Winston Churchill Memorial Trust Post Fellowship Report

Ethical dilemmas of submitting detailed street maps showing areas of risk behaviours to healthcare journals.

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Abstract
With advances made in detailed cartography e.g. Google maps, we debated whether it would be ethical to highlight high risk areas of injecting drug use and needles being discarded in our city by producing accurate Google Street and area maps. These maps clearly demonstrated high risk areas in areas of high social deprivation despite there being nearby drug dependency units and needle exchange centres. Our team, not unreasonably felt that the submitted research article should not enclose these maps even after known street names and postcodes were omitted as it was felt that there may be a public backlash and outcry particularly from residents living in these areas to being 'targeted' and a decision was made to submit the article without the maps despite this public sector data being available as a 'Freedom of Information' Act. This effectively diluted the 'geospatial' message of the article as it became more difficult to articulate the relative healthcare needs of this marginalised and often chaotic cohort and the availability of nearby, specialised healthcare services. Such maps provide a huge aid in public health commissioning and provision of healthcare services as guidance is given to high healthcare priorities and needs.

Introduction
Public injecting drug use continues to be an ongoing problem in most urban areas of western towns and cities leading to ongoing morbidity and mortality[1] and harm to the community, families, friends and colleagues[2]. Individuals who are Injecting Drug Users (IDUs) to obtain a 'high' or inebriation often result in risk taking behaviours including anti-social, criminal, sexual and further drug use[3]. IDUs tend to congregate for group activity although it is difficult to ascertain rates and levels of such activities. Non-public IDUs further compound the difficulties in acquiring accurate data for health and social care interventions. IDUs are less likely to be aware of such interventions or pathways for related healthcare e.g. Addiction Specialist review or Blood Borne Virus (BBV) screening and this often chaotic and marginalised group are difficult to engage in general and specialised healthcare initiatives[4] and a lack of awareness of appropriate disposal sites or areas of safe needles wastage sites is also well documented[5]. Despite the increasing provisions for needle exchange programmes, there are still ongoing sightings and reports of discarded, used syringes and needles[6]. Risks to the surrounding community are clearly hazardous particularly those from sharps injuries and it is clear that multi-disciplinary actions are needed to create more concerted initiatives to tackle these issues[7].

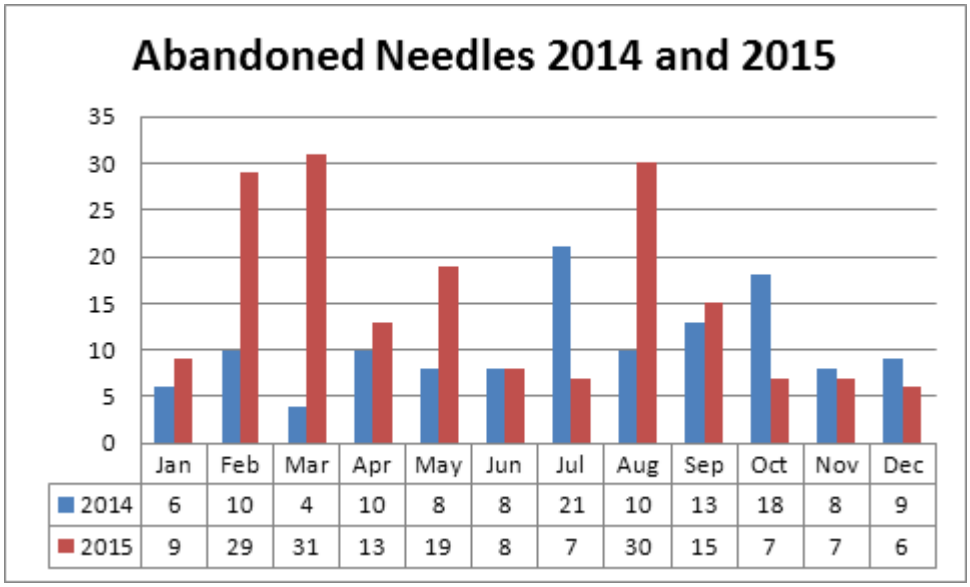
Methods
In response to concerns about the numbers of used needles being abandoned in Milton Keynes (MK), UK in conjunction with a high number of BBV diagnoses, the Community Safety Partnership and Public Health drugs & alcohol lead collaborated to pull together a multi-agency working group, initially with the aims of analysing data to understand the scale and spread of the problem, identifying what each agency could do to address the issue, improving data collection and preventing/reducing the incidence of abandoned needles. The agencies involved were public health, community safety,

police, housing, waste management, the Parks Trust and the Drug Dependency Unit (DDU). Through data mapping, the group was able to identify hotspot areas where the majority of used needles were being abandoned.

Results

As shown below, it is deemed acceptable to produce diagrams showing numbers of abandoned needles found monthly (Graph 1) or even a table (Table 1) showing needles found in each estate with a comparative Index Multiple Deprivation (IMD) score in an anonymised way between January 2015 and November 2015. The data drawn upon for this analysis was provided by the waste management department at MK Council, the housing team and the Parks Trust. It should be noted that a 'report' refers merely to an incident of abandoned needle(s), rather than the quantity found as many reports clearly suggested group activities.

Graph 1



When each area of MK was further analysed, it was seen that the socially deprived and marginalised areas of MK where needle exchange services are more prevalent were seen to have the highest rates of discarded needles.*

Table 1

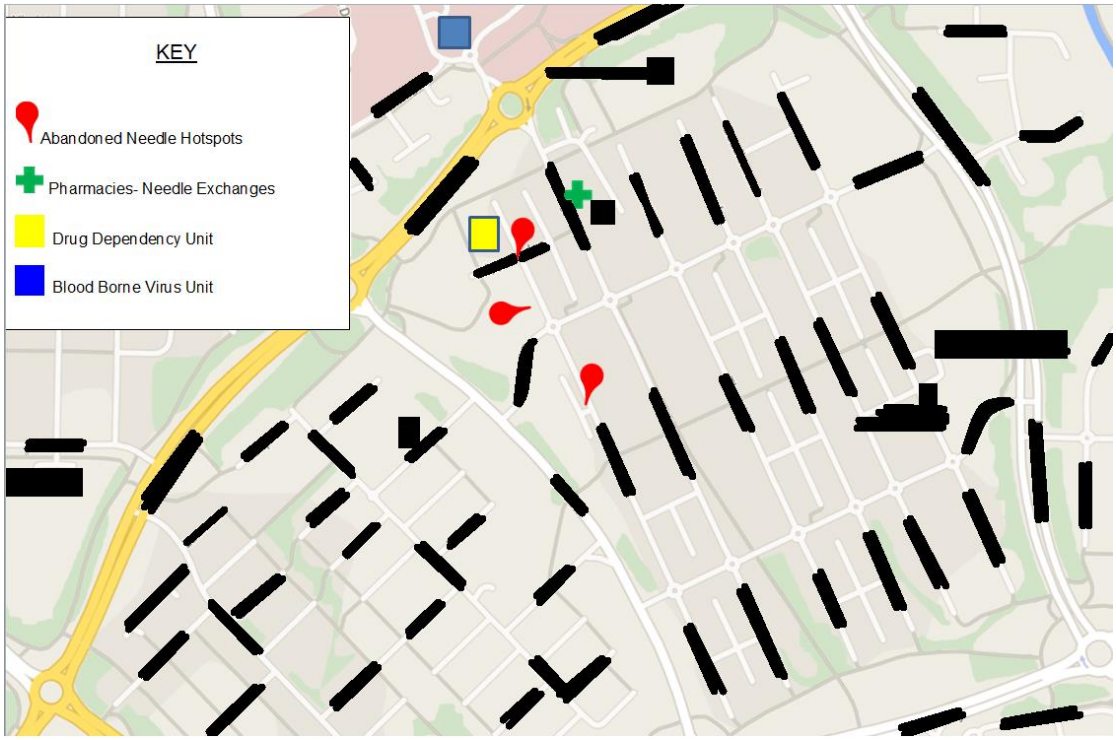
Estate Number	IMD Score	Reports	Number Found	Average Find
1	58	33	344	10.4
2	33.4	24	288	12
3	44.4	14	44	3.1
4	59.5	12	446	37.2
5	15.9	12	99	8.3
6	28.4	10	765	76.5
7	36.4	10	71	7.1
8	31.3	7	19	2.7

9	N/A	6	8	1.3
10	12.2	4	12	3
11	39.7	3	3	1
12	20.1	3	67	22.3
13	28.7	3	13	4.3
14	N/A	2	2	1
15	17.9	2	11	5.5
16	13.1	2	2	1
17	N/A	2	5	2.5
18	6.2	2	4	2
19	24.4	2	16	8
20	53	2	11	5.5
21	N/A	1	1	1
22	10.6	1	1	1
23	26.1	1	10	10
24	44.3	1	1	1
25	9.8	1	20	20
26	12.8	1	1	1
27	N/A	1	13	13
28	9.5	1	25	25
29	13.1	1	1	1
30	N/A	1	37	37
31	21.3	1	6	6
32	N/A	1	1	1
33	8.2	1	25	25
34	N/A	1	1	1
35	N/A	1	1	1
Grand Total		**174**	**2379**	**13.7**

Conclusions

With respect to a detailed, Google street map with area and street names, this was rejected for submission by our public health team for reasons of confidentiality, public backlash and stigma of residing in named areas. Tackling the issue of abandoned needles needs to be done through a multi-agency approach. A recent audit in MK showed a high prevalence of newly diagnosed HCV patients attending the DDU. Our DDU is an Addiction Specialist run service for all forms of drug and alcohol use. Under the Health and Social Care Act 2012, responsibilities for commissioning drug and alcohol treatment services transferred to Local Authorities. This has enabled Local Authority departments including public health, housing, waste management and community safety, along with commissioned drug services and BBV services, to coordinate their actions to tackle the issue of abandoned needles and reduce harm. Our BBV service is a hospital based clinic embracing screening, diagnosis and management of all BBVs, sexual and reproductive health of clients and patients attending. With high rates of HCV seen in the IDU population, particularly those attending our local DDU which we have shown previously[8], there is a need for interventions to reduce the risk of HCV transmission to non-infected IDUs to be strengthened.

The main findings of this study suggest that a high number of abandoned needles is taking place in urban areas of high social deprivation, clustered around needle exchange points, suggesting that IDUs collect injecting equipment, use in the vicinity and then abandon the used needles. These areas also have the highest rates of HIV, Chlamydia and unplanned pregnancies suggesting a younger, mobile population with high sexual and drug risk behaviours[9]. The seasonal variation suggests increased IDU activity in spring and summer due to increased daylight hours and warmer weather. The findings also suggest that cartographical and geospatial planning can be useful in terms of planning and targeting the delivery of healthcare interventions, particularly in an outreach setting to cater for this cohort. In response to these findings, needle exchange services are being reviewed to ensure that healthcare professionals are appropriately trained in delivering effective needle exchange and harm reduction advice. The DDU also has a renewed focus on delivering high quality harm reduction interventions with the aim of reducing the rates of injecting drug use, educating service users about the risks they pose to themselves and others, and encouraging the use of needle exchange services if service users continue to inject. In addition, an incentive scheme is being introduced to encourage IDUs to return their used needles safely. The BBV service has an integrated sexual health service so this is extremely useful in offering full sexual health screening for IDUs. The integrated sexual health service also delivers a regular outreach clinic from the DDU which is an example of best practice. The introduction of needle exchange programmes has reduced the incidence of BBV transmission in IDUs. However, provision does not seem to be sufficient or effective at reducing discarded needles and syringes. Clearly the task of locating, gathering and counting discarded needles in the selected areas of Milton Keynes is a huge and exhaustive task so there will be limitations around accuracy of numbers in terms of lack of visual inspection of all areas[11]. The needles and syringes found were reasonably assumed to be due to IDU rather than for medicinal purposes e.g. insulin syringes as most therapeutic syringes/needles will be distinguishable, labelled and tend not to be used in public. Accurate numbers of clean needles and syringes was being distributed and used needles being returned are needed to elicit usage levels as well as reasons for non-acquisition to ascertain how such services could be improved to encourage utilisation by IDUs[12]. Other measures could include pathway changes e.g. weekend opening hours, visible non-mobile waste disposable sites and greater provision and choice of paraphernalia. These were mainly near to the drug treatment service and pharmacy needle exchanges as shown by the heavily altered Google map (see below).



Ethical considerations

As seen, this revealed important data in the context of 'geospatial' analysis of where the discarded needles were in relation to the Drug Dependency Unit (DDU), BBV centre and needle exchange service is. The main concerns from our team were the backlash from the public residing in this area in terms of confidentiality and stigma despite this information being available publicly[13]. We also appreciate that we do need to assess why IDUs are disposing of needles and syringes by conducting appropriate user surveys and a further study could look at postcodes of IDUs registered with the DDU to see if this coincides with the clusters of needles disposal areas for further possible healthcare outreach interventions. This study effectively demonstrates that concerted health & safety actions, health promotion and effective healthcare signposting, along with visible needle waste disposal sites could effectively reduce the numbers of discarded needles. The close proximity of the DDU and BBV centres to injecting hotspots could also promote a 'one-stop-shop' model in terms of ongoing care and this will hopefully engage more IDUs in the community to attend for specialised healthcare, particularly for those in financial and transport difficulties. There is very little literature on guidance on submission of detailed ordnance street maps which could describe other risk behaviour prevalence, crime etc which may effectively compromise public confidences and sensitivities in disclosing sensitive information. Such maps provide a huge aid in public health commissioning and provision of healthcare services as guidance is given to high healthcare priorities and needs and is particularly helpful in impoverished areas where access to specialised healthcare services can be planned at little cost to low-income users[9].

The use of data mapping in the form of detailed Google street maps to identify hot spots for needles being discarded brings a number of ethical issues. This can be a useful tool to identify risk areas eg location of schools, shopping areas etc. and cost effective healthcare initiatives, expertise and provisions can be planned effectively. Public display of data may bring about concerns over confidentiality, public backlash e.g. over house prices on residing in a high risk area and stigma. Guidance is needed in terms of submission of risk data in IDU as well as other 'marginalised' risk-behaviour subjects e.g. alcohol use to journals for educating and guiding other healthcare professionals. We welcome suggestions and comments from this journal.

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