Calls for Police Service: Understanding the demand profile and the UK police response.

Dr. Laura Boulton

Policing and Criminal Investigation, School of Forensic and Applied Science, University of Central Lancashire, Preston, PR1 2HE, email: lboulton1@uclan.ac.uk, tel: 00 44 (0)1772 894386

Dr. Michelle McManus[1]

Policing and Criminal Investigation, School of Forensic and Applied Science, University of Central Lancashire, Preston, PR1 2HE, email: mamcmanus@uclan.ac.uk, tel: 00 44 (0)1772 894154

Lauren Metcalfe

Policing and Criminal Investigation, School of Forensic and Applied Science, University of Central Lancashire, Preston, PR1 2HE, email: LMetcalfe@uclan.ac.uk

David Brian

Policing and Criminal Investigation, School of Forensic and Applied Science, University of Central Lancashire, Preston, PR1 2HE, email : djbrian@uclan.ac.uk, tel: 00 44 (0) 1772 893539

Ian Dawson

T/Superintendent – Head of Corporate Development & Futures, HQ Operations, Lancashire Constabulary | Preston PR4 5SB, email: ian.dawson@lancashire.pnn.police.uk

Tel: 00 44 (0) 1772 412613

[1] Corresponding author

Author Biographies

Dr. Laura Boulton

Laura is a Lecturer in Policing at University of Central Lancashire (UCLan). She completed her PhD in 2014 exploring how expertise, cognitive executive functioning, neuropsychology and human factors influence the decision making of Authorised Firearms Officers in order to develop a model of decision making during armed confrontations. Providing an evidence base that can be practically utilised by Police practitioners to impact change in practice was the underlying motivation for this research. Throughout her PhD she worked in collaboration with Merseyside Police, North West Ambulance Service and Merseyside Fire and Rescue Service. She now lectures on Master's Degree programmes at UCLAN.

Dr. Michelle McManus

Senior Lecturer at University of Central Lancashire (UCLan). Completed her PhD in 2012 exploring risk factors for child sexual abuse within indecent image of children offending. Her doctoral research assisted with the creation of KIRAT (Kent Internet Risk Assessment Tool), a risk management tool for use by the police to assess the risk of contact abuse in those individuals accessing indecent images of children. This was rolled out for national use by CEOP in 2012. Due to the number of domestic abuse research projects completed with various constabularies across the UK, Dr. McManus sits on various groups such as: College of Policing Domestic Abuse Risk Assessment Task Force Group, Homicide Working Group Child Death Subgroup and Lancashire Evidenced Based Research Group. She is also Director of Studies for 3 PhD students exploring various aspects of Domestic Abuse.

Lauren Metcalfe

Having studied in the field of policing for the past 7 years, Lauren has enthusiastically worked to undertake and promote Evidence Based Policing research. Lauren is currently submitting her PhD thesis surrounding the nature of gang related gun crime in Preston, Lancashire; assessing the complexities of the issue, profiling the individuals involved and working towards more effective preventative measures for the future. With the intention for the project having real world impact, she has collaborated with various organisations throughout the PhD, including Lancashire Constabulary and Lancashire Probation Service, to implement projects designed to assist in deterring such types of crime.

David Brian

Dave is a Lecturer at the University of Central Lancashire (UCLan). Dave was a police officer for 30years reaching the Rank of Detective Superintendent. He now lectures on Master's Degree programmes at UCLAN and as an invited speaker at other universities. Dave is currently studying for a Professional Doctorate in Elite Performance and is a researcher in the field of policing and acts a supervisor to a number of Phd students undertaking research into multi agency working, domestic abuse, the protection of vulnerable people and early action, sexual consent and public engagement with police services.

Ian Dawson

Ian is a Temporary Superintendent in Lancashire Constabulary. He has been a Police Officer for 23 years and developed the Constabulary's approach to Evidence Based Policing which over the last 5 years has developed and delivered over 40 research projects, the majority of which have been in partnership with UCLan. As Head of Corporate Development and Futures Ian now leads on Evidence Based Policing for the Constabulary. The Constabulary also collaborates as part of Consortiums with Liverpool University, the N8 group of Universities and the Open University and has supported funding awards in excess of £6 million for Policing research. Ian has also acquired European Union funding for Domestic Abuse victim research. He is currently studying for a M.St. in Criminology and Police Management at Cambridge University

Abstract

Purpose – The purpose of this research paper is to identify and understand the demand profile of a division of Lancashire Police Constabulary in order to assist Police administrators in the evaluation of demand and understanding of Policing response.

Design/methodology/approach – Police data records regarding all offences within the Central Division of Lancashire Police Constabulary over the year of 2013 were examined. Descriptive statistics were used to identify the top ten demand addresses in five categories (residential, statutory bodies, retail, nightlife, and young people's services), and the incident classifications, time frames and response codes that were most associated with these addresses. Further content analysis was conducted on the top ten residential addresses in order to identify specific characteristics of residential demand.

Findings - The majority of Lancashire Constabulary resources are being spent dealing with non-traditional police demand. The most demanding residents were found to have one or more of the following properties; (i) to be of white – Northern European origin, (ii) to be unemployed, (iii) to be associated with mental health issues, domestic violence incidents or substance abuse, and (iv) to have previously had other agency involvement.

Practical Implications - These results indicate that the police could potentially reduce the demand for service by enhancing work within two key areas; partnership working and early intervention.

Originality/value – In this time of austerity and police budget cuts, it is important to understand the demand on the UK police service in an attempt to reduce it.

Keywords – UK; police; mixed methods; demand; resource management; partnership working; early intervention.

Paper type – Research paper

Introduction

As a result of cuts to the police funding budget (HMIC, 2013), police administrators need to achieve a balance between reducing cost and maintenance of service quality whilst meeting service demands (Taylor Griffiths *et al.*, 2014). Achieving such a balance is challenged by the polices expanding responsibilities, i.e. new roles in community policing, security, and emerging crimes such as cyber enabled crime, (College of Policing, 2015). Therefore, in order to strike an appropriate balance between competing priorities and tight budget constraints, police forces are seeking to identify major resource consumers in order to understand how they can be addressed to reduce the strain on the service.

Traditionally, reported crime statistics have served as a basis for police resource management analyses as a measure of workload (Wilson, 2012). However recently, the College of Policing (2015) have reported that forces feel that the use of reported crime statistics in this way is inadequate: such statistics only reflect what is commonly referred to as 'traditional police business' (typically associated with criminal offences and could rarely be solved by other agencies) and fail to consider that the ever increasing level of 'non-traditional police business' being dealt with by officers on a daily basis is also likely affect demand (Wilson, 2012). Despite evidence to suggest that crime has been decreasing since 1995 and that calls for police service received through the emergency '999' number has decreased by 23% since their peak in 2006/7, there is a widespread perception across UK forces that the demand on officers and staff has been, at least, maintained (College of Policing, 2015). This effect may reflect a combination of the increase in certain serious and complex crime types (i.e. violence against the person, shoplifting, sexual offense, fraud and public order), the high number of convictions (nearly 1 million) and penalty notices (34,000) issued for non-notifiable offences, and the 14% (35,000) reduction in Police officers and staff in 2014 (College of Policing, 2015). Nonetheless, there have been few empirical studies that can fully account for and describe the current public demand profile on the UK police service.

Previous research that has examined citizen demand for police services has typically found that the majority of police calls (between 80% - 90%) were not directly related to crime prevention or control, but instead involved resolving disputes, noncriminal behaviour complaints and requesting public service assistance (Hill and Paynich, 2014; Johnson and Rhodes, 2009). However, whilst this statistic is strongly supported, it is important to consider the context of these calls. Her Majesty's Inspectorate of the Constabulary (2012) state that

despite not currently being classed as crime fighting activity, at least 80% of the officers time is spent dealing with incidents that involve protecting people from becoming victims of crime or to prevent crimes occurring.

Supporting this, the College of Policing (2015) have recently reported that the demand generated by public safety and welfare incidents is increasing, and within some forces represents the largest number of reported incidents. This suggests that there have been significant changes in the basic focus of policing from conventional reactive policing (i.e. crime detection and control, order maintenance, registering and investigating crime, patrolling and responding to emergency calls) to proactive community policing (HMIC, 2012; Vinod Kumar, 2014). Based on the theoretical framework of the Broken Windows theory (Wilson and Kelling, 1982), community policing seeks to address minor offences in order to prevent more serious offences and violent crime occurring (Srinivasan *et al.*, 2013).

A preventative community policing approach is said to be critical because it reduces crime and the demands that go with it (HMIC, 2012). However, whilst reduced rates of property crime (Caudill *et al.*, 2013) and violent crime (Ratcliffe *et al.*, 2011) provides evidence to support the prioritisation of proactive community policing (Worrall and Kovandzic, 2010), doing so also requires additional police resources at a greater cost (College of Policing, 2015Vinod Kumar, 2014).

Repeat and/or demanding callers

The 'iron law of troublesome places' claims that a small proportion of locations are likely to account for the majority of reported incidents of crime and disorder (Bichler *et al.*, 2013; Wilcox and Eck, 2011). For instance, a minority of patients have been found to account for the majority of calls for the ambulance service (Edwards *et al.*, 2014). Similarly, some 'troubled families' who often have many generations displaying the same problems, may require more resources than others (Home Office, n.d). Repeat and/or demanding callers can place a significant burden on emergency services in general; both in terms of time and financial resources, and many factors can influence how people interact with the police in particular. For example, community differences can strongly impact police resource requirements with urban settings associated with more public demand that rural policing (Johnson and Rhodes, 2009; Taylor Griffiths *et al.*, 2014), with this further linked to social deprivation, low collective efficacy and cohesion (Sampson *et al.*, 1997)

Personal characteristics may also influence whether a person is likely to be a repeat caller. Key areas have been found to be those associated with alcohol/drugs and those with

mental health issues. A recent UK report made by the College of Policing (2015) estimates that that mental health issues account for at least 20% of police time. This pattern suggests that dealing with individuals with mental health issues could be posing a considerable and increasing demand on police resources internationally (College of Policing, 2015; Health and Social Care Information Centre, 2014).

Demand Management

As the police strive to meet the demands of their expanding roles and an increasingly expectant public (Fleming and Grabosky, 2009), there are a few ways in which the police aim to manage the demand on their service, including grading incidents appropriately to prioritise tasks, and using reviews to identify high demand areas in order to implement preventative measures to reduce reoccurring problems. The 'troubled families' programme, which involves intensive work with particularly resource demanding families, is a prime example of this. The government's 'troubled families' programme has been found to reduce offending and antisocial behaviour and thus, reduce the demand on the police (Home Office, n.d).

Targeted policing can be seen as an effective tool for curbing demand by concentrating resources on specific crimes, criminals, victims and areas that are prone to cause high demand before calls for assistance occur (Karn, 2013). 'Hot spot' policing involves deploying more patrol resources at 'hot spots' defined as "small clusters of addresses with frequent hard crime calls as well as substantial soft crime calls for service" (Sherman and Weisburd, 1995, p. 630;). Similarly, problem orientated policing focusses on targeting strategies to specifically identified problems (Weisburd and Eck, 2004). Generally, studies show that increases of police presence in places where crime is more concentrated results in significant reductions in crime calls (Weisburd and Braga, 2006). In addition, this effect has been found to have a wider impact, as evidence indicates spatial diffusion benefits to the areas surrounding the policing intervention (Clark and Weisburd, 1994).

Aims and Objectives of the Current Study

As a result of police budget cuts and reduced staffing, it is important to take an evidence based approach to understand the demand on the police service in an attempt to optimise the use of resources (Srinivasan, 2013; Taylor Griffiths *et al.*, 2014). It appears that the majority of calls to the police involve issues that are not inherently traditional police business (Hill and Paynich, 2014). However, this is based on results from dated or non-British based studies. Furthermore,

although it appears that some repeat callers hold specific traits, these are only loosely speculated at this stage. There are two key objectives to this research;

(i) To give an overview of where the highest public demand for police resources in Lancashire Constabulary's Central Division has come from; and

(ii) To profile the most demanding addresses in this area in order to understand why these particular households/families have such a high demand for police services.

Through increased understanding of who constitutes the main consumers of police resources and the reasons behind why there is such a demand from certain addresses, the police and their partner agencies will be more informed to better manage these high resource consumers, thus reducing the demand on the force (College of Policing, 2015).

Methodology

Data and Research Approach

Lancashire Constabulary commissioned this research to identify and understand the demand profile across their Central Division. Lancashire County has an estimated population of nearly 1.5 million with a rich diversity of communities, and Lancashire Constabulary covers 2,000 square miles and has 2889 Police officers and 1920 Police staff (Lancashire Constabulary, 2016). For this purpose, data was obtained from Lancashire Constabulary data warehouses. Raw data was extracted from Command and Control using a search criteria of all calls for service within the Central Division over the year of 2013 (01/01/13 – 31/12/13). This search resulted in 63,430 records being attained. These were then compiled into addresses and ordered according to the number of records for each address so that the top users could be identified. The top ten addresses for residential properties were compiled as were non-residential addresses within the following categories (see Table I). The second stage of data collection involved obtaining the details of those who were associated with the top ten residential addresses.

[Table I. Property categories]

Analysis

Descriptive results were calculated and analysed using total counts (*n*), percentages and appropriate measures of central tendency. Firstly, the top ten consumers within each of the five categories (see Table I) were examined in terms of; (i) incident classifications (see Table II),

(ii) the time frames these are occurring, and (iii) the response codes that were allocated to these incidents (see Table III).

[Table II. Incident classifications and descriptions]

[Table III. Response code grades and descriptions]

Lastly, a content analysis was conducted on residential household and family characteristics. The profiling of residential addresses considered their local profiles to obtain key characteristics and warning markers. Individual incident logs were also examined to gain an understanding about the reasons why there was such demand from each address during the year.

Results / Findings

The top ten statutory bodies have the most incidents calling for police service (30%) compared with the top ten in the other address categories. This is followed by those in the retail category (24%) and nightlife (18%), with young people's services and residential requiring the least resources (14% of the total each).

Incident Classification

The majority of all reported incidents fell under the classification of 'other' (n = 1136, 28.35%) (see Table IV). For the coded classifications, the biggest demand was from welfare (n = 756, 18.87%), nuisance (n = 734, 18.32%), and acquisitive person crime (n = 667, 16.65%).

[Table IV. Incident classification for all categories profiled]

Most of the top ten residential addresses were found to associate with one specific incident classification. When exploring the residential demand (see Table V), welfare incidents accounted for the highest number of the reported incidents (n = 210, 37.91%). However, this was skewed by four addresses that accounted for 89.5% of the incidents. This suggests that welfare is a distinct problem area for some particular households, but that nuisance is causing problems across a wider amount of addresses.

[Table V. Incident classification for individual address categories]

Incidents classified as ‘other’ were found to be the biggest call for services in statutory bodies (*n* = 565, 47.28%), and the largest coded incident classifications were welfare (*n* = 245, 20.5%) and nuisance (*n* = 178, 14.9%) (see Table V). However, this is skewed by the inclusion of a central hospital which generated a large number of welfare incidents. If this address is removed, statutory bodies accrue a larger amount nuisance incidents (*n* = 104, 20.47%) and ‘other’ incidents (*n* = 234, 46.06%). Despite this, welfare is still the third highest demand intensive classification accounting for 11.61% of the incidents (*n* = 59). For the top ten retail addresses, the most demand is focused on the acquisitive personal crime (*n* = 475, 49.63%). Again, ‘other’ (*n* = 192) and nuisance (*n* = 166) incidents were also highly demanding for retail addresses accounting for 20.06% and 17.35% respectively.

Within the top ten nightlife addresses, nuisance incidents required the highest demand (*n* = 208, 28.3%), accounting for an average of 21 incidents per address (see Table V). ‘Other’ incidents also account for a high volume of police resources (*n* = 200, 27.21%), followed by acquisitive (person) crime (*n* = 105, 14.29%) and violence against a person (*n* = 101, 13.74%).

The highest demand within the top ten young people’s services addresses was found to be welfare incidents (*n* = 231, 40.81%) (see Table V). In particular the top two addresses accounted for 176 of the 231 welfare incidents (76%). Both these addresses are children’s homes which indicated a potential need for a more robust partnership plan for dealing with such addresses

When comparing incident classifications across the five address categories it can be seen that welfare and nuisance incidents account for the highest number of coded incidents. In contrast, across all address categories, acquisitive (household) crime and sexual offences accounted for the least number of incidents, both of which are typically considered as traditional police business. When looking at the incident classifications collectively in terms of ‘traditional police business’ and ‘non-traditional police business’ (removing the ‘other’ classification) traditional police incidents (acquisitive person and household crime, conditions, vandalism/criminal damage, violence against the person and sexual offences) accounted for 26.89% of incidents whereas non-traditional police incidents (disputes, nuisance, domestic incidents, and welfare) make up 44.78% of incidents.

Time Frame

Three time frames encompassed the largest demand: 11:01-14:00, 14:01-17:00 and 17:01-20:00, therefore, with the exception of vandalism/criminal damage incidents, the period between 11:01 and 20:00 was found to be the most resource intensive (see Figure 1).

[Figure 1: A chart showing the time frames for incident classifications across the top ten addresses for all categories]

When looking at the five categories individually, a similar pattern can be seen. For residential addresses 17:01-20:00 and 20:01-23:00 were the most demanding time frames, for statutory bodies 11:01-14:00 and 14:01-17:00 required the most resources, for retail addresses 14:01-17:00 and 17:01 – 20:00 required the most resources, and young people's services had a high demand within the time frame 11:01-14:00. Across these four address categories, the majority of incidents fall within one of the three resource intensive periods, with the only exception being the nightlife addresses which held its peak demand at 02:01-05:00 (see Figure 2).

[Figure 2: A chart showing the mode time frames for incidents occurring for the 5 categories]

Response Coding

Across all address categories, the response code (see Table III) given the most was response code 3 (n = 1173, 29.27%) and the response code that was given the least was response code 1 (n = 276, 6.89%). This suggests that the majority of police resources are being used on planned response operations (code 3), and the least demand comes from the need for emergency response (code 1).

Response codes given for each of the address category were also examined. Response code 2 was the most frequently used code for responding to incidents at residential addresses (n = 208, 37.55%), whilst response code 5 was the least used (n = 21, 3.79%). For statutory bodies, response code 4 was found to be the most widely used (n = 406, 33.97%) and response code 1 was the least used (n = 59, 4.94%). Overall this indicates that for statutory services, there is little demand for emergency responses and most issues are resolved through a telephone resolution. For the retail category, response code 3 was the most used (n = 355, 37.1%), closely followed by response code 2 (n = 34.38%), whilst response codes 1 (n = 49, 7.94%) and 5 (n = 47, 7.04%) were the least used. Response code 5 was found to be the most widely used to answer nightlife calls for service (n = 208, 28.3%), whilst response code 1 is again the least (n = 40, 5.44%). Response code 3 was used the most to address issues at the top ten young

people's services addresses (*n* = 237, 41.87%) and response code 1 used the least (*n* = 25, 4.95%). Therefore, there is rarely need for immediate response for incidents occurring at young people's services addresses, with five addresses not requiring any emergency responses within the year. The residential addresses had a greater amount of code 1 emergency responses allocated to incidents (*n* = 103, 41.8%) than any of the other categories, suggesting that the incidents occurring at residential properties require a more rapid response.

Residential Profiling

Out of the top ten demanding residential addresses, one was located within an area of high deprivation, seven were located in areas of medium deprivation, and two were located in areas of low deprivation. All addresses were located in urban residential areas; however they were spread out across the city. Four properties were flats, three were semi-detached housing and three were terrace houses. The number of residents in these properties ranged between 1-8 people.

On analysing the socio-demographic qualities of the families, it was found that 100% of the family members across all ten households were of 'White – Northern European' ethnicity. The age range of those who were connected to the top ten addresses was between 0-84 years old with an average 38 years old. Three of the ten addresses had under 18 year olds in the family. Regarding employment status, twenty people (43%) were listed as being unemployed and four people (9%) were employed. Four people (9%) were retired, six (13%) were school students and the occupation of thirteen people (28%) was unknown. Although there were an equal number of males and females across the sample, in 75% of cases the person calling for service was a female.

All of the ten addresses included at least one family member that had been involved domestic violence incidents, alcohol or substance abuse, or had experienced mental health issues. Eight out of ten addresses include someone in the family with mental health issues, six addresses included someone with alcohol addictions or who regularly partakes in alcohol abuse, five of the ten addresses were associated with cases of domestic violence, and four addresses included someone with substance abuse issues.

The average number of referrals across the addresses was 90, with an average of 31 referrals per family, and an average of 20 referrals per person. Seven out of the ten addresses had been involved with other agencies (e.g. Ambulance Service, Lancashire NHS Trust, Social Services). From these 90 addresses only five had utilised an intervention (i.e. crisis team, child

protection conferences, Multi-Agency Risk Assessment Conference referrals, Multi Agency Safeguarding Hub referrals, etc.).

Discussion

The current study took an evidence based approach to understand the demand on the police service in Lancashire Constabulary's Central Division in order to inform Police decision making regarding allocation of police resources (Srinivasan, 2013). Whilst recorded crime has been found to be decreasing on a national scale over the past decade, demand on the police service has been maintained in other ways (College of Policing, 2015).

Overall, the majority of incidents that the police are being requested to deal with are non-traditional police business, and therefore require the use of skills such as mediation and social service, rather than police statutory powers. In support of previous literature, only 26.89% of the reported incidents from highly demanding addresses were traditional police business (Scott, 1981). In particular, welfare and nuisance incidents were found to demand the majority of police resources. This supports reports of an 11.5% increase of demand generated by public safety and welfare incidents in Lancashire, West Yorkshire and South Yorkshire (College of Policing, 2015). As these types of incidents are often not seen as traditional police work, this is a contraction of the Home Secretary and Home Office's (n.d) view that the police should be used largely in a law enforcement capacity, and therefore the police may not be the most appropriate service to deal with them. However, it cannot be contested from the findings in this report that the role of the police service in England and
Wales is changing due to the shift in requirements and expectations (Srinivasan *et al.*, 2013). If police officers are trained to become better equipped to deal with these high frequency, but low-level problems or offenses, potential benefits could include the reduction of further crime and increased officer environmental knowledge to improve future problem solving (Walker and Katz, 2005).

Furthermore, included in the majority of calls for service that were grouped as non-traditional police incidents were calls concerning disputes and domestic incidents and as such, could potentially escalate into a criminal offence and/or pose risk to the people involved without the presence of a police officer. Therefore, the extent to which a tiered policing arrangement could respond to these calls should be considered in light of the potential risk involved and threat of incident escalation as a result of the absence of sworn Police officers.

Supporting previous research, the geographical profiling of demanding residential properties found that people in areas of medium deprivation are most likely to be repeat callers

for police assistance (Johnson and Rhodes, 2009). Those living in areas of low deprivation have less need for the police as, generally, less crime and disorder occurs within these areas. Those living in areas with high deprivation may be more likely to experience crime and disorder, but may be less likely to call the police. This effect may reflect the commonality of these events, reduced collective efficacy, or may reflect the distrust of the police and strained police-community relations in these neighbourhoods (Weisburd and Eck, 2004). Therefore, those living in areas of medium deprivation tend to experience a moderate level of crime and disorder but still need the problems to be addressed by authorities, so are the most likely to call for service. The type of housing of the top ten addresses fell within three categories: flat, semi-detached and terrace. Whilst this could indicate relationships between housing types and cause to call the police, this effect may more simply reflect the area in which the addresses are situated.

Despite a void of cited links between employment status and service demand in previous literature, the current study found that 43% of family members within the top ten demanding residential addresses were unemployed, making unemployed people the single largest group likely to demand resources. All ten of these households were associated with previous issues (i.e. mental health issues, incidents of domestic violence, or alcohol and/or substance abuse); however, only seven had previously received other agency involvement and five had received interventions aimed to improve their family situation. This indicates that there is potential for agencies to work together more effectively with certain families at an earlier stage, when problems are first visible in order to attempt to prevent future high demand.

Practical Implications

These results indicate that the police could potentially reduce the demand for service by enhancing work within two key areas; (i) early intervention and, (ii)partnership working . Firstly, the majority of the residential repeat callers within this study were identified to have been struggling with a range of problems for some time. This highlights an area for early intervention to take place with children who show signs of behavioural problems and with those who start to display mental health issues, alcoholic dependencies or substance abuse before they reach crisis point and become high resource consumers. This has become a key aim of Lancashire's Early Action Team. Early Action is a multi-agency intervention at the earliest opportunity, delivering sustained solutions to individual and family problems, which is hoped to ultimately build social resilience and create thriving communities. Early Action applies to both children and adults and aims to reduce vulnerability, improve health and wellbeing,

prevent crime and reduce demand across all public services, preventing problems rather than responding to them.

Secondly, as the majority incidents were not traditional police business, a large portion of the current workload could be more appropriately dealt with by other agencies or in partnership with other agencies. Not only could this improve incident resolution time, service and care for the caller, the demand on the police would be significantly reduced and resources could be more appropriately deployed to address traditional police business. For instance, co-responding police-mental health programs that are used to respond to 'emotionally disturbed persons in the community' have been found to facilitate strong community services partnerships and reduced justice system demands (Shapiro *et al.*, 2014). In addition, police and mental-health clinician emergency response partnerships have been found to generate service improvements such as more efficient service transition, reduced police officer 'down time', and improved interagency knowledge transfer (McKenna, Furness, Oaks and Brown, 2015).

Furthermore, early interventions and partnerships should focus on promoting co-production. Co-production involves the development of an equal and reciprocal relationship between the service provider and service user in recognition that the experiences of those who use the services can be utilised to improve it (Clark, 2015). Co-production initiatives have been utilised successfully within the mental healthcare system, i.e. the Lambeth Living Well Collaborative (Innovation Unit, n.d). In order to promote co-production within Lancashire Constabulary, a new Early Action Support Volunteer role has been created for members of the public in which volunteers will provide support and mentoring services for individuals and families who have low to moderate needs and no longer require or receive support from agencies.

Limitations and future research

One limitation of this research is that the initial data search was based upon the number of incidents linked to addresses rather than the families reporting the incidents. As a result, the data might not include all calls for service from the families identified, or certain families that have high demand for services may not have been identified due to property relocation during 2013. In addition, the data in this study only included calls which were coded as incidents. There were approximately 700,000 calls received in Lancashire in 2013 which were classed as 'non-incidents' and these were not included in the current data set. Furthermore, this research is limited to incidents occurring only during 2013 and in the one specific area (Central Division). Future research could examine if the same families are continuing to demand a large

portion of police resources over a number of years in order to determine the effectiveness of any implemented interventions. This research does have the potential to be replicated across the different operating divisions with Lancashire Constabulary to examine if these themes are prevalent across the county. Finally, these results are based on quantitative data only and therefore lack full exploration of any contextual factors that may have impacted the findings. Future research should utilise qualitative data based on real-world examples (i.e. call for service logs), to advance understanding of the topic and any contributing factors.

Conclusions

The requirements and expectations of the police are constantly changing and it is important that the police stay relevant by addressing current demands. In order to efficiently achieve this, the demand profile for Lancashire should be continuously monitored to ensure services fit this demand. This research found that the majority of incidents being dealt with by the police within Lancashire Constabulary's Central Division are not inherently traditional police work. Furthermore, incidents most typically associated with traditional police work were found to occur the least in this sample. This suggests that reducing demand and addressing key issues requires increased involvement with other agencies to enable the most appropriate and effective response regarding calls for service. This multi-agency early response could also free resources and reduce overall costs. Furthering the results of this study, Lancashire Constabulary are currently engaged in a large funded project around transforming Public Services within Lancashire by engaging with a range of public services who will collectively provide the most appropriate support, at the earliest point possible in that individuals life. Early identification and appropriate use of interventions are key to reduce the likelihood of individuals escalating to crisis point.

References

Bichler, G., Schmerler, K. and Enriquez, J. (2013), "Curbing nuisance motels: an evaluation of police as place regulators", *Policing: An International Journal of Police Strategies & Management*, Vol. 36 No. 2, pp. 437-462.

Caudill, J.W., Getty, R.., Smith, R., Patten, R. and Trulson, C.R. (2013), "Discouraging window breakers: the lagged effects of police activity on crime", *Journal of Criminal Justice*, Vol. 41 No. 1, pp. 18-23.

Clark, M. (2015), "Co-production in mental healthcare", *Mental Health Review Journal*, Vol. 20 No. 4.

Clark, R.V. and Weisburd, D. (1994), "Diffusion of crime control benefits: Observations on the reverse of displacement", in Clark, R.V. (Ed.), *Crime Prevention Studies*, Criminal Justice Press, Monsey, NY, pp. 165-183.

College of Policing (2015), "College of policing analysis: estimating demand on the police service", available at: http://www.college.police.uk/documents/demand_report_21_1_15.pdf (accessed 09 March 2015).

Edwards, M.J., Bassett, G., Sinden, L. and Fothergill, R.T. (2014), "Frequent callers to the ambulance service: patient profiling and impact of case management on patient utilisation of the ambulance service", *Emergency Medicine Journal*, Vol. 0, pp. 1-5, available at: http://emj.bmj.com/content/early/2014/10/13/emermed-2013-203496.full.pdf+html (accessed 27 January 2015).

Fleming, J. and Grabosky, P. (2009), "Managing the demand for police services, or how to control an insatiable appetite", *Policing*, Vol. 3 No. 3, pp. 281-291.

Hill, B. and Paynich, R. (2014), *Fundamentals of Crime Mapping*, 2nd ed, Jones and Bartlett Learning, Burlington, Massachusetts.

HMIC. (2012), "Taking time for crime: A study of how police officers prevent crime in the field", available at: http://www.justiceinspectorates.gov.uk/hmic/media/taking-time-for-crime.pdf (accessed 20 November 2015).

HMIC. (2013), "Lancashire Constabulary's response to the funding challenge", available at: http://www.hmic.gov.uk/media/lancashire-response-to-the-funding-challenge.pdf (accessed 27 January 2015).

Home Office. (n.d), "Have you got what it takes? Tackling troubled families", available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/117408/tackling-troubled-families.pdf (accessed 27 January 2015).

Innovation Unit. (n.d.), Co-production in mental Health, [online], available at: http://innovationunit.org/our-projects/projects/co-production-mental-health (accessed 20 November 2015).

Health and Social Care Information Centre, (2014) "Inpatients Formally Detained in Hospitals Under the Mental Health Act 1983 and Patients Subject to Supervised Community Treatment, England - 2013-2014, Annual figures", available at: http://www.hscic.gov.uk/catalogue/PUB15812 (accessed 09 March 2015).

Johnson, R.R. and Rhodes, T.N. (2009), "Urban and small town comparison of citizen demand for police services", *International Journal of Police Science & Management*, Vol. 11 No. 1, pp. 27-38.

Karn, J. (2013), *Policing and Crime Reduction: The evidence and its implications for practice*, The Police Foundation, London.

Lancashire Constabulary, (2016) About Us, [online], available at: http://www.lancashire.police.uk/about-us (accessed 12 January 2016).

McKenna, B., Furness, T., Oaks, J. and Brown, S. (2015), "Police and mental health clinician partnership in response to mental health crisis: A qualitative study", *International Journal of Mental Health Nursing*, Vol. 24 No. 5, pp. 386-393.

Ratcliffe, J.H., Taniguchi, T., Groff, E.R. and Wood, J.D. (2011), "The Philadelphia foot patrol experiment: a randomized controlled trial of police patrol effectiveness in violent crime hotspots", *Criminology*, Vol. 49 No. 3, pp. 795-831.

Sampson, R.J., Raudenbush, S.W. and Earls, F. (1997), "Neighbourhoods and Violent Crime: A Multilevel Study of Collective Efficacy", *Science*, Vol. 277, pp. 918-924.

Scott, E.J. (1981), *Calls for Service – Citizen Demand and Initial Police Response*, National Institute of Justice, Washington, DC.

Shapiro, G.K., Cusi, A., Kirst, M., O'Camp, P., Nakhost, A., and Stergiopoulos, V. (2014), "Co-responding police-mental health programs: A review", *Administration and Policy in Mental Health and Mental Health Services Research,* Vol. 42 No. 5, pp. 1-15.

Sherman, L.W. and Weisburd, D. (1995), "General deterrent effects of Police patrol in crime "hot spots": A randomized, controlled trial", *Justice Quarterly,* Vol. 12 No. 4, pp. 625-648.

Srinivasan, S., Sorrell, T.P., Brooks, J.P., Edwards, D.J. and McDougle, R.D. (2013), "Workforce assessment method for an urban police department ", *Policing: An International Journal of Police Strategies & Management*, Vol. 36 No. 4, pp. 702-718.

Taylor Griffiths, C., Pollard, N. and Stamatakis, T. (2014), "Assessing the effectiveness and efficiency of a police service: the analytics of operational reviews", *Police Practice and Research*, working paper, Australian Institute of Police Management, Manly, 27 January.

Vinod Kumar, T.K. (2014),"Differing services, rising expectations, and greater demands", *Policing: An International Journal of Police Strategies & Management*, Vol. 37 No. 1, pp. 170-189.

Walker, S. and Katz, C.M. (2005). *The police in America: An introduction*, McGraw Hill, Boston.

Weisburd, D. and Braga, A.A. (2006), "Hot spots policing as a model for police innovation", in Weisburd, D. and Braga, A.A. (Eds.), *Police Innovation. Contrasting Perspectives*, Cambridge University Press, Cambridge, pp. 225-244.

Weisburd, D. and Eck, J.E. (2004), "What can police do to reduce crime, disorder and fear?", *The Annals of the American Academy of Political and Social Science,* Vol. 593 No. 1, pp. 42-65.

Wilcox, P. and Eck, J.E. (2011), "Criminology of the unpopular: implications for policy aimed at payday lending facilities", *Criminology and Public Policy*, Vol. 10 No. 2, pp. 473-482.

Wilson, J.M. (2012), "Articulating the dynamic police staffing challenge", *Policing: An International Journal of Police Strategies & Management*, Vol. 35 No. 2, pp. 327-355.

Wilson, J. and Kelling, G. (1982), "Broken Windows", *Atlantic Monthly*, Vol. 249 No. 3, pp. 29-38.

Worrall, J.L. and Kovandzic, T.V. (2010), "Police levels and crime rates: an instrumental variables approach", *Social Science Research*, Vol. 39 No. 3, pp. 506-516.

Figure 1: A chart showing the time frames for incident classifications across the top ten addresses for all categories

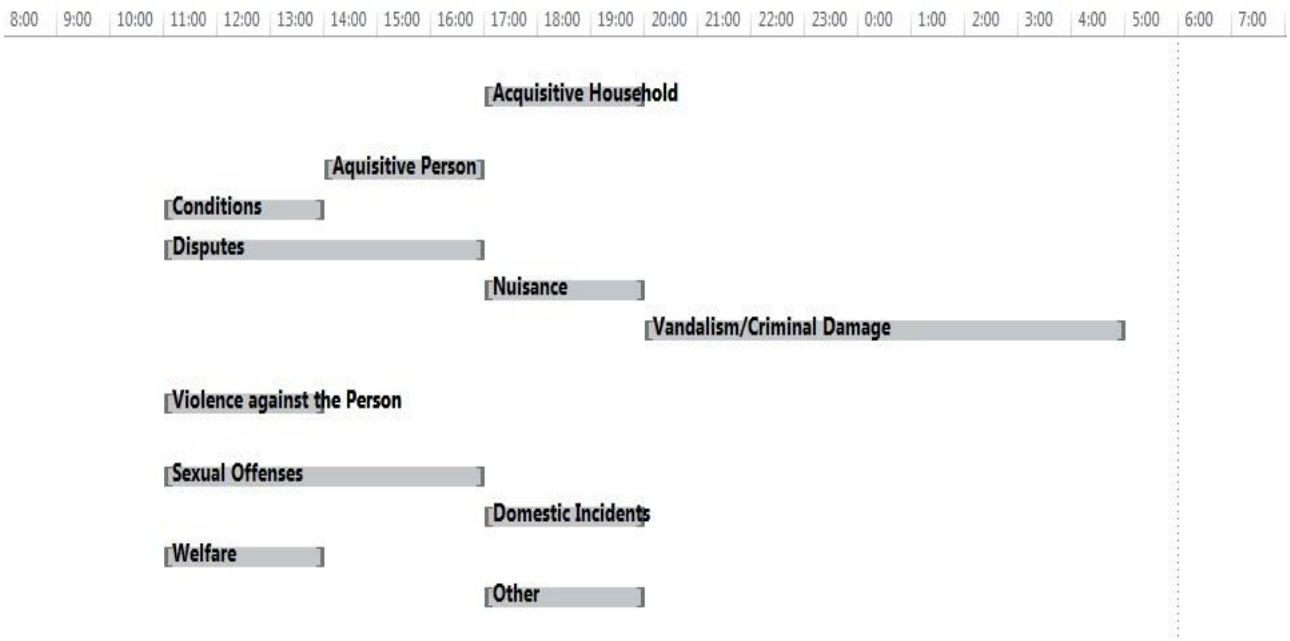

Figure 2: A chart showing the mode time frames for incidents occurring for the 5 categories

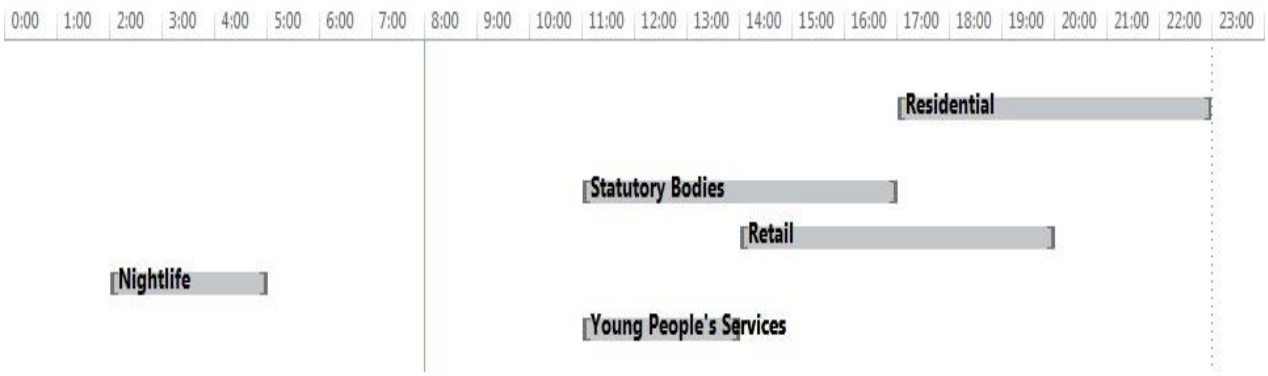

Table I. Property categories

Category	Description
Residential	Residential addresses excluding children's homes and residential care homes.
Statutory Bodies	NHS facilities, prisons, probation, council
Retail	Supermarkets, clothing stores, convenience stores, convenience food outlets, department stores
Nightlife	Bars, clubs and pubs in the area
Young People's Services	Schools and children's homes

Table II. Incident classifications and descriptions.

Incident classification	Description
Acquisitive (household)	Burglary
Acquisitive (person)	Theft, robbery
Conditions	Bail conditions, breach of bail/curfew/license, absconded
Disputes	Civil disputes, personal
Nuisance	Nuisance, hoax calls, abandoned calls, suspicious circumstances
Vandalism/Criminal damage	Criminal damage, vandalism, vehicle crime, public order, arson
Violence against the person	Assault, wounding, ABH, GBH, homicide
Sexual offences	Sexual offences, rape
Domestic incidents	Domestic incidents
Welfare	Concern for safety, collapse/illness/injury, missing from home, truancy
Other	Any other classification not included previously, i.e. lost/recovered property, police generated activity and messages

Table III. Response code grades and descriptions.

Code	Grade	Description
1	Emergency Response	An incident where there is likely to be a risk of danger to life; use/immediate threat of use of violence; serious injury to a person; serious damage to property. Attendance usually within 15 minutes.
2	Priority Response	A degree of importance or urgency associated with the initial police action but an emergency response is not required. Attendance usually within 1 hour.
3	Planned Response	Response time is not critical in apprehending offenders so response given by a member of the Neighbourhood Police Teams, an appointment at a fixed surgery or an appointment by a scheduled car. Attendance usually within 48 hours, or at an agreed time.
4	Telephone Resolution	Resolution sorted at first contact. Does not require any further intervention outside the Communications Centre other than the passing of information or the recording of minor crimes.
5	Police Report Only	Where public assistance is not required, but an incident has occurred and a report needs to be written.

Table IV. Incident classification for all categories profiled

Incident classification	*n*	% of total incidents	*M*	SD	*Mdn*
Other	1136	28.35	23.18	47.09	12
Welfare	756	18.87	16.09	33.02	4
Nuisance	734	18.32	15.29	14.35	12.5
Acquisitive (person)	667	16.65	17.55	22.4	7
Disputes	209	5.22	4.98	5.46	3
Violence against the person	203	5.07	5.64	5.17	4.5
Vandalism/criminal damage	97	2.42	2.85	2.02	2
Domestic incidents	95	2.37	5.28	9.22	1.5
Conditions	80	2	4.71	7.27	2
Sexual offences	20	0.5	1.67	1.72	1
Acquisitive (household)	10	0.25	1.43	0.79	1

Table V. Incident classification for individual address categories

Incident classification	Categories				
	Residential addresses	*Statutory bodies*	*Retail addresses*	*Nightlife addresses*	*Young people's services*
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
Other	74 (13.36)	565 (47.28)	192 (20.06)	200 (28.3)	105 (18.55)
Welfare	210 (37.91	245 (20.5)	24 (2.51)	46 (6.26)	231 (40.81)
Nuisance	97 (17.51)	178 (14.9)	166 (17.35)	208 (28.3)	85 (15.02)
Acquisitive (person)	8 (1.44)	51 (4.27)	475 (49.63)	105 (14.29)	28 (4.95)
Disputes	55 (9.93)	37 (3.1)	57 (5.96)	40 (5.44)	20 (3.53)
Violence against the person	15 (2.71)	47 (3.93)	14 (1.46)	101 (13.74)	26 (4.59)
Vandalism/criminal damage	13 (2.35)	22 (1.84)	21 (2.19)	22 (2.99)	19 (3.36)
Domestic incidents	76 (13.72)	7 (0.59)	5 (0.52)	5 (0.82)	2 (0.35)
Conditions	4 (0.72)	26 (2.18)	1 (0.1)	6 (0.82)	14 (7.6)
Sexual offences	2 (0.36)	13 (1.09)	1 (0.1)	1 (0.1)	3 (0.53)
Acquisitive (household)	0 (0)	4 (0.33)	1 (0.1)	1 (0.1)	4 (0.71)