Predicting service demand:
A simple model

Introduction

Local authority social care business units can struggle to predict demand for services and how to shift existing services to meet this demand. This guidance is based on the practical experiences of one social care shire authority. It offers a simple and unsophisticated model that new commissioners might find helpful as a starting point.

The model outlined here comprises 22 separate steps towards predicting social care service demand and responding to this demand. Some of these steps are very specific, others are much wider, but they can all be adapted to the circumstances of individual authorities.

No doubt there is similar modelling work going on elsewhere, and we would encourage social care service commissioners to look to other authorities to compare and contrast their understanding of demand and its impact on their services. The Care Services Efficiency Delivery Programme (CSED) is also developing demand forecasting guidance based on good practice nationally.

Demand indicators

An initial stage in predicting demand for social care services is research analysis. The following information offers a broad basket of potential indicators of future demand likely to impact on social services. In the case on which this model was based, analysis of recent research was carried out by the local authority research and development unit to produce the figures for:

> % of the population over 65 with dementia
> % of the population over 80 with dementia
> % of the population aged 65-plus with three or more disabilities
> % of the population aged 80-plus, living in a care home, with three or more disabilities
> % of people aged 16-plus with three or more disabilities
> % of the population with mild disabilities
> % of population with severe learning disabilities
> % of those over 60 entitled to be registered blind or partially sighted
> % of those over 75 entitled to be registered blind or partially sighted
> % of those over 60 with a visual impairment also having an additional disability or serious health problem
> % of the population with manic depression
> % of the population with schizophrenia
> % of the population with serious or clinical depression

Analysis of population changes

Use the most up-to-date figures available from National Statistics to project population changes in the local authority area.

Relevant information worth noting might include:
- The predicted rise in population across the whole local authority area over a five-year period
- The predicted rise in numbers of people aged 65-74 within that area over a five-year period
- The predicted rise in numbers of people aged 75-84 within that area over a five-year period
- The predicted rise in numbers of people aged 85-plus within that area over a five-year period

Step 1

Understand what research into population growth is telling you

It is important to understand the population growth predicted in your area by age band and location/community. Carry out data analysis of each of the communities within the county and make this available to the relevant team managers, according to the team areas/budget zones or geographical units utilised by the local authority.

Analysis of existing demand

You also need to analyse existing demand in detail. For instance, the local authority around which this model is based had at the time approximately 60,000 people contacting social services per year. This total figure included people who contacted the authority on more than one occasion. Many were redirected elsewhere or were simply given information about services.

Step 2

Break down predicted population growth

Out of the 60,000 who made contact with the authority in a given year, about 20,000 actually received a service. Approximately 11,000 people were using social services at any given time.

Step 3

Know the numbers

Know not just overall numbers getting in touch with social services, but the percentage of these going through the system and receiving services. Relate this to your criteria for access and any impact a change in this would have on service delivery.

Step 4

Know the demand you should meet to achieve a specific performance level.

Keep an eye on improving performance elsewhere.

For instance, for the authority where this model was developed, was aware that to achieve a three-star performance rating it needed to provide services to a further 4,000 people at any given time.

It is not enough to understand local trends; you also need to benchmark your performance against other constantly improving authorities.

Predicting potential demand

In the case on which this model is based, the authority's community care unit selected four or five key indicators from its research to predict potential demand. These included the proportion of the population expected to have dementia over the age of 65 and the percentage of adults with three or more disabilities, clinical depression or schizophrenia.

Based on this data the authority was able to predict a potential county-wide demand for community care assessment for approximately 56,000 users and 35,000 carers, nearly four times the existing level of demand for services. This predicted increase would coincide with population growth.

Step 5

Know the potential demand in your community using indicators and population size.

Step 6

Use local information systems to analyse the numbers entering different services at any given time

Step 7

Know the shifts in services required to achieve a required performance target.

Step 8

Liaise with local carer organisations to understand what demand their contribution diverts from social services.

Assess what impact additional support, such as an increase in respite care, might have on demand.

It helps to carry out more detailed analysis of the demand currently being met. Your own information systems can help identify how many people in a specific patch are in a residential setting or receiving more than 10 hours of home care per week, for example. Look at the number of people receiving more then one service. This detailed information on current service demand should be known and understood at frontline team level. The figures can be compared with national best practice.

Using this information it should be possible to work out what shift in service is needed to achieve certain performance levels. For instance, a frontline team would then know how many people it must transfer from a particular service in any given month, perhaps through 'x' number of people in the team's area receiving direct payments.

Potential v actual demand
An authority would probably be overwhelmed if potential demand for assessment and service became actual demand.

There are various reasons why potential demand does not turn into actual demand. Care requirements may be met outside of social services, and authorities should work with other care providers to assess the level of demand directed elsewhere in circumstances outlined below.

- A number of other statutory agencies offer levels of support, especially the health service, housing services and benefits agencies.

- Carers, including family and close friends, offer high levels of support to individuals, thus avoiding the need to come to social services.

- A percentage of the population may prefer to pay for their own support systems, and be financially in a position to do so.

- Some people may need care services but have little or no knowledge of what the authority can offer.

- Other people may be able to maintain their independence with the help of their neighbours and informal support systems within their local community

- Some people benefit from more formal support systems, including services provided by the voluntary sector that may be funded by the local authority.

As part of the planning model, as well as understanding the potential demand for assessment and services, it is useful to look at where demand is currently being diverted.

Step 9

Work with partner providers in the voluntary sector to assess the numbers of people receiving a service and not coming to social services. This could include providers of housing and supported accommodation.

It is important to appreciate the role carers play in maintaining vulnerable people in the community, diverting demand away from social services. Closer working with local carers resource centres will give an insight into the impact should your authority expand the opportunities for respite care, for example.

Local authorities have traditionally supported the voluntary sector. For instance, research in North Yorkshire indicates that for every £1 allocated to the voluntary sector by the county council, the sector itself can attract a further £8 through other sources

It is worth working with voluntary sector providers to identify who is coming to them for care support rather than social services and why. Where an authority is allocating funds to a voluntary sector provider, one outcome might be data return information it could use to fill in gaps in its database.

It is also worth working with providers of housing and supported accommodation, as well as all other providers outside the local authority to identify the proportion of people who pay for their own support services.

Step 10

Work with all providers, especially those in the independent sector, to understand the numbers of self-funders accessing services without recourse to social services.

In assessing demand diverted elsewhere, social care authorities should seek a better understanding of the demand met by its key partners in health. It might be in their common interest to understand what percentage of the population – if any – are getting separate and distinct services, as well as those people who are supported jointly by health and social services in partnership. The single assessment process (SAP) and common assessment frameworks should be the starting point for this work.

Step 11

Work with the PCT to understand the numbers and types of people who are getting separate and distinct services as well as those supported jointly by statutory health and social care provision.

All this information detailing how care requirements are being met outside of social services by other providers can be used in developing a model for demand.
An important aspect of predicting demand for services is recognising the impact of preventive services.

Authorities should understand the effects of investment in intermediate care and other services that help people return safer and sooner to a better state of health and independence. The rate at which their previously anticipated return to services is decelerated, and is a factor capable of calculation that demonstrates a beneficial outcome at individual level and in terms of greater aggregated community gain.

Community investment plans may be viewed by authorities as essential in promoting people's independence and reducing the demand for more expensive services at a later stage.

Step 12

Having now collected additional data, note the gap between predicted demand and the numbers receiving services directly and those diverted elsewhere.

Step 13

Collect and analyse internal, regional and national data on what is working in the field of prevention and the impact on local demand.

Apply this to your evidence base, making sure that predictions are not widely optimistic.

Step 14

Always consider the costs arising from the failure to invest in prevention. Do not just look at what it costs now, but also what it might cost if not addressed now.

Step 15

Have an agreed position on what more needs to be commissioned, and what needs to be decommissioned, to turn the vision and policy of the authority into reality.

Receipt of Partnership for Older People Projects grants and assistive technology funding can offer an insight into the effect on demand of investment in preventive services.

But before looking at any perceived shortfall in resources for prevention, or arguing for more resources to be directed to preventive services, authorities should assess their current position and question whether existing resources are being used to maximum effect.

Any predictions on the impact of preventive services should entail some insight into the consequences of not investing earlier in prevention. The long-term cost of not investing in a particular preventive care package can often vastly outweigh the cost of investing in prevention, even over relatively short time periods.

Commissioning and performance management

All authorities should have agreed a direction of travel, perhaps based on the one outlined in the White Paper *Our Health, Our Care, Our Say*. To turn that vision into reality, it is important to set clear targets for social services teams and individual workers.

Both a team as a whole, and individual workers within that team, should know how many people in a given month it has to prevent requiring a service, and how many it must increase in utilising a preventive service, if it is to achieve a shift in service by a certain time and within a specific budget.

Progress, or lack of it, needs to be mapped graphically each week/month for all teams across different patches.

This should be done on the basis of a common understanding of what the service has to commission more of, and what it needs to decommission elsewhere, to turn the vision into reality. This can form the starting point for team and individual performance reviews.

Finding innovative solutions

Research suggests that most of the innovation and creativity in health and social care comes from the providers of services, so perhaps authorities and PCTs could successfully develop new approaches to meeting community care needs.

The White Paper *Our Health, Our Care, Our Say* encourages engaging with independent and voluntary sector providers at a much earlier stage in the development of commissioning frameworks. One approach might be to ask providers to propose solutions to a particular challenge or assessed need, which would hopefully generate some creative, cost-effective suggestions.

Step 16

Turn the vision into reality by translating it into numbers of people required to access new style services by type over a given timescale.

Make sure this is understood by teams in geographical locations and by individuals within these teams.

Contracting and market management

One of the most challenging tasks for authorities is managing the local marketplace. The goal is to have a balanced market, with sufficient providers and competition to meet need, while maintaining downward pressure on costs, but not so much pressure as to result in an unviable market for providers.

The social and health care marketplace is witnessing an increasing amalgamation of provider services in residential and nursing home services. The total fragmentation of domiciliary care is contributing to the weakness of this market across the country.

Local authorities are beginning to look outside their boundaries and consider regional approaches to commissioning and contracting in partnership with other authorities.

Step 17

Establish a performance management approach which allows teams to see their progress against targets over time.

This should be available weekly, if not daily, with monthly reviews as part of the budget and performance management approach.

Turnover and discharge rates

A factor often forgotten by local authority commissioners are the rates of throughput or discharge from services. In some cases authorities allocate resources, perhaps with the support of an 'allocation panel', only when they become available because a recipient of services has died or been discharged. But using this model means resources are not being allocated according to need but by resource availability.

Ideally authorities should have detailed data on turnover and discharge, based not just on their knowledge of what existing resources are available, but also their awareness of other considerations.

One factor for authorities to consider might be the length of stay of residents in care homes in their area. Comparing this data with that of neighbouring authorities offers an insight into admission criteria and other variables. If care home residents are surviving longer, it may be that the authority offers a higher level of care than others do, or maybe they are admitting people too early in comparison to other authorities. Another factor could be that residents leave because they do not like the care services on offer.

Step 18

Consider how best to engage providers, as well as communities and staff, in finding creative, innovative, cost-effective solutions to expressed need.

If demand is higher than turnover, and the many variables mentioned above have been taken into account, this enables an evidence-based approach to be used to argue for further resources.

Gathering intelligence on need

Data should be understood in terms of needs and the services required to deliver the outcomes people want. There are many ways authorities can gather information on service users' requirements.

- **Data collection**

Gather data from care planning processes, including information on the outcomes sought as well as the services proposed to meet such outcomes.

Step 19

Consider the local marketplace and what the authority's stance and strategy will be in influencing and shaping that marketplace.

Have dialogues with regional partners and explore all the options.

Consider your position in markets where providers have amalgamated to take a national approach to contract negotiation.

Step 20

Consider your discharge rates and understand the gap between discharge and the additional demand you are facing each year. Map the rate of growth year on year, and ensure this is one factor in building your budget needs.

Step 21

Compare discharge rates with neighbouring authorities. What insight does this comparison give into your criteria for access, and to the local health of your separate communities?

It is worth paying attention to what users of direct payments and any personalised budgets are purchasing for themselves. Are they shaping new micro markets? What inputs are meeting their needs?

Have providers and the voluntary sector submitted intelligence and data to support requests for funding for new services? What might be the consequences of not investing in such proposals?

- **Active engagement**

Community engagement can give you lots of feedback about the services people want. This may take many forms, including:
- formal consultations within estates or geographical locations
- contact with special interest groups, perhaps relating to a particular condition or age range
- questionnaires, surveys or interactive web sites.

Carer groups can be a valuable source of intelligence.

- **Feedback**

Complaints and compliments can be a source of rich data on what people want, what they are unhappy about and what they are satisfied with.

Listen to social care staff. What services do they have difficulty arranging? What services are in most demand and why?

- **System analysis**

Take note of pressure points in the system, and try to understand the effects on any other point within the system if these are suddenly relieved.

Ask whether some services have outlived their usefulness. Do they segregate rather than integrate people or groups? Are they institutional in their approach and creating dependency rather than independence? What are the alternatives? What approach could you take to decommission these services, and what might be the consequences?

- **Learn from best practice**

Look at best practice nationally. If you are unclear about why it is best practice, and how you can learn from it, talk to your local Care Services Improvement Partnership resource centre.

Consider using modelling tools to understand the impact of introducing a new service or withdrawing an existing service from the system. Look out for unintended consequences.

Conclusion

This paper offers a simple approach to looking at and managing demand and moving forward to a commissioning approach. It may prove useful as a starting point for discussion.

This model suggests you look at:
- the sources of demand for services
- how demand is being dealt with at present

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Step 22

Understand the data and numbers in terms of services people want. What services meet the desired outcomes? Will some promote independence and integration into communities better than others? What are the priorities to ensure the system offers a free-flowing care pathway?

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- what your partners are doing to meet demand
- whether demand is being met in the best way to optimise performance.

The model also covers wider commissioning issues such as setting and monitoring targets. For instance, if an authority's strategy involves reducing some services and increasing others, frontline staff need to understand this in terms of the type of care they commission on a daily basis and in terms of their personal performance.

In commissioning services, account needs to be taken of how best to shape the marketplace. It's important to know your population and understand what they might purchase given the personalised budget to do so. Try to be smart in the way you gather intelligence and model the effects of adding to or changing your system. Watch out for unintended consequences.

Further information

For further information on the foregoing, please contact the author, Seamus Breen, White Paper Implementation Manager on

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Care Services Efficiency Delivery Programme (CSED)

CSED has formed a partnership with a core group of councils to progress a demand forecasting and capacity planning workstream. They have now visited eleven of the councils for Opportunity Assessments. This structured enquiry focused on 10 high level processes and CSED has now formulated proposals for solution development that were discussed with councils at a workshop in September.

A web-accessed database system to project population and prevalence is being developed with the Institute of Public Care at Oxford Brookes University. The initial version should be available for councils to use in March 2007. This will help councils with their responsibility to work with PCTs on the development of strategic need assessments for their locality.

CSED is continuing to work with the core group of councils to define the 10 processes and individual service forecast modules. They plan to issue some interim guidelines and briefing material in October 2006. See: www.csed.csip.org.uk/ Contact: Ray Beatty, Care Services Efficiency Delivery Tel: 020 7972 1017 Email: ray.beatty@dh.gsi.gov.uk

Commissioning networks You can find resources and information on commissioning and access to the Care Services Improvement Partnership commissioning network at http://www.changeagentteam.org.uk

Equipment services The Integrating Community Equipment Services (ICES) website at http://www.icesdoh.org offers advice to commissioners on the provision of assistive technology and equipment such as communication aids.

Social care programme The Care Services Improvement Partnership social care programme website at http://www.socialcare.csip.org.uk features news on the implementation of the White Paper *Our health, our care, our say*, resource materials and links to other social care-related websites.