

Impact case study (REF3)

Institution: The Open University		
Unit of Assessment: C17 Business and Management		
Title of case study: Improving the police forces' public demand management by using failure demand analysis		
Period when the underpinning research was undertaken: Sep 2015-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Dr Paul Walley	Senior Lecturer, Policing	07/09/2015 – present
Period when the claimed impact occurred: 2017-2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Demand poses a serious challenge to UK police forces, often shown to outstrip the resources available to meet it and consequently requires forces to prioritise demand and restrict what services they provide to the public. Research conducted by Dr Walley at the Open University investigated the non-urgent demand in the control room of Gloucestershire Constabulary (GC) by using a "failure demand" perspective. Through the introduction of demand management and demand reduction techniques based on the research's applied theory, GC was able to improve its ability to meet demand and its response times, reduce officer workload and save significant amounts of money through reduced staffing costs. The successful results achieved by GC led to further funding and engagement by other police forces and programmes, resulting in further impact to professional practice.</p>		
2. Underpinning research		
<p>Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) independently assesses the effectiveness and efficiency of police forces and fire & rescue services. Their reports have consistently pointed towards the police's inability to meet demand over the last 10 years. The decline in police officer numbers, which have fallen by 14% since 2009, has contributed to workload pressures which mean that forces are often unable to answer and respond to many of the 93,000 emergency calls per day. This demand only represents 20% of the total public demand from calls to the police, showing the vast scale of what services police need to provide.</p> <p>Research conducted by Dr Paul Walley at The Open University from 2015 – present has provided a valuable methodology and an evidence base for improved demand and capacity management. The early work in 2015 [O3] was a scoping study which identified existing demand and capacity techniques that could be used in policing, to act as a basis of further improvement. Walley has since promoted improvement of public service capacity management practices through the application of "failure demand analysis" in both healthcare [O2] and police [O4]. The healthcare work [O2] highlighted the extent to which existing systems generated their own unnecessary demand, leading to system failure. In policing [O4] Walley was able to demonstrate the trade-offs between responsiveness and efficiency.</p> <p>From January to July 2017, in the core piece of research [O1, O5], a representative sample of historical non-urgent incidents from Gloucestershire Constabulary (GC) was taken and completely reviewed by a team of police officers and staff, under instruction from Walley. Typically, 80 different pieces of information about each incident were extracted from records that included the audio recordings of calls coming in, with the call handler's response. The work undertaken to analyse demand created a number of insights into the ways in which police manage demand that had not been previously observed. First, the work highlighted how the existing prioritisation systems employed by GC (and still practiced by other police forces) have a detrimental effect on response times to some relatively urgent incidents. Second, the unique analysis of demand entering the system showed how up to 38% of all demand entering the system was created by failing to deal with demand first time without error. Thirdly, the analysis established a clear link</p>		

between the impacts of the prioritisation system and the existence of unnecessary demand. For example, where the prioritisation system suggests a delayed response to an incident, this increases the likelihood of someone calling back with a further incident to report.

	Deal Now	Deal Soon
In person	<p>Emergency: e.g. threat to life ... Or simple – quick answer</p>	<p>Does not need to be stabilised or More complex</p>
Remote	<p>Simple (or urgent but remote) First contact resolution</p>	<p>Needs specialist or local resource or preliminary research.</p>
Other	<p>Not a police matter – other agency Hand over to them to take over and manage</p>	

The research [O1, O5] produced recommendations that GC make significant adjustments to how work was dealt with when it came in, which included the production of a new ‘Demand Management Matrix’ that radically re-defined how demand should be prioritised and met by GC personnel, shown in the figure left. For example, it was shown that up to 45% of all demand could be dealt with immediately, either over the phone or with some other remote form of resolution [O5]. At the time GC were only dealing with 18% of demand in this way.

3. References to the research

- O1. Walley, P., & Jennison-Phillips, A. (2020)** ‘A Study of Non-Urgent Demand to Identify Opportunities for Demand Reduction’. *Policing*, 14(2), 542-554. First published 2018 (early access), published in journal 2020. <https://doi.org/10.1093/police/pay034>
- O2. Walley, P., Found, P., & Williams, S. (2019)** ‘Failure demand: a concept evaluation in UK primary care’. *International Journal of Health Care Quality Assurance*, 32(1), 21-33. <https://doi.org/10.1108/IJHCQA-08-2017-0159>
- O3. Ritchie, R., and Walley, P. (2015)** ‘The challenges of public sector demand and capacity management: an exploratory case study of police services’, in Radnor et al., *Public Services Operation Management: A Research Companion Book*, Routledge, p117-138.
- O4. Walley, P.** An Assessment of Demand and Capacity Analysis at British Transport Police, CPRL confidential report, **October 2019**, CPRL confidential report.
- O5. Jennison-Phillips, A. and Walley, P.** A detailed study of non-urgent demand in Gloucestershire Constabulary, OU/GC report, **May 2017** [This is currently a CONFIDENTIAL report held by Gloucestershire Constabulary but can be made available on request].

4. Details of the impact

Research-based recommendations were adopted by Gloucestershire Constabulary, resulting in changes to best practice and professional training

As an immediate consequence of the research outcomes and recommendations produced by **Dr Walley**, GC adopted a new model for the dispatch and resolution of work coming into their control centre, as part of a much wider demand and capacity management improvement programme [C1, C2]. The changes included [C1]:

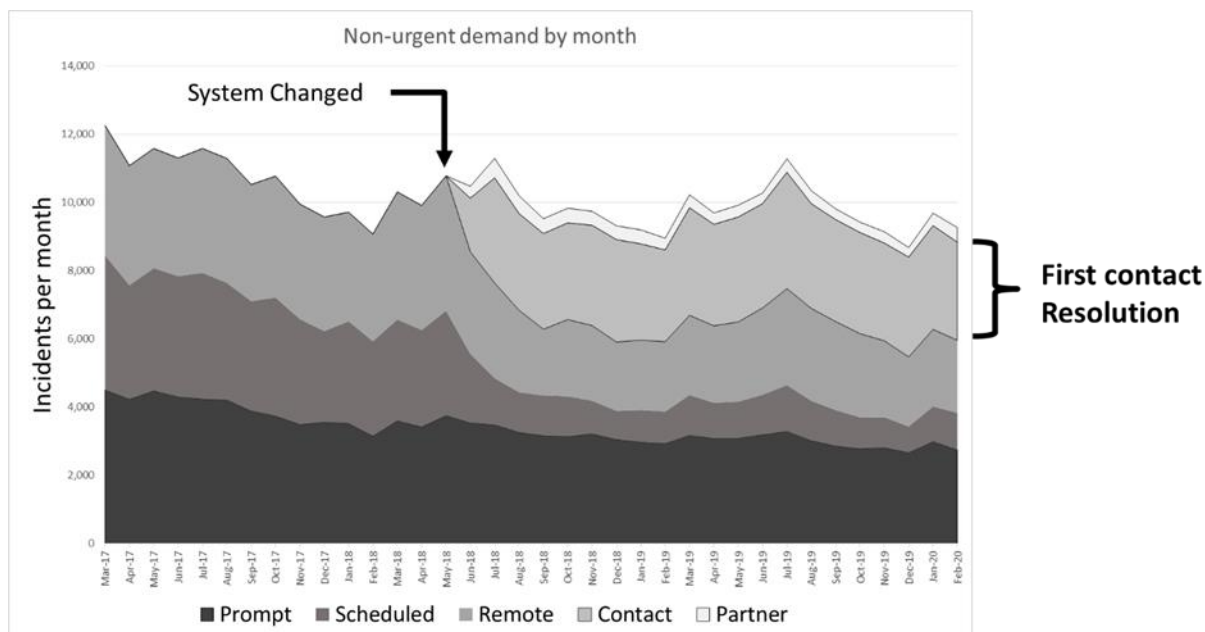
1. Channel management: improving all the ways in which demand enters the system.
2. Control room improvement: the control room processes were redesigned in 2018, especially to understand the demand/capacity balance at any one time.
3. Developing partnerships with other agencies.
4. Better integration of reactive policing with proactive work such as safeguarding.
5. Improvements to HR activities, such as CPD.

GC devised 6 categories of demand response based on **Walley’s** matrix: 1) Emergency demand (met in person) 2) Priority in person attendance 3) Remote investigation 4) Neighbourhood resolution 5) First contact resolution 6) Hand over demand to a more appropriate agency [C2,

Impact case study (REF3)

p.15]. Additionally, as per the recommendations by **Walley**, they also ran additional training for control centre staff, a reconfiguration of back office support, and a redefining of criteria for allocating work to dispatch **[C1]**. These allowed GC to make radical changes to their performance.

The graph below shows changes in how the work is dealt with, introduced in July 2014, reducing the amount of in-person contact by 65%. In the first full month with the new system 43% of all police response was a remote or first contact resolution, compared with 26% for the same month the year before. **[C2, p16]**:



The work conducted by **Walley [O5]** discovered that out of every 100 incidents, 160 items of work were generated, of which 60 would be unnecessary or avoidable. By shifting how demand was met, a reduction of in-person visits by police officers to non-urgent events led towards greater use of first contact (remote) resolution. This meant that advice or other support was provided by the call handler rather than the work being passed to other force employees, reducing officer workload.

A comparison of demand percentages a year before and a year after the changes were implemented, shown in the figure right, further demonstrates this shift in how demand was met **[C2, p.17]**.

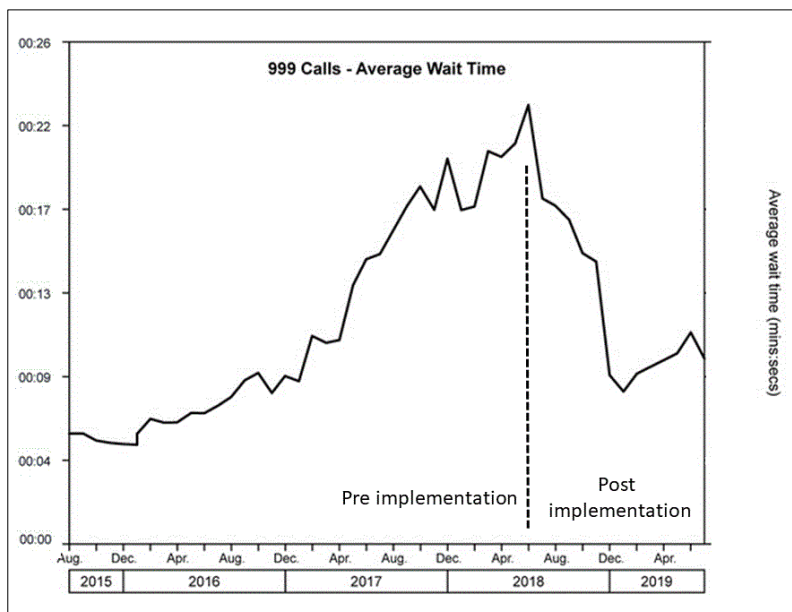
	Deal Now	Deal Soon
In person	Emergency 18% to 21.2%	4. Priority and Neighbourhood 54.8% to 33%
Remote	First Contact 0% to 24.1%	Remote Investigation 27.2% to 18.6%
Other	Hand over 0.0% to 3.0%	

Recommendations by The Open University led to significant improvements in performance, efficacy, reduced workload, and cost savings which have enabled GC to deal with life threatening incidents more promptly

The changes, detailed above, made by GC based on recommendations from Dr **Walley** have resulted in significant improvements to performance and efficacy. Testimonial from a Superintendent at GC states that “We are now able to resolve about a quarter of all non-urgent calls in one touch, without the need for a follow-up visit of call. Our estimate is that this proportion has doubled since the change were implemented from July 2017. The proportion of calls where

attendance is delayed fell from 82% to 52% over the same period. Our own internal estimate is that we were able to halve the amount of wasted repeat calls or visits as a consequence of the actions taken” [C1]. The changes in call handling behaviour and demand resolution have led to a considerably reduced workload on front-line officers.

These changes mean fewer calls are entering the control centre system. The combination of all the changes at GC has allowed the centre to improve its call response times for both urgent and non-urgent demand. For example, the control centre was previously unable to meet the national response time target of 10 seconds to pick up a 999 call, but testimonial from GC confirms that “[t]here have also been significant improvements in responsiveness to urgent calls, where we were able to meet our target of answering within 10 seconds on a more regular basis” [C1]. In 6 months, this average has been reduced to 9 seconds. The figure below shows the key change in 999 performance [graph based on performance data shared by Gloucestershire Constabulary, which can be corroborated by the stakeholder providing testimonial [C1].



GC is now able to identify specific incidents where this improved performance has saved lives. In one case a call was picked up within the target time, but the caller only had time to shout her name before an assailant cut the call. The force was able to identify the caller, her location and were able to prevent her from being murdered in an "honour" killing (she was found tied up in the boot of the assailant's car).

The impact of Dr **Walley's** research is captured well in the testimonial provided by GC: “**Dr Paul Walley's** research has had a huge impact on efficiency and

efficacy in GC. His collaboration with GC has resulted in an improved capability to understand the demand in our system and how we can make changes to eliminate unnecessary work” [C1].

The research has enabled GC to continue and enhance the analysis of demand conducted by The Open University and to continue working towards best practice

The method applied by Dr **Walley** to the analysis of demand was judged as highly effective within GC, resulting in ‘an additional legacy’ as senior managers were motivated to replicate this analysis to develop their own internal capability to sustain the demand management practices [C1]. One area they looked at as a consequence of this work were additional calls that enter the Force Control Room but are not recorded as incidents, which were outside the scope of the original study. It is reported that 19.5% of calls to the control room via 101 non-emergency lines were to contact an officer or gain an update on a matter already being investigated [C2, p.17]. This analysis led to a force wide initiative to ensure staff phone number were correct. The testimonial from GC emphasises this additional impact, stating that “[w]e made changes to the ways our own officers used the system, resulting in further reductions in unnecessary demand and improvements in responsiveness” [C1].

The successful results achieved by GC led to further funding and engagement by other police forces and programmes, resulting in further impact to professional practice

As a result of the dissemination of the research and the significant success of the work with GC, a project team funded by the National Police Chiefs’ Council (NPCC), the national coordination

body for law enforcement in the UK, commissioned **Walley** to work on a large change programme hosted by South Yorkshire Police. This evaluation [C3], which is an integral part of the programme led by NPCC, involved 15 case studies of national practice in police forces. Described as “one of the programme’s key outputs”, the report was disseminated by The Open University, the NPCC and South Yorkshire police and “circulated to all 43 police forces and uploaded to the programme’s Knowledge Hub Page, which current has over 380 members” [C4]. Testimonial from South Yorkshire Police confirms that “the report led to recommendation for the forces, and we are confident that it will be used in a similar way for other forces across the UK [C4]. Furthermore, the programme to which the report contributed “ultimately resulted in the team receiving further funding to continue our work to create opportunities to reduce demand for police and partners”, signalling new and continuing impact in the future [C4].

This report produced a further request from British Transport Police (BTP) who commissioned **Walley** to conduct review work consistent with the research done with GC. Preliminary findings were presented in October 2019 [O4]. BTP provide testimonial that this analysis provided clear guidance that fed directly into capacity planning, funding, and changes to professional practice for BTP: “The work supported us to refine our own capacity model, used to inform the Chief Constable’s Group about the likely capacity required to maintain service levels [...] Whilst **Dr Walley** provided that overall expertise and guidance his work also generated assurance amongst our Chief Officer Group” [C5]. Furthermore, the work conducted by **Walley** “provided us with recommendations on how [the model] could be improved and evolve in the future. This had a significant impact on trust in the model and its funding. The output of the model has been used in various ways since, to direct resourcing and budget” [C5].

In summary, the research conducted by Dr **Walley** into sustainable ways to manage or reduce demand have had a significant impact on the performance of one force and has contributed towards best practice and changes to demand management in other forces and groups.

5. Sources to corroborate the impact

- C1.** Testimonial from the Superintendent of Gloucestershire Constabulary’s Force control Room between 2018-2020 (29th December 2020).
- C2.** **Walley, P.** and Morris, G., “Implementing failure demand reduction as part of a demand management strategy”, Public Money and Management, accepted December 2020.
- C3.** **Walley, P.** and Adams, M. An Evaluation of Demand Management Practices in UK Police Forces Centre for Policing Research and Learning, April 2019. Sponsored by The National Problem Solving and Demand Reduction Programme.
- C4.** Testimonial from Programme Lead of the Problem Solving and Crime Prevention Programme, hosted by the South Yorkshire Police confirming the impact of the demand management study for the NPCC [C3].
- C5.** Testimonial from the Head of Analytics from British Transport Police (18/12/20).