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Violence Against Women 2011 17: 404

DOI: 10.1177/1077801211398637

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Violence Against Women
17(3) 404–425

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and Janet Bowstead¹

Abstract

This article reports on two separate research projects that use mapping techniques, specifically Geographic Information Systems (GIS), to assess the spatial characteristics of access to specialized support services for women who have experienced domestic/sexual violence, female genital mutilation/cutting (FGM/C), and sexual exploitation. In the first project, maps document the location of specialized violence against women (VAW) services across nations and regions of the United Kingdom, demonstrating many gaps in provision. In the second project, mapping techniques assess the distance and direction women traveled in their journeys to access specialized support services (specifically shelters) when escaping domestic violence. Policy outcomes and conclusions and possibilities for using GIS for feminist research on violence against women are discussed.

Keywords

feminist geography, methodology, violence against women

Introduction

This article discusses the process and findings of two research projects that used mapping techniques, specifically Geographic Information Systems (GIS), to explore spatial characteristics of support services for women who have experienced violence and how the research impacted the policy sector. The first project (referred to here as “mapping services”) developed from awareness that though multiple directories of VAW support services are produced in the United Kingdom (by umbrella organizations and through online databases), and are called “mapping” projects, there were no actual maps depicting the availability of

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services. As part of a wider campaign led by the End Violence Against Women (EVAW) Coalition¹ for a national integrated strategy addressing all forms of violence against women,² Map of Gaps sought to document the fragility of the VAW sector and visually authenticate what had been termed the “postcode lottery,” that access to services depends on where one lives. Data were collected in 2007 and 2009 to produce maps locating the presence and absence of specialized support services across England, Scotland, Wales, and Northern Ireland.³ However, all data and maps presented here are from the second wave of data (Coy, Kelly, & Foord, 2007, 2009).

The second project (referred to here as “mapping journeys”) used GIS to (re)present relocation of women fleeing domestic violence, by conceptualizing such movement as a process of forced migration (Bowstead, 2008). This study explicitly challenged the common use of crime mapping, where reported incidents are plotted to identify so-called hot spots, noting its limitations with respect to domestic violence. It showed women’s *active* strategies of moving to seek safety. Taken together, the projects illustrate the potential of GIS to visually represent women’s everyday experience in ways that connect to political and social contexts and through the use of maps powerfully visualize aspects of inequalities (see Kwan, 2002; McLafferty, 2002, for further examples).

An Overview of Geographic Information Systems (GIS)

Geographic Information Systems (GIS) are a wide and rapidly growing range of applications with the specific characteristic that their information has a geographical or spatial component. To undertake analysis using GIS, data must relate to points, lines, or areas within a spatial referencing system that both provides organization and enables analysis of meaning. GIS is, therefore, a means to an end of data analysis, displaying data spatially to provide a perspective that could not otherwise be obtained. GIS was used here to ask questions about availability of, and proximity to, specialized support services.

GIS enables the linking of social data to points or areas by means of “geocoding” techniques. Points may be genuinely the data locations, such as sampling points for surveys or addresses of respondents, or they may be a “centroid”—a point representing the geometrical center of an area. GIS enables location of these points by joining the social data (in the projects reported here, the existence of specialized support services) to spatial data by means of latitude and longitude or coordinate systems (such as national grid systems) or customized systems. Area information, such as social characteristics representing the averages or totals for whole areas, can be located spatially via GIS using national systems such as local authority boundaries or postcodes (zip codes) or customized systems. Social mapping is made possible by linking social data in a database to areas on a map, and GIS enables this by matching common spatial code fields on the database and map.

In recent years social data have become much more widely available due to technological developments and a more open data environment from many governments and public bodies. Social research on issues such as health, housing, social deprivation, crime, and employment is able to use these data to address questions of inequality, distribution, and access, and using GIS enables the consideration of spatial patterns of both social needs and state and community responses. The maps in this article select the social and spatial data applicable to

the research questions and aim to facilitate both the spatial analysis of patterns and trends and the representation of research outcomes (existence of, and proximity to, specialized support services) by their visual representation.

Specialized Support Services

In the “mapping services” project, we defined services whose primary work is supporting women who have experienced violence as “specialized,” to reflect the skills and knowledge accumulated from experience and research. This specialized provision has deep roots in women’s nongovernmental organizations (NGOs) that over the past four decades have enabled women to not only “break silence,” but also seek redress and exert their right to safe lives. Innovative forms of provision such as helplines, refuges (shelters), self-help groups, and advocacy—now considered core responses to a range of social problems—all have their origins in 1970s grassroots responses to rape and domestic violence (Bevacqua, 2000; Dobash & Dobash, 1992; Schechter, 1982). Foundational principles of these specialized services are to create spaces in which women are: safe to tell, believed and respected, and able to explore options. Moreover, such support is provided regardless of whether violence was reported to a state agency, free at the time of need (WAVE, 2002). Generic victim support and counseling services were not included in the mapping, as their primary work is not supporting women who have experienced violence, and they are not, by our definition, “specialized.”

Thus, the term “support service” is used to refer to organizations providing a range of options directly to women and girls, designed to enable them to name violence, create safety, seek justice, and undo some of the harms of victimization. These options include listening, information, advice, advocacy, counseling, shelter, protection, self-help, and access to activism.⁴ In this article, the terms “service” and “support services” refer to specialized service providers/organizations according to our criteria, which provide a combination of all or some of these forms of support. Later we note that the definition of service as a service provider rather than form of support has been subject to debate and dialogue.

Proximity to Specialized Support Services

Access to specialized support services is recognized as a critical issue in both the research projects reported here. The “mapping journeys” project focuses on proximity and traveling to access specialized services: the forced migration of women fleeing domestic violence. The conceptual framework of this project drew on the intersection between sociology, human geography, and social policy to examine women’s relocations from three angles: (1) decades of knowledge within the women’s refuge movement that thousands of women are moving all around the country every year (Abrahams, 2006; Humphreys & Thiara, 2002), (2) more recent activity within local and national government to identify and tackle domestic violence within particular administrative areas (Hester & Westmarland, 2005; Taylor-Browne, 2001), (3) and the concept and legal obligations of states with respect to forced migration (Ahmed et al., 2003; Mahler & Pessar, 2001). In mapping the length and direction of journeys women make when fleeing violence with GIS, the power of mapping can be

harnessed to provide a meaningful visualization, indicating unequal gendered geographies of mobility, belonging, exclusion, and displacement (Silvey, 2006).

Unique Contribution

Our research contributes to innovation in methodology and policy implications. The women's sector in the United Kingdom has encountered difficulties in getting recognition of the dearth and/or fragility of services, particularly in the context of funding and commissioning regimes that have undermined sustainability (see Coy et al., 2009, for detail). GIS offers researchers and activists opportunities to use "more than words and numbers" in presenting data, thus making evidence vivid, which has the potential to document how communities of victim-survivors⁵ in specific geographic areas are underserved. Knowing where the service provision gaps are located can help policy makers and advocates lobby for the development of new services and sustainable funding streams. As we report later in the article, the "mapping services" project became a tool for gender equality work when the Equality and Human Rights Commission decided to use the findings from the study as a means to assess whether local authorities were meeting their obligations under the new Gender Equality Duty by providing specialized support for women experiencing violence.

Project I: Mapping Services

Methods

Research sample. The aim of the research was to develop a census of specialized support service organizations (described above) in Britain. Organizations were included if they primarily worked on violence against women and provided significant direct support to victim-survivors. This excluded generic victim support services, umbrella organizations, and campaigning groups. National helplines were also not included, since they do not have geographical catchment areas.⁶ To obtain the data, archival sources were consulted such as membership directories, published listings of services, and Internet searches were conducted. Umbrella organizations were also asked to check the databases of services gathered in Round 1 (the 2007 study) against their own records. A total number of 825 specialized support services were identified.

Geographic components of research sample. The research sample aimed to include all specialized support services across England, Scotland, and Wales. Although the original intention was to geocode services according to their postcodes (zip codes) and produce maps at the postcode level of analysis, for some services, particularly but not exclusively women's refuges, it was not possible to collect postcode data. Thus, the only consistent geographic location information obtained was the local authority level of each organization, and this combined with the need to preserve the confidentiality of addresses meant that data were only gathered and coded at local authority level. There are 408 local authorities in Britain, comprising 309 English District Authorities, 45 English Unitary Authorities, 22 Welsh Unitary Authorities, and 32 Scottish Council Areas. The term "local authority" was used generically to describe all these administrative categories. Local authority levels represent

electoral divisions and are the key building blocks of administrative geography. They are the spatial units used to elect local government councilors in metropolitan and nonmetropolitan districts, unitary authorities, and the London boroughs in England; unitary authorities in Wales; and council areas in Scotland.

Catchment areas. Catchment areas were defined as the local authority level in which the specialized support service organization was located. Based on the address, or approximation of the address, each service provider was geocoded (assigned) to the local authority level, using the nationally agreed Office of National Statistics (ONS) coding system for local authorities. Services were only geocoded to the local authority in which they were physically located, albeit they may support women from outside this area too; the rationale and limitations of this are discussed later in the article.

Specialized service types. Each specialized support service was also coded by form of violence and/or community served. Violence against women (VAW) services included (a) domestic violence services, (b) sexual violence services, and (c) services for women involved in prostitution and trafficking. Domestic violence included subcategories for (a) women's refuges, (b) perpetrator programs,⁷ (c) Specialist Domestic Violence Courts,⁸ and (d) specialized services for women from Black Minority Ethnic (BME) communities, including those addressing female genital mutilation/cutting (FGM/C). Sexual violence included subcategories for (a) Rape Crisis Centers, and (b) Sexual Assault Referral Centers.⁹ Maps were produced for all these categories and subcategories (see Coy et al., 2009).

Analysis and Key Findings

The total number and types of services available were summed by local authority level to establish how many did not have specialized support services. Table 1 shows the proportional distribution of specialized services, by form of VAW and type of service, and reveals the acute dearth of sexual violence provision, services for BME women and for women/girls involved in prostitution.

To provide context for the visualization of these data in the maps, Map 1 shows the boundaries of local authority polygons in the United Kingdom. As previously noted, local authority levels served as proxies for catchment areas. This map shows that the geographic unit equated to catchment areas varied in size by density, as the boundaries of local authority levels are determined by population rather than land size.

The raw number of services per local authority level is shown in Maps 2 and 3. Data in both maps were represented on a continuous scale using the internationally recognized traffic light signification of red for danger, indicating no services, and green that indicated a relatively high number of services.

Map 2 shows the total raw number of VAW services ($n = 825$) located within each local authority level. This includes all categories of services, including domestic violence, sexual violence, and prostitution/trafficking services, and reveals that a quarter of local authority areas (26.5%) have no specialized support services. Almost three quarters (73.3%) of services are focused on domestic violence. This should not be read as meaning there are adequate domestic violence services, since too many areas lack even this. Visual assessments show though areas in Scotland and Wales have at least one specialized service, large

Table 1. Distribution of specialized VAW (violence against women) services

Type of specialized support services	Services (N)	Local authority areas without specialized services (%)
All forms of VAW	825	26.5
Domestic violence (all)	605	31.1
<i>Refuges, outreach and advocacy projects</i> ¹⁰	400	32.8
<i>Specialized (Black Minority Ethnic) BME services</i>	63	89
<i>Perpetrator programs</i>	37	90.9
<i>Specialist Domestic Violence Courts (SDVCs)</i>	105	74.5
Female genital mutilation/cutting	15	96.8
Sexual Violence Services (all)	148	72.5
<i>NGOs, including Rape Crisis Centers</i>	125	75
<i>Sexual Assault Referral Centers (SARCs)</i> ¹¹	23	94.6
Prostitution, trafficking, and sexual exploitation	57	91.4

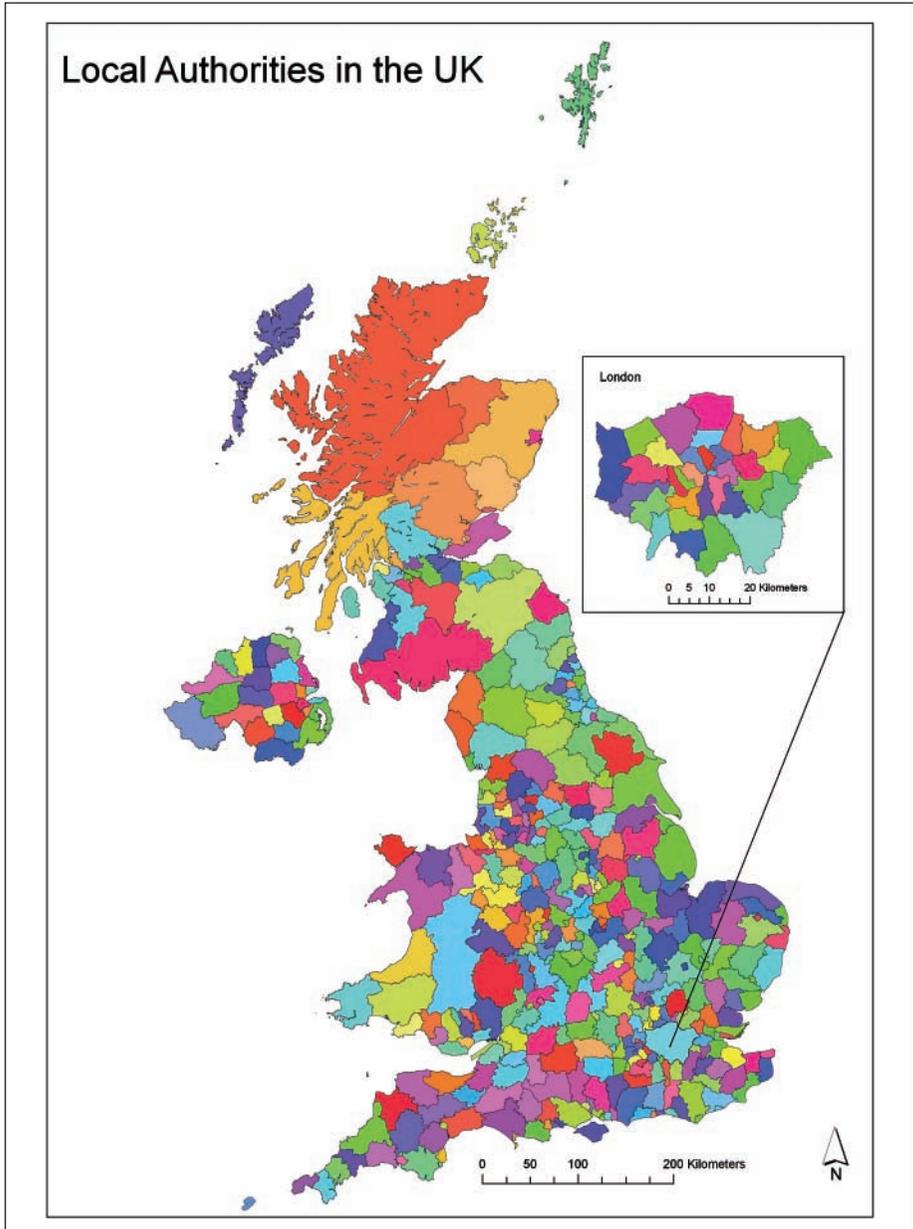
Note: Services in italics are those forms of provision included under Domestic Violence (all) or Sexual Violence Services (all).

areas of England have no provision. However, there are issues here of accessibility in rural areas that we discuss below. Very few areas have multiple services that cover different forms of violence that we refer to as a diversity of provision (Coy et al., 2009).

Map 3 depicts domestic violence services ($n = 500$, including perpetrator programs and BME services but excluding SDVCs) available by local authority level and shows that 31.1% of local authorities ($n = 127$) have no specialized domestic violence service. This map also demonstrates that there are large swathes of areas in England where women do not have access to a specialized domestic violence service.

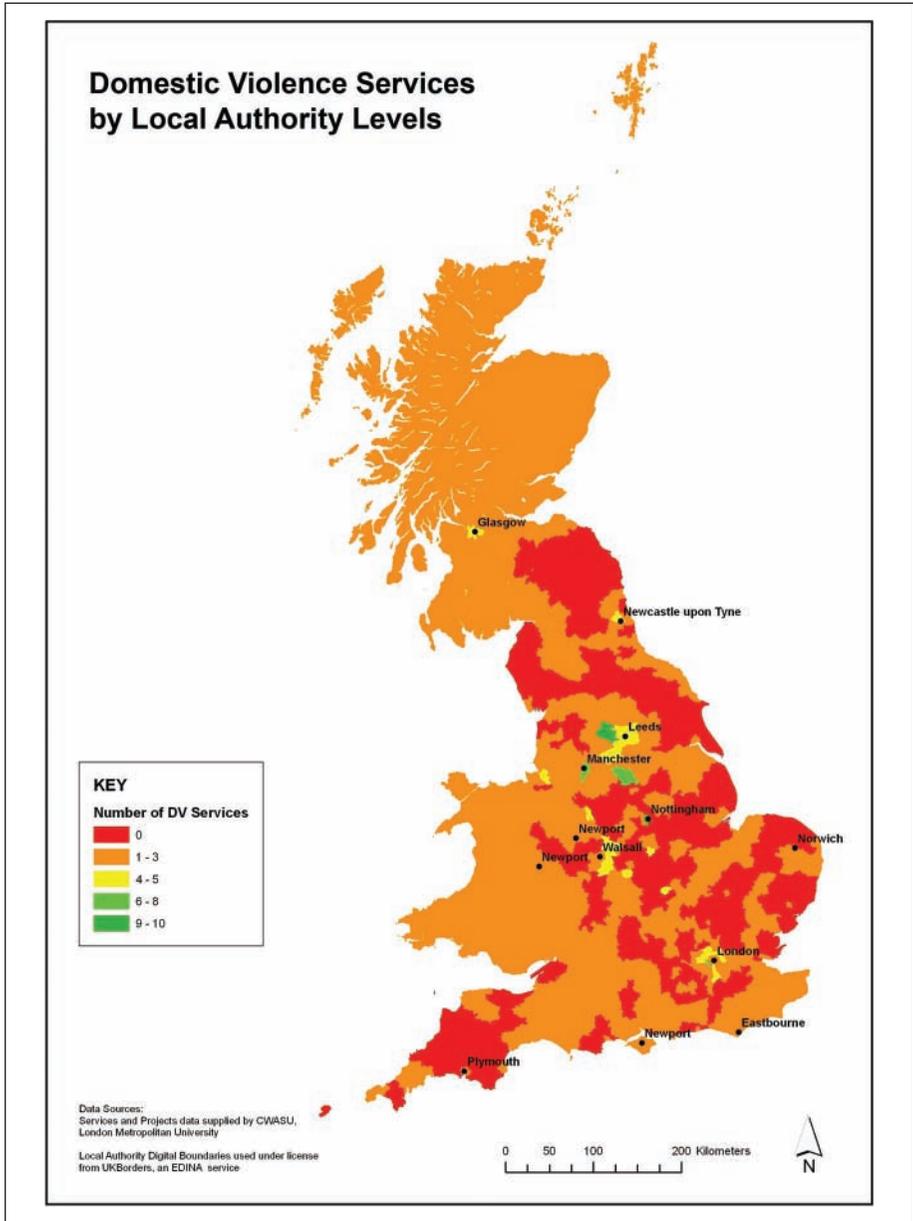
Although Maps 2 and 3 show the distribution of services relative to space, additional analyses were needed to show the distribution of services in relationship to the population. This analysis is useful because population counts can vary substantially, even within a single local authority, but the national average is about 5,500 per ward/division. More populous electoral wards/divisions tend to occur in large urban areas. The average residential population of an English local authority is 150,000 people. However, this disguises extreme variation between areas within a range from 10,400 residents in the smallest local authority (the City of London) to more than 1 million in the largest (city of Birmingham). The size of the polygons representing local authorities also varies widely. This is influenced by the density of urban development and, therefore, degrees of population concentration. The geographical area of local authorities varies from 3 sq. km. (London City) to 25,721 sq. km. (Highland in Scotland). The sparse population, long distances, and poor public transportation in rural local authorities raise particular service provision issues relating to physical coverage and accessibility.

Map 4 illustrates the concentration of the female population within the cities and metropolitan hinterlands of Great Britain. In Scotland, most women live in the central belt between Glasgow and Edinburgh, with smaller concentrations in Dundee and Aberdeen. The rest of



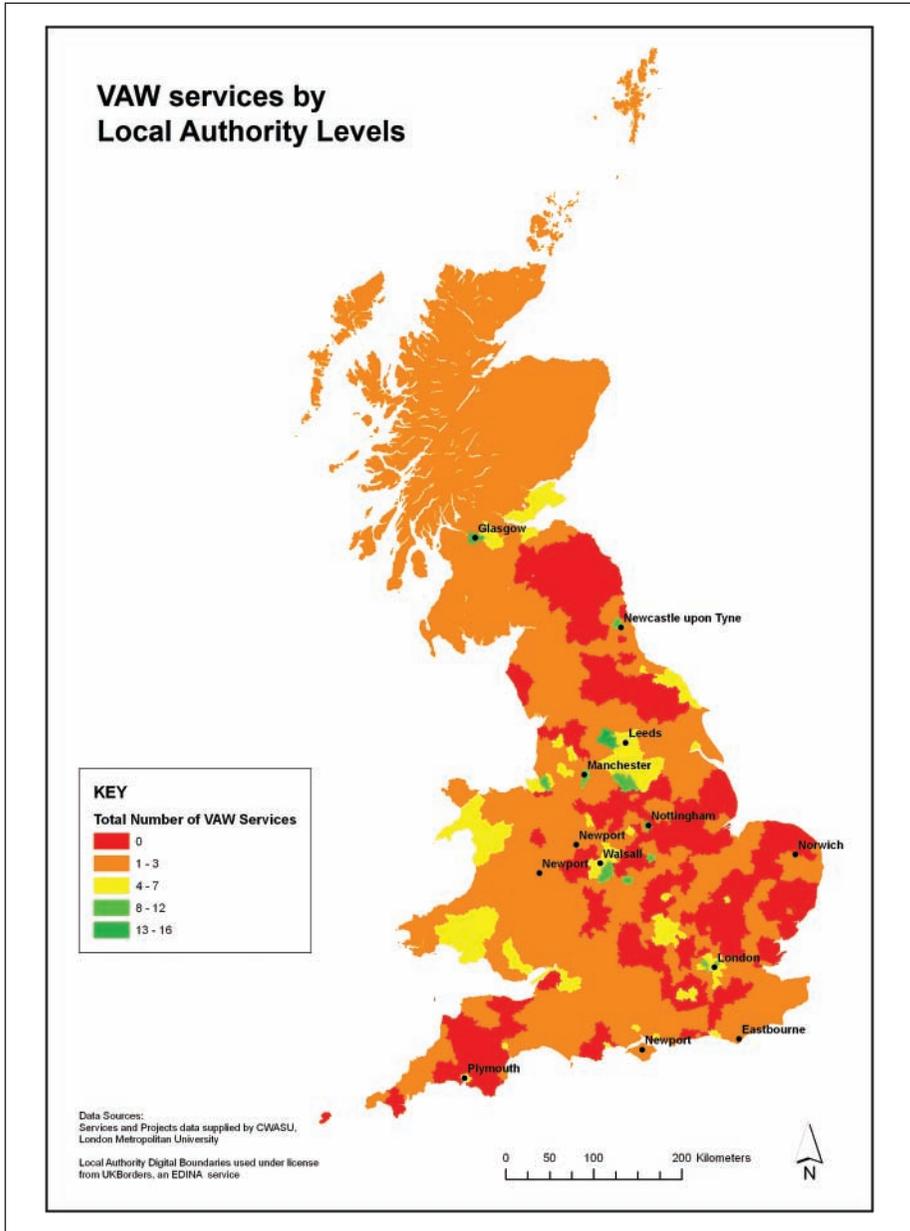
Map I. Local authority levels in the United Kingdom

Scotland is sparsely populated. There is a similar urban-rural divide in Wales where most women live in the south in the Swansea and Cardiff areas. The majority of women in Great Britain live in the urban conurbations of England, stretching from Liverpool and Manchester in the Northwest through Birmingham and the Midlands to London and the southeast.



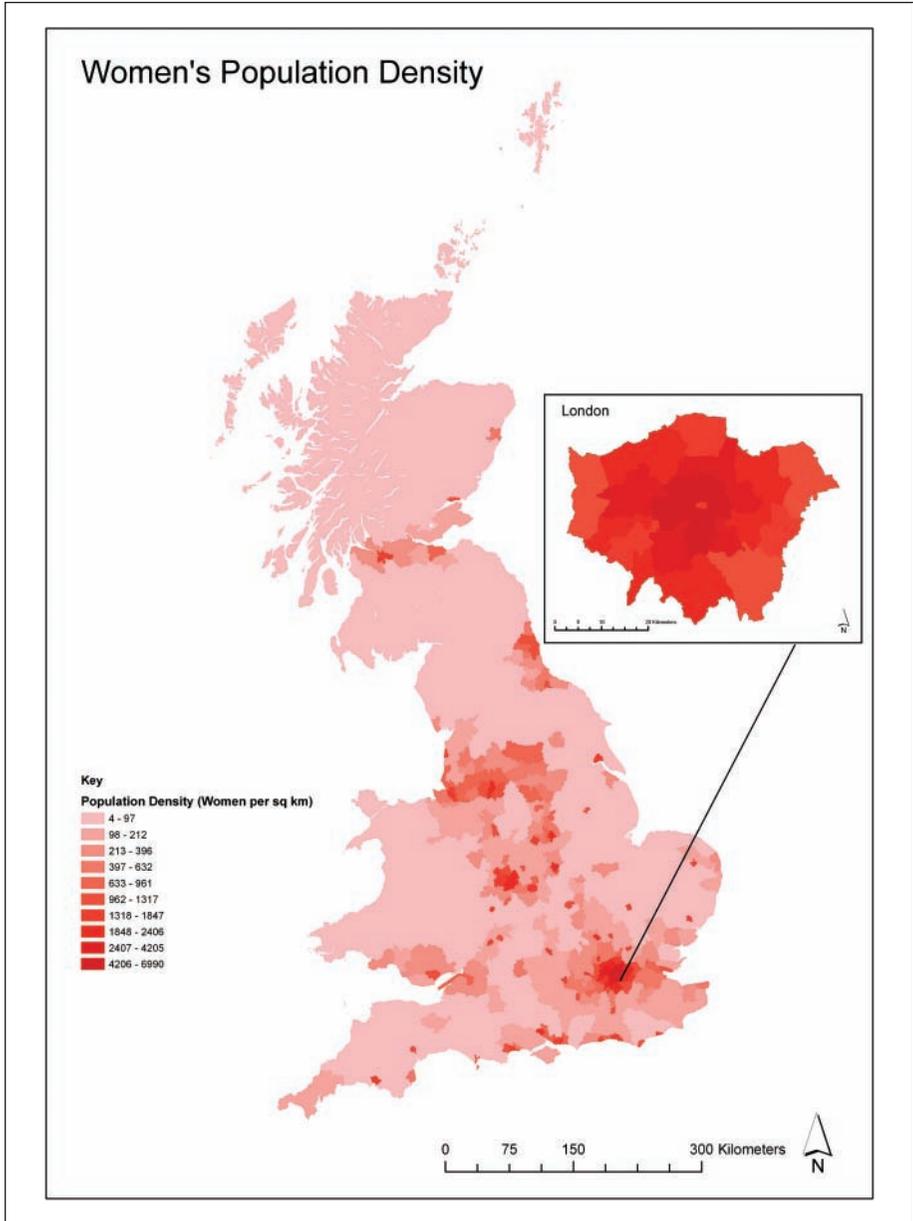
Map 2. Specialized VAW Services in Great Britain

Map 5 shows women’s population density overlain by the number of specialized VAW services identified in each local authority. Although the provision of VAW services follows the general concentration of female population, this is an arbitrary pattern and there is no systemic relationship between the number of services and the number of resident women



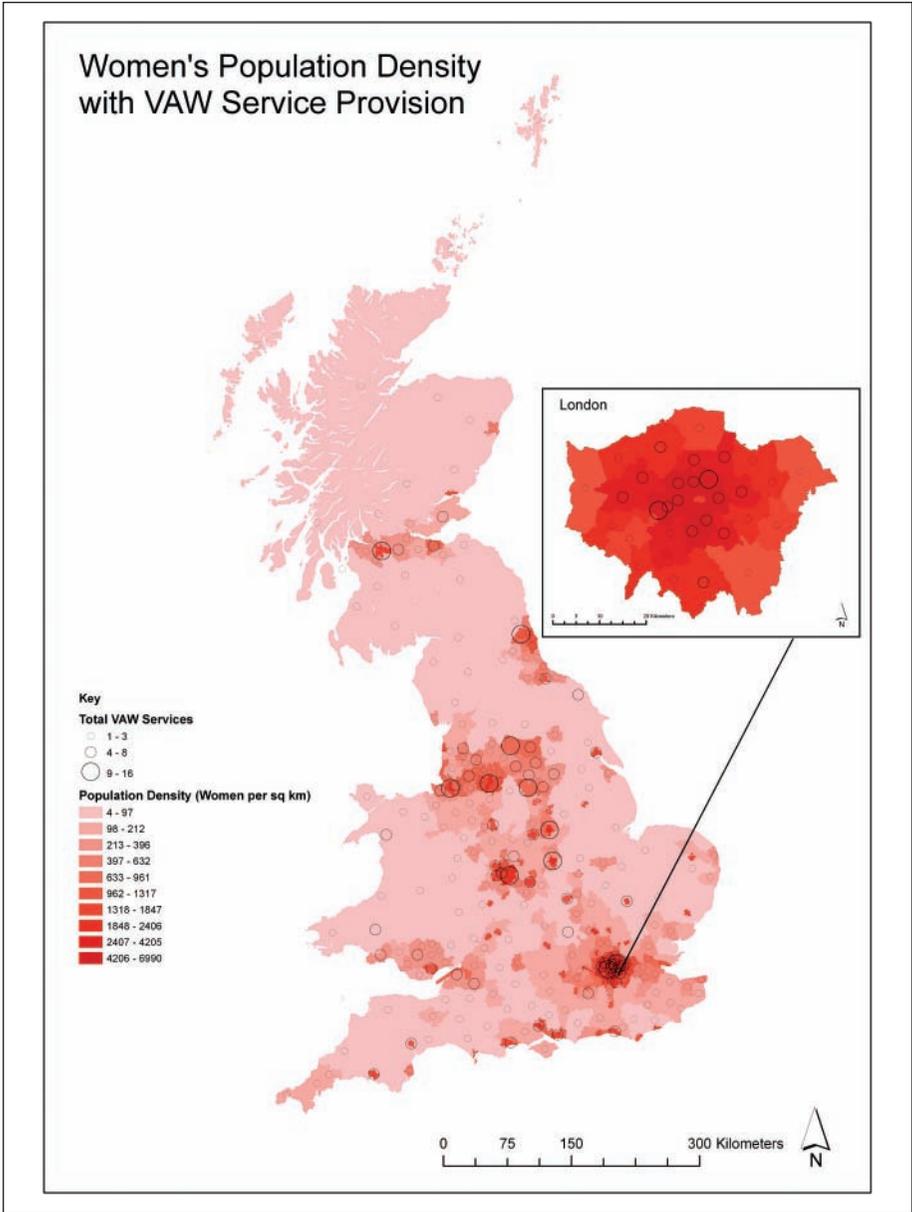
Map 3. Domestic violence services in Great Britain

or the density of the female population. Indeed some areas of high concentration of women have no service provision at all, whereas areas with sparse populations may have provision, but accessibility to these services is diminished by the distances between small communities within rural local authorities.



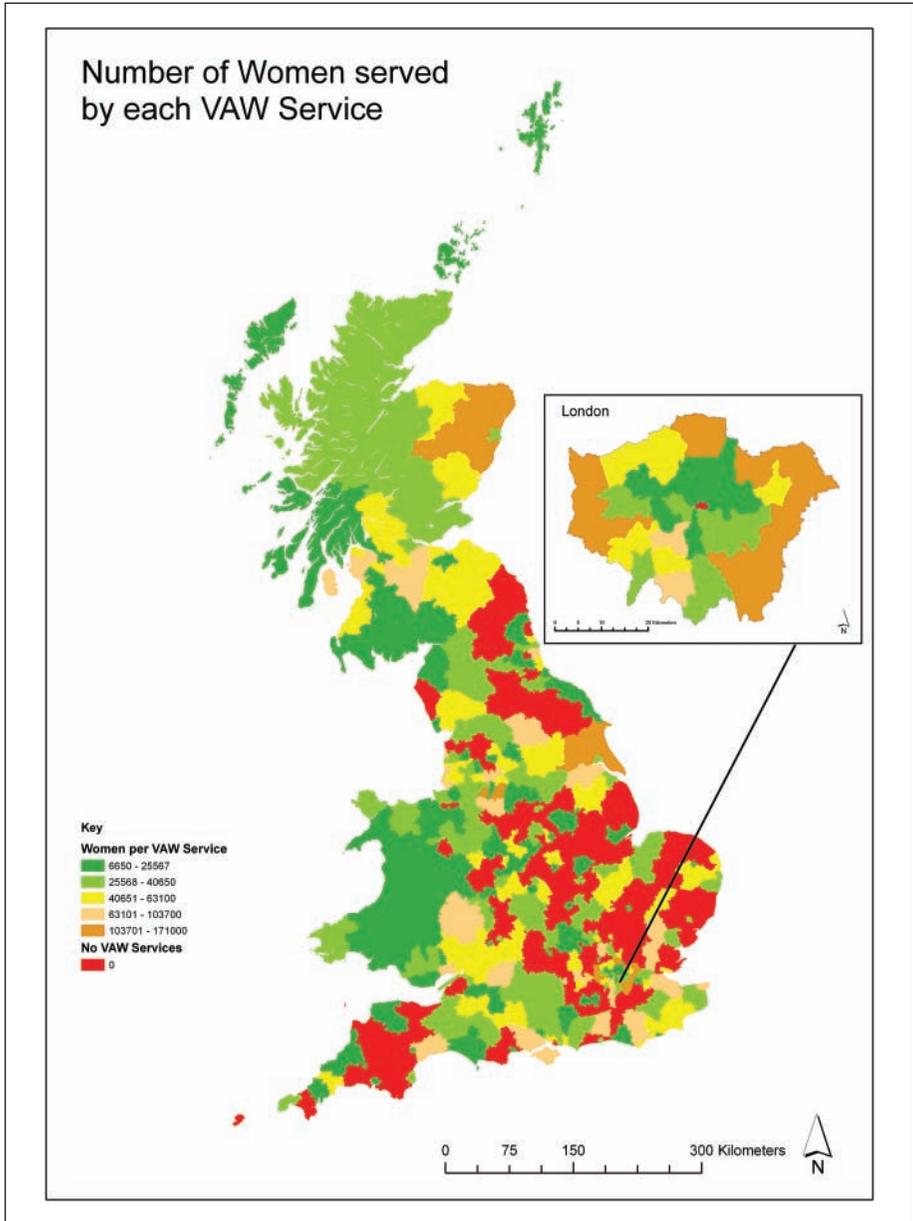
MAP 4. Women's population density

Finally, Map 6 identifies the number of resident women potentially served by the VAW services in their local authority (number of women per single service). This map considers the concentration of services but not the population density of women. This shows a mixed picture: Where women are sparsely concentrated in rural areas, their share of services can



Map 5. Women's population density with VAW service population

be relatively favorable. However, this does not take into account the distances they have to travel to access a service. In cities such as London, where there are high numbers of resident women but uneven distribution of services, women appear to be poorly served in outer London local authorities. Large numbers of women have a relatively low level of specialized



Map 6. Number of women served by each VAW service

provision. In general, urban local authorities provide highest levels of specialized VAW provision. The women least well served are those in the English nonmetropolitan authorities, on the edge of urban development, where there is no specialized provision at all.

Discussion

Challenges in mapping services. There were multiple challenges and complexities inherent in this project, including limitations of what it was possible to obtain data for and depict visually. First, there is no fail-safe methodology that would produce accurate data—not all services are members of umbrella organizations or listed in directories, and unstable and short-term funding means some services close at short notice. Second, the existence of a service only tells us about one part of availability; it does not reveal anything about capacity. Refuges/shelters may be large, small, have associated outreach and children's services or not; sexual violence services may be open for only a few hours a week or have a daily phone line, may offer immediate counseling or have lengthy waiting lists, and work with 50 women a year or more than 500. Resource limitations for the study, and indeed for the services that would need to provide this information, precluded gathering this level of detail, but it would in principle be possible to drill down to this level.

Finally, a significant issue was depicting the catchment area of each service. The geocoding and choropleth shading of the maps meant that each service was only represented for the local authority area in which it was based. The key reasoning behind this was that many services receive at least some funding through various local authority streams (including central government housing monies that are administered locally, and health trusts), and such funding often carries limitations with respect to who can be offered services. Local authority parameters in the United Kingdom are, therefore, significant politically and administratively: Highlighting gaps in provision within these areas drew attention to the lack of specialized services to meet the needs of local women. When the original project was published in 2007, some local authorities claimed that they part-funded organizations in neighboring areas, which were available to women in their own area. In addition, Sexual Assault Referral Centers and Specialist Domestic Violence Courts typically operate across police force and courthouse areas. Yet other services reported being restricted by funding parameters to only supporting women that live within their local authorities. With this in mind, when the project was repeated in 2009, we grappled with how services shared across administrative boundaries could be represented, since GIS requires a locational identifier. As we discuss later in this article, women often access services many miles away when escaping domestic violence. Yet distance and lack of transportation and resources can act as a barrier for women in rural areas, in seeking and receiving support, particularly in the early stages of addressing violence (McCarry & Williamson, 2009). There are two ways in which the method of geocoding to local authority areas offers a limited representation of how far women might have to travel to access services: First, the service may be located on the edge of a local authority area, some (perhaps insurmountable) distance from home; second, women may be able to access services in that are based in neighboring areas but offer a service across boundaries. Ultimately, it proved impossible from the available data to be confident about the geographical reach of each service, as this level of detail would be burdensome for already overstretched services to provide and may in fact fluctuate over time according to funding restrictions. Some services reported that though they are expected by funding restrictions to refuse support to women who live outside of their area, they nevertheless provide a service if they have

capacity. As the discussion on the “mapping journeys” project shows, refuges are available to women from all over the country/region, some of whom may need to travel considerable distances to ensure their safety. Collecting accurate data about catchment areas is, therefore, a complex task and was not possible for the “mapping services” project; this remains a challenge for the future.

Policy Impacts and Implications of Mapping Services

The VAW sector broadly welcomed the 2007 findings for confirming the reality of the post-code lottery in a user-friendly and powerful format, and many politicians and policy makers have referred to the projects in speeches. However, the very strength of the visual representation led to critical assessments by some seeking to argue that the data were incomplete and that there were more services than had been mapped. Map of Gaps 2 (Coy et al., 2009) identified 29 services that had existed but not been mapped in 2007, representing only 3.8% of total provision. In addition, 75 new “services” (more than half of which were located within the statutory sector) were identified and demonstrated that expansion and investment had been linked to a criminal justice system focus, even though the majority of women still do not report violence to the police. In Map of Gaps 2, an additional dialogue took place with BME women’s organizations, with respect to what constitutes “a service.” A key umbrella organization representing frontline services for BME women had published a report after MOG1 that documented a decline in services, which they had defined as forms of provision such as outreach or helplines. MOG2 found no such decline, since “service” had been defined as an organization. This variation in definition raised questions about reliability of data, making it essential that the differences in findings were clarified as definitional differences.

The 2007 report was published jointly with the newly established Equality and Human Rights Commission,¹² and the second, published in 2009, was funded by them, since they had made provision of VAW support services one of their acid tests for implementation of the Gender Equality Duty. The data from the 2009 project were to form the basis for “enforcement action,” following a strong statement by the head of EHRC, Trevor Philips, that local authorities were being placed “on notice.” The report was accompanied by a searchable website and resources that invited visitors to campaign for enhanced service provision.

The response to MOG2, given the stated intention of the EHRC, was stronger, especially from the Local Government Association, which issued a press release challenging the findings. Individual local authorities also wrote to the EHRC, arguing that they did have services that were not mapped, though many of these claims referred to coordination activities and policies rather than direct support services. At the time of writing, the EHRC has sent letters to all local authorities where there are no specialized services asking for an explanation and is due to take enforcement action under the Gender Equality Duty imminently. In addition, one of the maps has been reproduced in a sociology textbook, and the report was used by the CEDAW committee when examining the U.K. government in July 2008. Interest in adapting the methodology to produce an “index of support” has been voiced at the United Nations and the Council of Europe and interest expressed in replication within the Balkans and in Canada.

Project 2: Mapping Journeys of Women Fleeing Domestic Violence

The second research project used GIS to (re)present relocation of women fleeing domestic violence, by conceptualizing such movement as a process of forced migration (Bowstead, 2008). The direction and distance of travel was examined for women seeking specialized support services at a sample of shelters. Spatial migration patterns for one of the sample shelters are provided in detail in Map 6.

Methods

Research sample. The total sample consisted of 550 women, 312 of whom had children younger than 18 years of age (514 children in total) and had accessed 1 of 18 selected refuges (shelters) during a 1-year period. The data comprised a convenience sample of refugees from one service provider (offering approximately 6.5% of the refuge capacity in England: 230 single or family bedspaces out of 3,530; Women's Aid, 2007) and covered all residents in these refuges during the period April 2007 to March 2008. The data were extracted from the more comprehensive data set required by Supporting People¹³ funding and covered basic anonymized demographics and the local authority location for each woman immediately prior to accessing the refuge. All women had, therefore, relocated due to domestic violence, including 38 who went to their local refuge. It is not possible from this snapshot data set to identify whether the move to the refuge was directly from the abusive relationship or whether women had moved on multiple occasions already. In addition, because refuges are temporary accommodation, all women would be making at least one further move; therefore, the data indicate just one stage in women's journeys.

Location. The location data for the current refuge location and address just prior to relocating to the refuge were geocoded. The refuges (all located in England) and any prior address located in England were geocoded at the local authority level using ONS local authority coding. Addresses of women relocating to these refuges from Scotland or Wales were geocoded to the midpoint of their country. It was not possible to map the journeys of the women who had traveled from outside the United Kingdom. For safety reasons, the data for women's previous accommodation were only available at the level of local authority, as previously noted in the "mapping services" project, and the need to preserve the confidentiality of addresses of refuge services determined that their location was also geocoded at the same level.

Distance. Each journey was mapped by connecting these points to represent each woman's relocation from her previous accommodation to the refuge. The distance between the two points were calculated in miles.

Analysis and Key Findings

Migration patterns and distance were analyzed for all 550 women across the 18 refuges, resulting in 18 different maps. Although not possible to present all maps, Map 7 provides

an example of the migration patterns to one of the refuges, the southeast London location, included in this study.

This map shows many long journeys to a southeast London refuge. For additional security, the location of refuge services was further anonymized, removing the names of any actual boroughs or towns and removing the coastline and all other geographic features from the maps. Of the 93 women (with 87 children) in this subsample, only 6 sought refuge in a shelter located in the same local authority area as their prior address. The remaining 94% traveled from another local authority area or country to obtain services at this refuge. The longest distance traveled by any individual from within England was 256.46 miles. The maximum distance traveled within the United Kingdom region was 395.40 miles. The average distance traveled to the refuge was 30.47 miles.

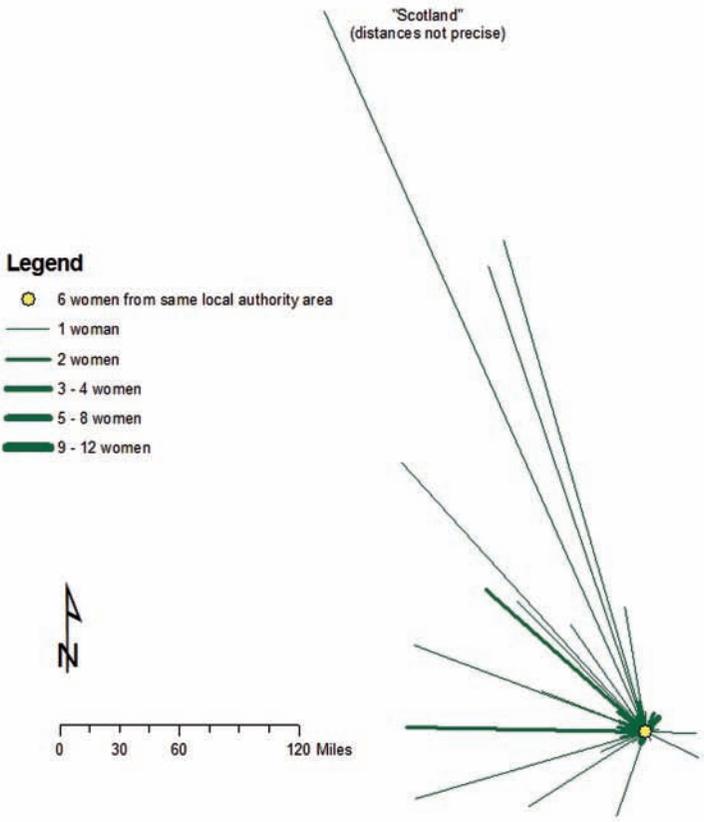
From this small sample it was possible to identify that there appears to be no strong trend such as north to south or east to west, but there are initial conclusions concerning greater distances traveled in more rural areas and shorter distances to specialist ethnic minority refuges. The research project is currently being developed using a much larger data set to enable much more spatial analysis to characterize and conceptualize the journeys women are making.

The analysis of the larger data set across all refuges in the study reveals that women travel from a vast range of locations and in all directions to access refuges: a total of more than 18,000 miles to these 18 refuges in 1 year. There is no strong trend to the migration flows: There are 315 different journeys among the 512 women who left their local authority area (an additional 38 women sought services in their own local authority area), with a maximum of only 12 women making ostensibly the same journey. The total sample shows that women travel an average of nearly 35 miles to a refuge, and in total, just more than half (52%) of the women moved less than 25 miles away from their previous place of residence. However, a fifth traveled more than 50 miles, and many of the women in the sample traveled long distances (often more than 100 miles). There are examples of a woman traveling from A to B while another woman travels from B to A, and there is no indication that there are any net “import” or “export” areas for women fleeing domestic violence.

In general, women make longer journeys to access refuges in more rural areas such as the Welsh borders, with an average journey of 59 miles and the longest of 202 miles. This compares with shorter journeys in more populated areas such as southwest London, with an average of 16 miles and longest of 113 miles. However, this perhaps reflects service availability and access to transport, rather than a choice of how far to move. Women traveled shorter distances to the specialist refuges in the sample, particularly the African and African Caribbean refuges in London. This may reflect attempts to stay close to community and/or a lack of knowledge of potential community and services elsewhere.

The London refuges show that most women came from within London, with lower average journeys than elsewhere (6 to 30 miles). Although less than 20% of women in the London refuges traveled more than 25 miles, women did travel long distances to these refuges. For example, as shown before, Map 6 shows many long journeys to a southeast London refuge: The 93 women (with 87 children) traveled an average of 30 miles, but this included journeys of more than 250 miles within England and nearly 400 miles from Scotland.

Migration patterns to a sample refuge in the study: Journeys to a South East London Borough



Map 7. Migration patterns to sample refuge

Discussion

Implications of migration patterns. Across the 18 refuges a picture emerges of a multitude of individual escapes. This underscores the need for equitable service provision in all areas of the country. It was from mapping the data that the directions and distances of the journeys could begin to be conceptualized spatially (rather than on other forms of visual representation such as charts).

Although policy makers and practitioners focus on what works in particular local areas to tackle and prevent domestic violence, the reality is that many women and children still need to leave home for their mental and physical safety; they are forced to make these journeys because they literally have no other options, other options have failed, or they are not aware of any alternatives. This mapping project, therefore, highlights the need for a national resource of support and accommodation services for women (and their children) escaping domestic violence. The conception of women's journeys as forced migration also allows insights and learning from the experiences of other migrants and diasporas and identifies a potential role for these specialized services in reducing isolation, supporting women to create shared narratives, so that they can experience a more collective sense within their dislocation and less of an individual exile.

Limitations and challenges of mapping journeys. The main challenge to undertaking such a project is the availability of location data that are sufficiently accurate and reliable to support the mapping and spatial analysis, while being sufficiently anonymized to ensure the safety of the individual women and the services. The project was carried out on a small sample that proved the potential of the mapping methodology, but only allowed tentative conclusions about the extent and implications of women's relocation. The findings were triangulated with qualitative data from interviews with women who had relocated, and with small data sets from additional service providers, but still only represent initial conclusions and recommendations for further research.

Summary: Reflections From Mapping Services and Mapping Journeys

Both these mapping projects demonstrate that in the United Kingdom specialized VAW provision is inadequate on three levels: In more than a quarter of areas there are no local services, requiring women to make long journeys if they are to access support and safety. This is particularly acute in rural areas in England, Wales, and Scotland, as the maps show. Analysis of provision compared to population density demonstrates that there are areas where despite high concentration of resident women, there are no specialized services. Second, where women may need to move out of local areas, findings starkly illustrate the need for *national* provision with sufficient capacity, and a dispersed distribution around the country (for reasons of safety, security, and justice). Areas without specialized services fail women who live locally and may need immediate, convenient support and do not contribute to the network of safe housing that women and children escaping current violence need. Third, provision is concentrated on domestic violence, with many areas lacking sexual

violence services; services for BME women are especially fragile. During the extensive consultations with women for the Westminster government VAW strategy, women stated clearly that they valued women-only services and that in some cases specialized services had literally saved their lives (Women's National Commission, 2009). Yet these are the very services that are struggling to survive in neoliberal climates of commissioning that favor larger, generic organizations.

The "mapping journeys" project has prompted a more extensive research project that is currently being carried out to examine the spatiality of women's journeys to all domestic violence refuges in England, using a data set of more than 10,000 journeys per year. This project will enable much more detailed analysis concerning whether there are spatial trends and patterns to the migration and whether there are net import or export local authority areas and consider the extent to which any trends relate to service capacity or to other factors.

For GIS to be useful to feminist researchers, it is essential that it is populated with ideas as well as location data, to ensure that mapping is meaningful in its analysis and presentation. The use of GIS in the Map of Gaps projects has become a tool for gender equality work. Enabling the Equality and Human Rights Commission to enforce legal obligations under the Gender Equality Duty is an example of how innovative methods can enhance not only the knowledge base on violence against women but also the work for social change that many researchers in the field seek to contribute to. In this sense it can be understood as a form of public sociology (Buroway, 2004).

Declaration of Conflicting Interests

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

Funding

For the 'mapping services' project, the authors received funding from the Equality and Human Rights Commission.

Notes

1. End Violence Against Women (EVAW) is an unprecedented coalition of more than 50 organizations and individuals across nations and regions of the United Kingdom, linking groups working on all forms of violence against women with Amnesty International, the Trade Union Congress, and the largest membership organization of women, The Women's Institute (for more details, see <http://www.endviolenceagainstwomen.org.uk>).
2. Following 4 years of campaigning, a strategy was published by the Westminster government in November 2009. An integrated approach was published earlier in the year by the Scottish government, and the Welsh Assembly is currently developing a VAW strategy. EVAW members have been key lobbyists in each country.
3. Northern Ireland was included in the first Map of Gaps but excluded from the second at the request of the Northern Ireland refuge network.
4. Each specialized support service may offer various forms of support such as outreach, counseling, advocacy helpline, and so on. It was beyond the scope of this study to capture the range of provision that each organization offers.

5. We use this concept to recognize both the reality of victimization and the active strategies women use at the time and subsequently to cope with violence and its consequences in their lives.
6. These are relatively sparse in the United Kingdom anyway, with national domestic violence helplines in England and Scotland, and the only national sexual violence helpline in Scotland. Many local groups provide some form of helpline, but there is a dearth of 24/7 provision.
7. Only those that are members of the RESPECT network were mapped, since they are required, through principles and minimum standards, to work from a gendered analysis and provide an associated proactive support service for female partners.
8. These were included as each has to have an attached IDVA (Independent Domestic Violence Advisor) service, which delivers advocacy and support to all victims whose cases are referred to the court.
9. These can be compared to SANE projects in the United States, in that they are located in hospitals and provide forensic examinations and comprehensive medical treatment and follow-up for those who have been recently sexually assaulted. Most also have an advocacy scheme and short term counseling.
10. Refuges (shelters) are an iconic invention of the women's movement and are now a global model that is considered the foundation of responses to domestic violence. They have always provided safe housing, mutual support, and advice. Many encompass additional services, including outreach, counseling, signposting, advice and advocacy, practical support, floating support for women and children in other temporary housing provision, children's services, second-stage accommodation, and resettlement support. The services provided, therefore, are typically wider than the term "refuge" indicates.
11. After the data collection period, SARCs opened in five regions of Great Britain, and one center ceased to operate as a SARC. As of November 2009, there were 29 SARCs with a further 9 in development (<http://www.homeoffice.gov.uk/crime-victims/reducing-crime/sexual-offences/sexual-assault-referral-centres>).
12. The Equality and Human Rights Commission is an independent statutory body established under the Equality Act 2006 to reduce inequality, eliminate discrimination, and promote and protect human rights. The commission enforces equality legislation on age, disability, gender, race, religion or belief, and sexual orientation or transgender status, and encourage compliance with the Human Rights Act (for more details see <http://www.equalityhumanrights.com/>).
13. Supporting People is the national program used by local authorities to fund and commission housing-related support services, including refuges/shelters.

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Bios

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