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**NEIGHBOURHOOD DEPRIVATION
MONITORING IN ROTTERDAM
AND LONDON: EXPLORING
BARRIERS TO EVIDENCE-BASED
POLICY AND PRACTICE**

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ABSTRACT

Neighbourhood deprivation monitoring in Rotterdam and London: exploring barriers to evidence-based policy and practice

There is ample evidence that area-based approaches to tackling health inequalities, as part of a wider policy of community regeneration, are effective. Nevertheless, embedding this evidence in the routine practice of health professionals has not followed automatically. One of the barriers to the uptake of research is the process by which evidence is generated and its usability, or “stickiness”. This paper draws on the concept of stickiness to explore the role of deprivation monitoring data in creating an evidence base for neighbourhood health policies and intervention. The study was undertaken as part of a Knowledge Exchange Programme aimed at sharing learning to improve the participation and health of disadvantaged people in deprived neighbourhoods in Rotterdam and London. The two cities are similar in that they both have highly diverse populations and government health and social policies that employ area-based approaches to tackle deprivation. Documentary analysis and in-depth interviews with health professionals and policymakers in the two cities explored the construction of health policy, the congruence between data on deprivation and the contextual experience of practitioners, and the factors that influenced the usability of the data.

Keywords

Health inequalities, deprivation, neighbourhood, evidence, practice oriented research, Rotterdam, London

SAMENVATTING

Monitoren van achterstand op wijkniveau in Rotterdam en Londen: een verkenning van obstakels binnen “evidence-based” beleid en praktijk

Een gebiedsgerichte aanpak om achterstandswijken te vernieuwen is effectief gebleken om ongelijkheid op het gebied van gezondheid aan te pakken. Toch wordt het bewijs voor de werkzaamheid van deze aanpak niet automatisch ingebed in de dagelijkse werkwijze van professionals in de gezondheidssector. Een van de factoren waardoor kennis uit onderzoek niet wordt opgenomen ligt besloten in het proces van kennisverwerving en de bruikbaarheid van de kennis, ofwel de “kleeffactor” van onderzoeksresultaten. Dit artikel bouwt voort op het concept van de kleeffactor binnen de context van het monitoren van achterstand en de rol die het monitoren kan spelen in het vinden en toepassen van evidence-based gezondheidsbeleid en interventies op wijkniveau. Het onderzoek is uitgevoerd binnen een breder project, *Everybody on Board*, dat zich richt op vergroting van de participatie en verbetering van de gezondheid van groepen mensen met een achterstand in een aantal geselecteerde wijken in Rotterdam en Londen. In beide steden zijn interviews afgenomen bij professionals en beleidsmakers in de gezondheidssector om zo het beleid, de congruentie tussen statistische data en het beeld dat de professional van de werkelijkheid heeft, en factoren die hun gebruik van deze data beïnvloeden, in kaart te brengen.

Trefwoorden

Gezondheidsverschillen, achterstand, wijk, bewijs, praktijkgericht onderzoek, Rotterdam, Londen

INTRODUCTION

There is substantial evidence about effective neighbourhood-level approaches to regeneration and reducing health inequalities (Hunter & Killoran, 2004). However, the literature also highlights many challenges when it comes to implementing research evidence (Orton, Lloyd-Williams, Taylor-Robinson, O’Flaherty & Capewell, 2011). The gap between evidence, knowledge and research on one hand, and practice on the other, is complex and multi-faceted. Dearing (2009) refers to it as the “quality chasm”. Dopson and Fitzgerald (2005) observe that the process of integrating practice and constructing knowledge across disciplinary domains, including those with expertise in research and those with expertise in practice, remains largely unexplained. Notwithstanding a continuing trend towards evidence-based policy and practice, this divide is far from bridged.

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Much of the research carried out to understand the enablers and barriers to the use of evidence has focused disproportionately on policy makers (Dobbins, Jack, Thomas & Kothari, 2007; Innvaer, Vist, Trommald & Oxman, 2002) and a perspective from which the knowledge-practice deficit has been less examined is from the notion of research stickiness. It has been observed that certain research outputs have a “stickiness factor” – i.e. attributes that foster the absorption, retention and use of the research. This concept has been described in the field of economic geography, where researchers observed “sticky places” where the production industry has tended to locate and settle more readily than in other “slippery places”. This ability to attract and retain both capital and labour comes down to the role of small, innovative firms embedded within a regionally cooperative industrial governance framework that allows them to adapt and flourish. Markusen (1996) has developed further typologies of “sticky” industrial districts and suggested that the characteristics responsible for “stickiness” involve not just the configuration of those districts but also their capacity to network across district boundaries.

This study applies the concept of “stickiness” to the field of health inequalities and community regeneration in Rotterdam and London. The evidence-practice gap we focus on is between knowledge developed in the context of statistical data designed to monitor deprivation in disadvantaged communities and the perceptions and practices of professionals working in the field. We investigate this divide, exploring the construction of health policy at the neighbourhood level, and the critical influences that shape the ways in which deprivation data is used.

Two broad areas for exploration were identified and framed within the theoretical perspective of stickiness: i) how deprivation data is produced and disseminated; and ii) what makes it interesting and useful for practitioners. For the purpose of this study, the data represented the research, evidence or knowledge element of the research-practice divide. While deprivation is a multi-dimensional phenomenon that covers a broad range of unmet needs caused by a lack of resources of all kinds, Our emphasis was on the health dimension.

STUDY SETTING

Our study was undertaken in the context of an international programme of knowledge exchange that shares learning in order to improve the participation and health of people in disadvantaged neighbourhoods in Rotterdam and London (Box 1). There are strong similarities between the two cities: both are large port conurbations with highly diverse populations where government social policy promotes an area-based approach. The programme consists of four projects in Rotterdam,

Box 1: Everybody on Board

Everybody on Board is an International Knowledge Exchange project funded as part of the RAAK International programme with partners from the Netherlands (Hogeschool Rotterdam, Midwifery circle Rotterdam-Rijnmond, Prinsenhof residents' association and Vestia housing association) and the UK (University of East London, Claremont Project and the Chocolate Factory). The aim is to improve the participation and health of disadvantaged people in Rotterdam and London through comparisons and shared learning of policies and strategies. It consists of four mirror sub-projects:

1. Reducing perinatal death in Hoogvliet (Rotterdam) and Newham (London).
2. Creating a civil society – the Prinsenhof neighbourhood centre in Rotterdam and the Claremont Project in London.
3. Encouraging people living in deprived areas to work in the creative sector – the Rotterdam Creative Factory and the Chocolate Factory in London.
4. Comparison of approaches to deprivation monitoring by health and regeneration policy makers and professionals in both cities.

with mirror schemes in London. In this paper, the results emerging from the fourth sub-project are discussed.

METHODS

Reviews of key policy, planning and statistical documents were undertaken to summarize and compare neighbourhood-level approaches to monitoring deprivation in both cities and to provide a complementary context for primary qualitative data. In Rotterdam, three District Vision documents and 29 integrated neighbourhood actions plans (IWAPS) were analysed and in London local, regional and national deprivation reports were reviewed.

Key respondents were identified and in-depth, semi-structured interviews were held with 12 policy-makers, senior health care managers and public health professionals using face-to-face interviews, telephone interviews and by e-mail. Interviews in Rotterdam (n=5) were conducted with staff from the General Health Service (GGD). These were the head of the Monitoring and Research department and a senior policy coordinator from the Governance and Policy department. The GGD provides the Rotterdam districts with health-related data. From the Feijenoord district,

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the district manager and a social policy advisor who were involved in developing the District Vision documents and IWAPS were interviewed. From the Delfshaven district, the district manager was also interviewed. Participants in London (n=7) were identified from public health professionals in three local health authorities in the north-east of the conurbation: NHS East London and The City, NHS Waltham Forest and NHS Barking and Dagenham. A senior policy advisor was also interviewed at the Greater London Authority (GLA), the conurbation-level authority that is responsible for developing and delivering economic, social and environmental strategies for London.

The interviews were conducted between March and November 2011. Participants were questioned about their experience of interpreting and applying the data received through the deprivation monitors, how accurately the information reflected their personal knowledge of the local areas, and the timeliness, relevance, level of detail and presentational style of the data. These formed the descriptive categories in our topic guide. The interviews were taped where consent was granted and field notes made. The interviews were transcribed and analysed thematically using Ritchie and Spencer's guidelines for framework analysis which is especially suitable for applied social policy research. A distinctive feature of the framework is that it allows themes to develop both from the researchers' a priori themes and from the narratives of participants (Ritchie & Spencer, 1994). Some examples of the latter are described in more detail in the discussion.

Following the interviews, a reflective diary was developed in the form of a taped discussion in which the study team, with the benefit of greater familiarity with the data and the contextual issues influencing the responses of the participants, reviewed and debated themes and interpretations and reached consensus on the findings. For instance, social cohesion was an important aspect of the Rotterdam deprivation monitor that was missing in the London monitor and this influenced the extent to which direct information from local residents was elicited or prioritized in the overall construction of knowledge about a local area.

RESULTS

Monitoring deprivation in Rotterdam

The Rotterdam Centre for Research and Statistics (COS) uses a number of indexes to monitor deprivation at the neighbourhood level. The Social Index (Municipality of Rotterdam, 2010) is relevant to the areas of study interest: health and participation (Figure 1).

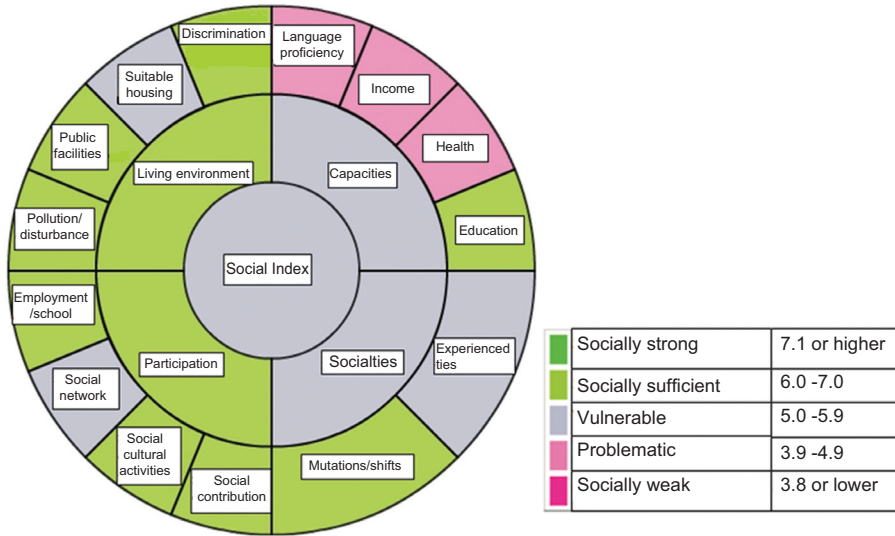


Figure 1: Social Index monitor (Municipality of Rotterdam, 2010).

The Index was developed by the City and Neighbourhood Councils based on the need to map and keep track of the quality of the social fabric at the neighbourhood level (population 1000–27,000 residents) and is designed to serve as an instrument for the allocation of resources and the direction of policy. The Index includes four domains, 14 sub-domains and 26 indicators. One of these sub-domains is good health which is measured by asking residents about their health and disabilities and by looking at reports by local care networks and reports of domestic violence. Local care networks are an example of Dutch service integration. Partners in these networks include: Mental Health Care, neighbourhood police, social services, housing associations and the Municipal Health Service (GGD). About 70% of the data in the Social Index is derived from surveys, and the rest is based on registration. It was a political decision to apply more weight to the survey outcomes.

Monitoring deprivation in London

Since the 1970s, local measures of deprivation in England have been collected for small areas or neighbourhoods. As increasing amounts of administrative data has become available at the local

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level, the definition and measurement of deprivation have been refined over time. The statistics currently in use, known as the Indices of Deprivation (ID), comprise several measures of which the Index of Multiple Deprivation (IMD) is the main index and primary measure of deprivation (Department of Communities and Local Government, 2011). The IMD is a composite measure using 38 separate indicators in a weighted combination of transformed and standardized scores in seven areas or "domains": *income, employment, health and disability, education, skills and training, living environment, crime, and barriers to housing and services*. These weightings reflect the relative importance of the domain and were determined by a combination of data analysis, expert opinion and consultation. The most recent release, IMD2010, updates IMD2007.

Each neighbourhood area (average population 1500 residents) is known as a Lower Super Output Area (LSOA) and ranked for each domain and for the combined IMD measure according to its position relative to all others in the country. The ranks range from 1 (most deprived) to 32,482 (least deprived) and are further grouped into national reference deciles or quintiles. The health domain is measured using a number of different indicators, namely: Years of Potential Life Lost, comparative Illness and Disability Ratio, measures of acute morbidity and the proportion of adults under 60 years of age suffering from mood or anxiety disorders. Information on the areas can be presented in tabular or graphic form (Figure 2).

Constructing health policy in Rotterdam

The IWAPS include action plans in different areas (education, health, safety) to improve social quality in a certain neighbourhood. The scores on the Social Index – which is the main health statistics monitor used by the COS at neighbourhood level – are incorporated into all District Vision documents and IWAPS. The IWAPS were initially developed to attract financing from national government for the most deprived neighbourhoods but were later extended to non-deprived neighbourhoods as well. The GGD uses a range of statistical data like the Social Index, the Safety Index, the Health Questionnaire and the Health Monitor. In the case of the Social Index, the composite score as well as the aspect score on good health is used. The GGD provides the district managers with data that can be used at the neighbourhood level. We noted that the statistically generated picture is sometimes not recognized as representative of the area.

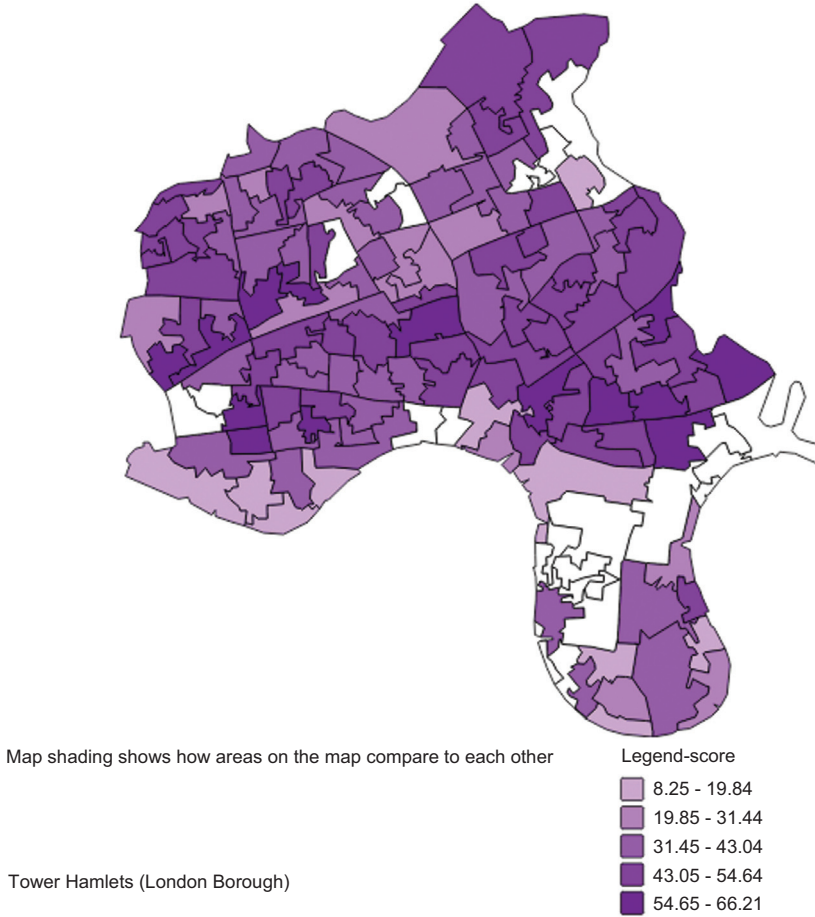


Figure 2: IMD map of the London Borough of Tower Hamlets (Department of Communities and Local Government, 2011).

We realized that drug use was an important issue in a certain district, but our statistics did not show this. This discrepancy is due to the level of detail in our statistics; the district managers have a more detailed overview of the social quality whereas we cannot gather information on such a detailed level. (GGD policy maker)

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The Social Index scores serve as a means of flagging important issues. In order to see where a programme most needs to be implemented, the GGD uses additional health statistics, like the Health Questionnaire. The GGD advises the district managers on which areas need the most attention. Zooming in on a neighbourhood using the Social Index is difficult, according to GGD employees, but it is a useful way of revealing trends. For more detailed information, other sources such as local professionals (school head teachers, social service workers, etc.) are consulted. Composing the District Vision documents and IWAPS is an interdepartmental process, linking insights from different local partners such as the municipal Youth Education and Society Service (JOS), the GGD, the chief of police, school boards and community workers. In the District Vision documents and IWAPS that were analysed, Social Index scores were used at both the district and neighbourhood levels.

From neighbourhood analysis to policy goals

In the Delfshaven district (70,290 inhabitants in eight neighbourhoods), every IWAP contains a programme designed to reduce domestic violence. This relates to the indicator reports of domestic violence on the aspect of good health within the Social Index. All neighbourhoods, except Middelland and Delfshaven, had a low score on good health. The Feijenoord district (87,210 inhabitants) had a low Social Index score. The capacities in the district neighbourhoods were poor for health, income and language proficiency. The goal was to realize a seven percent increase in the score on good health in the year 2012. Formulating these kinds of goals is a matter of guesswork, according to a district's social policy advisor.

Formulating goals is based on common sense; what is the current situation, how does this relate to other areas and index scores at the city level, what programmes can be implemented and what outcomes can be expected? (District social policy advisor)

In the Hillegersberg-Schiebroek district (40,846 inhabitants), no health improvement programmes are developed for the neighbourhoods Hillegersberg-Noord, Zuid and Terbregge because scores in the Social Index showed that health was not an issue in these neighbourhoods. In the Centrum district (31,363 inhabitants), the Oude Westen neighbourhood had a problematic health score while other neighbourhoods had a socially sufficient or strong score on health. Despite the difference in the scores, there was no difference in the number of programmes included in the IWAPS.

The Kralingen-Crooswijk district (52,000 inhabitants) had a low score on health. Oud-Crooswijk is the only neighbourhood in the district with a socially very weak score. The IWAP

for this neighbourhood includes considerably more programmes designed to improve health. In the Kralingen-Oost IWAP, a neighbourhood with a socially strong score on health, the smallest number of programmes was included. In this district, there was an obvious relationship between the Social Index scores on health and the neighbourhood programmes that focus on improving health. This does not necessarily mean that the high scores are the cause of the low number of health-related programmes; it could simply mean the two features reflect the same process.

In a number of District Vision documents and IWAPS, such as the Feijenoord District Vision and the Oude Westen IWAP, goals are prioritized. At a higher level, priority neighbourhoods are designated. In the governance agreement for example, Schiebroek-Zuid, is set to be a priority neighbourhood for the years to come. The relatively low score on the Social Index would appear to justify this focus. The Social Index scores are thus helpful in raising awareness and attracting funding to certain areas that need assistance and they also help to develop a sense of the severity and scope of the issues at hand.

Using the Social Index scores of the Feijenoord district, a number of themes were identified as significant problems. Prioritizing goals is related to the classification used in the Social Index. The aspects that receive a socially weak score, like income, receive a higher priority than aspects that are rated as socially problematic. Hence, the Social Index scores are used to identify bottlenecks at the aspect level (health, discrimination, etc.) and in some districts to prioritize policy goals.

Developing neighbourhood health programmes

In Delfshaven and Feijenoord, the use of detailed information in conducting the IWAP neighbourhood analyses was noted.

The index scores provide a foundation, but the interpretation of the statistics is of great importance. For this reason we meet with local partners like community workers and the chief of police three times a year. (Spangen and Oud Mathenesse district manager)

These examples show that Social Index scores do not provide sufficient leads to formulate programmes designed to improve health. Sometimes data does not match the reality at the neighbourhood level, because the data is based on a larger area. In those cases, local partners need

to gather and discuss the reasons for this and find a way to take action. A respondent noted that the scores can provide a biased picture:

... pockets of deprivation can be missed, because the average score evens out the outliers.
(Spangen and Oud Mathenesse district manager)

Constructing health policy in London

In London, as in the rest of the United Kingdom, the IMD is used as a *continuous* measure of relative deprivation. This means that there is no definite point on the scale below which areas are considered “deprived” and above which they are not. Typically, professionals who use the Index define deprived areas by choosing a cut-off value beyond which areas are deemed to be the most deprived, for instance, focusing on the most deprived 10% (most deprived decile) or 20% (most deprived quintile) of LSOAs in England. At other times, a different cut-off may be deemed more suitable depending on the purpose of the analysis (Department of Communities and Local Government, 2011).

In our study of areas in north-east London, where the most deprived areas in London are concentrated, the IMD is an important decision-making tool that supports the work of professionals. It was noted to be one of the most important tools used to analyse health inequalities, assess determinants of health and highlight the link between deprivation and health needs. Respondents, however, pointed out several limitations. The first related to interpreting the scores. The overall score for an area is a summary of the level and type of deprivation in that area, but not everyone living in a deprived area is deprived. Furthermore, the scores used in the indices are relative to each other and do not indicate an absolute value. For instance, an IMD score of 40 does not mean that an area is twice as deprived as one with a score of 20. All this tells us is that the area with the higher score is *comparatively* more deprived. Yet many professionals erroneously interpret these scores as *absolute* values.

A second difficulty was with the historical nature of the data. Most of the data used in the IMD2010 refers to 2008 and most of the data used in the IMD2007 refers to 2005. As such, changes between IMD2007 and IMD2010 largely reflect changes that happened between 2005 and 2008 (Corporate Research Unit, 2011). A third issue concerned confidence in the ability of the IMD to accurately measure deprivation at the small-area level, on which opinions were mixed.

Some users were comfortable with the ability of the Index to accurately analyse deprivation at the level of wards, general practitioner patient registers and schools, and to compare deprivation at the borough level with regional and national patterns; most, however, believed that it was necessary to complement it with local data from other sources.

I think you would always use something like the IMD with caveats around more local population-specific information whether that be actual datasets or even anecdotal information about the local area just because of the dates and times in which the IMD data was collected. (Public health strategist, NHS Tower Hamlets)

The impact of out-of-date information can be particularly exacerbated in areas with high population mobility, although the effect of this is reduced if the characteristics of the incoming population are similar to the outgoing population, as was the case in the areas in our study. Another factor relevant to the timeliness of the data is the nature of the health problem. With certain conditions, such as coronary heart disease or cancer, the change in behaviour that influences the prevalence of these conditions takes time to happen, and so IMD data that is three years old will still be relevant.

Another issue highlighted by respondents was the need for in-depth detail particularly in situations where highly targeted interventions have been planned.

I don't think the IMD precisely measures deprivation at small-area level as it doesn't go below LSOA. During a small area evaluation it was found that even in one less deprived LSOA there were pockets of variation. I would say information below LSOA is very much lacking at all levels. (Public Health Information Analyst, NHS Barking and Dagenham)

The motivation for using the IMD was in part due to the fact that it was a nationally developed measure for use in all areas and embedded in government policy and planning documents, action plans and funding decisions. A further attraction was the ability to compare patterns of deprivation in a particular area at different times.

It is certainly useful to have a national measure of deprivation. You know, (even) with all the caveats it is still very useful when you look at other areas. People will say why don't you do it like they do in X. It does allow you have something that you know is across the UK. (Senior public health strategist, NHS Tower Hamlets)

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One respondent involved in leading partnership work for his local health service commented on the multidimensional structure of the Index, noting that this was a feature that helped to provide support for working in partnership with other agencies, especially the local authority. Partnership working has been an ideological commitment of the UK government since 1997 and has been placed at the very heart of service delivery through an established “duty of partnership” for public service workers and organizations. In this regard, the use of the composite score was not just a means of facilitating inter-agency collaboration but also a convenient way of bringing together the perspectives of different agencies and allowing them to speak in common terms.

Monitoring neighbourhood health programmes

GGD employees reflect on the usability of the data they provide by discussing the statistics with district managers in order to arrive at an interpretation of the numbers and develop a suitable approach for a neighbourhood. Despite this, employees expressed the need for deeper dialogue. In a similar vein, district managers also monitor the results of the action plans in their neighbourhoods highlighting the value of the feedback they receive from practitioners in the field. But they also point out the limited ability of the Index scores to capture very small or short-term changes.

We are getting progressively better at monitoring. We meet with the local professionals on a regular basis. They provide input for policy and also test the social index scores against their perceived reality. It is difficult to monitor our policy based on shifts in the index scores. For example, if you reduce domestic violence within three families, you will not see this reflected in the Social Index score on good health for this neighbourhood. The scores are not suitable for monitoring neighbourhood programmes that are meant to show relatively short-term effects. (Spangen Oud Mathenesse district manager)

The Social Index reflects a higher level of abstraction and measures the effect of a combination of policy and programmes. Consequently, there is no exact relationship between the scores on good health and neighbourhood programmes designed to improve health.

In London, there was a clear preference for the composite score rather than domain-specific scores. One respondent attributed this to the need to use the measure that was most familiar and simpler to interpret by the majority of users. Another reason for not using domain scores seemed to be that more up-to-date local survey data was preferred when this level of analysis was required.

We tend to use the composite score, as most of our customers are used to this measure. As an example, the JSNA (Joint Strategic Needs Assessment) is based on the composite score. The various domains could be used to assess potential confounders in the final composite score, but our analysis has not reached that level of sophistication. (Senior public health professional, Analytics and Evidence, Health Intelligence Unit, NHS East London and The City)

So if you want information on say employment, there's actually more up-to-date information available which I'd probably use rather than going back to the IMD which is typically two or three years out of date by the time we get to it. (Senior public health strategist, NHS Tower Hamlets)

Some aspects that are of interest to practitioners, such as social cohesion, are not captured by the IMD, and in other areas, such as mental welfare, different indicators to those in the IMD were preferred.

... the only bit that is perhaps a bit less well covered is around social cohesion and social capital. But this is quite context and location specific so it is quite hard to have a national measurement for that [...] and the other might be some sort of idea of mental wellbeing. (Senior public health strategist, NHS Tower Hamlets)

Form of presentation

The way in which the Social Index data can be assimilated by professionals is a matter of interest for the GGD. The form of presentation (Figure 1) was seen as visually strong and recognizable.

You can see the colours change and instantly see what trends are developing in a neighbourhood. What is missing, however, is an explanation of the way shifts in the scores can be interpreted. Sometimes a minor decrease in scores can lead to panic, while there is actually not a whole lot going on. (GGD employee)

An important condition for using the data effectively is that people know how the scores are constructed. A policy advisor noted that an instruction manual was available that explained the methodology of the Rotterdam Social Index, which she found very useful, although admitting that it had some limitations.

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If you didn't have any instructions you would solely look at colours, while if you really want to know what is going on in a neighbourhood, you have to go out there and talk to people.
(Policy advisor)

A note of caution is important on other grounds as well. The participation indicator is measured by specific actions such as visits to the theatre, but for some groups of residents more meaningful measures of participation in society would be visits to a mosque or attending neighbourhood activities like barbeques.

In London, the IMD data is commonly presented in numeric or graphical form such as maps (Figure 2). A public health information analyst in NHS Barking and Dagenham in East London remarked that having deprivation information presented in this way is helpful for easier interpretation and extracting specific pieces of information. This view was shared by a Senior Policy Officer at the GLA who found that map formats were an easily understood and useable form of information when making presentations. The Department for Communities and Local Government, the government agency responsible for producing the IMD, appears to have recognized this need and has a mapping tool on its website which can be used to create thematic maps of the level of deprivation in different areas across each local authority.

DISCUSSION

This study has drawn on documentary analyses and qualitative interviews with policy makers and professionals in Rotterdam and London to explore the role of data from deprivation monitoring in the construction of health policy and development of interventions at neighbourhood level. This data is presented in the form of Indexes – the Social Index (in Rotterdam) and the Index of Multiple Deprivation (in London). Our objective was two-fold: firstly, to understand how deprivation data was produced and disseminated; and secondly, to identify what made it of interest and useable by practitioners. Our approach was framed within the conceptual perspective of “stickiness” – i.e. the characteristics of the data that encouraged its uptake and use. From a review of relevant documents, we identified a set of factors related to the way that the data is produced and these were used as descriptive categories to guide discussions with respondents. These “sticky” factors were the accuracy, timeliness, relevance, form of presentation, and the level of detail in the data. The findings of the interviews were nuanced and highlighted areas of similarity and variation between practitioners in the two cities regarding the extent of congruence between statistical data on deprivation and practitioners' contextual experiences, and the factors that influenced their use of the data.

In the analysis, there was an iterative progression from initial descriptive codes to more analytic codes grounded in interview data. An instance of the latter related to “sense-making” describing how practitioners attempted to construct a picture of local areas that reconciled the disparity between the data and their in-the-field observations. They relied on a range of mechanisms such as common sense, intuition, guess work, abstraction, anecdotal information and other local intelligence from the community and service providers. Another analytic code was “knowledge-action concordance/discordance” which highlighted how the connection between the data and the interventions undertaken was evident in some areas but absent in others. This concordance/discordance seemed more evident in Rotterdam, but we found little in the interview data to explain this, suggesting that unidentified contextual issues could be responsible.

Rotterdam respondents highlighted shortcomings in the level of detail in the data. Accordingly, other data sources influence the construction of the IWAPS such as reports that provide more specific information on health at the neighbourhood level, city-wide programmes and governance agreements. In addition, residents and social institutions in the neighbourhoods were consulted as part of an interactive policy-making process. On the whole, a greater focus on dialogue with local professionals would appear desirable, given that there is no Social Index “user manual” to provide instructions on how to interpret scores. Without this dialogue, the danger remains of overreacting to fluctuations in scores.

In London, we observed more concordance between the IMD and the interventions undertaken, but this was driven not just by the usefulness of the data but also by the wider national policy agenda which linked funding for local areas to IMD data. The other main aspect of the usefulness of the IMD was its ability to enable comparisons with other areas and changes within the same area to be tracked over time. Issues were still raised over the timeliness of the data and its inability to detect changes in real time or in very small pockets within the local areas. While professionals used the IMD, they complemented it with data from local sources and in many instances expressed more confidence in the accuracy and timeliness of this local data. The general practice was to use the composite rather than the domain-specific scores of the IMD. This may indicate that a level of statistical sophistication is needed to make full use of the Index which many users do not appear to have. A separate technical manual and guidance document were developed alongside the IMD to assist users. These provide information on the methodology used to develop the indicators and how the data should or should not be interpreted. On the other hand, the use of visual data presentation was found to be particularly helpful in communicating the information in the Index.

When presenting the index scores to professionals, a number of “stickiness” factors appear to be important in facilitating the use of the data: integrated information, a clear visual picture and the possibility of making comparisons both over time and between the city level, district level and neighbourhood level. These are factors that the instruments used in both cities already provide to some extent. However, in Rotterdam, an explanation of the way shifts in scores can be interpreted would add further value. This raises questions like: is it possible, or even desirable, to develop a user manual to explain how fluctuations in scores can be interpreted? Or is the right approach to encourage more dialogue between local partners so that these fluctuations can be interpreted adequately? Based on the views of health professionals, we see a tendency towards the latter approach, emphasizing the importance of dialogue at the neighbourhood level. This inclination resonates with an approach to generating knowledge that embraces actors outside the traditional boundaries of research activity, and is consistent with the ethos of Mode 2 research: an evolution of knowledge production marked by a shift in conceptualizing research knowledge to the context of its application. In other words, the locus of knowledge generation is no longer contained solely within research units but it is co-produced with the intended users (MacLean, MacIntosh & Grant, 2002; Mitev & Venters, 2009; Srivastava & Thomson, 2009).

Our study has produced interesting findings relating to the challenges of using deprivation monitoring data, but the wider context within which this debate is located is the research-practice divide, and in particular practice-oriented research. There is a multidisciplinary body of literature on research and practice exploring the common ground between the two fields (Arbaugh *et al.*, 2010; Hilton, Bedford, Calnan & Hunt, 2009; Kuhn, 2002; Orton *et al.*, 2011; Van de Ven & Johnson, 2006). Practitioners and researchers share much common ground in the way they think and act; both try to discover how things work and how improvements can be made, and ascertaining meaning, explaining and recommending solutions are part of the mission of both of these groups. The practitioner should, like the researcher, reflect constantly on his or her approach and be able to justify his or her actions. This demands more than practical knowledge. In order to be efficient and effective, practitioners should be informed by research results (Steyaert, Spierings & Dorier, 2011).

Strengths and limitations

A qualitative approach was appropriate for an exploratory study of this nature and further benefited from being conducted within a theoretical framework that helped illuminate issues of interest. We sought to strengthen the internal validity of the findings by following up on some of the responses given by respondents for further clarification, and producing a recorded reflective

diary involving all the members of the research team. Our findings must, however, be viewed in the light of a number of limitations. Although most respondents were interviewed face-to-face, sometimes this was done by phone and e-mail and the information generated was less rich as a result. We could not take advantage of social cues, such as intonation and body language, to enhance our interpretation of responses. Unexplained findings in the analysis suggested that while we identified the main themes, further study with a wider pool of participants is recommended to develop more detailed insight into the issues. Also, it would be useful to undertake a more detailed analysis of the wider context in which the respondents practiced.

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