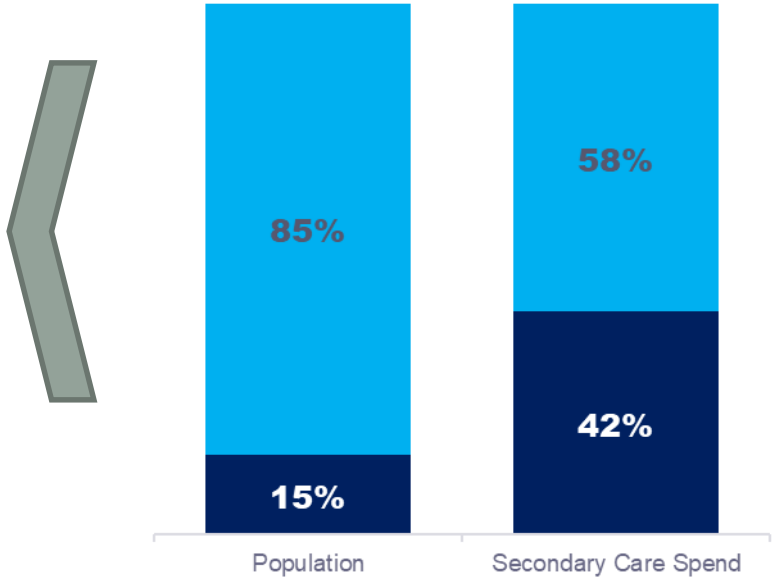
Priority Population Cohorts

1. Children and YP with LTC, MH Needs or LD
2. Frail Older People
3. Adults with Multiple LTC or End of Life
4. Complex Lifestyles
5. Mental Health, Learning Disabilities or Dementia

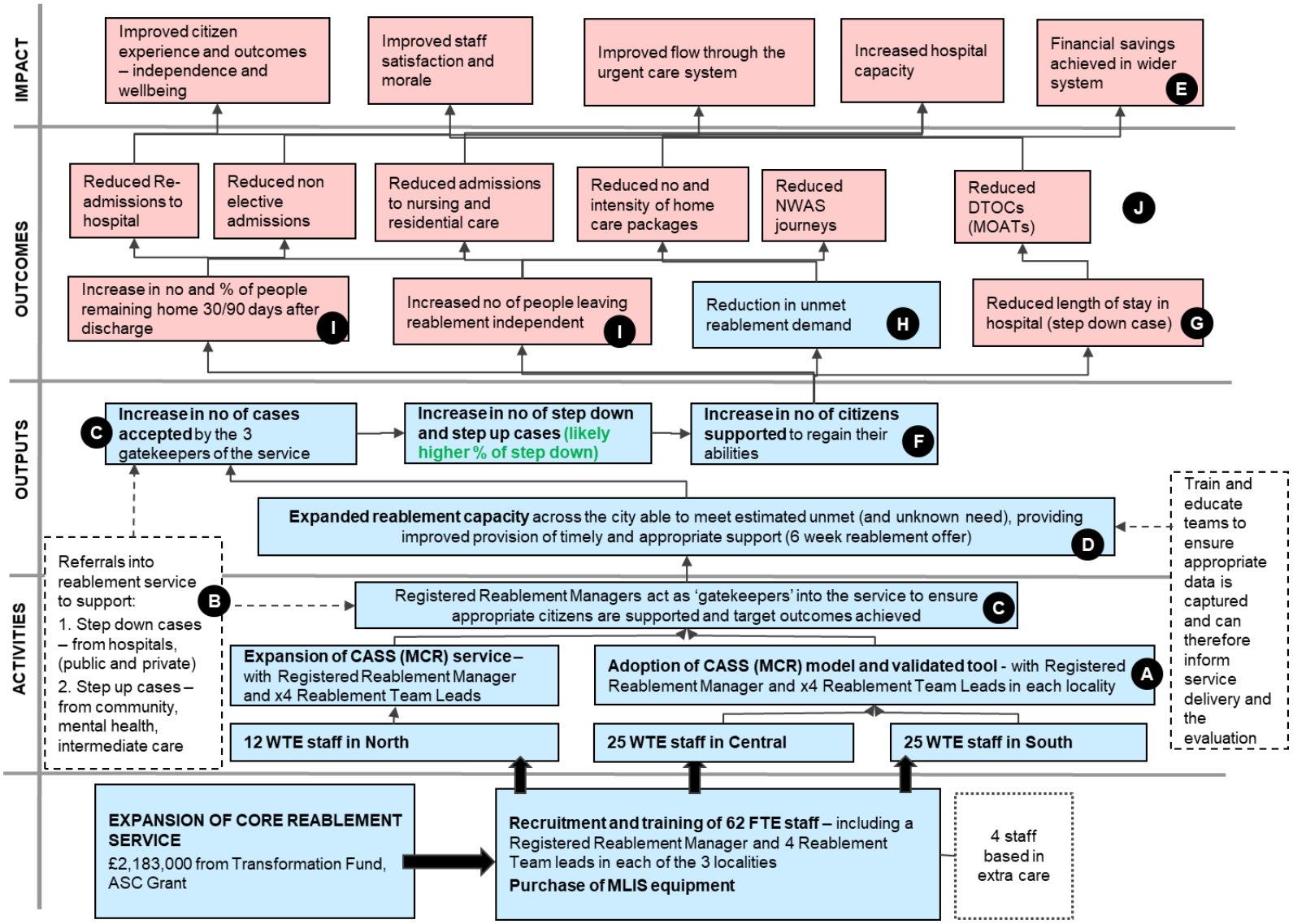
Cost-Benefit Analysis Model

What will the impact be if we do things differently?

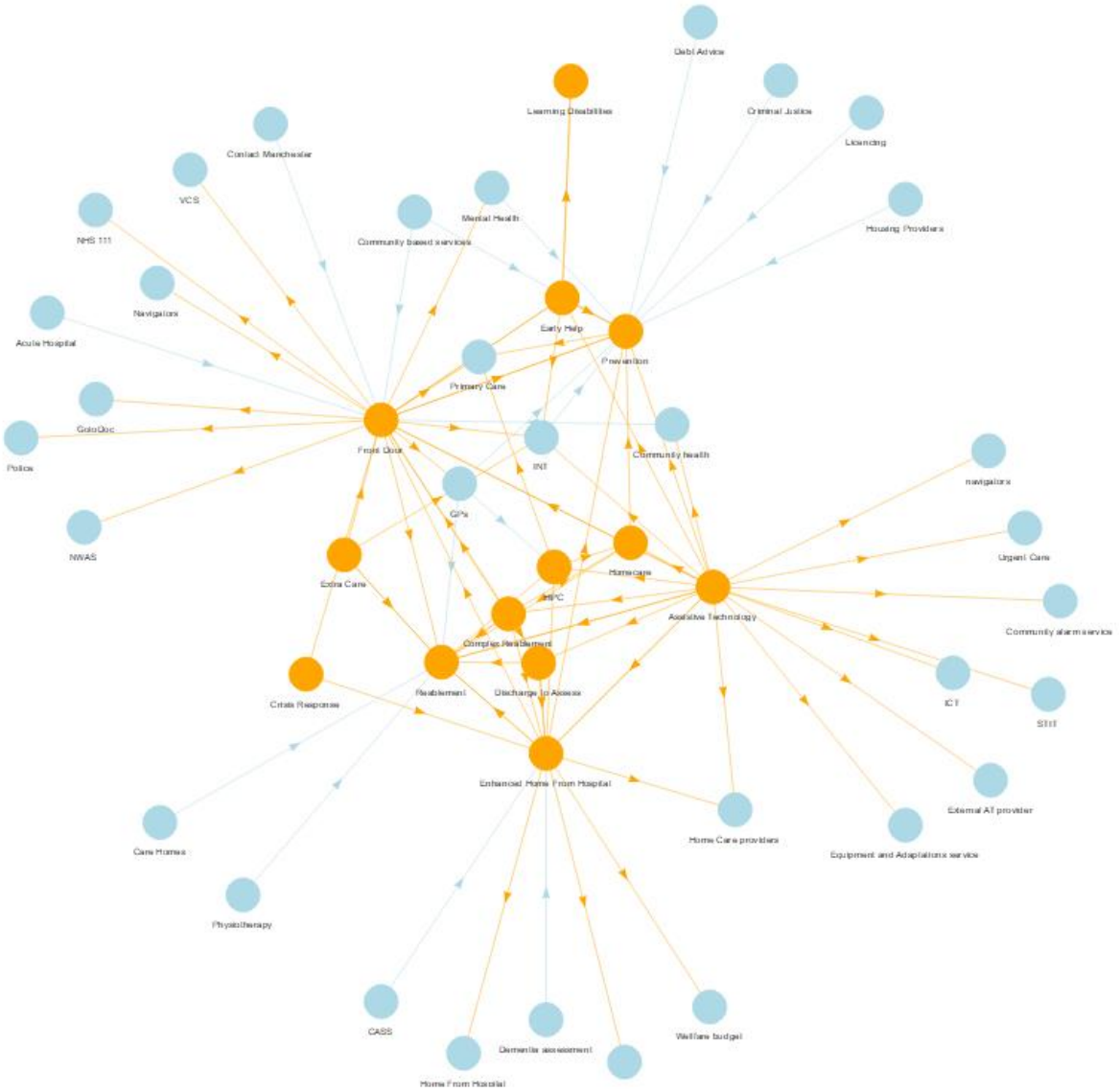




Evaluation of New Care Models – Theory Of Change



Evaluation of New Care Models – Mapping the System



Understanding the Impact – Involvement in Full Process

- Using Integrated Data Warehouse to understand population current make up and demand
- Used the intelligence we have to identify areas we need to invest in to do things differently and evidence the business case for change
- Understanding how the system should change
- Monitoring and evaluating that system
- Feed that learning back into the system
  - Are we shifting demand from acute to community?
  - Are we reducing pressure on acute hospitals?
  - Are we reducing predicted growth in demand within H&SC?
  - Are we improving the health outcomes for Manchester residents?

Questions?