Investigative effort index – prediction of resourcing required to investigate crime

A method to convert crime demand data into investigator resource requirements to inform a force-wide restructure.

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Key details

Stage of practice	Untested
Purpose	Organisational
Topic	Digital, data and analytics Investigation Leadership, development and learning
Organisation	Greater Manchester Police
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Region	North West
Partners	Police
Stage of implementation	The practice is implemented.
Start date	July 2023
Scale of initiative	Local

Key details

Target group	Workforce

Aim

The aim of the initiative is to:

- provide sufficient resources to enable the workforce to better investigate crime
- deliver positive outcomes for solved crime by conducting thorough investigations
- prioritise the workforce's wellbeing by providing them with a balanced workload

Intended outcome

The intended outcomes are to:

- decrease the time taken to investigate crime
- increase positive outcomes
- improve the workforce's wellbeing by optimising demand

Description

Greater Manchester Police (GMP) previously used a percentage of demand to allocate resources for criminal investigations. However, it was identified by the force that there was no indication of how many resources should be allocated to investigate crime.

In response, the investigative effort index has been designed to combine crime demand and the number of crimes per year by type, into a resource requirement to inform business planning. A senior officer, working in the City of Manchester district, commissioned a review with the central design team, to establish if there were any predictable factors in crime demand data that increased the investigation time.

A senior business analyst developed an algorithm that converted crime demand into resource requirements. The algorithm has been tested and refined with district stakeholders to verify the predictive power of the algorithm. The index was adjusted and baselined against data from a district

with good overall performance. The index was then used to project the investigator staffing requirements for the other districts compared to the baseline.

Implementing the investigative effort index

The investigative effort index was implemented in November 2024 as the core allocation method for calculating the investigator resource requirements for the district operating model.

The investigative effort index uses the following calculations.

- Investigations filed within 24hrs without a suspect being identified are assigned a one time investigative load point.
- Investigations filed after 24hrs without a suspect being identified are assigned two times investigative load points.
- Investigations that identified a suspect but were not solved are assigned four times investigative load points.
- Investigations that were solved were assigned five times investigative load points.

The investigative load points for a 12-month period were added up for each district area, and an appropriate investigation load factor was used for each investigator role. The calculation estimated that:

- 800 times load units would be appropriate for professionalising investigations programme (PIP-1) investigators
- 650 times load units would be appropriate for neighbourhood crime such as robberies and burglaries
- 425 times load units would be appropriate for PIP-2 investigators

If a PIP-1 crime investigation team could expect 3000 crimes per year (converted to 9,600 investigation units), then this would convert to 12 full time employees required to investigate these crimes.

The business analyst calculated the resource requirements for each district and each investigation team. This was submitted into the wider programme, as a resource requirement and became part of the business case rationale with the programme and project manager. The business case went through the internal governance route of project boards, programme boards and the central force

governance board. Once approved, the business case and index were scrutinised and approved by the Police Federation and the Police Staff Associations as part of the formal consultation process.

There was no funding required for the development and implementation of the investigative effort index. The index runs on a Microsoft Excel spreadsheet using a full year of crime data.

Senior management approval was required and granted to use this initiative as a method for resource calculation.

Overall impact

The index has been used several times and has the predictive power to allocate appropriate resourcing to investigate crime. The index can account for differences in performance when resources are 80% of the indicated requirement. Districts where the projected number of investigators is higher than current strength have often struggled with officer workload and wellbeing.

Officers and staff have welcomed the index and have highlighted having more balanced workloads as a result.

Learning

What went well

- The index provides a useful sense-check for the allocation of investigation resources across the ten districts.
- While there was initial scepticism, there has been buy-in from operational staff as they could see the practical value. The Police Federation were complimentary of the approach, as there was more rigor around the method than previous approaches.

Challenges

- Accuracy of data – the crime data has to be manually reviewed to ensure that there are no miscalculations.
- Sharing the understanding of the method - a number of internal briefings have been conducted to share this practice. There are still misunderstandings about what the initiative is for and what it is

able to show.

- Identifying a long-term owner for the initiative – there is currently no long-term departmental owner for the initiative, for when updates and refreshes are required. There is a resource requirement to re-gather and refresh the data in order to re-run the calculations. In the absence of a clear owner, these requests have been continually redirected to the senior business change lead.

Recommendations

- If sufficient crime data is available, it is straightforward to develop and implement the index. After the initial set-up work and assignment of load values for investigation teams, a refresh can usually be done within a few hours.
- While the index can be operated using Microsoft Excel, it would be beneficial for it to be automated within aforce management system.

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