MATCHING CHILDREN'S NEEDS AND SERVICES:

A CASE OF THREE CIRCLES

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We spend just under £9 billion per year on children's services in England and just under £900m in Scotland; the equivalent of £730 and £745 per child in each country, respectively.[1] Although this is significantly more in real terms than the amounts spent at the turn of the millennium, there is now a downward trend as cuts to discretionary spending take effect.

In the context of austerity it is right that we question whether severely limited resources are allocated effectively and whether services are adequately resourced. But we are not in a strong position. Despite the considerable amounts of money involved, we have a poor understanding of how this money is spent, on whom and to what end.

The majority of the data informing budgets is on those children and families known to services with very little understanding of those who fail to make it through the door of a local authority or health system. Calculations for next year's budget are typically based on the expenditure from the previous year with some tweaks for population changes.

There are calls to look not just at the amounts of money spent in children's services but also at how they are spent. With a UK spending review underway this sounds like good advice.

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[1] Kelly, E., Lee, T., Sibieta, L., & Waters, T. (2018). Public Spending on Children in England: 2000 to 2020. *Institute for Fiscal Studies.*

This report prepared by the Dartington Service Design Lab seeks to do just that. Drawing on a decade of experience of mapping need and charting the use of services, data from 38,000 children and families across England and Scotland is analysed to answer two fundamental questions: How much need is there in the population? Do services meet those needs?

For the first time, we have a valid and reliable picture of how children are developing, coming first hand from the young people themselves alongside administrative data on services. This unique dataset breaks new ground by linking data on the needs of all children with the data on the services they are receiving.

The report challenges commonly held assumptions about the reach of children's services, the extent of need and the role of families and communities. Importantly for local decision-makers it also shows how these insights can be quickly and affordably assembled at the community level.

We hope it informs national and local decision-makers about how they can better understand needs, match them to services, and justify the level of funding required to deliver this.

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ACKNOWLEDGEMENTS

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INTRODUCTION

This paper concerns the match between the needs of children and young people and the services provided to them. Put another way, are those served by public agencies those most in need, and are those most in need served by public agencies? It is an old and important issue, and one that our organisation, in one form or other, has been engaged with for decades.

So why return to it now? First, because the issue has never gone away and if anything, it has become more acute. The demands, expectations and pressures on public services have probably never been greater. Social, economic, political and technological upheaval is taking us into uncharted waters in understanding the needs of children and young people.

The second reason for returning to the question is that we have new empirical data to shine a light on the issue. In the 1990s, in the guise of the Dartington Social Research Unit, we developed a series of 'practice tools' to help managers and social workers consider how well their services met the needs of the children on their caseloads.[2] In the last fifteen years, we have become increasingly sophisticated in our methods for charting needs and services, not only at the agency but also community level. These endeavours have provided unique data from 25 English and Scottish local authorities and 38,000 children and families.[3] We now are much better placed to answer the question - how do needs and services match?

In Part 1 of this paper we explore some commonly held assumptions about needs and services before defining the concepts more clearly. In Part 2 we briefly describe how the data has been curated and then in Part 3 set out our insights. In Part 4 we offer some interpretation of the findings, and in Part 5 consider options to help better align services with the needs of children and young people.

We hope this paper will inform the debate about how the state should support children and families in need. We will continue to explore the issue as we further our enquiries, and hope that others will join us.

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[2] Little, M. (2001). *Matching needs and services* (3rd ed.). [Totnes, Devon]: Dartington Academic Press.
[3] The data was collected in the period 2011 – 2016.

PART 1
NEEDS AND SERVICES

It would be reasonable to assume that the reach of service provision is proportionate to need, i.e. that services grow and retract in line with the scale of need in a given place or at a given point in time. But economic and political decisions about the size of the state, its expenditure and associated views on how far the state should reach into and intervene in family and community life, all affect the resources allocated.

Furthermore, our work with numerous public bodies is beginning to explore the often hidden dynamics that may, in part, determine the variation in the reach of services, irrespective of need. The variability in rates of children in care across all 152 English local authorities is a case in point. In Figure 1, each local authority is represented by a dot. Along the vertical axis of the chart is the rate of children taken into care: the higher up a dot is positioned, the greater the rate of children in care. Along the horizontal axis is material child deprivation, an indicator of child poverty and a crude proxy for need. Dots towards the left are the more affluent areas. The further to the right the more economically disadvantaged. What do you see?

Figure 1: Material deprivation does not account for all the variation in rates of children in care

The first thing you probably notice is that there is a general trend, indicated by the pink diagonal line. Generally speaking, the more economically disadvantaged an area - a crude proxy for saying greater need - the higher the rate of children in care. This supports, to some degree, the commonly held assumption that targeted services correspond to variations in need. However, the second thing you'll probably notice is the spread of dots around the diagonal line, particularly in the right half of the chart. There is a three-fold difference in the rates of children in care for the most disadvantaged areas. This suggests that need only plays a part in explaining the variation in the rates of children in care.[4]

Curious and keen to dig into this further, we wanted to move beyond crude proxies of need and to find out how well our public systems were responding to the most needy. Putting it in the language of our work from twenty years ago: how well do needs and services match?

What is need?

Many of the grounds for the state's involvement in the life of children are enshrined in law; others shift with the politics of the day. The UN Convention on the Rights of the Child, for example, outlives changes in administration, whereas interest in issues like social exclusion, poverty and social mobility ebb and flow. Most enduring (in England and Wales) is the concept of need, defined as it is in the *Children Act 1989*.

The Act states that a child is 'in need' (and therefore eligible for intervention) if there is actual or likely impairment to health and/or development. This definition focuses interest on the factors that affect how well a child is developing and permits intervention not only when there are identified difficulties but also when there are risks or circumstances that will make a disrupted developmental trajectory likely. This formulation works equally well for the practitioner considering the needs of an individual child, as it does for an administrator planning for the needs of a population, as it does for scientists like us examining the nature and severity of need in populations.
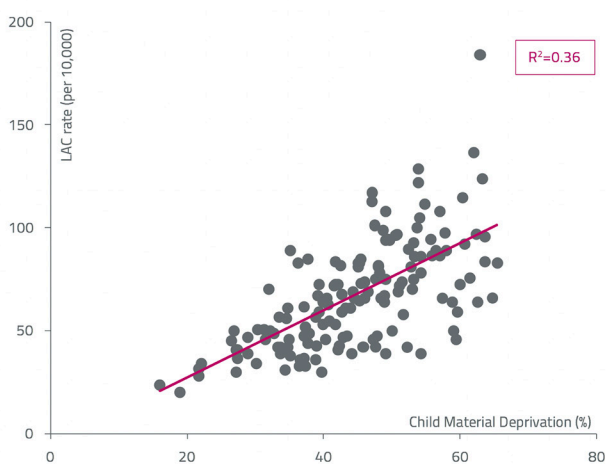
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[4] r2 is a simple measure of how well one variable, in this case Child Material Deprivation (CMD), is associated with another, Looked After Child Rate (LAC). A value of 1 would mean that CMD is associated with 100% of the variation in LAC rates around the mean. In this case, CMD alone explains around 36% of this variation.

Most children experience some need at some point in their development. Our interest here is in what we refer to as 'high-end' need: those children and young people that experience multiple impairments to their health and development, and/or a constellation of risks likely to knock them off a healthy developmental trajectory. We describe in Part 2 the nuts and bolts of how we operationalise and measure need, according to this definition.

When measuring need, it is most common to consider the children who are already known to, or in receipt of, services. This may be to better tailor provision or to assess change in outcomes over time. However, this approach is predicated on the belief that all those with needs are known to services. We've long suspected this is not the case which is why we are interested in measuring **the needs of the whole population, i.e. all children and young people in a given jurisdiction, and not just those known to services.** This, coupled with an assessment of service take up, allows us to consider this fundamental question of the match between needs and services.

What do we mean by services?

A service may be defined as a package of monitoring, help or intervention offered universally, such as education and primary health care, or in response to an identified need (e.g. foster care or psychological therapies).

In the main, they are paid for by the state but may be delivered by public bodies; the voluntary or private sector. We are interested here in those services provided, directly or indirectly by the state. That said, later we consider the important role that families, communities and the informal voluntary sector play in meeting children's needs.

This paper focuses on 'high-end services' responding to 'high-end needs'. These include the statutory services of child protection, children's social care, youth justice and mental health.[5] High-end services are estimated to consume around one-fifth of total expenditure on services for children.[6] These exist to provide an enhanced level of state intervention (beyond that which

can be addressed solely through universal services) when needs are identified or the actions of individuals or their families place them or others in danger.

Sitting somewhere between universal and high-end services is an intermediate tier of services, referred variously to as early help or early intervention. The 'early' bit in their designations refer to how these services seek to intervene with risks or emergent difficulties before they escalate into 'high-end needs'. These are, of course, an important albeit dwindling, component of the tapestry of state intervention, and we consider their role later. But because these services are not designed to target those with an established high-end need, they fall outside the scope of the current enquiry.

Thinking about the relationship between needs and services

Taking stock, we are considering in this paper the relationship between 'high-end' services and the degree to which they meet the sum total of 'high-end' need in a community.

Before we share our findings, consider these questions:

i) What proportion of a population of children and young people do you think would fall into a categorisation of high-need (i.e. multiple impairments and/or risks to their health and development)?

ii) What proportion of a population of children and young people do you think are in receipt of high-need services?

iii) And what would you expect the overlap (if any) to be of these two populations?

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[5] We could also add to this list hospitals for children whose physical health is impaired, but they are beyond the scope of this paper.
[6] The Dartington Social Research Unit analysed expenditure on children's services across local authorities in England and Scotland using a methodology known as 'fund mapping'. The most extensive account of the method can be found in a report prepared for the Children's Commissioner in Northern Ireland. Kemp, F., Ohlson, C., Raja, A., Morpeth, L., & Axford, N. (2017). Fund-mapping: the investment of public resources in the well-being of children and young people in Northern Ireland. Child Care In Practice, 24(4), 335-350.

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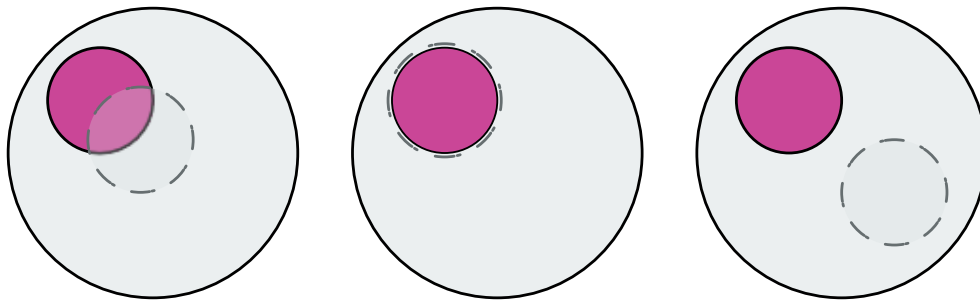
Figure 2: 3 circles – possible arrangements

The figures of three circles above provide some possibilities. As will become familiar to you in the following pages, the large grey circle represents the population of children and young people in a given jurisdiction (i.e. all children). The pink circle and dotted grey circle correspond to the high-need population and high-end service user population, respectively.

Which set of three circles feels right to you?

We now provide a brief introduction of how we have gone about collecting our data and outline some of the important limitations that need to be borne in mind when considering the findings. If you want to get into the details, see Appendix C or the academic papers listed in the references.

PART 2
METHODS

Throughout its history the Dartington Social Research Unit (now the Dartington Service Design Lab) had benefitted from collaborations with leaders of children's services and philanthropy in the UK, Europe and North America. They helped us shape a place-based approach to improving children's outcomes which included fund mapping, co-design of plans with local communities, engagement with the best evidence on what works and the collection of good quality local data on the needs of children aged 0 to 25.

Initially tested in Birmingham, UK and Atlanta, US, an approach to data collection was refined and then used in over 20 jurisdictions, including as part of the The National Lottery Community Fund's major investment - A Better Start. It was clear from early reconnaissance that although local data was good, it was limited in the dimensions of life that it covered and, critically, was focused on those already in contact with services. It was for this reason that we and others (including the Annie E Casey Foundation) invested so much time and effort in designing a method for mapping need that was both pragmatic (affordable and quick to administer) and credible (producing good quality, valid data).

How we go about measuring need

To compile a rounded view of children we measured two things: **key developmental outcomes (KDOs)** and **risk factors**. Taking each in turn, a KDO is an aspect of development that is predictive of later difficulties and malleable. Typically, they are linked to a specific stage of development. For example, serious behavioural difficulties that emerge between the ages of 4 and 8 or obesity at age 11. A risk factor is something that is malleable and known to be negatively associated with a KDO, for example, family conflict is a risk factor for behavioural difficulties and poor family management is a risk factor for obesity. We collect this information using standardised, validated and reliable measures embedded in a survey known in the UK as the ChildrenCount Wellbeing Toolkit.

We employ different approaches to administer these tools, depending on the age of the respondent. For children aged 9 to 16 things are relatively straightforward. It can take as a little as three weeks to collect data from schools using a 40-minute, on-line survey taking a census approach (i.e. all children in school complete the survey). We routinely achieve response rates of between 85 and 95%.

For younger children, 0 to 8 years, it is harder to collect good data. They are not reliable at reporting on many aspects of their own health and development, so instead we rely on their caregivers to provide this information. And since there is no easy place to access this population, we visit people in their own homes. The survey is administered face-to-face to a representative sample of parents or primary caregivers in each jurisdiction.

We use an approach called focused enumeration quota sampling which takes us to approximately 600 households in each jurisdiction. Although we end up with data on fewer children aged under nine than we do on the older children we are still left with a reasonably robust snap-shot of need.

For more on the technical details of the questionnaire and its administration see Appendix C.

Where are we drawing our data from?

In this report, we present data from 22,000 children aged 9 to 16 from three local authorities in Scotland. Sample sizes within each participating authorities ranged from 6,000 to 12,000 children, and reached on average 90% of all eligible young people.

We also present data from 16,000 parents or carers of children aged 0 to 8, from across 22 local authorities in England and Scotland.

See Appendix C for further details on the sample.

Measuring service use

So what about measuring service use? Our strongest data is for the older children. A unique feature of the survey, and one that allows us to examine the match between high-need and high-end service provision with confidence, is that we can link the survey data to public system records of high-end service provision at the child level. In other words, we find out whether or not each child and young person in the survey used high-end services (a careful approach to informed consent and data matching ensures confidentiality, and after matching all the data is anonymised before we see it).

For the younger children it is not so easy. So far we haven't found a way of matching data from the survey with administrative records of service use. Instead, we rely on caregivers telling us what services they recall that their child has used. We can't paint a picture of service use with as much confidence as we can for the older children but it is the best we have for now.

Limitations of the data

No data source is perfect. We know our assessments of need and risk could be stronger in several ways. We haven't, for example, found a way of getting parents or children to report accurately on questions of abuse and neglect. Good practice would mean telling parents that we would report major maltreatment to a social worker, which would likely cause parents to hold back, not be truthful or decline the survey altogether. Older children are generally accurate in their reports of their own wellbeing but they are not so strong on things like parental mental health or family finances. The focused enumeration quota we use for younger children sounds good but it could be better; we just haven't found an affordable way of building better samples. We are proud of the 90 per cent plus response rates from schools but we know that the ten per cent we miss most likely includes some of the neediest children.

There are differences between England and Scotland in the structure and funding of children's services. Whilst we have comparable data from parents of younger children across the two countries, our data on school-age children is from Scotland only. That said, earlier school-based work we undertook in England and the US give us little reason to believe the picture will be different in England.

All of the data is cross-sectional providing a snapshot of the situation. It would be much better to have a moving picture looking at what happens over several years.

Despite these weaknesses, as far as we know, we have a unique dataset on the needs and service use of 38,000 children and families.

PART 3
THREE CIRCLES:
THE MATCH BETWEEN NEEDS AND SERVICES

We are reporting the findings from local authorities in England and Scotland in three stages, starting with an explanation of how we deemed a child to have high-needs.

Any child experiencing likely impairments in relation to at least one Key Developmental Outcome AND experiencing four or more risk factors (for under 9s and five or more risk factors for the over 9s) was deemed 'high-need'.

0 to 8 years

About one in four (24%) of the younger age group met the threshold for high-needs. It is worth noting variation across local authorities with the lowest reporting eight per cent of children and the highest a third of children (see Appendix B for more detail).

Just over one in ten children (13%) were receiving high-end services. On the positive side, two-thirds of the children - 69 per cent - fall outside of the two circles neither in need nor receiving services. On the negative side, about 18% of the population have high-need but are not in receipt of targeted services. Regardless of how the circles overlap, it is evident that the capacity of the service system is insufficient to respond to all those in high-need.[7]

Figure 3 shows the overlap between high-needs and high-end services for the younger age group. Of those in receipt of services, about half have high needs, but half do not.

Figure 3: Three circles arrangement for 0 to 8-year-olds

24%

13%

● High-needs

○ High-need services

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[7] We are aware that totting up risks and outcomes is a crude approach. It gives equal weight to factors that will have differential effects. It is also arbitrary to choose a particular number of risk factors as a cut-off. The real world doesn't work that way. A good practitioner may find lots of risk and considerable need, but conclude that there is no need for intervention, for example when they feel the extended family has things under control. Or the same practitioner may discover neither risk nor bad outcomes but decide that intervention is essential. This is not an uncommon scenario in child protection work.

9 to 16 years

A surprisingly similar pattern is apparent for the older age group, with just under a quarter (23%) of the children meeting the threshold for high-need and just over one in ten (12%) in receipt of high-end services. 17% of the population have high-needs but are not in receipt of targeted services. Of those in receipt of services, only about half have high needs. That said, even if there was a perfect overlap and every service slot was allocated to a young person in the high-need circle, only just over half of those with high needs would be supported.

Figure 4: Three circles arrangement for 9 to 16-year-olds
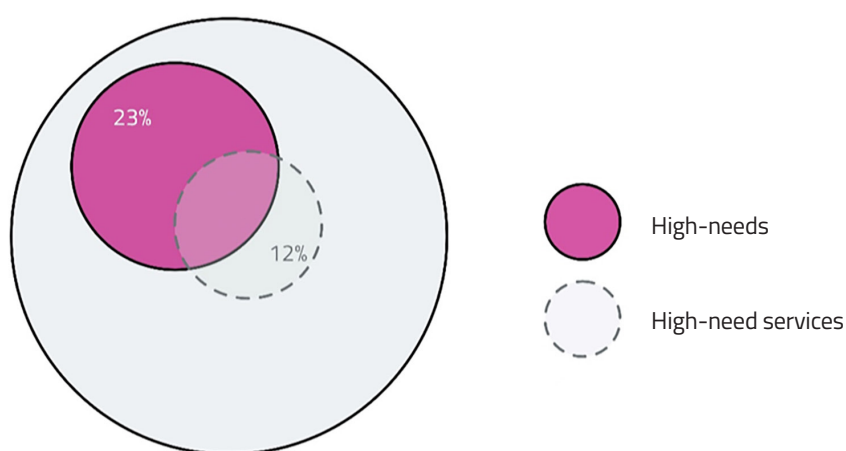
This data only allow us to say so much, and it is easy to get lost in the array of percentage figures that go with the circles. Nonetheless, some headlines stand out, and we suspect these are not going to change even as the quality of data improves.

First, as anticipated, the extent of children's need in communities exceeds the capacity of services available to meet that need. For the older children, there is sufficient provision only to meet half of the identified need.

Second, some services designed for children with high-end needs appear to be used by children with lower level needs. This is a challenging statement and one that might reasonably upset hard-pressed practitioners. Along with the other findings they require validation, but we think the results will hold up.

Third, there are many with high-end needs that receive no high-end services. Despite what may be similar profiles of high-need, some children receive services, whereas others do not.

PART 4
INTERPRETATIONS

This data is both interesting and challenging. Do we take it at face value, or might there be particular things about the way we've gone about collecting or interpreting the data that explain the patterns?

How confident are we in the size of the high-need circle?

The data indicates that around one in four children have high levels of need. Is this right?

Issues of measurement may account for some of this. One issue relates to what we do measure, and the other relates to what we don't.

On the former, it is clear that the size of the high-need circle is a function of how we define high-need. This data is rich but we still have to decide where to place the threshold for high-need. We could say that only children with difficulty in relation to one, two or three of the key developmental outcomes are 'in need'. We prefer to also consider risks associated with these outcomes because it draws in those children who are likely to struggle in the future as well as those currently facing difficulty.

But we still have to draw a line. Should we count as 'in need' those with difficulty to one, two or three key developmental outcomes? Or those with seven, eight or nine risks to their health and development? The size of the need circle will swell the fewer the number of risks we choose as we illustrate in Appendix B, which sets out the proportion of children ruled out as the number of risks is increased. It is an arbitrary decision but one we arrived at in consultation with mixed groups of policymakers and practitioners who felt it got to the kinds of 'cases' that most concerned social workers, teachers of children with special educational needs and mental health practitioners.

On the issue of what we don't measure. We have no way of spotting individual resilience and there may be factors in the family or community providing a buffer to risk that we haven't measured. It is likely some of the children in the pink circle not receiving services have been judged by a practitioner to have sufficient protection to not merit the intrusion of services in their lives.

All that said, it is quite apparent that the volume of need within a community far exceeds the capacity of high-end services respond to it. Bearing in mind, that most of the data was collected in 2016 and before, we may surmise that this situation is a conservative estimate given the ongoing effects of austerity.

How confident are we about the size and overlap of the high-end services circle?

Whilst the size of the service circle for older children ranges from place to place - 9% to 14%, with an average in our sites of 12% - the data comes from administrative records which are typically well maintained. This gives us reasonable confidence that the circle is a good reflection of reality. As mentioned previously, we are less confident about the size of the parent-reported service use circle for younger children. The overlap of the circles is more open to challenge and for this, there are a number of considerations.

Children and families in need may not want to engage with services

Some services are thrust upon children and families and for many there is a stigma and fear in allowing social services into their lives. Social workers, after all, hold the power to remove children permanently from their parents. There is little incentive to seek out a social worker to request help. For this reason, some families in need may resist the involvement of services and as a result will show in the 'need/no service' part of the diagram.

From conversations with practitioners, we know that some young people captured within the high-end service circle who appear not to be in need, are receiving services for good and valid reasons. On the face of it, they are doing well, meeting developmental milestones and are not experiencing the types of risks we measure. However, there are risks we have not captured, for example, the presence of an adult on the sex offenders register living in the family home or a parent with severe addiction problems, which fully merit the involvement of services. Similarly, our failure to measure abuse and neglect will account for another tranche in the service circle without apparent need.

We explored this issue empirically in one Scottish local authority by undertaking a case file audit of all those young people in receipt of high-end services. This suggested that some, but by no means all, of the 'no need/service' segment would likely be experiencing these types of risks.

Services have done a good job

There is an obvious and very positive reason why some children would show up in the 'no need/service' segment - services are working! Think of the child who was received into care as a result of serious neglect at a young age. They have since gone on to flourish in a foster care placement. The situation at home has not changed, so they can't return. They are developing well and experiencing no risks to their development, yet services are still needed. There will always be a small number who fit this type of profile.

Does this explain the mismatch between need and service?

Without new data and a deeper investigation, we can't categorically say that there are children receiving services who don't need them. When it comes to the very large proportion of children with need who are not in receipt of services, we can be a lot more confident; for every child in need receiving service there is at least another one who isn't.

Anyone with knowledge of public services will have their own hunches to explain this pattern. We believe it is partly about history and partly about the way systems behave. Despite the clear definition of 'need' in the 1989 legislation, the services expected to meet children's needs were not then designed on a blank piece of paper, or starting with an epidemiological analysis of need in the community.

Rather they have evolved over many decades, including the creation of social service departments in the 1960s. They weren't designed to meet all needs and they have never been funded at a level that would mean they could. So, to cope with this imbalance, the systems of children's services find their own way of restricting access to help, for example, by raising thresholds, and managing demand that is beyond their capacity to address, for example, by monitoring but not intervening.

What about early help?

Our definition of high-end services excluded early help and so we have no sense of where within the three circles the users of those services might sit. Due to the rather poor and differing conceptualisation of early help, it is not clear where they might be expected to sit - in the pink circle or outside it? In all likelihood, early help services are probably supporting many families outside of the pink circle. Since there is so much unmet need, there is a strong case for arguing that the efforts of early help might be better re-focused.

PART 5
WHAT CAN BE DONE?

Shrink the size of the high-need circle

There is no 'right' response for a local authority or health and social care partnership to make when presented with this type of data. Some saw it as a compelling argument for upping investment in early intervention and prevention to try to reduce the size of the pink circle. Indeed we argued for many years for a modest re-direction of funds from high-end services to pay for this strategy. As yet, there is limited evidence to say that such an investment would have the desired effect and the current economic and policy climate has certainly meant that most local authorities are less likely to invest in early intervention, not more so.

## Manage the dynamics of the system to better align services and need

We have described some of the variation that exists between the ways that local jurisdictions manage and respond to need. For example, we charted how the probability of being in care varies considerably between local authorities with comparable socio-demographic profiles. It is helpful to think of services for children as complex adaptive systems with written and unwritten rules that govern their behaviour. Many of these rules are a logical product of implementation of legislation and process. Some are due to different approaches by managers and teams (e.g. social workers' appetite for risk), system pressures (e.g. workforce stress or vacancies) or the legacy of historical events (such as a scandal of exploitation or a child death).

Understanding these complex dynamics can help explain why apparently sensible actions, such as recruiting more social workers, may have unintended and unhelpful consequences. For example, it can lead to an increase in the numbers of children in care when the expectation was for numbers to drop, as current embedded behaviour replicates itself and caseloads increase again. Managing system dynamics could enable services to better determine and target their response to need.

The Dartington Service Design Lab is using system dynamics modelling methods to help guide reform efforts, and in turn help better align the need and service circles. We have been working with four local authorities to see whether their own social care systems might hold some of the answers to why this is happening, and how the issue can be best managed.

We've shared some of our early learning from this work in the Insight Brief: Using System Dynamics in Children's Social Care.

Figure 5: Illustrative 'stock and flow' diagram used as part of our system dynamic modelling
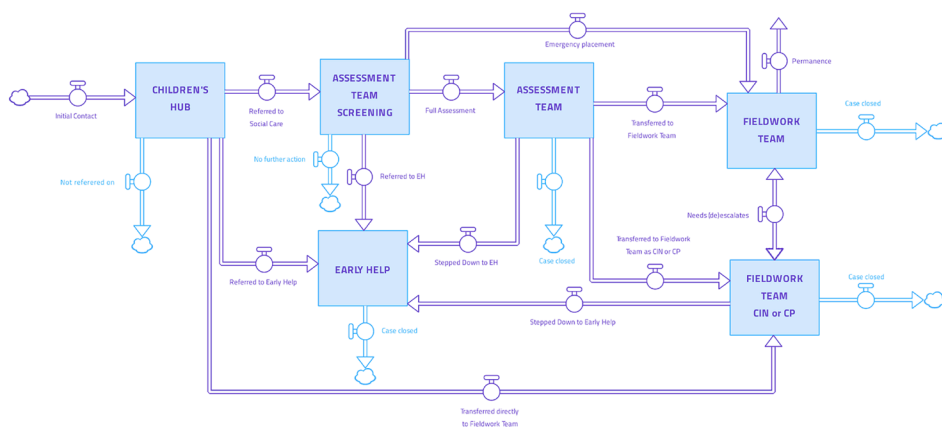
Rethink the roles of families and communities

It goes without saying that families and communities meet the needs of the majority of children. What we don't understand is the role they play, or might play, for children with high-needs.

Keen to explore this question empirically, we had the opportunity in one jurisdiction to apply the ChildrenCount approach to an older cohort - young people aged 16 to 24 years. In the process of adapting the measures for this age group, we added in some questions to understand their social network or, to put it another way, who they might turn to when in need. We surveyed a largely representative group of just under 600 young people and asked about their health and development, their use of mental health services and their connection with family, friends and community.

As with the younger groups we looked at the match of high-need and high-end service use (this time looking at the use of mental health services, hence a smaller service-use circle). The three circles for the young people bore a resemblance to previous diagrams - a need circle that was larger than the service one with a small overlap - but this time we were able to add a fourth circle to show who had no form of social support, as can be seen in the diagram below.

Figure 6: Family and Community - fourth circle?

- High-end needs
- High-end services
- Young people disconnected from family and community
- High-end needs & disconnected
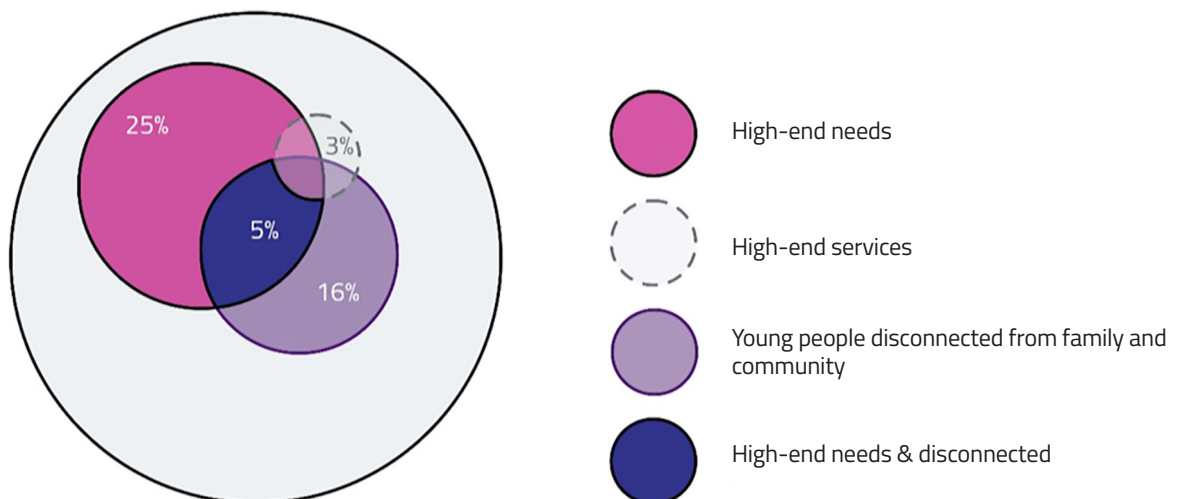
As one would hope, the vast majority (84%) of the young people reported a connection to family, friends or their community - they had someone they could turn to. The proportion is similar for those who are in high-need - four out of five (80%) reported a connection. But there is a sub-group who appear to have considerable need and are not getting support from family, friends or mental health services. Worryingly, the group is **five per cent** of the whole sample.

There are obvious weaknesses with this study - we only have data from one authority and the sampling method could be more robust - so we offer these findings with caveats. That said, if the results are true, they are deeply concerning. There is a group of young adults who are in need but disconnected from families, public services and their communities.

What can we take away from findings like this? On the one hand, families, friends and communities may well be doing more, perhaps much more, than public systems to meet the needs of families. On the other hand, there is a group with high levels of need who are not getting support anywhere. We think this warrants further research.

If our premise of the previous paragraphs is accepted – that most need is held by family, friends and communities and that the public system augments this rather than the other way around - then there is an opportunity to experiment with ways of better supporting family, friends and communities. The purpose is two-fold: first to reduce the proportion of children and young people disconnected from any source of help, and second to reduce the size of the need circle. This might include expanding the provision of youth services, supporting family relationships from the early years on, and expanding the resources available to communities to develop their own spaces, activities, and circles of support. All of these strategies have been trialled and evaluated (albeit against varied outcomes) in different contexts and there is good practice to build on.

CONCLUSION

We have tried to take a fresh look at an old question - what is the match between children's needs and public services? We have found high levels of need, moderate numbers of children receiving high-end services, and a smaller than expected overlap between the two.

It appears that:

- Need is greater than the resources available to meet that need;

- The majority of children with high-end needs do not receive high-end services, and some of the children in receipt of high-end services do not appear to display high-end needs;

- Communities and families probably hold more need than public systems;

- As many as five per cent of young people may be experiencing high-need, receiving little or no services and feeling unsupported by their families and communities.

The political landscape is changing rapidly. Perhaps it is time to re-think the relationship between public systems and communities, and to test out some bolder approaches to these entrenched problems, such as the ones proposed above?

Researchers always say more research is needed, but the data presented here is sufficiently robust to make assertions about the poor match of need and services. What needs to happen next is further testing and validation of the findings, but also experiments to better identify and match services to need, as well as reduce need in the first place. We're undertaking some of these experiments with local authorities and others willing to try something new. Together we are looking for better ways to meet children's needs.

ABOUT THE DARTINGTON SERVICE DESIGN LAB

The Dartington Service Design Lab is an independent research charity, committed to improving outcomes for children and young people by improving the systems and services that support them. We apply research and best evidence to everyday practice and balance this with the involvement of those people using and delivering services.

We believe it is critical to situate services in the context of the complex and messy systems in which they are delivered – be these public agencies or local communities. The Lab works with charities, local authorities, and funders to help them strengthen the design and delivery of what they do, and their understanding of how to further improve.

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AUTHORS

Tim Hobbs, PhD
DIRECTOR

Tim has spent over a decade working with numerous public systems, charities and foundations to help shape a series of bold investments and experiments designed to improve child outcomes. He is passionate about fusing science-based and user-centred design approaches to system reform and service design. Tim joined the Dartington Social Research Unit as a researcher in 2004, later becoming Head of Data and Analytics. He was appointed as the first Director of the Dartington Service Design Lab in April 2017. He holds a first-class BSc in Psychology and Criminology and a PhD in Social and Policy Sciences. Alongside Nick Axford, Tim is a recipient of the Kammerman and Khan Award from the International Society of Child Indicators. He is a 2016 Clore Social Fellow.

Louise Morpeth, PhD
SENIOR ASSOCIATE

Louise's primary interest is in using research and data to improve the lives of children. She has comprehensive knowledge of public systems, notably children's social care, as well as experience of implementing and testing a range of evidence-based programmes. Joining the Dartington Social Research Unit in 1997, she went on to become co-director and latterly CEO. She led numerous research and development projects, including convening a consortium that secured a £17 million contract to run the Family Nurse Partnership National Unit. Louise was awarded a PhD in social policy from Exeter University in 2004. She has contributed to over 30 articles and books, and is a reviewer for the Journal of Children's Services.

Kate Tobin
SERVICE DESIGN SPECIALIST

Kate joined the Dartington Social Research Unit in 2009, and moved into a Service Design Specialist role in the Lab in 2017. Over the last eight years Kate has worked on: randomised controlled trials; aided the development of the Dartington Standards of Evidence; supported implementation of evidence-based programmes; helped co-ordinate place-based reform efforts; led numerous epidemiological projects; and supported charities to help improve their impact. She is committed to developing human-centred, science-informed design approaches. Kate has an emerging portfolio of published outputs in high-quality scientific journals. She holds a BA (Hons) in Psychology and MRes in Research Methods in Psychology – both from the University of Strathclyde. Kate has been trained in Design Thinking and innovative design methods by the IIT Institute of Design, Chicago.

Daniel Ellis
DATA AND DESIGN SPECIALIST

Daniel has spent the last six years working with data from local authorities and service providers. Through this data he provides insights about child and family well-being that inform decision-making in strategy development and service design. He works closely with our partners to understand the requirements and functions of data, how it fits with an organisation's wider strategy, and how to best present it given the questions asked and intended audience. His passion is for finding ways to make the presentation of data, at the right time and in the right way, an intervention in itself and not just a measurement tool. Daniel joined the Dartington Social Research Unit in 2012 after completing a BSc in Psychology and an MSc in Forensic Psychology. He took up the position of Data and Design Specialist for the Lab in April 2017.

APPENDICES AND REFERENCES

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APPENDIX B: VARIATION IN RESULTS

The following charts show the variation in the size of
the high-need circle across the 22 jurisdictions where
the survey has been conducted. It ranges from just
under 15 per cent of all children aged 0 to 8 in a London
borough to just over 40 per cent in one northern local
authority. The sample sizes for the young age groups
are smaller, which may explain a good chunk of the
variation. There are only minor differences in the size of
the circle for 9 to 15 year-olds across local authorities.
Overall just under a quarter of both age groups met the
threshold.

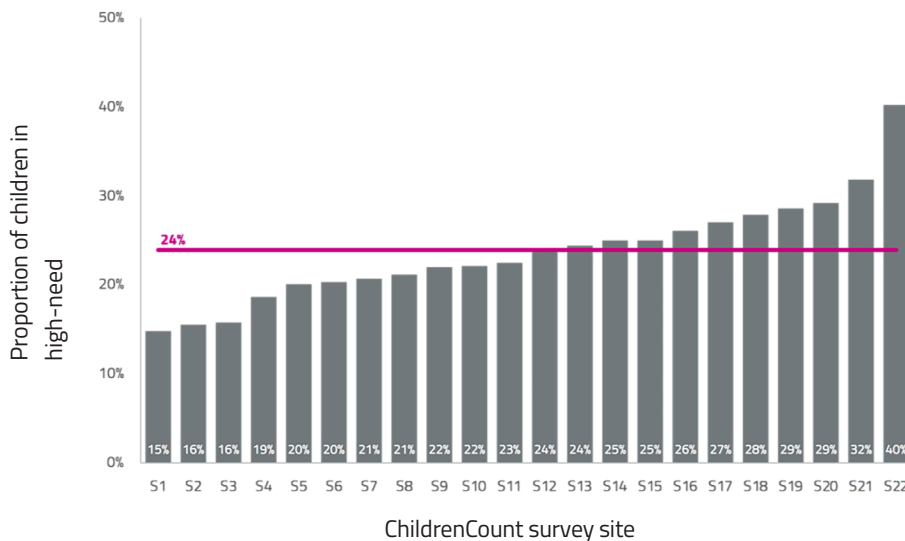Figure 7: Variation in the 0 to 8 survey findings

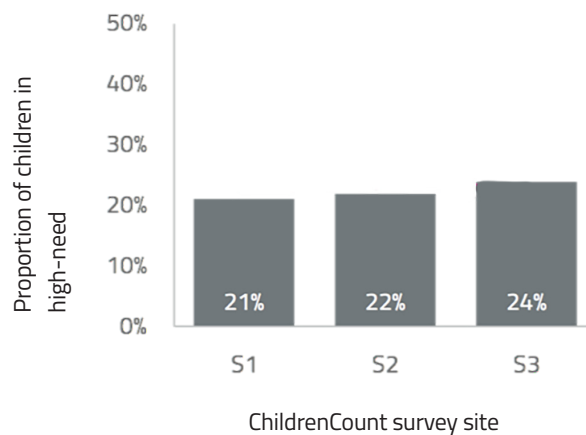Figure 8: Variation in the 9 to 16 survey findings

Table 1 describes the incidence of children and young people missing a Key Developmental Outcome (KDOs). Half of the younger children and just over half of the older children miss at least one important step in their development, and a small proportion miss several.

Table 1: Proportion of young people with difficulty in one or more outcome areas.

Number of KDOs missed	Children aged 0-8	Children aged 9-16
1+	50%	54%
2+	15%	20%
3+	3%	7%
4+	0.4%	1%

The final graph (Figure 9) shows the proportion of children and young people experiencing a risk to their health and development, with the pink value indicating the cut point for inclusion in the pink circle.

Figure 9: Proportion of young people with difficulty in one or more outcome areas.
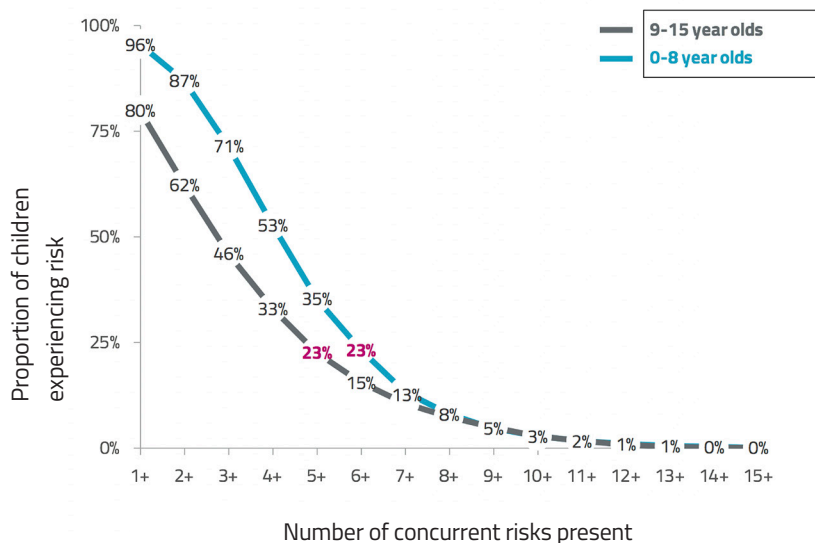
APPENDIX C: A MORE DETAILED METHODOLOGY

The ChildrenCount Wellbeing Surveys were developed by the Dartington Social Research Unit in collaboration with the Social Research Development Group at the University of Washington; the Centre for the Study of Prevention and Violence at the University of Colorado; Child Trends in Washington DC and the Annie E. Casey Foundation.[8]

There are separate surveys for three stages of development:

1. Household-based parent-report survey for children aged 0 to 8 years old;

2. School-based child-report survey for children aged 9 to 15 years old;

3. Young Adults survey for young people aged 16 to 25 years old.

Each survey measures a range of 'key developmental outcomes' alongside associated risk factors and self-reported service use. Additionally, the school-based survey matches the child reported data to local system data including social care, youth justice and mental health.

Key Developmental Outcomes (KDOs) are defined as developmentally specific indicators, intrinsic to the child or young person, which are:

(a) Predictive of subsequent wellbeing;

(b) Malleable (i.e. they can be improved);

(c) Measurable (i.e. they can be meaningfully captured using reliable tools).

KDOs are coded using measures widely applied in practice and research. For example, if a child or young person meets a validated threshold on one of the mental health measures, it means they are likely to meet the clinical cut off for a disorder. Some KDOs are specific to a certain age range, some cross developmental stages. All are predictive of future health and development.

Risk factors are coded using existing cut-point methodologies widely applied in practice and research. For instance, relative poverty becomes a risk if families are unable to afford three or more socially perceived necessities as identified by the Breadline Britain Survey as essential for living in 21st century Britain.[9] Family conflict becomes a risk if a parent meets the cut off value of the median scale score plus 0.15 times the mean absolute deviation statistic (a measure of central tendency of a distribution around a median comparable to a standard deviation around a mean).[10]

Key Developmental Outcomes measured in the Parent-report 0 to 8 Survey:

Unhealthy Gestation and Birth: If a child is born prematurely (born before week 37); has a low birth weight (< 2,500 grams) or if there has been maternal substance misuse during pregnancy (tobacco, alcohol or illicit substances). Asked of parents of children 0 to 8 years.

Poor Language Development: Key milestones for each stage of a child's expressive and receptive language development including babbling, vocalising, listening and comprehension. Poor language development refers to delays in these milestones. Asked of parents of children 0 to 5 years using 21 different age-appropriate sets of questionnaires adjusted for prematurity.

Poor Early Social and Emotional Development: Difficulties with an infant or child's ability to calm down; follow the rules; respond to or initiate interactions; cope with sleeping, eating, elimination etc; develop independence; communicate own feelings and demonstrate empathy. Asked of parents of children 0 to 5 years using 9 different age-appropriate sets of questionnaires.

Poor Behavioural Development (early childhood): Aggressive and non-compliant behaviours exhibited during early to middle childhood that have found to be predictive of a range of later difficulties. Asked of parents of children 3 to 8 years.

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[8] In the US, it is known as the Youth Experience Survey. It is one part of the Annie E Casey Foundation Evidence2Success approach to place-based planning to improve outcomes for children. See: Fleming, C. M., Eisenberg, N., Catalano, R. F., Kosterman, R., Cambron, C., Hawkins, J. D., ... & Watrous, J. (2019). Optimizing assessment of risk and protection for diverse adolescent outcomes: do risk and protective factors for delinquency and substance use also predict risky sexual behavior?. Prevention science, 1-12.
[9] See: Lansley, S., & Mack, J. (2015). Breadline Britain: The rise of mass poverty. Oneworld Publications.
[10] See: Briney, J. S., Brown, E. C., Hawkins, J. D., & Arthur, M. W. (2012). Predictive validity of established cut points for risk and protective factor scales from the Communities That Care Youth Survey. The journal of primary prevention, 33(5-6), 249-258.

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Key Developmental Outcomes measured in the School-based 9 to 15 Survey:

Poor engagement with school: This covers interest in school work, value placed on learning, effort in school work and truancy. Asked of children 9 to 16 years.

Early initiation of substance use (middle childhood): Children 12 to 16 years of age that report having smoked cigarettes, drunk alcohol or used drugs. Asked of children 12 to 16 years.

Anxiety and Depression: Feelings of worry, unhappiness and psychosomatic complaints likely to reach the threshold for an emotional disorder if seen by a clinician. Asked of children 9 to 16 years.

Offending behaviour (14 to 16 years old): Delinquent and offending behaviour in the past year. This includes carrying a weapon, dealing drugs, theft, vandalism, assaults or arrest. Asked of children 14 to 16 years.

Key Developmental Outcomes measured in the Young Adult 16 to 25 Survey:

Not in education, employment or training: Reporting no paid or unpaid work (without stating that they were "away from" work); were not on a government or employment training scheme, or were not enrolled in or waiting to begin an education course.

Problematic use of substances: Reporting a problematic level of substance use on at least two indicators of misuse including the AUDIT-C screening tool, heavy alcohol use, binge drinking, regular smoking, cannabis use, use of other illegal drugs, use of legal highs, and prescription drug abuse within the past thirty days.

Harmful consequences of substances (18+ only): Reporting negative consequences of alcohol or drug use within the past year to a higher degree than typically reported in the survey, including trouble at work or school, injury, illness or accidents, violent behaviour or arguments, risky sexual behaviour, or memory loss.

Offending behaviour (18+ only): Reporting either a) ever committing two or more offending behaviours such as theft, vandalism, or violence against others; b) current gang membership; or c) carrying a knife within the past year.

Low mental wellbeing: Reporting fewer indicators of positive mental wellbeing than typically reported in the survey, including feelings of usefulness, relaxation, closeness to others and clear thinking.

Poor mental health: Reporting recent feelings of unhappiness, lost sleep, strain, lack of self-confidence and low self-worth to a higher degree than typically reported in the survey, using an established assessment of the risk of developing a mental health issue. This does not reflect formal diagnoses.

Risk Factors Measured in the Parent-report 0 to 8 Survey:

- Maternal substance use (during pregnancy)
- Insufficient prenatal care
- Insufficient exercise
- Low parent social support
- Low parent involvement
- Poor family management
- Family conflict
- Parent substance misuse
- Poor parent mental health
- Poor bonding with child
- Relative poverty
- Poor community environment
- Poor social cohesion
- Overcrowded accommodation

Risk Factors measured in the School-based 9 to 15 Survey:

- Hyperactivity/ADHD
- Insufficient exercise
- Substance use: smoking
- Substance use - alcohol: proportion of children in secondary school that report at least one instance of alcohol use in the past month.
- Substance use - drugs: proportion of children in secondary school that report at least one instance of illegal drug use in the past month.
- Perceived risk of drugs
- Interaction with antisocial peers
- Low interaction with prosocial peers
- Friends use of drugs
- Bullying victimisation
- Absence of significant non-parental adult
- Low parent involvement in school education
- Lack of prosocial opportunities (family)
- Poor bonding with parents
- Poor family management
- Family conflict
- Permissive parental attitudes to child's antisocial behaviour
- Permissive parental attitudes to substance use
- Few prosocial rewards from family
- Poor community environment
- Poor social cohesion
- Overcrowded accommodation

Risk Factors measured in the Young Adult 16 to 25 Survey:

- Low collective efficacy
- High community disorganisation
- Perception that drugs are easily available
- Homeless
- Overcrowded accommodation
- Poverty
- Money worries
- Low mental health self-efficacy
- Low general health self-efficacy
- Regular smoking
- Heavy alcohol use
- Binge drinking
- Cannabis use
- Prescription drug misuse
- Other illegal drug use
- Legal high use
- Disability
- Poor general health
- Insufficient exercise
- Overwhelming stress
- Negative body image
- Inconsistent use of contraception
- Unplanned pregnancy
- Poor sexual health
- Negative attitudes toward discussing contraception
- Childhood abuse or neglect
- Bullied
- Lack of social support
- Feelings of social isolation

Parent-report 0 to 8 Survey Methodology

Data collected from 15,181 parents via the ChildrenCount (0 to 8) survey are presented in this report. Eligible households (i.e. primary caregivers of children under nine) are identified across local jurisdictions using a focused enumeration quota-sampling approach. Wards across the local authority are selected by a random stratified sampling approach, involving the stratification of census output areas at Lower Super Output Area level according to their Index of Multiple Deprivation. Quotas are then applied by child age and gender to get the most representative sample possible within resource constraints.

The survey questions take approximately 30-45 minutes to complete. Respondents can stop taking the survey at any time and can skip any items they did not wish to answer. The survey is administered on computer-assisted personal interviewing (CAPI) units by trained interviewers. Some questions are asked directly by the interviewer, whilst more sensitive questions (such as those about illegal drug use or mental health) are asked by handing the computer over to respondents so they can read and answer questions confidentially. Responses are saved and encrypted before the computer is handed back to the interviewer.

Children are identified as in need (in the pink circle) if they met the threshold for at least one Key Developmental Outcome and for at least four risk factors (five for the older children). This cut off is somewhat arbitrary but was agreed with policymakers, system leaders, practitioners and users of services in early applications of the surveys, as providing a reasonable indication of the kinds of cases that high-end systems should work with.

School-Based 9 to 15 Survey Methodology

Data on 22,408 children collected via the ChildrenCount (9 to 15) survey are included in this report. All children attending mainstream schools in participating local authorities had the opportunity to participate. Parents were offered the opportunity to withdraw their child from the study (less than 1% did so). Active informed consent is required from children prior to administration.[11] The survey is completed online during class time. An audio option is available for those who require additional support. School staff supervise the completion of the survey. Children and young people are advised that their responses are treated as confidential. Data is matched to public system records on existing targeted service provision. This includes whether a child is in state care; subject to statutory supervision; on the child protection register; in receipt of additional educational, behavioural, or mental health supports. The linking of data is done by the local systems and completely anonymised before being sent to the research staff.

Young Adults 16 to 25 Survey Methodology

Data on 568 young adults collected via the ChildrenCount (16 to 24) survey are included in this report. The methodology is in development. In the first application reported above, wards across a single local authority were selected using a random stratified sampling approach, involving the stratification of census output areas at Lower Super Output Area level according to their Index of Multiple Deprivation. Eligible households (i.e. a residence in which at least one 16 to 24 year old was living) were identified using a focused enumeration quota-sampling approach. Quotas were applied by age, gender and ethnicity.

The survey questions were administered via CAPI units following the same procedure as for 0 to 8-year-olds. Initially, interviewers went door-to-door but it became apparent that this initial sampling approach would not yield the required sample size. The primary barriers reported by the fieldworkers were that young people tended not to be at home after several calls and some who were at home declined to participate due to other commitments. The approach was bolstered by a "free-find" sample whereby researchers spent time in areas where young people were likely to have a presence (e.g. high streets and shopping centres). Interviewers asked young people to participate on the street. The original quotas were maintained resulting in 243 young adults identified and interviewed by the primary sampling approach (door-to-door quota sampling) and 325 identified and interviewed through the free-find approach (convenience sampling).

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[11] All data was collected prior to the new GDPR laws introduced in May 2018. The age at which children can actively consent and where active parental consent is needed was different at the time the research was conducted.

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