

**An Evaluation of Demand Management
Practices in UK Police Forces**

Dr Paul Walley and Mr Matthew Adams

April 2019

Overview

The objective of this report is to present the evidence of what work is being undertaken by police forces to tackle the demand that enters the system from the findings of a study conducted by the Open University's Centre for Policing Learning and Research (CPRL). The data was collected during visits to fifteen police forces of varying size and demographics, all of which are CPRL members. The report highlights where practices are evidenced as effective and also raises recommendations for further work. The NPCC has launched a series of initiatives, including large-scale programmes, to understand the challenges of demand management in policing (NPCC, 2017). This study is sponsored by The National Problem Solving and Demand Reduction Programme hosted by South Yorkshire Police.

Research Methods

The research consisted of a literature review of academic articles on demand and capacity in the public sector, combined with fifteen case study sites of police forces from across the UK. All of these sites were actively managing capacity and demand and all had some initiatives to improve practice in some areas.

Main findings

Nine overarching research questions were asked during this study. The sections below summarise the key findings for each of these questions:

1. How well do forces understand their levels of demand?

Forces had no consistent, agreed definition of what demand actually meant. Most forces measured the volumes of calls coming into their control centres and used this as their measure of demand. Demand from other sources was not usually incorporated. Forecasting of call volumes did occur and this was used to determine staffing requirements inside control centres and also gave some insight into how busy officers would be. Few forces translated this data into hard resource requirements outside of the control centre environment, especially officers needed to meet the demand and any other policing resource, such as investigative requirements.

2. Have forces changed their practices involving prioritisation and response?

All forces used structured techniques within control centres to prioritise work. One tool in particular, THRIVE (threat, harm, risk, investigative opportunities, vulnerability and engagement) has been adopted fully in 13 out of the 15 forces. It is generally perceived by officers that implementation of new assessment methods had been successful. However, research does show there are issues over the level of consistency of risk grading between individuals in the same control centre, with clear differences in risk perceptions amongst call handlers. This is partly due to the levels of experience at handling calls, with more experienced call handlers generally being less risk averse.

3. Are forces able to identify and reduce avoidable demand?

Three forces were actively measuring and attempting to reduce failure demand, i.e. demand entering the system as a consequence of error or poor process design (Seddon, 2009). Two of these forces had been able to significantly reduce the demand entering the system as a consequence of this type of demand reduction activity. However, the study noted that poor control centre design, such as unnecessary call handovers and re-prioritisation of incidents did generate extra work within the system.

All forces were aware of the issues in dealing with unnecessary demand. For example, where calls were not a police matter, such as noisy neighbours, there was usually clear guidance or protocols about how call handlers should deal with this demand.

4. What are the most commonly used demand management practices observed during the study?

The most common demand management practices found across all forces included:

- Changes to the way in which work is prioritised and graded, to simplify the system
- Protocols that identify types of demand that should not be dealt with by the police
- Increased use of telephone resolution to close an incident of demand as soon as possible, without the need for officers to be involved
- The use of forecasting models to identify likely peaks and troughs in demand entering the system
- The use of technology to help deal with demand entering the system and process information quickly.

A number of gaps in practice were evident in most forces:

- Few forces translated call volume data into resource requirements as it was perceived to be too complex to provide any meaningful information about resource requirements.
- Forces were often looking at average demand in their forecasts without fully addressing the impact of natural variation in demand. Consequently most forces were not easily equipped to deal with demand when it was above average.
- Forces were often focused on meeting control centre targets more than meeting demand overall. Protocols were often put in place to ensure that 999 calls were answered within the national target time, with staff being flexed to meet peaks where possible. Similarly, where 101 call response standards had been set, management control systems were always in place to provide real time data on performance.

5. What evidence is there about the effectiveness of demand management practices?

Forces have taken similar evidence-based approaches to understanding demand either through their own internal studies or by commissioning independent research, often through one experienced consultancy firm. This has provided robust knowledge on their own levels of demand and capacity imbalance. Most forces have also conducted other improvement work, where the analysis of avoidable demand is often relatively sophisticated. Forces have often developed a team, sometimes referred to as a demand management group, to tackle varied issues associated with demand reduction.

6. Are there Centres of Excellence in demand management?

No one single force was identified as a leader in demand and capacity management, although a number of forces did show expertise in specific areas, such as demand measurement or forecasting.

There is too little sharing of practice across forces, resulting in duplication of effort to understand what practices are most effective, with forces having to learn by making the same mistakes others have already made. The difference in practice across forces shows how forces are often trying a variety of options without understanding what has been attempted elsewhere.

7. Are there implementation issues associated with managing changes to demand and capacity management practices?

There were a number of challenges associated with implementing change to practice:

- Programmes for change were often developed as responses to short-term issues or events, such as comments in HMICFRS reports or highly publicised mistakes. Consequently projects often had a short timescale, threatening their potential impact and sustainability of practice.
- There is too much separation between the management of the contact centres and the strategic development of demand management practices. Often contact centre personnel were not aware of demand management improvement activities and were not involved in implementation.
- There remains a deep-rooted cultural issue concerning the perceptions of skill sets in operational roles. The hierarchy between call handling and dispatch roles is often a barrier to progress because work conducted by someone perceived to have a lower skill set is often ignored or reworked. Similarly a cultural belief that some decision-making or advice-giving can only be provided by police officers is a barrier to some change options.

8. What are the implications of these changes for the ways in which the service is delivered?

All forces fully recognise their current inability to meet all demand that enters the policing system and all of them are changing how services are delivered and what services they provide. Although the general pattern of decisions is fairly consistent, towards a tighter set of responses to demand, the precise timing and speed of some changes varies across forces. The public should expect to see changes such as more services being provided remotely rather than visits by the police, more services being “advice only”, higher thresholds for what crimes the police are will investigate and greater responsibilities placed upon the public for crime prevention.

9. Is there evidence of collaborative working with other public bodies?

The study provides a mixed picture in terms of the levels of collaborative working specifically to reduce demand for policing. Most forces had some level of collaboration with Mental Health services, with mental health professionals being available to take calls at set times (not 24/7). Some forces had other levels of mental health collaboration, especially the use of a triage car that would contain a constable working alongside a triage nurse. Forces were also working with fire services, for example to coordinate the availability of defibrillators. However, there are substantial areas of work where collaboration to reduce demand can be improved.

This research has shown there is no single, dominant model of demand and capacity are managed in police forces in the UK. Although most of the forces share relatively similar types of emergency and routine demand coming through 999 and 101 call numbers, every single step of how that demand is filtered and graded has wide variation in how the work is processed and dispatched. The lack of consistency implies relatively low levels of practice sharing outside those forces that have formal agreements to combine some services, such as contact centres. Equally, inside some forces there is a divide between the practical management of running the control centres and the development of new methods for managing demand and capacity.

This study includes the following recommendations:

1. There should be more effort to share knowledge about demand and capacity management practices, so that an evidence base for good practice can be generated and forces do not have to duplicate the same experiments into what works.

2. There should be more of an integrative approach to the development of demand and capacity management within forces, where a wider section of force employees are involved in demand and capacity working, knowledge generation and implementation of new practices.
3. The majority of forces still need to do more work to integrate post-dispatch activity into their demand management planning. At present there is resistance to this type of work because of the belief that work is too variable and unpredictable for this to be of benefit.

Contents

Overview	2
Contents.....	6
1. Introduction	8
2. The NPCC Demand Management Project	9
Demand Profiles in UK Policing.....	9
The NPCC Approach	9
Figure 1 The NPCC representation of demand	10
3. Existing Supporting Theory	11
Defining Capacity and Capacity Management.....	11
1. Chase Capacity strategies.....	11
Table 1 Capacity Management Strategies Observed in the Police	12
2. Level capacity strategies	12
Table 2 Demand Management Methods in the Police Service.....	13
Figure 2 comparison of Chase and level Capacity Strategies.....	14
Assessment of Capacity Requirements.....	14
Capabilities within the public sector.....	15
Concepts in Demand Management in the Public sector	15
Table 3 Types of Unwanted Demand (Randle & Kippin, 2014).....	16
Table 4 Actions suggested to reduce demand.....	16
4. Research methods.....	17
5. Findings	19
Understanding of Demand.....	19
Case Example: Qlick system in Force A	19
Comments made during interviews.....	19
Detail of understanding	20
Capacity vs demand balance.....	20
Comments made during interviews.....	21
Emerging threats.....	21
Comments made during interviews.....	22
Call journey	22
Case 1 Force A.....	23
Case 2 Force B.....	23

Prioritisation Assessment Method.....	25
Comments made during interviews.....	25
Prioritisation system	25
Failure and avoidable demand.....	26
Case example: The Need for Partnership Working.....	26
Table 5 Response types by agency needed	27
Table 6 Presenting issues of complex cases.....	27
Case Example: Reducing Investigative Demand at Kent and Cambridgeshire Police	28
Table 7 Types of Avoidable Demand (examples provided).....	29
Case Study Failure Demand Reduction at Gloucestershire	29
Figure 3 Repeated failure demand counts.....	29
Examples of demand management practices.....	29
Case Study: Force A Shoplifting Policy	30
Forecasting and technology	31
Issues of implementation or sustainability of changes to practice	32
Comments made during interviews.....	32
Centres of Excellence	32
Change in the quality of service.....	32
Collaborative Working	33
6. Conclusions and Recommendations	35
References	37
Appendix 1: Data Tables	38
Table A1 Demand Measurement.....	38
Table A2 Prioritisation and Response	41
Table A3 Service Changes and Collaborative Working	43
Appendix 2 Interview Questionnaire	48
Appendix 3 Centre Contact Details.....	50
Acknowledgements:.....	50

1. Introduction

This report presents the research that was undertaken by the Centre for Policing Learning and Research (CPRL) in cooperation with the National Problem Solving and Demand Reduction Programme hosted by South Yorkshire Police, into demand and capacity management practices in police forces. The work was funded by the Centre's member forces by a research grant. The research took place between October 2018 and February 2019.

Broadly the study aimed to establish what demand and capacity management practices were present in police forces and how these practices were changing as a consequence of recent funding restrictions on forces and the changing nature of demand for police services.

More specifically, the evaluation hoped to achieve an understanding of the following aspects of demand and capacity management practice:

- 1) How well forces defined demand and understood the types of demand entering the system
- 2) How the forces organised resources to meet demand and how well forces were coping with the demand pressures placed upon them
- 3) How forces were assessing and prioritising demand at the first point of contact
- 4) How systems were designed to process demand from first contact through to resolution of the incident
- 5) What attempts at demand reduction had been made and how effective these had been
- 6) What Centres of Excellence or examples of good practice exist, that others can learn from
- 7) What implementation issues had presented during attempts to change practice
- 8) What levels of collaboration with other public services have occurred

The research consisted of a preliminary literature review, survey visits to all forces from the membership of CRPL that would permit access within the timespan of the study and follow-up case studies where successful initiatives or good practice had been found. It is not the intention to set a standard for "best practice" as our opinion is that demand and capacity management within policing is potentially in a state of fast-paced change at present, where most forces will continue to adapt and improve their practices over the next few years. Hence current best practice will become outdated quickly.

The report is divided into six main sections. This introduction is section 1. Section 2 summarises the existing work completed by the NPCC on a large-scale Demand management project that reported in September 2017. Section 3 looks at the more generic service management literature that informs us of demand and capacity management practices that we would expect to see in public service organisations, together with reference to existing management literature reporting on policing practices. Section 4 provides a more detailed explanation of the research methods employed in the study. Section 5 is the largest section, reporting the findings of the study, broken into sub-sections each of which focuses on one of the key subthemes. Throughout this section we also present case examples and case studies of practice that provide a little more detail on some of the work that is being conducted in specific forces. The section has embedded within it further commentary and opinion of the authors about the existing demand and capacity management practices. Section 6 contains our conclusions and recommendations about what our findings tell us and some of the necessary next steps for forces.

2. The NPCC Demand Management Project

Demand Profiles in UK Policing

The UK Police Service has experienced similar financial pressures to other public services, with a steady real-terms cut in funding from 2015 and other changes to funding from 2009. In the period 2009-2016 the number of full-time equivalent officers fell by 14% according to the Institute for Fiscal Studies (Disney and Simpson, 2017). At the same time the patterns of demand have been under considerable change, initially moving away from car theft, robbery and burglary towards “white-collar crime”, internet offences, sex crime and trafficking (Keene, 2012). However, the latest figures show increases in crimes such as assault, stalking and harassment and domestic abuse. There have been surprising few studies of demand for policing over time. The NPCC has identified 85 separate types of demand coming into police systems. There is a general acknowledgment that much of the demand entering the system is non-crime. A study (Boulton et al., 2017) highlighted the sheer diversity of the demand, with the single biggest identifiable category being concern for welfare (19% of incidents), with public nuisance (18%) and acquisitive crime (17%) also being significant. However, the biggest single category was “other” (28%), showing how the police have to deal with a wide range of rarely occurring situations.

The latest crime figures from the Office for National Statistics (ONS, 2018) show that there were increases in homicides (14% increase), public order (24%) and robbery (17%). An 8% increase in knife crime has more recently become more of a topic for discussion, with a debate about the impact of the availability of police resources as a possible reason why this type of offence has become more prevalent. There is much discussion of emerging threats in policing (see Ransley and Mazerolle, 2009), with more recent attention paid to ongoing terror attacks and new forms of cybercrime (see Keene, 2011).

The NPCC Approach

In May 2015 the national Police Chief’s Council established the second phase of a project into demand management that reported back in November 2017. Amongst wide-ranging terms of reference there were the following objectives:

- To examine demand beyond recorded crime
- To examine the sources of demand data and how these could be recorded
- To identify ongoing professional good practice and set up a central repository
- To link demand to public value in terms of how the services add value
- To utilise demand forecasting models

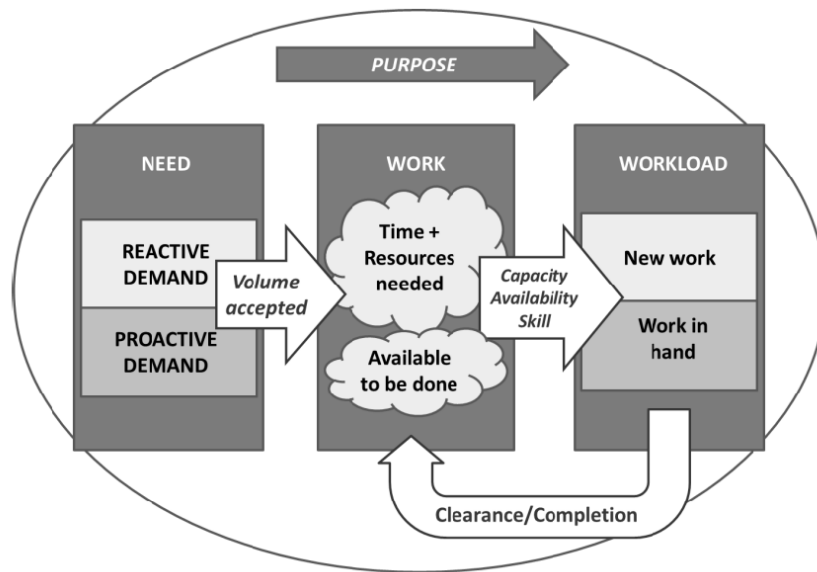
The report contained a number of recommendations including the adoption of tools and techniques for assessing risk and prioritisation, emphasis on collaborative working, understanding internal processes to reduce waste and improve productivity and the better use of analytics.

Within the report attention was paid to defining demand, which was split into three types:

1. Public demand is equated with incidents reported by the public (but there is a need to factor in the actual resource consumption needed to meet this demand)
2. Protective demand comes from the need to provide policing cover for events, acting on intelligence or general protective patrols.
3. Internal demand is the demand for resources within policing organisations, including administrative tasks, processes and protocols.

The model that is produced to link this together is replicated in the figure below:

Figure 1 The NPCC representation of demand



Source: NPCC (2017)

One of the key themes of the report is to identify opportunities to reduce demand placed upon the service through a combination of selecting out demand that police do not need to attend and identifying those incidents that can be addressed through less resource intensive solutions. An emphasis is also placed on attending incidents where those creating demand have some level of vulnerability (e.g. victims of domestic or sexual abuse). Two tools were developed to provide a structure to the ways in which demand is addressed. The tool MoRile is a means of organising the processes to address the approach taken to dealing with demand. The tool THRIVE is used to assess mainly the risk characteristics of an incident including the levels of harm and vulnerability present. The tool provides nine different “service offers” ranging from an immediate response through to no action beyond initial contact based upon the risk profile.

3. Existing Supporting Theory

There is a considerable body of literature on demand and capacity management within the service management field. This theory is useful in that it can act as a guide to demand and capacity management good practice. However, much of the original theory is largely based around private sector service organisations, with far less theory concerning practice in public sector organisations and only rare insights into police capacity management.

Defining Capacity and Capacity Management

Service capacity is usually defined in terms of the level of value added activity in a fixed period of time that a service can consistently achieve. In policing terms this may manifest itself, for example as:

- The number of calls a contact centre can handle in a day
- The number of incidents response units can handle in a shift
- The number of scene-of-crime investigations completed in a day

All police officers and staff will recognise that these measures will vary in practice from day to day, as the workload will vary due to factors such as the location or complexity of a particular job, the mix and timing of what work comes in. The main operational problem is that demand usually varies over time because of long-term trends, seasonality patterns and natural random variation. By contrast, most planning processes tend to fix resources into less flexible blocks of availability such as shifts. Hence, resource availability and the demand for resource are often mismatched in terms of levels of resource needed, skill sets available and the timing of the availability of resource even when fairly extensive planning has taken place. Effective capacity management is therefore often challenging, especially as errors in decision-making will either lead to queues and work backlogs or to under-utilisation of critical resources. Once work overload becomes established systems often suffer additional problems, such as poor quality. This also adds to the workload. The core medium term capacity management theory identifies two contrasting approaches to managing capacity:

1. Chase Capacity strategies

Services use various techniques to change their effective capacity over time, so that demand fluctuations are matched by adjustments to capacity as much as reasonable possible (Sasser, 1976). The main advantage of this approach is that it should lead to better resource utilisation, through the minimisation of wasted capacity at quieter times. However, adjustments to capacity, such as the flexing of shift patterns, are often complex to manage.

One previous study of West Midlands Police did identify some capacity management strategies often associated with chase capacity strategies:

Table 1 Capacity Management Strategies Observed in the Police

Method	Comments
Chase demand	Assets (i.e. cells) are fixed, so in medium-term planning only adjustment of staff offers capacity change. There is limited focus on low utilization of cells, and to an extent staff. Therefore the attention to chasing demand is limited.
Increasing customer participation	In context of custody the arresting and investigating officers are the customer. The arresting officers have a specific influence on demand and throughput time. There has been awareness and engagement with arresting officers to complete all processing where possible in advance of entering the custody system.
Scheduling work shifts	A precedent has been set that although there are three shifts, these are consistent in their staffing. This is reflective of limited understanding of short term demand variability.
Creating adjustable capacity	Staff are paid both a shift and a rota allowance. However both through precedent and local affiliation the flexibility in staff assignment this is meant to provide the force is rarely used. Most of the flexibility is done through good-will agreements.
Sharing capacity	The rollout of super-custodies is meant to deliver shared capacity in terms of physical assets and staff. Further the use of 'clusters' (geographically close facilities) also provides some short-term capacity sharing. Hence capacity is shared across similar facilities more than switching resource from one type of service to another.
Using part-time staff	Part time staff have been in use for many years, and are inseparable from the full-time staff in their roles.

Source: Ritchie and Walley (2016)

2. Level capacity strategies

Some services keep capacity relatively fixed, especially where capacity flexibility is difficult to achieve. This does lead to periods of time where resources might be under- or over-utilised, creating waste or backlogs. However, sometimes this is the only feasible approach and does lead to relatively stable capacity planning systems that are easier to manage. In the private sector level capacity strategies are often used in tandem with demand management strategies that influence the volume and timing of demand, usually through pricing mechanisms. Where public services are free at the point of consumption that type of demand management approach is not possible. However, other demand management strategies have been seen in policing:

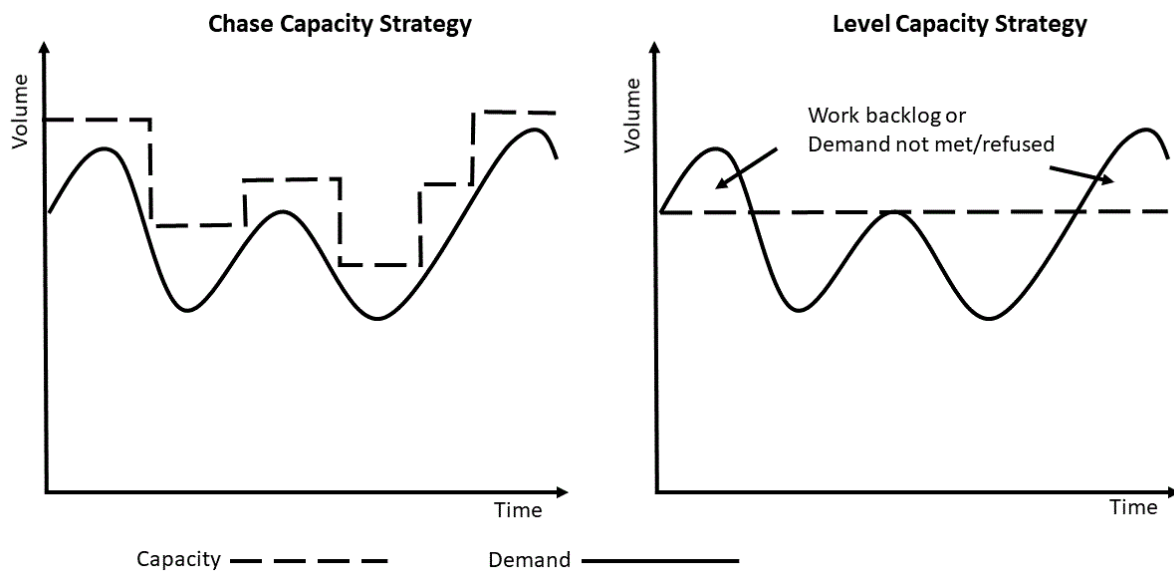
Table 2 Demand Management Methods in the Police Service

Method	Comments
Demand reduction	There is increasing attention to challenge the necessity of bring offenders into custody. A 'street disposal' can be completed where the offender does not attend a custody suite. Some detainees require other services i.e. mental health, before arriving in custody.
Complementary services	Different parts of the service share some resources and there is increasing awareness of the need to release capacity for the main value-adding tasks. Custody Suites now aim to release arresting officers back to their duties through better turnaround. "Drunk tanks" (see below) or other field service alternatives to the arrest and detention of intoxicated individuals (e.g. "pop-up" treatment units) have been used in some areas.
Reservations and booking systems	Overbooking is inappropriate in the custody system, however advance reservation can be completed through the contact centre when finding a custody to take the detainee. Further options are being explored to provide an on-line self-service booking facility for arresting officers.
Segmenting demand	Segmentation has not been explored by the force, as each custody is meant to provide an end-to-end service regardless of facility. However options are being considered as to whether certain facilities will have embedded partner agencies to speed up processing, therefore segmentation will make this allocation more effective.
Price incentives	Although price incentives seem totally inappropriate in custody. Nationally the idea has been communicated for providing drunk tanks – managed by 3rd parties who charge the detainees on departure for their stay. This cost incentive may then reduce demand on custody through reducing criminality (Barnes, 2013).
Off-peak working	Police forces have both response and planned activities. Planned operations may reflect the pressure on custody i.e. Arresting vagrants, when there is predicted low demand on custody.

Source: Ritchie and Walley

One of the ways in which the effectiveness of capacity management strategies can be judged is the extent to which operations are able to implement appropriate medium term capacity management strategies. Most organisations adopt a mixed approach whereby capacity levels are as stable as possible, but flex capacity when necessary or cost effective.

Figure 2 comparison of Chase and level Capacity Strategies



Assessment of Capacity Requirements

The assessment of the actual capacity requirements of a service is a challenging task, as a number of often conflicting factors need to be introduced into the decision-making process. One approach breaks down the capacity-setting process into three identifiable steps (Walley, 2012):

1. Assessment of the volume and variability of demand

The essential first step is to understand the size of the market or level of public demand for a service. Most of the time this is done through the study of existing demand patterns and factoring in likely changes to the demand pool. Within the public sector this step in the process does not always occur at an operational level. Instead, a more generic assessment is made in a budgetary planning process, where the actual demand behaviour is not captured. Demand needs to be understood at different levels of detail. Ideally, the general growth/decline patterns and an appreciation for demand seasonality is necessary for long-term planning. Seasonal or cyclical demand changes and levels of natural random demand variation must be understood when conducting medium-term capacity planning (with a time horizon of say 12-18 months). In the short term, any operation needs to also understand short-run factors that influence demand, so that these can be factored into detailed operational planning. This would include linking demand to factors such as weather or “special cause” events that create extra peaks or troughs in demand.

2. Definition of capacity requirements

The level of capacity needed is related to a variety of factors, especially around the need for flexibility and speed or responsiveness. Call centres, such as police contact centres, are a classic example of the potential trade-off between efficiency (staff utilisation) and the service level (time to take a call and/or call abandonment rates). Most call centre designs factor in the impact of demand variability by allocating additional capacity to cope with any need for fast response to demand, through the use of queue theory calculations. One factor that helps minimise the trade-off between efficiency and responsiveness is if demand coming into a call centre is pooled as much as possible. The impact of demand variability on short-term waits and delays is often misunderstood and underestimated. Many studies in a variety of contexts have shown that services with demand variability and the need to provide a responsive service to unscheduled demand cannot operate at high levels of utilisation.

3. Resource requirements assessment.

Once capacity requirements are set, the actual quantity of resource would usually be calculated. This does require knowledge of the amount of work and the skill sets needed for each type of demand. There may also be limitations created by budgetary or other constraints on how well the resources needed can be allocated to meet the demand. Within many services the amount of time needed to meet a single demand can be extremely variable, which tends to make capacity calculations more complex. It can be difficult to justify some resource availability on the basis of uncertainty or variability in resource requirements.

Capabilities within the public sector

There have been a number of challenges faced by public sector organisations when trying to set capacity and resource allocation decisions (Walley, 2012):

1. Market knowledge

Where resource allocation is relatively fixed due to high-level budget constraints there is less need to study the actual demand within a system as this knowledge cannot be acted upon. Hence many public bodies do not routinely collect demand data for the purpose of capacity and demand management. The other detail that is lost is the knowledge about seasonality and demand variation that would also help produce better capacity plans.

2. Inherent variability

Where processes are poorly defined, or where resource requirements are not easily computed because of the variability of the demand entering a system, it becomes more difficult to establish actual resource requirements.

3. System complexity

Many user journeys in the public sector are part of complex inter-related systems, often cutting across shared resources and multiple agencies. For example, the journey from arrest to court appearance involves several different organisations, each one of which is trying to optimise their own operation. Consequently the service risks being disjointed because the resource allocation at each step does not factor in the requirements of other parties, and journeys can be delayed.

Where capabilities are lacking managers may be unable to identify the resources needed to meet all demand, set appropriate budgets or balance capacity across the system in a way that allows work to flow through.

Concepts in Demand Management in the Public sector

It was stated earlier that conventional demand management practices used by mostly private sector organisations to influence the level or timing of demand are often inappropriate in the public sector. This is chiefly because most of these approaches involve price adjustments that cannot be made in services that are free at the point of consumption. It is also the case that additional demand is often welcome in the private sector as it automatically attracts new revenue to fund its provision. By contrast, public sector organisations usually have to absorb all new demand into a constrained operation – there is rarely flexibility in budgets.

An alternative approach within the public sector is to identify ways of sustainably reducing demand without compromising or limiting service to those in genuine need. The concept of *failure demand* is useful when finding opportunities to reduce apparent demand without compromising the value of the services delivered to the public. (Seddon, 2003), defines as “*demand caused by a failure to do something or do something right for the customer*”. True demand is demand entering the system for the first time from a person with a genuine need. All other demand would be classed as failure demand. The potential efficiency impact of reducing failure demand has been promoted widely:

“In service organisations...failure demand often represents the greatest lever for performance improvement. In financial services it can account for anything from 20 to 60 per cent of all customer demand...in local authorities and police forces as much as 80-90% are avoidable and unnecessary”

Source: Seddon, 2009, p33

An extension of this work is provided by Randall and Kippin (2014) where five different types of reducible demand have been identified.

Table 3 Types of Unwanted Demand (Randle & Kippin, 2014)

Type of demand	Explanation
Failure	Demand caused by errors or poor processes
Avoidable	Demand arising from behaviours that can be changed
Excess	Demand created by providing more than is needed
Preventable	Demand arising from causes that could be removed earlier
Co-dependent	Demand that is unintentionally reinforced by dependence

Each of these demand types identified by Randall and Kippin (2014) has different approaches to reducing what is seen as unwanted or unnecessary demand:

Table 4 Actions suggested to reduce demand

Demand Type	Methods of prevention
Failure	Service redesign Quality improvement
Avoidable	Changing employee behaviours Changing relationships with customers Shifting towards prevention
Excess	Charging Punitive measures for non-compliance Changing eligibility criteria
Preventable	Understanding and tackling root causes Understanding behavioural influences
Co-dependent	Building community resilience Alternative strategies for community or individual capacity

4. Research methods

Between October 2018 and February 2019 all forces that are members of the Centre for Policing Learning and Research were invited to participate in a study of police demand and capacity management practices. Out of twenty forces and agencies, fifteen were able to participate on the study within the timescales set.

The research team consisted of an academic with managerial experience and a serving police officer. Each force was visited for at least one day by the research team to gather the basic information. The contact centre for each force was observed and demand entering the system tracked to establish how work entered the system from 999 and 101 calls and then processed through to dispatch. Where more detailed cases were generated a considerable amount of follow-up information was obtained after visits, including samples of demand data, performance reports from contact centres and other reports of improvement or demand reduction work.

Information was also obtained through direct discussion in structured interviews where the opinions of force officers and staff were obtained to build up a view of the perceptions of staff responsible for aspects of demand and capacity management about the situation their force is in. In most cases, officers and staff from both operational and planning roles were seen, and this allowed contrasting views to be observed. Interviews were constrained by availability on the day of each visit. Where possible the person currently in charge of the Control Centre was interviewed, and additionally someone at a supervisory level from within the Centre itself. At least one person with separate responsibility for demand reduction would be interviewed, to discuss demand reduction outside of the contact centre environment. Where permission was obtained, interviews were recorded with the condition that responses were anonymised both in terms of the force and interviewee.

Questions were framed around nine overarching themes:

1. How well do forces and agencies understand their levels of demand?
2. Have forces changed practices involving prioritisation and response?
3. Are forces identifying and dealing with avoidable demand? If so, how?
4. What demand management practices are most commonly adopted across forces?
5. What evidence is there about the effectiveness of demand management practice? What seems to work best?
6. Are there centres of excellence, i.e. forces with conspicuously better achievements or demand capacity balance?
7. Are there issues of implementation or sustainability of changes to practice?
8. What are the implications for policy, in terms of the types of demand police are prepared to respond to or the ways in which the service is delivered (e.g. remote response)?
9. Is there evidence of collaborative working with other public bodies?

Each theme was subdivided into specific questions and follow-up topics. For instance, the question about the understanding of demand asked separate questions about mechanisms to collect demand data, the breadth of the data collection and the translation of call statistics into workload. There were also follow-up questions about long-term trends, seasonality, demand variability, mix variation, “hot spot” analysis and emerging threats. A copy of the question schedule is included as appendix 2.

In each location the journey that both 999 and 101 calls make was tracked from within the contact centre. In these cases the following information was collected:

1. The difference in the journeys of 999 and 101 calls
2. The specific steps in the process, including whether or not calls enter a switchboard before being transferred
3. The separation (if any) between call handling, call resolution and dispatch
4. The skill mix and job role boundaries for contact centre staff
5. Back office capacity to resolve incidents through specialist support, such as Incident Assessment Units or mental health triage and resolution teams.

5. Findings

Understanding of Demand

Forces had no consistent, agreed definition of what demand actually meant. An example of a general definition of demand was offered by force L “My definition of demand is the amount of effort that goes into a particular activity”. Forces generally measured the volume of calls coming into their control centres and used this to measure demand. In all but one of the forces this data collection was carried out by a variety of human interventions and automated processes. Force A was the only force that has a fully automated the process through a bespoke piece of software. This software can even work out the cost a particular person or business has had on the police service and use this information to problem solve and reduce demand.

Case Example: Qlick system in Force A

Force A have created a bespoke piece of software, Qlick, which is used to manage demand. It can work out the amount of demand placed on the force by an individual or business and indicate how much this has cost the organisation. This is used to better inform where and when we will need resources or even when a resource is no longer required in that particular area.

Forecasting of call volumes was used in all 15 forces to determine staffing levels for the control centre. These predictions had a variety of successes with force F being an example of good practice in claiming they were able to predict between 97-98% of future calls, in terms of call volume. However, in contrast force B had made attempts to predict demand but their ability to forecast accurately was limited.

Few forces translated this data into hard resource requirements outside of the control centre environment, especially officers needed to meet the demand and any other policing resource, such as investigative requirements. Force M was an exception as they have measured the demand across 30 different teams and created resource models to meet the demand. Force M were using this data to predict their future resource requirements and stated it was a useful practice.

There was a level of understanding across all 15 forces regarding long-term trends, demand seasonality and hotspot demand. Levels of demand in summer 2018 left many forces struggling to cope especially in force F who required assistance from other forces to answer calls for service from the public. Given that force F were able to predict call volume, they were unable to place enough resource in place to meet the demand they had forecast.

Comments made during interviews

<i>“Measuring preventative work is difficult and you cannot really call it demand. Not as most people would understand it” [B]</i>
<i>“We have a very good understanding of demand. We have so many different systems that help us understand demand. We can extract the information and create our own datasets. We have everything stored and we can get this from our own analysts within contact management.” [C]</i>
<i>“We do look at long-term trends in demand and there is a lot of work ongoing in contact management around front end demand.” [D]</i>
<i>“Like most contact centres we use a sweep of technologies based on a mathematical algorithm to predict the volumetric of what’s coming in, we do this in 15minute segments.” [F]</i>

"I think the introduction of 101 makes it more challenging to break down the different types of demand."
[J]

"While the pattern of demand has not changed the volume has definitely increased." [K]

Detail of understanding

Generally forces lacked detailed understanding of demand once the call goes beyond the control room. This practice results in numerous problems especially as it ignores the amount of effort the force puts into different types of calls. This can be especially detrimental when forces attempt problem solve around demand management as the most frequent incident type may not be the incident type that takes the most effort to deal with. Forces did not consistently display an understanding of protective demand created from proactivity. Force B highlighted that it is nearly impossible to accurately measure proactive demand from resources such as neighbourhood policing units. This provides difficulties when measuring the effectiveness such activities. For example, if a neighbourhood officer is detailed 8 hours a week to conduct anti burglary patrols, has this activity actually reduced burglaries or detected more crime and are these activities cost effective?

The majority of forces also had lower levels of understanding of demand created by internal processes. The limited understanding of protective and internal demand results in an inability to understand the yield from a particular resource. Forces sometimes translate call volumes into a requirement for resources but this demand is only scratching the surface of the true demand that officers and staff face.

Capacity vs demand balance

The general agreement across all forces was that they currently do not have enough capacity to meet demand, although it was difficult for most forces to quantify the actual capacity/demand imbalance precisely. As austerity measures resulted in reduced recruitment, forces are struggling to cope with perceived increasing levels and complexity of demand.

Force D were typical of many forces when they highlighted they would likely have enough capacity to meet demand if the police were only expected to deal with crime. Most interviews identified issues not police matters as a drain on capacity. Incidents related to mental health and missing people were highlighted as very resource intense and there is a common view that the police may not always be the most appropriate resource to deal with it. This is especially true where the missing person is technically in the care of another public service.

Technology has been both a benefit and a burden on police forces. As crime has moved online and started to involve the use of mobile phones this has increased the complexity of investigative demand. Technology was also cited as a cause of increased demand where it makes it easier to report or record crime.

There was also an issue highlighted by force K. As the police are a 24/7 police force they inevitably end up having to deal with demand from other agencies such as Social Services who only work normal office hours. As counteracting measure to this demand and capacity imbalance forces are beginning to recruit officers again with force K recently starting a recruitment drive for 400 police officers.

Force B suggested that for them they do not have enough capacity to meet demand but this may be as a result of resources not being dispatched into the right areas.

The lack of effective capacity to meet all demand means that all forces have to develop more of a coping strategy when dealing with demand, rather than plan a strategy that meets all demand. Although all forces did adjust both control centre and frontline capacity to coincide with most seasonal peaks and troughs in demand, they usually did so knowing that they would be in situations where there would not

be enough capacity. In such cases they chose to resource to minimise capacity shortages when higher risk demand was more likely. One interviewee said “we choose to have most under-capacity on a Sunday morning, as this is the time when it is safer to not be able to meet demand”.

The police are different to most other organisations in their approach to coping with demand variation. Instead of being able to flex their capacity perfectly, forces will deliberately flex their threshold of what demand they are willing and able to meet at a given time. Hence, someone calling in to a contact centre on a quieter day will find that their demand is attended to in a timely manner. An identical demand on a busy day might be graded as “do not attend” or put on a priority list and reviewed at a later time. If the demand escalates into something more serious, that demand might then be met, otherwise the incident will ultimately be down-graded and not attended to once it becomes clear the situation has stabilised. An example incident might be a report of suspicious behaviour where the situation often de-escalates once people have left a scene.

Comments made during interviews

<i>“Whether we have enough capacity to meet demand depends on where we draw the boundaries of demand. If we had a definition of demand as we spoke about earlier then probably not. The public wish for us to deliver policing services is almost infinite, I don’t think there will ever be a point where we will find ourselves with nothing to do.” [B]</i>
<i>“We are coping but it is at point break.” [C]</i>
<i>“The demand is increasing, the complexity is increasing and the numbers of officers are decreasing. We have huge demand from mental health, we spend a lot of time on incidents that are non-crime related.” [D]</i>
<i>“Almost every type of crime will have someone using a camera. The changes of technology and the technology that is available is making things a lot more time consuming and complicated.” [D]</i>
<i>“Capacity in call handling is easily mapped. Dispatch is much more difficult.” [E]</i>
<i>“Traditional crime is moving online and this is incredibly complex. We have done some work with detective capacity to work out how many detectives we need, the difficulty is that we can’t get detectives because nobody wants to become a detective.” [L]</i>

Emerging threats

All 15 forces were aware of emerging threats and had operations in place to tackle them. They included;

- Terrorism
- Human trafficking
- Cyber crime
- Child sexual exploitation (CSE)
- Organised crime groups operating on county lines.
- Modern slavery
- Knife crime

However, there was less discussion of the actions that were being taken to address some of the emerging threats. In some cases as particular issue, such as county lines, had become so significant that specific projects or actions were being taken. Many forces commented on the prevalence of online abuse, but the threshold of what type of activity they would act upon was often quite high.

Comments made during interviews

“There is some debate on whether we need to have wide categories such as human trafficking or whether we need to more specific focus such as modern slavery.” [B]

“We have noticed emerging threats, recently we have had issues with drones. Offences committed on social media can be difficult.”[D]

“The changing nature of communication is the single biggest emerging threat.” [F]

“We have various training days regarding emerging threats such as terrorism and human trafficking and feedback from staff has been positive. We have also trained all our staff on our response to a marauding terrorist attack and we often run through scenarios.” [J]

“We are investing more money into the likes of CSE. We have also started to use qualifiers to allow us to pick up the data when the call comes in. If we are seeing a rise in mental health calls in a particular area we can then inform the local GPs and inform them that they are failing their patients and that they need to put something into place.” [K]

Forces tended to be reactive when it came to planning to tackle emerging threats. For example, nationally there is a force wide operation aimed at combating marauding terrorist incidents called Operation Plato which was started in response to attacks in Paris and London. A further factor that is pushing forces to gather a better understanding of emerging threats is public awareness. An example of this is a paedophile ring that was uncovered in one force’s area. This produced considerable media attention and led to the force formulating strategies to prevent and detect child sexual exploitation.

Call journey

There was an unexpected amount of variation in the call journeys in each force. The variation mainly occurred through differences in the following aspects of the system design:

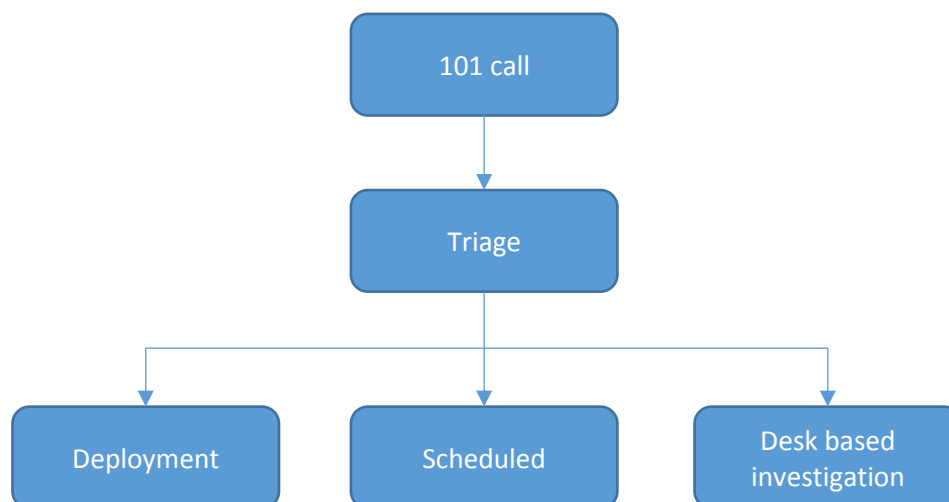
- The level of division or resource sharing between 999, 101 calls and dispatch. Some forces did not cross train staff which created silo working. These models lacked the flexibility needed to deal with fluctuations in demand. On the other hand other forces cross trained staff and can quickly move resources between 999, 101 calls and dispatch.
- The number of filtering steps before dispatch, including whether or not a switchboard is used. The type of switchboard used generally varied between an automated switch board and those operated manually.
- The means used to assess the risk of each call.
- Thresholds for response decisions for common incident types, such as mispers and shoplifting
- The levels of one-touch or call handler resolution.
- The levels of integration between call handling and dispatch
- The points where demand is re-graded, e.g. by dispatch
- The skill sets used within the contact centres (specialist staff, police officers etc.)
- The grading systems and response targets used
- The levels of additional back office support, such as assessment units and mental health support
- The types of response resources used, such as diary cars or booked appointments

The following case examples highlight some of the differences in the types of systems in place:

Case 1 Force A

Force A can take calls via 999 or 101, incidents reported online or from people going to a police station. When it comes in force A use something called “smartcall” which uses the THRIVE principles previously mentioned. Questions based on THRIVE will be asked and this will deem whatever the outcome will be. Professional judgement is also used and the call handler has various options. First option is to send it to the live screen for deployment. The next option is scheduled which is a slower response which can be sent out to patrol or neighbourhood.

Another option other than deployment is to send it the assessment unit for desktop investigation. The call can either be assessed or filed. For example if a mobile phone had been stolen and all they want is a crime reference number they would give them this and it would be closed for filing as there are no lines of enquiry. The call handler is deciding whether or not the calls go to dispatch or not. The final option is that the call can be sent to the resolution team which is a team of restricted officers to deal with it over the phone by providing advice without attendance. The call could also be closed down. Force A are also introducing an appointment system from the end of this month where the public can make appointments at their local station to speak to officers. This will be managed by restricted officers if the THRIVE assessment is appropriate.

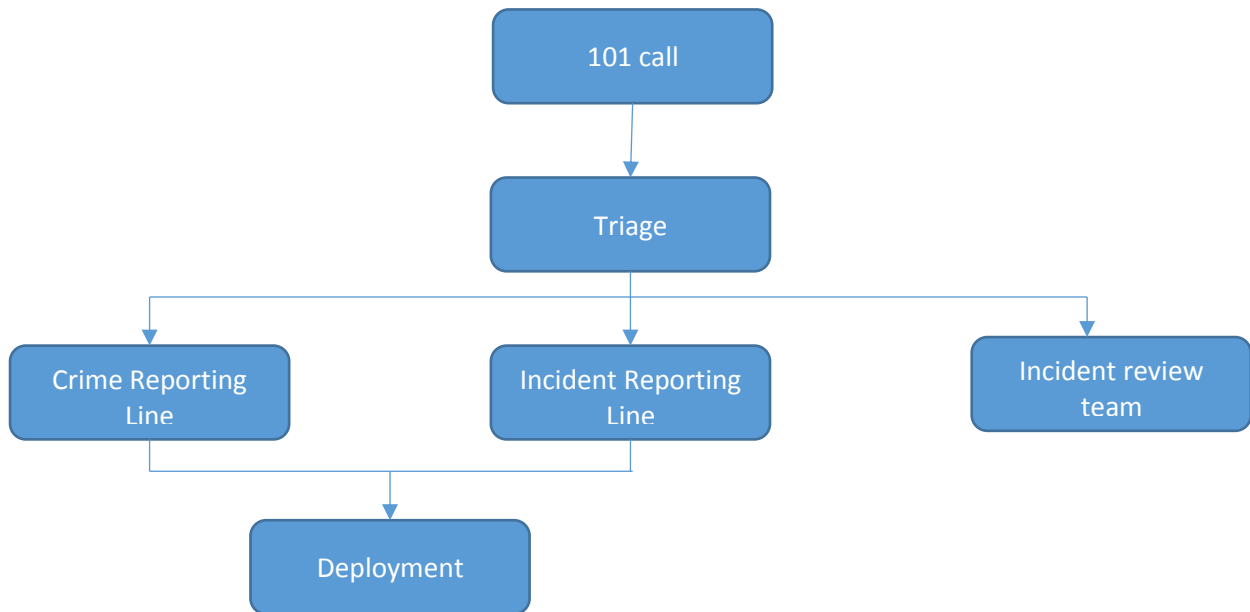


Case 2 Force B

Both 999 and 101 calls physically go into the same place but force B employ software which send the calls to agents with various skill sets. They have a number of people who are dedicated to answering 999, others who answer the non-emergency line and others dealing with online reports. The call will be routed via BT and the call will go to a 999 handler who will do a fast time triage and if it's an emergency create a log. The incident gets electronically transferred to the dispatchers who will review it and allocate the nearest and quickest resource.

If a 999 call comes in and it is not an emergency call then they will advise the caller to phone 101 or to go online to report it or advise them that it isn't a police matter. For 101 calls it is more complex, the call comes in and they conduct an initial triage which used to be called switchboard. Somebody will answer the phone and then a number of things can happen. It may be that it is effectively a 999 call and they will treat it as such. Or if someone wants to report a crime they will transfer it to a secondary crime reporting line. Force B have people with a particular skill set just to deal with these calls and they will put it onto their crime recording system called Athena. If it's not a crime or an emergency that will go to the incident recording line and this will be answered by someone with a particular call taking profile. Force B also

have an appointments protocol and anything that needs to be dealt with in this way gets passed to an incident review team who can allocate the public to slots to see an officer.



The differences in the structures and practices within contact centres highlight that no one solution is currently emerging as best practice. In fact it is likely that some forces have been successful with an approach where others have failed. We would highlight some of the issues that need to be addressed:

- i. Many forces have developed systems where a call has to go through a series of three or more separate steps before an action is taken. The purpose of an extra first step, usually through a main switchboard, is to filter out routine calls that are not incident-based. However, extra steps in the journey can lead to multiple waits by those calling in, with some forces admitting that callers may be on the line for 30 minutes or more waiting for the next step.
- ii. Some centres have had their name changed from “contact centre” to “resolution centre”, highlighting the change in emphasis of the roles inside the system. There are challenges both in terms of any additional time needed to resolve calls by call handlers and in the skill sets needed. For proper resolution of simple reports there also needs to be sufficient other support, such as web-based information, that callers can be directed to.
- iii. The relationship between call handing and dispatch was seen to be difficult in a number of forces. In a small number of cases dispatch staff more routinely re-graded calls that handlers had passed on, wasting some of the effort the call handlers had made. There was occasional low confidence in call handlers’ grading, but also re-grading occurred to fit the capacity in the system.
- iv. There was no consistent pattern about the skill sets used to handle, resolve or dispatch calls. Some forces had call handlers on lower job grades than dispatchers. Some dispatch teams were mainly resourced using police.

Some variety in the system configuration is to be expected, especially where forces have very different sizes or environments (e.g. metropolitan or rural), but there is a case to develop much more of an evidence base about the strengths and weaknesses of each design option and to study how some of these variations have been implemented.

Prioritisation Assessment Method

In all 15 forces the national decision making model was fundamental in making and justifying decisions across all ranks and departments. This changes slightly in the call centres where a method called THRIVE (threat, harm, risk, investigative opportunities, vulnerability and engagement) is predominately implemented. THRIVE has been adopted across 13 out of the 15 forces. Force C and force D were the exceptions and are using a similar system called THOR (threat, harm, opportunity and risk). Force C stated that the reason they decided to implement THOR instead of THRIVE as it was perceived to fit with their own preferences for prioritisation.

In 14 out of the 15 forces the assessment system used was universally implemented and was expected to be used when assessing every call. In force M this was not the case. While force M had trained all their call centre staff in THRIVE they were then allowed to use whatever previous assessment method they had been trained in if they were more comfortable using it.

Most forces believed they had successfully implemented their methods of assessment. There are still issues over the level of consistency of risk grading between individuals in the same control centre, with clear differences in risk perceptions amongst call handlers. This is partly due to the levels of experience at handling calls. The use of THRIVE has raised awareness of the need to attend incidents where there was a vulnerability issue. The system also improved awareness of calls where there were investigative opportunities that could be followed up.

The original THRIVE model has a pre-determined set of 9 responses to calls. The actual response approaches in all forces prior to the adoption of THRIVE were not consistent, so most forces adapted their responses rather than fully adopt the THRIVE model.

Comments made during interviews

"I think THRIVE does work and we have done a lot of work over the past 18 months to get people to understand it. I think the vulnerability and its definition is the grey area at the moment." [A]

"There are various issues with THRIVE it is very subjective, I would think that if you were to test it that the subjectivity would result in inconsistency. You would also probably find that it isn't uniformly applied internally and externally across other forces. I am not confident that THRIVE is accurately grading incidents." [B]

"I do have a concern that actually the way some people use THRIVE is they're almost looking for something to write against each of the letters of THRIVE as opposed to consideration of whether or not something exists and that's my understanding it's whether or not there is vulnerability not what is the vulnerability." [E]

"THRIVE is a complete success it focused people's minds." [H]

"THRIVE has had a massive influence on demand management for us. It has taken a load out but it hasn't taken out what it should have taken out." [L]

Prioritisation system

There was evidence that all forces were simplifying their prioritisation systems, such as the number of levels of job grading, partly to improve the ways in which low-priority demand was dealt with quickly. There were clear trends towards remote resolution, where incidents would not be attended in person and would be classed as advice only. As such most forces now have just three main types of demand: urgent to be attended in person, attended soon and some form of bookable demand, such as diary car.

All forces dispatched officers in a timely manner for the respective first priority category. Issues started to arise in the second category often called priority or prompt. The variety of different incidents in this category left it up to the individual dispatchers to reassess the vulnerability and risk before choosing which incidents should be dispatched to first. This problem was identified by force J, who decided to split the priority category into priority high and priority low. Hence the priority list in force J looks like this:

1. Immediate (15mins)
2. Prompt (1 hour)
3. Scheduled
4. Diary
5. Not Dealt with or closed

By contrast, Force G have recently started to remove layers of priority to help reduce unnecessary demand. In Force G they originally had two layers of priority calls below urgent, “2.1” to arrive within an hour and “2” to arrive within 4 hours. However, they had noticed that the response times for grade 2 was actually better than that for grade 2.1. The system appeared to be partly grading on the basis of resource availability, rather than urgency. They have now moved to a matrix where there are two grades “urgent” and “soon”, with options to resolve in person or remotely. There is another option to not deal with the call (e.g. not a police matter). Most other forces had either four or five levels of response ranging from “urgent” to “not deal”.

One of the issues that needed to be addressed in many forces was that of re-grading work where dispatch were unable to send officers within the target time. In many instances, across most forces, a call would be graded as a priority but there would not be the resource to immediately allocate to the work. There were many comments about the problem of the level of unresolved calls still being handled at any one time. In practice, once a response was going to be missed the dispatch team would re-grade the call, usually to a lower grade, including “not deal”. The actual frequency of this occurrence is difficult to objectively measure, partly as there was little desire to highlight this within the control systems.

Failure and avoidable demand

Forces reported much demand that was unnecessary or was demand that should not be the responsibility of the police. There were common problems associated with demand associated with non-police matters such as noisy neighbours, inconsiderate parking, fly tipping and other civil matters. Some sources of demand, such as many missing person reports (mispers) often resulted in much police time being used when risks were low or the incident was not strictly someone whose whereabouts were unknown. Some comments reflected a frustration that policies in some forces created demand where all mispers needed to be investigated. One force indicated they would go to any non-police demand if there was also vulnerability present, e.g. an elderly person reporting fly-tipping who was scared of a repeat incident. Many other forces highlighted misper reports from social services or child services, usually on a Friday evening, as those services would be closed over the weekend and so “handed over” their demand to the police at that time.

Much demand involved people with mental health or other vulnerability issues where the demand was often repeated over time. The case study below highlights the extent of some of these problems.

Case example: The Need for Partnership Working

GMP Case study

The Need for Partnership Working

GMP conducted a study that took a sample of demand entering their system in January 2018. This was, in part, to determine how much of demand should be served by police and how much should have been

dealt with by other public sector partners. The incidents in the sample were assessed to see if they could be wholly addressed by police only, needed a partner agency to be involved, or could have been dealt with by another agency alone.

Table 5 Response types by agency needed

Response Type	Number of Incidents	% of all incidents
Police only response	406	54.86%
Joint partnership response	216	20.19%
Partner only response	117	15.81%
No answer given	1	0.14%

The study found that a high proportion of the incidents attended by police involved people with presenting complex needs or vulnerabilities, which initial police responders cannot resolve or support alone.

Table 6 Presenting issues of complex cases

Presenting Issues	Number of Incidents	Proportion of complex incidents	Proportion of all demand
Domestic Violence / Abuse	110	31.79%	14.86%
Child Safeguarding	108	31.24%	14.59%
Mental Health	106	30.64%	14.32%
Substance Misuse	81	23.41%	10.95%
Housing	60	17.34%	8.11%
Relationship Issues	56	16.18%	7.57%
Parenting	47	13.58%	6.35%
Social Care	41	11.85%	5.54%
Physical Health	30	8.67%	4.05%
Finances / Debt	13	3.76%	1.76%
OCG	6	1.73%	0.81%
Immigration	3	0.87%	0.41%

The incidents requiring partner involvement were also very likely to be part of a pattern of repeat demand. More than half of the incidents of repeat demand (the same person calling in for a second time or more) involved people with complex needs which had not been effectively met during or after preceding incidents. In some cases the pattern of repeat demand had spanned many years. In one case, for example, a person with a long term mental health condition contacted police in October 2011, had created an additional 40 incidents since that time and is still actively calling the police. 39 out of 41 incidents have been attended by police.

One possible resolution to the findings is GMP's introduction of a Mental Health Triage service that sits within their Operational Communications Branch (OCB). With almost 15% of GMP's demand based off the audit containing an element of mental health, the intention is that mental health professionals sitting within OCB are able to cross-reference the names of a caller to GMP in real-time in the NHS database and provide advice to GMP on next steps, including who else may need to be contacted in order to provide the best possible outcome for the caller and provide a more efficient approach for GMP. The triage

service will be evaluated at the end of 2019. The findings from the demand audit continue to be shared with other key partners in Greater Manchester in a bid to improve service delivery and efficiency, particularly around high-demand generators and information sharing and access in order to provide a more comprehensive picture of repeat callers.

Case Example: Reducing Investigative Demand at Kent and Cambridgeshire Police Forces

The visit to Cambridgeshire Police uncovered an emerging approach to the reduction in demand for investigative resources. These forces were using a newly-adopted algorithm (EBIT) developed by Kent McFadzien at Cambridge University in partnership with Kent Police (see Howgego, 2019) to help decide which crimes are solvable and should be investigated and which do not warrant further investigative resources. At present the tool is used for assessing assaults and public offences but might be used more widely in the future. The tool, initially tested at Kent Police, is still under assessment (including validation at Cambridgeshire Police) but early results seem promising.

All forces had a concept of avoidable demand even if they didn't use that specific term. The definition provided by forces was very similar. The general consensus was that avoidable demand was demand that the police shouldn't be dealing with. This definition does differ from the formal definition of avoidable demand (demand arising from behaviours that can be changed). Similarly with failure demand forces had a general knowledge base regarding this type of demand. Those forces who did use the term failure demand were unsure where the term originated from. While forces had a concept of failure and avoidable demand their ability to measure it accurately was limited.

Generally all forces encountered a similar kind of failure demand. This was when members of the public who were in a long waiting queue for their call to be answered on the 101 system hangs up and then phones 999. This displacement of demand in the call centre was managed by forces in two main ways. The first was to provide education and ask the member of the public to phone 101 again and the second was to take the call through the 999 system and deal with it like a 101 call.

The lack of a consistent design archetype for control centres did mean that some failure demand was generated by some of the systems in place. For example, many forces had all 101 calls arrive at a switchboard before the work was passed to call handlers in the contact centre. However the role of the switchboard varied where some merely filtered out calls that were routine contact with office staff but others deflected demand that was deemed inappropriate or unnecessary. There was also significant variation in how work passed through from call handling to dispatch. There was usually a clear distinction in the roles of call handling and dispatch, often with people on different job grades or classifications for each type of role. In two cases the roles were combined for 999 calls only. There was a move towards control centres becoming more orientated towards call resolution at the first point of contact, but the ways this was achieved also varied. In some cases the call handler would be the only point of contact, but in others work was passed on to other team members. Where calls are not attended to straight away and call-backs are offered, this is where much internally generated failure demand occurs because there is no guarantee that the caller can be contacted again first time. What often ensues is a series of attempts to re-contact the caller and in some cases the resources used move from staff in a back office of the contact centre towards front-line officers, resulting in more time being consumed by travel to location etc. There is also a question of whether or not someone wishes to be re-contacted once an initial report has been made.

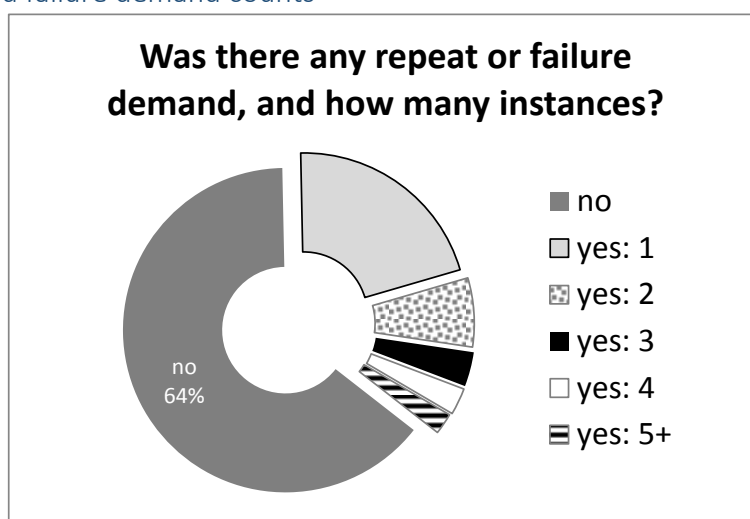
Table 7 Types of Avoidable Demand (examples provided)

Failure Demand	Avoidable Demand
Victims not being updated and then phoning back creating more demand	Noisy parties, fly tipping and lost bicycles
Failing to deal with incidents appropriately the first time.	Delay in answering 101 calls results in the public hanging up and phoning 999.
	Incidents that should be dealt with by partner agencies

Case Study Failure Demand Reduction at Gloucestershire

Three forces had actively assessed their levels of failure demand, although the approaches taken were very different. Gloucestershire Constabulary were one of the forces that conducted an in-depth study of their unnecessary demand (Walley and Jennison-Phillips, 2018). They studied a sample of non-urgent demand and discovered that, for every 100 calls that could have been resolved in one contact, the demand created was 160 actual contacts. The number of contacts per incident varied quite considerably, with up to seven extra unnecessary contacts on a single incident.

Figure 3 Repeated failure demand counts



Through a series of changes, Gloucestershire constabulary have been able to eliminate a high proportion of this known, unnecessary demand through a series of practical changes. They have improved demand measurement, status and performance monitoring and adjusted their capacity strategies. There is more emphasis on single contact resolution where this is deemed appropriate. As a consequence the force has reduced its overtime costs by about £1m per year.

Examples of demand management practices

All 15 forces have taken steps to improve their ability to manage demand or indeed reduce demand. These practices have resulted in both success and failure but demonstrate that forces are striving for improvement.

Some forces have set up protocols that identify types of demand that should not be dealt with by the police. These are often incidents such as fly tipping or noise complaints that can be dealt with by another agency in a more appropriate manner. It is not the case that forces are just refusing calls for service but they are educating the public and advising them to contact one of their partners. However, the way that forces have approached this varies. Some forces have blanket policies that state that they will refuse to

deal with a particular call. For example, force A refuse to deal with noisy parties and lost property. In contrast to this most other forces will conduct a risk assessment on the call before deciding if they will deploy or not (e.g. force B, D and J).

Some forces have taken this protocol and applied it to calls for service that included a crime. This was approached in two contrasting ways displayed by force A and force B. Force A have started to only respond to shoplifting if the value of the theft is over a stated value. Force B has taken a different approach and they assess the call based on solvability factors. If there are no solvability factors and no vulnerability or risk they will not investigate the crime. Forces have also moved towards increased use of telephone resolution to close an incident in the control room and therefore prevent an officer being dispatched.

Case Study: Force A Shoplifting Policy

Force A have created an innovative policy for reducing demand caused by businesses phoning in to report shopliftings. Each individual report is risk assessed. If there are no aggravating factors force A will not deploy an officer to investigate the theft if the amount stolen is below £50.

Shoplifter detained

If the business has the shop lifter detained and phone the police via 999 or 101 the call handler will take initial details. They will then assess the call and decide whether or not there are any aggravating factors (listed below). If one of these factors are present then police will attend the shoplifting. However, if there are not any of the aggravating factors present police will not attend and the business will be advised to deal with the detained person as per store policy and a crime reference number will be provided.

Shoplifter not present

If the shoplifter is no longer present at the scene and the business phones the police a crime reference number will be provided and police will not attend. If there is evidence of the shoplifting such as CCTV the business will be forwarded a business crime pack asking them to send the evidence and statements to police.

Aggravating Factors

- Shoplifter is violent or making threats.
- Shoplifter is wanted, missing or on bail.
- The Shoplifter appears to be under the influence of alcohol or drugs to the extent that communication is not possible. If you have any concerns about the offender's health, call an ambulance first.
- Shoplifter is considered currently managed/monitored by the criminal justice system. (Police, probation service and other criminal justice agencies).
- The items have a marked retail value of £50.00 or over.
- Shoplifter is under 18.
- Shoplifter is considered legally vulnerable.
- Shoplifter has a history of previous shoplifting.
- The retail store is classified by police as a high risk location.
- The Shoplifter committed the offence with others. Those that normally work with others and have the intent and capability to commit serious crime on a continuing basis
- Shoplifter committed other offences at the time. If during the commission of the theft offence the offender has assaulted anyone or committed any other offences the police will attend.
- Shoplifter is uncooperative or refuses to identify themselves. Social media is not considered an adequate method of verifying identification.

- There is evidence that the offence was a hate crime. A crime motivated by racial, sexual, or other prejudice.

Preventative Strategy

Force A have also developed advice for businesses to assist in preventing shopliftings occurring in the first place.

- Disruption tactics – approach people acting suspiciously and offering assistance and standing guard by exits.
- Good customer service – greet shoppers which may deter shoplifters
- Use of signage – making it clear to shoplifters that it will not be tolerated.
- Partnership working – join a local crime prevention initiative such as a radio link.
- Layout consideration – reduce the number of exits and blind corners, place expensive goods away from entrances and exits and place ‘hot’ products in high security areas.

Forecasting and technology

All 15 forces demonstrated an ability to use of forecasting models to identify likely peaks and troughs in demand entering the system within the call centre. This was then used to inform resource models and stimulate innovation.

The use of technology to help deal with demand entering the system and process information quickly was also demonstrated in all 15 forces. There was a push towards moving demand onto online channels. This was especially the case in force F who have embraced social media and allowed members of the public to report incidents on twitter. The majority of forces also allow members of the public to report incidents on their respective websites. The usual system is for these reports to be sent through in an email to call centre staff for them to be manually entered into the system. The mode of online reporting is likely to change in the future with the standardisation of websites across all forces with the introduction of the single online home currently in development. However, technology has also proved to be a hindrance for forces with regards to outdated infrastructure and rigid IT suppliers slowing down the ability for forces to adapt and change (force E and F).

Forces have taken steps to bring partners into the control room in assist in dealing with demand caused by mental health related incidents. The implementation of these partnerships differ between two approaches. The first where a mental health expert is in the control room and assist with speaking to members of the public and triaging calls (force A, C, I and K). The second approach involves a mental health triage car that can respond to incidents and is staffed by a mental health professional and a police officer (force E and M). Force D and L have a hybrid system which involves mental health professionals being in the control room as well as dispatching them to incidents. Force K are bringing in members of Victim Support into the control room so they can provide that added bit of advice to members of the public and reduce the demand on call handlers.

Issues of implementation or sustainability of changes to practice

Forces agreed that the first priority in implementing change is a good empirical evidence base. Forces also suggested that how the changes are sold to staff is important especially in preventing them returning to older ways of doing things. It has been suggested that this can be carried out by good communication, consultation and training.

Comments made during interviews

<i>"We have been able to maintain changes it has been difficult but we have been able to sustain it. We do however, know that things can change. Knowing the business and having access to data are both important." [A]</i>
<i>"If a decision is made to implement a change we always brief staff with what the change is and why the change is being made. It also needs to be checked and tested to make sure the change has been implemented and that it's working." [B]</i>
<i>"A good evidence base is also important for convincing people that a change needs to occur." [B]</i>
<i>"The relationship or reputation of public confidence, that's a huge factor" [C]</i>
<i>"The police culture is difficult to permeate through, real change takes a lot of time. It is difficult to implement change, my worry is that the organisation is going through so much change that officers don't know what's happening." [D]</i>
<i>"Our corporate memory is not very good." [E]</i>
<i>"The biggest challenge is the legacy of the technological infrastructure. Whilst we could easily look forward to the advances, our problem is integration into the existing network." [F]</i>
<i>"Identifying the dependents and partners and working with them throughout the project. We identify what the dependencies are so we can understand this up front which reduces issues as the project moves along." [M]</i>

Centres of Excellence

All forces were asked if they looked at other forces' practices for guidance. There was no one force that was always mentioned, but the "Durham" model of demand management was the most commonly cited. West Midlands Police had clearly been influential, partly due to their active role in the NPCC Demand management project (including the development of THRIVE). Forces mentioned numerous centres of excellence for a variety of reasons.

- Hampshire – concern for safety/mental health
- Durham- demand management
- West Midlands – control room and THRIVE
- Kent – solvability
- South Yorkshire – control room
- Avon and Somerset – demand management

Change in the quality of service

As a consequence of forces inability to meet demand change has been necessary. There was agreement across all forces that the public will have seen a change in the quality of service. Stations have closed and forces are investigating fewer crimes by traditionally deploying an officer. While forces differ in how the

changes have been implemented they generally have made similar changes. There has also been a push to educate public in what the police can and will deal with in the present and the future. Changes include;

- More services being provided remotely rather than visits by the police
- More service being dealt with in a single call, without additional follow-up
- Increased use of social media for reporting crime and contacting police
- More service being “advice only” rather than investigative
- Higher thresholds for what crimes the police are willing to investigate
- Greater responsibilities placed upon the public for crime prevention
- Businesses required to take on more responsibility for theft prevention and evidence collection
- Increasing reluctance to deal with demand related to non-police matters
- Increased levels of coordination with other agencies

“We do investigate fewer crimes. We no longer go to all shopliftings as it depends on the price. I think this will be happening more and more. It’s about asking people what they expect, they often just want it recorded.”[A]

“The public may have seen a reduction in service quality as a consequence of demand management practices. I suppose there is two things, have they actually seen a negative change or how they feel about the service. One of the lowest levels of victim satisfaction is on vehicle crime because we will regularly not dispatch to this. They feel they have had a lesser service but they actually haven’t because the outcomes will be the same. We are not going to do anything in demand management that is going to put people at risk or make it more likely that they will be a victim of a crime.” [B]

“Austerity has made us change and work has been pushed down and people are having to deal with things they never had to before.”[D]

“It has changed and it will continue to change the service that they receive has improved and will continue to better. We will likely have to withdraw some services from the public.” [H]

“The quality of service has definitely went down but we have to understand the parameters we have to work in.” [L]

Collaborative Working

The study provides a mixed picture in terms of the levels of collaborative working to reduce demand for policing. Most forces had some level of collaboration with Mental Health services, with mental health professionals being available to take calls during working hours in many contact centres. Some forces had other levels of mental Health collaboration, especially the use of a triage care that would contain a constable working alongside a triage nurse. Forces were also working with fire services, for example to coordinate the availability of defibrillators.

There remains a strong desire amongst many officers to engage with other services in a collaborative manner. Joint working with mental health services, such as mental health triage cars, or back office support by mental health specialists, was seen as a positive step to dealing with many incidents with a mental health component. However, there is also some frustration about the ways in which some other public agencies generate or report demand, such as missing persons who are in care. Force B suggested that forces used to be on a trajectory towards increased collaboration but recently this has changed. Force B highlighted that collaborative working can be very restrictive and partners are not prepared to give up their sovereignty. There was also an awareness across forces of the difficulties that

information sharing poses especially after the introduction of GDPR. Other agencies are reluctant to share information which can slow progress and even lead to break downs in partnerships.

Forces mentioned a common issue with the 24/7 nature of the police and that the police will always be the agency of last resort. Other issues with collaborative working include:

- Different agendas
- Organisational culture
- Restrictive data sharing
- Financial restrictions
- Political influences
- Lack of willingness to learn and share
- Personality differences

6. Conclusions and Recommendations

This research has shown that forces are in a state of continuing adaptation and change with regards to the management of demand and capacity. All forces appear to share a common problem – that demand outstrips their current effective capacity to attend to all demand and that the profile of what consumes policing resources is in a state of change.

It is clear that the reports from forces of the difficulties of meeting demand have been seen in this study. The true situation is often masked by how performance is reported, both externally and internally to each organisation. Targets for the response times for calls entering the system have influenced practice within control centres, where most control systems are good at measuring performance and communicating current status of the ability to pick up new demand entering the system. This enables contact centres to keep track of their own performance, especially in terms of how quickly they are able to pick up a call and start to assess the problem being reported. However, just like triage in healthcare, this does not always imply that there is the front-line capacity to deal with this demand on the ground. Many forces have no choice but to downgrade some incidents when there is no realistic chance of being able to attend to a lower priority call at the times of maximum demand/capacity imbalance.

We are probably at a divergent stage of development in demand and capacity management practices, where all forces are independently testing new ideas to see what works best. It should not therefore be too surprising that there is no single, dominant model of how to manage demand and capacity that has yet emerged. Although most of the forces share relatively similar types of emergency and routine demand coming through 999 and 101 call numbers, every single step of how that demand is filtered and graded has wide variation in how the work is processed and dispatched. There are emergent consistencies in how systems are being redesigned. In particular, most forces have simplified the ways in which urgency is graded within control centres. There is also a common trend towards earlier resolution of less complex demand, either to deal with this remotely or to pass this demand on to other public bodies.

The lack of consistency implies relatively low levels of collaboration, evidence and practice sharing outside those forces that have formal agreements to combine some services, such as contact centres. There are some instances where forces have actually combined services, and this has also led to an exchange of ideas about how systems should be configured. There are also consortia of forces, such as CPRL, which might provide a forum for sharing developments. However, it was seen that transfer of knowledge often happened through the movement of officers from one force to another, rather than a simple transfer of knowledge. We also draw attention to the lack of internal communication witnessed in some visits. Inside some forces there is a divide between the practical management of running the control centres and the development of new methods for managing demand and capacity. This divide is created by a long-established practice that is both structurally and culturally embedded whereby much improvement activity is separated from front-line activities to not distract front-line resources from core tasks. Although there are some advantages to this separation, we also suggest there are disadvantages in terms of communication, transfer of knowledge, development of skills and duplication of effort.

Consequently this study includes the following recommendations:

1. There should be more effort to share knowledge about demand and capacity management practices, so that an evidence base for good practice can be generated and forces do not have to duplicate the same experiments into what works.

2. There should be more of an integrative approach to the development of demand and capacity management within forces, where a wider section of force employees are involved in demand and capacity working, knowledge generation and implementation of new practices.

3. The majority of forces still need to do more work to integrate post-dispatch activity into their demand management planning. At present there is resistance to this type of work because of the belief that work is too variable and unpredictable for this to be of benefit. Some of the cases studies presented in the main report demonstrate the advantages of planning to cope with workload variability.

References

- Disney, R. and Simson, P., (2017) Police workforce and funding in England and Wales, Institute of Fiscal Studies, IFS Briefing Notes BN208,
- Howgego, J. (2019), "A UK police force is dropping tricky cases on advice of an algorithm", New Scientist, 8 January: <https://www.newscientist.com/article/2189986-a-uk-police-force-is-dropping-tricky-cases-on-advice-of-an-algorithm/>
- Keene, S.D.(2012), Emerging threats: financial crime in the virtual world, *Journal of Money Laundering Control*, Vol. 15 Issue: 1, pp.25-37.
- Klassen, K.J And Rohleder, T.R. (2002), Demand and capacity management decisions in services; how they impact on one another, *International Journal of Operations and Production Management*, 22 (5), p527-548.
- NPCC (2017), Better Understanding Demand – Policing the future, NPCC Performance management Coordination committee, London.
- ONS (2018), Crime in England and Wales: year ending September 2018, ONS, London.
- Ransley, J and Mazerolle, L, (2009), "Policing in an era of uncertainty" *Police Practice and Research, An International Journal*, Volume 10, 2009 - Issue 4, pp365-381
- Ritchie, R. And Walley, P. (2016), 'The challenges of public sector demand and capacity management: an exploratory case study of police services.' In Radnor et al. (eds.), *Public service Operations Management, a research handbook*, Routledge, Oxford, pp. 117-13
- Sasser, W.E. Jr (1976), Match Supply and Demand in Service Industries, *Harvard Business Review*, 54 (6), p133-140.
- Seddon, J (2003), *Freedom from Command and Control*, Vanguard Press: Buckingham.
- Seddon, J (2009), "Failure Demand – from the horse's mouth" *Customer Strategy Issue 1*, Vol 2 Winter 2009 pp 33-34
- Vinod Kumar TK (2014) Differing services, rising expectations, and greater demands. *Policing: An International Journal of Police Strategies and Management* 37(1): 170–189
- Walley, P. (2012), "Does the public sector need a more demand-driven approach to capacity management?", *Production Planning and Control*, Online March 2012, ref: DOI: 10.180/09537287.2012.2012666886, pp1-14
- Walley, P. and Jennison-Phillips, A, (2018) "A Study of Non-Urgent Demand to Identify Opportunities for Demand Reduction", *Policing: A Journal of Policy and Practice*, pay034, <https://doi.org/10.1093/police/pay034>

Appendix 1: Data Tables

Table A1 Demand Measurement

Force	Mechanisms for Collecting Data	Capacity vs Demand	Emerging Threats
A	Qlik software provides an overview of demand, this covers all demand including investigative and preventative. The analysis also covers trends in demand and can be used to select appropriate staffing levels.	No information	Qlik can be used to tackle emerging threats as analysis will bring these up.
B	Good at measuring activity and systems record on a daily basis. Can look back 10 years and understand what the issues were ten years ago. Not good at predicting future demand Detailed demand mapping Ability to look at hotspots. No official definition of demand.	Under pressure in regards to dealing with calls for service. Currently have an action plan from HMIC around our prompt response stating that we don't have enough resources there. Do not have enough resources to manage all the demand	Aware of emerging threats and have a control strategy.
C	Good understanding of demand. Many different systems that help us understand demand. Can extract the information to create datasets. Demand analytical team who look at the demand caused by preventative work. We do understand hotspots of demand. Don't have an official definition of demand.	Coping but it is at point break. We are ahead of the curve in regards to streamlining processes.	Understand emerging threats such as terrorism.
D	Service improvement department and team of analysts produce lots of data on demand. Crime recording system NICHE which we also use to gather data. We do have a distinction between front line response and other demand. We look at it a bit deeper and look at what the demand looks like. No official definition of demand.	Not have enough capacity to meet the demand 80% of our 999 calls are not urgent. We could deal with the 20%.	We aware of emerging threats such as human trafficking, terrorism and cybercrime. We have noticed emerging threats, recently we have had issues with drones. Offences committed on social media can be difficult. Modern slavery and CSE Yes understand these.
E	Understand demand in terms of incoming call data	We do not have enough capacity to meet demand.	
F	We can predict somewhere between 97 & 98% accuracy the volumetric of calls coming into the organisation. A sweep of technologies to predict the	We don't, this is a big challenge.	The changing nature of communication is the single biggest emerging threat.

	<p>volumetric of what's coming in 15 minute segments and then schedule specific people who can answer those calls. We are highly accurate at full capacity.</p> <p>All the collected data is put through a program called work force manager.</p> <p>Historical incoming call traffic data, but not seen as a good representation of true demand.</p>		
G		<p>Non-quantified assessment that there are not enough officers to do jobs. Paperwork and follow-up not happening.</p>	<p>Clear problem with gun and knife crime that is difficult to deal with. Two major cases not dealt with effectively, so a lot of focus on grooming and threats</p>
H	<p>Good at predicting demand. Predict demand and then trace resource model against it.</p> <p>Don't have a definition of demand.</p>	<p>We do not have enough capacity to meet demand especially in the summer. We can work towards our predictable demand however, we can do very little to meet unpredictable demand.</p>	<p>We conduct strategic assessments which predict emerging threats.</p>
I	<p>In terms of control room everything that comes in is logged, even if not an incident all the details are recorded.</p> <p>Mapping for departments to find out where demand is. Understand long term and short term trends in demand.</p> <p>Do not have a definition of demand. We can carry out hotspot analysis.</p>	<p>More officers for front line, but lacking in PPU & CID.</p> <p>In the control room we do have enough capacity. Always work with 10 people over capacity.</p>	<p>Carry out national exercises in relation to responding to these. Staff are also trained in how to deal with these incidents</p>
J	<p>Could be improved upon. Try to categorise different types of demand especially from partners and other forces.</p> <p>All data analytics is done by people No automatic systems.</p>	<p>We don't have the capacity to meet the demand for everything.</p>	<p>Training days regarding emerging threats such as terrorism and human trafficking. Trained all staff on our response to a marauding terrorist attack and we often run through scenarios.</p>
K	<p>Growing resources into understanding what demand is, what is the normal variation and what is the baseline is etc. Files set up which include data all the way back to 2013.</p> <p>Also baselined workloads and what abstraction is normal and what training levels are normal because all of these are demands of a type.</p> <p>Heavy reliance on excel but dashboards streamline the data analysis.</p> <p>Building algorithms which will allow us to predict the number of calls and where the incidents are likely to happen.</p>	<p>Recruitment drive to employ around 400 officers. Sometimes the demand feels like it is too heavy for the resources we have got.</p>	<p>Knife crime is also an emerging threat.</p> <p>We have specialised units that are looking at emerging threats</p>

	<p>Don't officially have a definition of demand.</p> <p>Measure demand as the effort required to service that volume. Don't buy any commercial software.</p> <p>Hotspot demand to look at particular areas.</p> <p>Understand where growth in demand is occurring but not at the level to accurately predict it.</p>			
L		<p>We do not have enough capacity to meet demand: moving towards prevention and early intervention. For reactive demand: do not have capacity.</p>		<p>Aware of emerging threats, ours are mainly around county lines.</p>
M	<p>Developing resource models to work out how many people needed to meet the demand. Across around 30 different teams continue to add to this.</p> <p>Understand how much time a resource has to take to complete a task and we have available for resources to carry out tasks.</p> <p>We do not have a definition of demand</p>	<p>We do not have enough capacity to meet demand. "Working on minimum staffing". The staffing forecast is based on an average and it will probably be wrong more than 50% of the time.</p>		<p>Understanding of emerging threats and complexity of crime.</p>
N	<p>Internally developed IT system for collecting demand data and processing it.</p> <p>Definition of demand: Number of calls also related to consumption of front-line resources</p> <p>Wide range of trend and locational analysis</p> <p>Control charting of variation</p> <p>Forward planning of planning, especially special cause events</p>	<p>Originally 30% more demand than capacity to deal – now reduced significantly</p> <p>Planning system to match demand and capacity peaks and troughs</p> <p>Red/amber/green system for capacity shortages</p>		<p>Working groups to tackle chosen areas of activity</p>
O	<p>Extensive demand statistics generated, with mixture of automatic and offline analysis.</p>	<p>Coping with demand, but looking extensively at ways of reducing demand</p>		<p>Emerging threats known and extensive plans to deal with range of these.</p>

Table A2 Prioritisation and Response

Force	NDM	THRIVE	THOR	Successful?	Prioritisation System
A	Yes	Yes	No	THRIVE seen to work	<ol style="list-style-type: none"> 1. Code 1 immediate 2. Code 2 – priority which is split into priority high (1 hour) and priority low (4 hours) 3. Scheduled 4. Desktop Investigation 5. Resolution Team
B	Yes	Yes	No	Various issues with THRIVE: seen as very subjective	<ol style="list-style-type: none"> 1. Immediate (15mins) 2. Prompt (1 hour) 3. Scheduled (24 hours) 4. Appointments 5. No response
C	Yes	No	Yes	National Decision Making Model, and THOR seem to work	Mixed
D	Yes	No	Yes	Level of THOR use low	<ol style="list-style-type: none"> 1. Immediate (with 15min), 2. Urgent (within an hour), 3. By arrangement 4. By appointment
E	Yes	Yes	No	It does work, but there can be an issue of everyone is classed as vulnerable.	<ol style="list-style-type: none"> 1. Emergency response 2. Priority response 3. Resolve without deployment 4. Scheduled response
F	Yes	Yes	No	No information	<ol style="list-style-type: none"> 1. Immediate (15mins) 2. Significant (1 hour) 3. Extended (24 hours) 4. Referred (no deployment)
G	Yes	Yes	No	Historical failure of assessment now being addressed. The system still allows considerable flexibility in cases such as Mispers	Fast and Fixed with criticality levels: <ol style="list-style-type: none"> 1. Immediate threat 2. Important Need to Go 3. Bookable visits 4. No visit
H	Yes	Yes	No	THRIVE is a complete success it focus' people's minds	<ol style="list-style-type: none"> 1. High 2. Low
I	Yes	Yes	No	Thrive works well.	<ol style="list-style-type: none"> 1. Emergency (20 mins) 2. Priority (1 hour) 3. Scheduled (72hours) 4. Resolution without deployment
J	Yes	Yes	No	THRIVE works well	<ol style="list-style-type: none"> 6. Immediate (15mins) 7. Prompt (1 hour) 8. Scheduled 9. Diary 10. Not Dealt with or closed
K	Yes	Yes	No	THRIVE always at the core but we	<ol style="list-style-type: none"> 1. Emergency (15mins) 2. High (30mins)

				need to continue to assess risk	<ul style="list-style-type: none"> 3. Prompt (2 hours) 4. Upgrade (appointments or advice)
L	Yes	Yes	No	THRIVE has taken demand out but not all it should.	<ul style="list-style-type: none"> 1. 999 – (15mins in urban areas and 20mins in rural) 2. Priority (1hour) 3. Appointment 4. No attendance
M	Yes	Yes	No	THRIVE seen as a good tool, but longer calls.	<ul style="list-style-type: none"> 1. Emergency (10 mins) 2. Priority 3. Scheduled 4. Resolved without deployment
N	Yes	Partial	No	New system with simplified levels of urgency is working well	<ul style="list-style-type: none"> 1. Urgent (15 mins) 2. Soon (2hrs) 3. Self-reporting 4. No action
O	Yes	Partial	No	In-house system	<ul style="list-style-type: none"> 1. Emergency (15 mins) 2. Priority (1 hour) 3. Routine (4 hours) 4. Scheduled (48 hours) 5. Telephone Resolution (1 call)

Table A3 Service Changes and Collaborative Working

Force	Examples of Demand Management Practices	Failed Demand Management Practices	Issues of implementation or sustainability of changes to practice	Centres of Excellence
A	Internal demand management group Also looking at waste management Booking and scheduling system is being implemented We have also implemented a mental health triage function in the control room. <u>Click software</u> Look at shift patterns and geographic deployment. A move towards civilianising police duties, the organisation is about 60% warranted officers and 40% staff. We have a collaborative HR department with Bedfordshire and Hertfordshire.	Non crime triage system became over-complicated and it stopped working. Forecasting tool was a complete failure. Withdrawn after 2 years.	Able to maintain changes but has been difficult	Hampshire – concern for safety policy Leicester- Sick pay efficiencies
B		“Airway speak” initiative didn’t work	Generation of an evidence base is critical for sustainability Staff training, briefing and by-in is important as well as tracking progress. There is always a pressure around change and people tend to revert back to the old ways particularly if they don’t like the change or its complex	Durham West Midlands
C	Demand management project with neighbouring force. Focusing on demand reduction and resolution at first contact. Support for demand generated with mental health as a root cause.	The resolution centre has had to take on too much unnecessary demand	Maintaining relationship or reputation with public. Being able to invest in staff appropriately. Myth busting quickly: open Q&A with the bosses.	Nowhere comparable seen to be better
D	Demand management project with neighbouring force. Sudden death policy - This has cut our sudden death attendance by 50% Time spent on cannabis factories Drug diversion pilot Our shift patterns change	THRIVE has had a massive influence on demand management for us in terms of it has taken a load out but it hasn’t taken out what it should have taken out.	The police culture seen as difficult to permeate through Complexity around partnerships is also difficult especially in getting agreements	Kent – Solvability Durham

	<p>Smarter resolution teams Appointment system Mental health triage in the control room and a mental health triage car. Closing off jobs earlier and handing it over to the officer.</p>		<p>We don't have enough resource</p>	
E	<p>Telephone resolution units is one of the big things we have done to manage priority incident where the attendance of a police officer is not required immediately or where an officer is required, but maybe not physically. So that can be done over the phone. That was really about managing an increasing priority calls where we could do that better over the phone. The goal was to resolve 7% of priority incidents that were screened into TRU by phone and take some of the demand off front line officers Mental health triage car</p>		<p>Our corporate memory is not very good. Staff, particularly in a branch like this we're very staff lean, we don't have very much resilience. It takes very little absence wise to make things grind to a halt. By the same token though if you get staff really engaged they'll be really involved.</p>	<p>South Yorkshire is pretty good in terms of contact management. The MET is pretty good in terms of their demand management. They've a bigger force and obviously significant demand pressures and how they manage that out.</p>
F	<p>We have a suite of online digital channels where the public can contact us. Automatic technology will deflect the 14% of demand we currently get into the organisation that's nothing to do with us. Robotics are currently involved in dealing with demand and automatically reading it. We haven't got the academia yet but we'll be working with researchers. Specifically on when a bot doesn't know how to respond to something it will seamlessly pass the interaction to a human to take over and then watches to learn for next time. Combination of using big data, visualising it in the right way, narrated in the right way & suggesting solutions to the problem solvers. How best to visualise the data rather than training a few thousand people to become data analysts</p>	<p>No information</p>	<p>The biggest challenge is the legacy of the technological infrastructure. Whilst we could easily look forward to the advances, our problem is integration into the existing network.</p>	<p>No information</p>
G	<p>Collaboration with other forces for some central functions, e.g. HR to reduce workload Looking at failure demand (small scale at present) Handing off non urgent 999 calls to 101 Deflecting demand to web messages</p>	<p>No specific initiatives have failed</p>	<p>Staff are not ready for some advanced demand management work</p>	<p>Cambridgeshire have influenced a lot of changes to practice.</p>

	Advice on when to call for non-urgent demand	Police support investigators to deal with booked appointments were sent to the wrong types of jobs.	Lack of experienced staff in some areas	
H	<p>Police officers who used to be dispatchers or call handlers who maintain that skill level can be brought in. The fire service now respond to people who have collapsed behind closed doors instead of police. Working with the fire service to see if they can do more.</p> <p>Desk based investigation taking 30% of force crime.</p> <p>Focus on regular callers.</p> <p>Introduced appointment cars.</p> <p>Volume crime team who will take 100% of voluntary attenders and 90% of prisoners</p> <p>Mental health triage team and a social media team.</p> <p>The whole change programme is all around demand management.</p> <p>A demand led shift pattern. Also use tools and techniques such as process mapping and gap analysis.</p>		There is an appetite for change as long as it's evidenced.	<p>Worked with other forces such as the MET for diary cars.</p> <p>Avon and Somerset have a really good system called Qlik.</p> <p>Warwickshire have developed a new system of working with THRIVE</p>
I		No Information	"Dragon's Den" where people can come and make suggestions for change Good communication, consultation and training.	<p>Benchmarking</p> <p>Durham, Surrey and Sussex.</p> <p>Hampshire because of their mental health work</p> <p>Avon and Somerset's control room runs remarkably well</p> <p>Derbyshire and Durham,</p>
J	<p>We have a change team and their job is to assess areas of improvement.</p> <p>We have introduced more online services such as wechat and online reporting.</p> <p>Diary car.</p> <p>IVR in the control room.</p>	Diary car had scheduling issues and people unhappy without police officer inside	Performance management can work against change	

K	<p>Domestic abuse and mental health experts in the control room.</p> <p>Civilians who are members of victim support and refugees who can talk to victims and get them accommodation or sort them out finances etc. is taking the demand off contact officers.</p> <p>Telephone resolution.</p> <p>Educating the public</p> <p>N8</p> <p>Implementation of shift patterns which matched demand, reduced deployment times and decreased the amount of calls in queues.</p>	No information	<p>Underestimation of training requirements and learning to use new systems</p> <p>Silo working</p> <p>Having to start to implement post implementation reviews</p>	<p>For demand the likes of Durham are well known.</p> <p>We have also visited Sheffield Hospital</p>
L	<p>Street triage and mental health professionals in the control room.</p> <p>Demand lead shift patterns</p> <p>The focus going forward is prevention.</p> <p>Problem caller demand reduction</p> <p>Projects focusing on the use of technology</p>	Copying practice from very different forces hasn't worked	A lot of what we do is to understand demand instead of trying to manage it more effectively.	Durham. Lancashire
M	<p>Appointments</p> <p>Desktop investigation</p> <p>Crime support hubs</p> <p>Work with HR to inform them where vacancies need to be created.</p>	Appointments system wastes some visits	Identifying the dependents and partners and working with them throughout the project. It might not be the right time to implement a change	No information
N	<p>One-touch resolution has been best change so far</p> <p>Forecasting tool integrated with planning of all departments</p>	Triage still lets some failure demand into the system – difficult to remove all	Resistance to some changes to how work is graded. Have to maintain mandated response to some types of incident.	West Midlands used for many practices (staff deliberately recruited from this force)

	Force operating state system used to flex capacity by moving resource around at unusual peak times	Adjustment of shift patterns a lot of work.	Some systems being used beyond their designed purpose	
O	<p>Appointments system</p> <p>Detailed demand reduction analysis</p> <p>Clear attempt to filter calls out where they don't need to be passed on. One-touch resolution</p>	<p>Focus on underlying causes of unnecessary demand.</p> <p>Pilots of collaborative working</p>	None stated	None stated

Appendix 2 Interview Questionnaire

1. How well does the force/agency understand their levels of demand?

What mechanisms do you have for collecting data on demand coming into the force?

Do you make a distinction between front-line response and other demand (e.g. for investigative or prevention work)?

Is demand numbers of incidents/calls or is resource consumption factored in?

Pick-ups

How is demand defined?

Are there any specific means of specially coding demand that help with demand analysis?

Are there attempts to understand:

- i. long-term trends,
- ii. demand seasonality
- iii. demand variability
- iv. mix variation
- v. "hot spot" demand
- vi. Other possible patterns

Is the journey of work understood – e.g. a process map of how work filters through the system?

Is there any kind of workflow control – checking that work is done?

What is their perception of demand/capacity imbalance?

How much work do they refuse to deal with?

Do they formally pass work to other parties?

1a Emerging Threats

What emerging threats are you having to deal with?

Is there a clear plan for how each of these is to be tackled?

Do you work closely with agencies such as the NCA?

Are you confident that these threats are being addressed?

Control Centre Mapping

Sketch out the journey of work from call coming in through to single visit incident being closed.

Identify common variants and identify variations:

"do now" vs postpone (e.g. let local officer deal with later)

Coordination of other resources such as SOCO or detectives?

What data is there on timing of calls and mix variation?

What shift patterns are in place?

How does performance vary over 24hrs/week?

What staff are directly linked to this control centre, e.g. IAU, mental health personnel?

2. Have they changed practices involving prioritisation and response?

Is the National Decision Model used to help prioritise work?

How does their categorisation of demand priority work in practice?

Has their approach to prioritisation changed over the last few (say 3) years?
Is prioritisation just done within the call/contact centre?
Do they have a staffed Incident assessment Unit or similar back-stop?

Pick-ups

What are their experiences of THRIVE+, if any?
Have there been implementation challenges of new prioritisation systems?
Has a change to prioritisation helped in any way?
Are incidents dropped through lack of capacity/slow response?
3. Are they identifying and dealing with avoidable demand? If so, how?
Are there specific types of demand you don't want to deal with? If so, what?
Do you now refuse to deal with some types of call or request?
Are there tricky areas, such as dealing with mispers that potentially waste time?
Are any forms of this demand avoidable?
What actions are being taken to reduce avoidable demand?

Pick-ups

Have they classified types of avoidable demand?
Are there the usual problem types of demand they can't deal with, e.g. noisy neighbours, nuisance parking etc.?
Have they used the concept of failure demand?

4. What demand management practices are most commonly adopted across forces?

What other attempts have been made to reduce demand in the last 2-3 years?
What effort has been put into improving capacity management?
i. Adjustment of shift patterns to match demand
ii. Skill mix adjustments
iii. Use of non-police
iv. Increases/decreases in staffing
v. Reallocation of people to different roles
vi. Booking and scheduling systems

Pick-ups

Has there been an increased focus on crime reduction?
Have you consciously focused on productivity/yield from resources.

Appendix 3 Centre Contact Details

Dr Paul Walley, Director of Learning, paul.walley@open.ac.uk

Centre for Policing Research and Learning

The Open University

Walton Hall

Milton Keynes

MK7 6AA

General enquiries to: OUPC@open.ac.uk

Web: <http://centre-for-policing.open.ac.uk/>

Twitter: @OU-Police-Centre

Acknowledgements:

The authors are grateful to all the forces that contributed to the study especially those who devoted time to being interviewed and providing additional information. We thank the Centre members for funding the project. The Police Service of Northern Ireland contributed significantly to the resourcing of the research project. South Yorkshire Police and the Problem-solving Project Team supported the work throughout. A few of people who helped can be named: We thank Dr Ahmed Kadry and Chief Superintendent Paul Savill for the GMP research data and to Chief Superintendent Jo Smallwood at Gloucester Constabulary for her support. We are grateful to Kent McFadzien (Cambridge University) for allowing us to quote the EBIT algorithm prior to official publication. Supt John Phillips and Chief Inspector Andy Featherstone (Kent Police) and Supt James Sutherland (Cambridgeshire) were also involved in the EBIT research.



Centre for Policing Research and Learning

The Open University Business School
Michael Young Building
Walton Hall
Milton Keynes
MK7 6AA

Email OUPC@open.ac.uk

Web <http://centre-for-policing.open.ac.uk>

Twitter [@OU-Police-Centre](https://twitter.com/OU-Police-Centre)

Centre for Policing Research and Learning

