"We are still quite patchy about what we know"
International migration and the challenges of definition, categorisation and measurement on local service provision

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ABSTRACT

International migration has a consistently high profile within national and international politics with increased focus on measurement and quantification of migrant numbers, impact on services and contribution to local, regional and national economies. However, the absence of consistency within definitions, categorisations and measurement of international migration and migrant populations create challenges and barriers to both understanding the needs of migrant communities but also the provision of adequate services within specific geographical areas. This paper will present findings from a project designed to map the impact of migration on a settled community within a Local Authority (LA) in the North East of England. As the project encountered routine inconsistencies around definitions, categorisations and measurement of migration within the LA area, this paper demonstrates the complexity of trying to ‘measure’ migration on the ground and while consistency in measurement is key to accurate data, we conclude with an ethical question about the rationale for collecting data on migrant populations.

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Introduction

International migration has a consistently high profile in national and international politics, the media and popular discourse (Crawley and Skleparis, 2016; Morrison, 2019; Murray, 2018; Vickers *et al.*, 2019; Winlow *et al*., 2017). It is also recognised as one of the most complex parts of population change to measure and understand (Office for National Statistics (ONS), 2019a), complicated by lack of consistency in definitions and measurement. Anderson and Blinder (2017) point out that ‘who counts’ in definitions of international migration is of crucial importance for policy, public debate, data collection and analysis. The negative tone of political and public discourse around immigration in the UK, characterised by a hostile environment and protracted Brexit negotiations and focused on the reduction of numbers, leaves little space, or political will, to consider the positive benefits and contribution of international migration (Anderson, 2017; Jones *et al*., 2017; Lowdnes and Madziva, 2016; Wallace, 2018). Mobility and migration are consistently problematized, with social policy critical in the production and management of the ‘problem’ (Anderson, 2017). This sensitive context is important in relation to the data produced and used as ‘evidence’ in policy and public discourses as effectively contesting dominant discourses is hindered by uncertainty and inconsistency in definitions which highlight a disjuncture between statistical measures, evidence and popular usage (Anderson, 2017; Wallace, 2018). Consequently, ‘migrants’ are politically scapegoated (Anderson, 2017; Vickers *et al*., 2019) and immigration is an empty signifier for a range of public concerns and complaints (Jones *et al*., 2017).

Despite uncertain concepts and the shortcomings of available evidence there is increased user demand for population intelligence from national and local stakeholders, specifically (accurate and timely) statistics, on international migration. Reliable international migration data is identified as useful to understand and plan for demographic, economic, social, environmental and policy changes (Raymer *et al*., 2019). However, there is little recognition of the complexity and challenges of meeting both local and national data requirements and, in particular, the availability and application of data sources within a local context (Aspinall, 2009; Boden and Rees, 2010; Warren *et al*., 2010), where local agencies require data to inform decision-making and resource allocation to ensure equity of provision for their local population. With this in mind, this paper contributes to debates around the value of local data by reflecting on the challenges and lessons learned from conducting empirical research commissioned by a local authority (LA) in the North East of England which aimed to map patterns of recent international migration and population changes. In the discussion to follow, we critically consider the usefulness of current measures, categories and data sources and highlight the difficulties in accessing and presenting local level evidence and the limitations of these sources to inform decision-making. We also reflect on how additional local data sources can be explored but highlight how this is not without further challenges and limitations, including ethical considerations of collecting data on migrant populations.

Data sources, definitions and measurement

The definition of 'evidence' that informs migration policy-making and related discourses is rooted in statistical data and analysis (Allen *et al.,* 2018; Baldwin-Edwards *et al*., 2019; Crawley and Skleparis, 2018). However, international migration and 'migrant' are not consistently conceptualized, defined and measured in statistical data sources with no consensus on a single definition, data source or measure (Anderson and Blinder, 2017; Boden and Rees, 2010; ONS, 2019a). International migration data are derived from a range of sources including census, survey, and administrative datasets, which have definitional, methodological and data quality differences. These differences limit the ability to accurately measure and lead to conditional findings which have no validity independent of the definition that underpins the analysis resulting in incompatible and inconclusive evidence (Boden and Rees, 2010; Mateos *et al*., 2009; Wallace, 2018). The lack of clarity, and transparency, in terms of who counts as a 'migrant' results in uncertainty in operationalisation, measurement and analysis and, therefore, the subsequent evidence, its interpretation and the conception of migration the data represents (Anderson and Blinder, 2017; Mateos *et al*., 2009; Raymer *et al*., 2019). This has implications as the term 'migrant' is used interchangeably and uncritically in political and public immigration discourses conflating issues of immigration, race, ethnicity, citizenship and asylum, with no recognition of differences in immigration control and policy or legal status, as demonstrated by the focus on EU mobility and concerns over freedom of movement (Anderson, 2017; Anderson and Blinder, 2017; Bulat, 2019; Morrison, 2019).

Anderson and Blinder (2017) point out that there is no straightforward mapping of migration data onto the subjects of public debate. The measures used in analysis of migrant stock and flow use different definitions, are derived from data collections with different purposes and report different aspects of international migration. As such, there are a number of considerations in relation to their consistency and use as reliable sources of evidence. Migrant population analysis uses country of birth and nationality variables from the Census and the Annual Population Survey (APS) to measure the non-UK born and non-British population. Both variables have limitations. For example, the country of birth measure will include UK citizens born abroad and those who have subsequently acquired UK citizenship and nationality can change over time, and, if self-reported, may be an elective affinity and not a legal status (ONS, 2013).

The United Nations (UN) definition of long-term international migration (LTIM), which is someone who changes their country of usual residence for at least one year (so that the destination country becomes their usual residence), is used to calculate net migration flow. Data on LTIM is derived from the International Passenger Survey (IPS) which is an intentions-based survey of which migration questions are just one part. No other UK dataset currently measures migration by this definition. In this measure, the focus is on length of stay and only those who intend to stay for more than one year are counted. However, this cannot be accurately determined as intention is recorded on arrival but there is no subsequent data recording departure. Citizenship is not a factor in this measure and UK nationals who enter the UK and intend to stay for more than one year will be counted and country of birth or nationality are not recorded to relate to migrant population numbers. As a result, data produced from the LTIM definition is different to that assumed in the politics of the national media (Anderson and Blinder, 2017). Blinder and Allen (2016) note that the former policy objective to reduce net migration was constrained by the reality defined and counted in official statistics and targeted those not associated with immigration (disproportionately understood as those seeking asylum) and of less public concern, including international students, family members and highly skilled workers. The ONS are currently reviewing the concepts and definitions of LTIM and exploring how the UN definition can be applied to alternative data sources. They acknowledge that it is becoming more challenging to align to the LTIM definition as migration patterns change, circular migration is more common and the concepts of long-term and short-term migrant are not mutually exclusive (ONS, 2020).

There are other data sources that measure specific aspects of migration and the ONS (2018: 2) argue that the collation of the range of data sources 'can provide a rich picture of migration in the UK'. These sources also use various definitions, data collection methods and variables. As a result of their inclusion and exclusion criteria, different numbers are produced limiting the provision of accurate evidence on migrant populations (Warren *et al*., 2012). Central to understanding the limitations of migration data is that it is often a by-product of an administrative process and data sources are not designed to primarily study migration or demographic change (Allen *et al.*, 2018; Raymer *et al*., 2019). For example, National Insurance Number (NINo) registration data provides insight into the arrival of working age non-UK nationals but no indication of length of stay as there is no formal deregistration process; the reporting of ‘migrant GP registrations’ includes returning UK-born and UK national registrants and only records initial registration and not subsequent movement; births to non-UK born parents will include parents who are not recent migrants. There are also administrative data sources that report on specific populations such as international students in Higher Education Institutes and dispersed asylum seekers.

The three main definitions used in migration statistics - country of birth, nationality and LTIM - are not equivalent, they are not interchangeable and they do not align with the conceptualisation of a migrant as a person subject to immigration control or defined by legal status (Anderson and Blinder, 2017). The examples clearly demonstrate how the definition applied will affect migration data and analysis and how multiple definitions pose a problem for consistency in political and public debate on the number and impact of migrants (Anderson and Blinder, 2017). The lack of reliable data has implications for being able to challenge dominant problematic policy, media and public discourses, and for the Othering of migrant populations (Lowdnes and Madziva, 2016; Wallace, 2018).

Accessing data at a local level contributes another dimension to an already problematic picture. Boden and Rees (2010) point out that methods available to estimate subnational level and the systems of measurement and data capture are inadequate and inconsistent. The lack of local level data means there is little robust evidence on local impacts, spatial and geographical variation, with survey sources (like the APS and IPS) of limited use for local level analysis due to sample sizes being too small for the variable estimates (Boden and Rees, 2010; Fingleton *et al*., 2019). This paucity of reliable local information may also affect the ability of services to be responsive to international migrants (Warren *et al*., 2012).

Categorisation, citizenship and exclusion

Categorisation is a commonly used statistical data practice to divide the population into distinct groups (Aspinall, 2009; Cakici *et al*., 2019). Data aggregated into high level categories or ‘macro-group classifications’ (Mateos *et al*., 2009, 1447) is of limited use for social and economic analysis, particularly at the local level, when trying to understand diversity and variation and identify smaller or newer groups in the population (Casey, 2016; Parameshwaran and Engzell, 2015). Increased population diversity, demographic change and identity politics create new methodological challenges for data categorisation, representation, measurement, analysis and aggregation as self-identity becomes more multidimensional and granular (Aspinall, 2009; Mateos *et al*., 2009). Current migration classificatory systems homogenise, oversimplify and differentiate the legitimacy of people’s experiences and imply that individuals can only occupy one category, but as Crawley and Skleparis (2018) observe, people may change, or reside in-between, categories due to shifting economic, social and political realities. The heterogeneity of migration reasons and mechanisms for entry pose a challenge for statistical data collection, categorisation and estimation (Raymer *et al*., 2019). Arguably, the existing methods and categories cannot measure or account for the dynamic, complex and mixed nature of mobility and migration flows, the overlapping drivers and multiple motivations, and social realities and complex experiences should not be reduced in this way (Baldwin-Edwards *et al*., 2019; Crawley and Skleparis, 2018).

There is significant concern around the political purpose served by the conceptualisation, construction and operationalisation of migration categories. Jones (2017) argues that historically the concept of citizenship has been used as a mechanism to create and govern insiders and outsiders through place-based categories of belonging. This is apparent in the construction and use of binary opposing, homogenous, categories in immigration discourses, such as 'migrant' and 'non-migrant', and in media discourses of 'foreigner' and 'native' (Guentner *et al*., 2016; Lowdnes and Madziva, 2016; Morrison, 2019). Categories are not politically neutral or fixed, they reflect political discourses, are central to governing and controlling movement, restrict access to resources and territory, legitimize exclusionary citizenship laws and emphasise the instability of citizenship (Allen *et al*., 2018; Anderson, 2017; Crawley and Skleparis, 2018; Gorodzeisky and Leykin, 2020; Jones, 2017). Statistical categories, in this sense, are a form of political intervention and social control, shaping and normalizing social inequality and exclusion and creating social hierarchies (Gorodziesky and Leykin, 2019; Lowdnes and Madziva, 2016). This creation of exclusionary bordering, it is argued, has rationalised popular public anxiety and negative perceptions of migrants, raised public awareness of borders, reduced social solidarity and affected people's rights (Guentner *et al*., 2016; Lukes *et al*., 2018). This is further applied to political distinctions between categories of migrant where 'refugee' is portrayed as a more deserving category than 'migrant', even those moving because of poverty and environmental change (Jones, 2017), creating a hierarchical system of rights in migrant regimes (Crawley and Skleparis, 2018; Vickers *et al.*, 2019). However, the process of category construction, the nature of the categories, or global border regimes are rarely problematized politically, instead the individual is emphasised (Crawley and Skleparis, 2018; Jones, 2017).

Others argue that categorisation or types of 'migrant' should be used, exactly because of the complex and multifaceted nature of international migration, in order to better understand diversity within migrant populations; reasons for migration; the differing lengths of time people migrate for and the impact of this on interactions with society and public services (Allen *et al*., 2018; ONS, 2019a; Poppleton *et al*., 2013; Rose *et al*., 2011). Indeed, it is the more specific contours of the migration experience which may be valuable within a local context. Migration statistics used to formulate immigration policies rarely distinguish reasons for migration and the legal channels people move through. Allen *et al.* (2018) assert that policy-making, informed by relevant and systematic quantitative evidence, can only progress if specific data considering different migration routes and motivations is produced reflecting the complexities of migration systems and processes. However, they acknowledge that, as with any statistical exercise, categories will still be crude generalisations, flattening the complex motives that shape migration decisions, which needs consideration in analysis and interpretation of results.

Accordingly, we are mindful of the politics of immigration research and our role in knowledge production and that utilising existing categories legitimates the logic of their use and perpetuates binary distinctions and exclusions therein (Crawley and Skleparis, 2018). It is therefore essential to adopt a critical approach on the constructed nature of categories (Parameshwaran and Engzell, 2015) and reflect on the limitations and implications of official classifications in terms of the boundaries they create. There is a danger of conflating policy and analytical categories and for the former to shape academic research which then plays a role in concealing the dynamic processes of migration (Crawley and Skleparis, 2018). In this way, research is part of the circulation of categories and researchers themselves can end up identifying migrants as a problem (Anderson, 2017).

The importance of definitions and categories in providing evidence has been clearly demonstrated: statistics vary depending on the operationalisation of data, the concept/definition being measured and analysed, and the variables used (Finney and Simpson, 2009; Parameshwaran and Engzell, 2015; Wallace, 2018). The consequences of this from a local or national stakeholder perspective are far-reaching and self-evident. The allocation of resources is determined by the perceived size or scale of an issue therefore access to accurate numbers has clear implications in the provision of services for migrant groups. In the remainder of this paper, we address the issue of definitions, categories and data collection in the context of a local authority commissioned research project in the North East of England. In so doing, we consider how working with existing definitions, alongside specific methods of data collection can distort the evidence on migration at the local level, which may in turn impede the effective delivery of service provision services in regard to migration and settlement.

Methodology

The data underpinning this discussion comes from a Controlling Migration Fund (CMF) study commissioned by a local authority in the North East of England. The CMF was set up by central government in recognition that local authorities require more accurate evidence bases on recent migration to respond more effectively to local need and new communities (Department for Communities and Local Government and Home Office, 2016), and the project was envisaged as feeding into decision-making, planning, commissioning and the delivery of appropriate services at the local level. The research team was asked to investigate the impact of migration on the settled communities in the locale in question (anonymised to protect all participants). A number of objectives formed the basis of the study, including mapping recent demographic change, considering the impact of recent migration on community cohesion, investigating the impact of migration on local services, as well as identifying a number of issues related to crime. A key aim of the project was to generate an evidential baseline at ward level focusing on areas where issues and increased pressures had been identified. The project stakeholders included the local authority, the regional police force and the Police & Crime Commissioner's Office, local Public Health England representatives, and the Regional Migration Partnership. The project ran from late 2017 until early 2019.

In order to achieve the objectives, the project adopted a multi-method approach, combining collation of statistical secondary data, followed by semi-structured interviews with a number of key stakeholders, focus groups and ward level observation. A mixed approach to data collection was a good fit with the project as the statistical picture was complemented by an in-depth qualitative exploration of themes around migration, community cohesion and tensions, and impact on local services (see Thomas *et al*., 2018 for a similar approach). Existing statistical datasets were divided into 'public' and 'private', with a baseline of publicly available data presented as phase one, including the presentation of some data sources through Geographic Information Software to visualise the concentration of migration within the local authority area. This proved to be a useful exercise as it raised questions and identified gaps. Secondly, private datasets held by the local authority, local service providers, the Home Office and others were mapped, requested and analysed to fill in the public data gaps and develop an understanding of the opportunities of using local data. The benefit of working closely with local level partners was that statistics could be explored further in local contexts.

This formed the basis for the third and final, qualitative phase of the project. The gaps and questions generated by the statistical analysis informed a qualitative strand that included semi-structured interviews and focus groups with local stakeholders, public sector employees, third-sector workers, representatives from Black, Asian and Minority Ethnic (BAME) and refugee support groups, community residents and others, as well as addressing the objectives that the statistical data was unable to answer. In total, the project team conducted interviews or focus groups with 62 participants and attended almost 100 meetings with professionals from a range of public and voluntary services. Finally, two sample wards were identified from the public data analysis on the basis of the concentration of migrant populations within these areas. Ward observations, informal discussions and interviews with residents and business owners, and attendance at community meetings provided insight into the local level experience of migration and to explore any impact or tension.

The project generated a significant number of findings and was able to report on all of its objectives. Findings included an increased impact on *some* public services, such as education and GP practices, but not others. This was related to spatial concentration of migrants in areas already identified as locales of multiple deprivation (MHCLG, 2019) which proved problematic and increased tension in those areas, although positives to migration were noted by local services and community members. The economic impact of migration, for both the local authority in terms of council tax returns and the wider economy was identified positively. Finally, mental health issues were significant for asylum seeker and refugee communities, particularly as a gap in provision was deemed to be problematic for these groups. However, the findings of the study link to the challenges of data collection and, particularly, the various ways in which migration was defined, the reliance on proxy measures and the lack of robust local level data. The remainder of the paper will explore key issues related to the limitations of available data, the way in which data is recorded and the challenges posed by definitional difference.

Findings

This section identifies themes which were apparent in a local context and allowed critical reflection on the research and literature noted above. The definition, categorisation and measurement of migration were complex at the local level; the following discussion utilizes our experience and data to demonstrate that challenge. Finally, the methodological difficulties associated with definitions, standardization and data utility are further exacerbated by issues around data access from external partners.

Definitions and measures in a local context

One of the first challenges encountered in the project was agreeing a definition of international migration and ‘migrant’ with the LA. The funding guidance referred to ‘recent immigration’ but did not provide a definition of ‘migrant’. We articulated the differences in ‘migrant’ definitions used in available data sources and the implications of the differences on the figures reported. It was agreed to establish a baseline from 2011 Census data, from which to understand recent changes, reporting on the commonly used variables and measures. In using public statistical datasets to report local level data we were careful to ensure that different definitions, methodologies, population coverage and time periods of the data were clearly set out considering the issues discussed in the literature above. As such, it was not possible to provide an accurate statistical picture but rather the collation of data, including estimates and specific measures of migration, accompanied with an array of data caveats and considerations.

In the mapping of relevant local data sources from, among others, departments within the local authority (including education services, child and adult social care and democratic services), NHS organisations, the local Higher Education Institution, the police and the voluntary and community sector (VCS) it became clear that local understanding of definitions of international migrant varied. Some professionals referred only to asylum seekers and refugees, others focused on Eastern European economic migrants, and community-based providers referred to new and emerging communities. Others directed us to data sources that recorded ethnicity. We found that ethnicity data in local sources was the most complete but that it was of limited use as a measure of recent international migration (Rose *et al*., 2011). In accessing local sources we had to use the data that was available and the variable that was most relevant, for example Electoral Register by nationality (although this source had partial coverage as not all non-UK residents are eligible to register and whilst the form asked for nationality of all households, including those not eligible, this information was not systematically recorded).

In education, the term International New Arrivals (INAs) was used by those providing support to this population. However, the LA did not record INAs as part of their admissions process and the main variable they used to identify international migration in education was the proxy measure of English as an Additional Language (EAL) pupils, collected for the School Census. Recent ONS (2019b) analysis identified the EAL measure as the closest indicator of international migration for education. However, Strand and Hessell (2018) question its usefulness: EAL categorizes pupils as a homogenous group and provides no indication of English proficiency or the support requirements of those with little English. Educational professionals in our study viewed EAL as an inadequate measure for international migration. They identified that many pupils from settled migrant communities are counted in this definition and that they are markedly different in terms of support needs and resources to those who are INAs. Proficiency in English is identified as a more useful measure (ONS, 2019b; Strand and Hessell, 2018) and questions about this were added to the School Census in 2016/17 but only for two collections. This data provided additional context to EAL pupil data in order to effectively target resources, allocate support as well as background to attainment data and its removal was seen as detrimental locally. As one education professional pointed out the EAL definition does not account for differentiation in starting points in the education system whereas the proficiency in English data provided evidence to direct resources:

> *"I think for the new and emerging community for schools, I think what they found quite tricky and challenging as I said to you, was how different the starting point was from the EAL students that they had previously had into schools. What we found useful with the proficiency in English codes was being able to use that as part of the evidence base to be able to say, 'look this school needs a lot more support over this school', because yes, that school's 67% EAL and this school might only be 50% EAL but they are 90% Code A, new to English, and they're all D and Es. So, this is where our input, our focus and our time really needs to go into."* (Education Professional, Interview)

Overall, it was challenging to accurately present available information when measures of international migration are collected differently (when they are collected) by national and local organisations including methods, timescales, data items, categorisations and definitions. Establishing which sources were the most useful, given the variety and non-uniformity of the data, was important because the results depended upon the variable used (Mateos *et al*., 2009; Parameshwaran and Engzell, 2015; Wallace, 2018). It was apparent that local senior stakeholders expected statistical data and quantitative evidence and had limited interest in other ways of providing understanding. The ability to deliver this was hampered by availability, inconsistency and quality of public and private data and uncertainty in the conceptualization of 'migrants' in datasets.

Lack of routine local data collection on migrant variables

From engagement with the LA and partner agencies we established that, in the main, local data sources did not consistently record the migrant variables used in public data in their administrative data collections. In some cases, recording systems were capable of capturing country of birth, nationality and main language but these data fields were not mandatory. For example, the local Acute and Mental Health Trusts provided datasets with high levels of incomplete data for the above fields. In the qualitative research, secondary health care professionals noted that country of birth may be recorded in paper records if relevant to medical treatment but this would not be uploaded to an electronic system. Social care practitioners stated that information such as main language may be recorded in case notes if it directly affected client work and support, for example if an interpreter was required. This was a major limitation in being able to further understanding through local data sources, as proposed, and informed final report recommendations around the need for systematic and consistent data recording of such variables if the LA and partners wanted to be able to use local data for this purpose.

Alongside proficiency in English questions, the Department for Education introduced questions on pupil country of birth and nationality to the School Census in 2016/17 to considerable opposition and suspicion about their rationale. The requirement for these variables was removed after two collections. The data was not reported publicly in a way that allowed local analysis but the LA and schools were collecting these variables consistently for this purpose which provided the potential for local use. Whilst individual schools may still collect this data the channel for sharing this information with the LA has been removed and the only variable consistently reported is EAL pupils.

Unsurprisingly, local service providers working specifically with migrant groups collected demographic data about their service users. For example, a GP practice commissioned specifically to support dispersed asylum seekers provided snapshot data of patient characteristics. An education support team working specifically with INAs and EAL children, was identified as the best source of data on inward school-age migration and had detailed data collection processes and reporting in place. This data was used to assist in the management and planning of school places and to ensure appropriate support was in place for pupils and their families. Whilst these are useful sources they are restricted to those accessing services (Harper and Mayhew, 2012), and dependent upon local circumstances which further reinforces the point about inconsistent and haphazard local data collection.

Understanding local level spatial distribution

One of the main challenges we faced was being able to understand the spatial distribution of recent international migration from the sources of available statistical data. Analysis of 2011 Census data at Lower Layer Super Output Area (LLSOA) on year of UK arrival for the non-UK born and non-UK national population enabled us to spatially map the location of migrant communities. It showed that international migration became more concentrated over time in central areas and that the majority of international migrants had arrived since 2001, in line with impact on centrally located GP practices and schools. This spatial concentration was linked to available and cheap housing stock in areas of high deprivation and existing networks of migrants, as found by others (Vickers *et al*., 2019, Sue *et al*., 2019, also Park and Burgess, 2019 [1925]). However, service providers regarded the 2011 Census as an outdated source. They asserted that the international migrant population had increased and the demographics had changed in some areas of the town since the last Census which made the 2011 data an unreliable foundation (Boden and Rees, 2010; Casey, 2016) for commissioning, service delivery and community cohesion work in relation to international new arrivals and recent population change.

Beyond 2011 Census data, statistical data at LA level, and below, is limited for local use in both public and private data sources. Annual estimates of non-UK born and non-UK nationals are only provided to LA level and the reliability of the data is reduced due to the sample survey methodology (Boden and Rees, 2010; Fingleton *et al*., 2019). The uncertainty in the estimates is more pronounced at individual country level which, for the LA in question, proved to be of little use. When attempting to commission services and predict demand, this level of uncertainty is problematic, particularly in areas with relatively small populations. The number of migrant GP registrations at LA level, used by ONS as an indication of recent international in-migration to an area, proved to be of limited use locally. It did not indicate the spatial distribution or clustering of registrations or service impact, frequency of GP use, any language issues requiring support or resource or level and complexity of care. We were unable to secure access to GP registration data at practice level but through the qualitative research we found that some increased pressures related to recent international migration were confined to individual practices in specific central locales.

Importantly, LA level data conceals concentration and differences at ward level. Exploring data at ward level for dispersed asylum seekers and school level for EAL pupils (as the only available proxy measure) demonstrated the limitations of LA aggregate level data and the concealment of the lower level spatial disparity. The demand placed upon particular schools was explored qualitatively to understand resource implications and impacts that only certain schools were experiencing:

> *"And, that's another problem that we've found. A lot of our families that have come to [town name] want to be at the school that is like, straight opposite their house. Because most of the schools that are really central in [town name] are full, we get children coming quite a distance and they don't want to be at that school."* (Educational Professional, interview)

The collation of some data sources did provide an indication of the spatial distribution of international migration. For example, we analysed Electoral Register data by nationality, asylum seeker dispersal data and education support service INA data at ward level alongside the NINo data at Middle Layer Super Output Area (MSOA) level and 'best fit' to wards. These sources all indicated the patterns of location and concentration on international migration had continued in the central areas of the town.

However, in general, localized pressures identified by professionals were difficult to quantify and evidence because of the lack of, and access to, statistical data. The limitations in being able to confidently report on location from the statistical data is a significant gap when aiming to understand patterns, concentration and characteristics of migration for a local area.

Evidencing the dynamic nature of migration

Evidencing transience, mobility and circular migration regarding recent international arrivals and population change, through statistical data, was another objective that was difficult to evidence as most public data is reported annually, with a time lag. Furthermore, administrative data sources rely on registration but do not record deregistration. ONS (2019) found that EU nationals register quicker for a NINo than non-EU nationals and a time lag in GP registrations for international migrants. It is not helpful to speculate on the reasons for time lags but the statistical data fails to provide adequate answers.

Occupancy turnover, related to available housing stock and unscrupulous landlords, concentrated in two wards of the town, had an effect on schools as transient migrants placed their children in schools but removed them in-year, before survey data collection could keep up. Education services were keen to evidence the 'churn' related to international migration to substantiate the impact of transience and in-year net migration on resources and effective planning. The lack of timely statistical data required to do this proved to be particularly frustrating for professionals tasked with ensuring adequate service provision. Some schools were able to report this but this was not consistent across the LA area. Whilst schools may be able to hastily allocate resources such as interpreters, iPads to access Google Translate, and appropriate teaching materials, the ability to plan effectively is limited; even if we can know existing numbers, it is impossible to reliably predict future mobility and arrivals (Anderson, 2017; Rolfe, 2019) yet authorities seek data that can be used in the planning of future service provision:

> *"So when we're talking about the impact on school places and why there was a wait, it's because essentially we had 400 children new into the area that we hadn't accounted for before the start of the academic year."* (Education Professional, interview)

Given the complex nature of definitions, variables and proxy measures used to identify and categorise migrants, issues such as school places become points of critical concern for both the LA, schools and the local community. In this case, inability to predict or identify the scale of new arrivals and subsequent demand for services generated tensions and pressures within the LA and criticism from the local community as school places became a source of political tension, particularly given the heightened sensitivity towards migration in the current political climate (Morrison, 2019).

Data access and quality

Despite being commissioned by the LA we encountered a range of obstacles to accessing locally held data. Agencies were concerned about compliance with data protection laws (in particular the newly introduced General Data Protection Regulation) and the avoidance of disclosure. This led to protracted negotiations in agreeing a Data Sharing Agreement and the provision of highly aggregated data, in formats that prevented further analysis which reduced the usefulness of what could be reported. At times, busy individuals or departments naturally prioritized their primary responsibilities rather than data requests from an external, albeit partner, agency. Additional requests or questions went unanswered or were rejected on the basis that individuals did not have the available resources to meet our requests. Faced with the pressure of budget cuts and efficiency savings, public sector organisations are limited in their capacity to liaise with other agencies and may be resistant to sharing information with external organisations (Brown and Calnan, 2015). We found that the schools that engaged with the project had good monitoring and reporting mechanisms in place to identify INA pupils, mobility and language proficiency but as the majority of schools are now academies access to data was difficult and a challenge for the LA too. Local data on dispersed asylum seekers was a priority for the LA and partners, in order to prepare for and provide support, but a request to the Home Office for data proved unsuccessful.

It was not only our project that faced challenges in accessing data. The VCS who, as a result of gaps in statutory provision, were providing greater care and support for migrant populations often did not have up-to-date information to plan for new arrivals and good information sharing arrangements were lacking. The following practitioner worked with newly arrived asylum seekers but received no data to be able to gauge the frequency of arrivals or determine the extent of their efficacy in supporting this community:

> *"So you don't really know. I might know that we've met eight new people this week, but I don't know whether eight or 28 arrived in [town name] this week. So 'I don't know', is the answer. I know that we have a relatively wide reach because I know the numbers of people that we deal with, and when we do get data I can compare that with how many people are in [town name]"* (Voluntary and Community Sector Practitioner, interview)

As well as the issues with data availability and quality already outlined, other limitations included the ‘overuse’ of the ‘other’ category, for example ‘other nationalities’, in public and local data (often the largest category) (Parameshwaran and Engzell, 2015) and changes in the way organisations recorded data which meant that trend analysis was not possible, as was the case with police data. It is argued that population statistics are a long way from meeting the requirements to manage public services at the local level and LAs need more flexible information but that the barriers to producing better population data are often organisational and bureaucratic, not technical (Harper and Mayhew, 2012), with entrenched organisational cultures and working practices in regards to systems and methods of data collection.

Implications of lack of data and evidence

The demand for accuracy and timeliness of population data, in order to satisfy the need for ‘population intelligence’, exposes weaknesses and anomalies in data collection and sharing (Harper and Mayhew, 2012). The demand is political in nature, particularly as it relates to the efficiency and effectiveness of service provision but also to meet wider societal objectives such as reducing health inequalities, promoting social cohesion and protecting vulnerable populations (Harper and Mayhew, 2012). Implications associated with lack of coherent data and evidence have been highlighted but there are also ethical questions to consider in relation to future developments or proposals for data collection. Whilst identified as useful for local planning, should we be trying to count people? Is this a form of surveillance or immigration policing? Concerns about this were evident during our research.

Building understanding about international migration and its impact through a range of statistical data sources, with varying definitions, measurements and completion levels, is complex and challenging and is inadequate for capturing the reality of international migration and drawing conclusions. This raises questions about what is knowable for a local area and demonstrates a mixed picture in terms of utility and availability of local level data in relation to informing appropriate service decisions and provision. The LA sought conclusive evidence and figures and we stress that they, as well as other areas seeking definitive answers, must exercise caution as the picture is often incomplete and partial. We suggest that a multi-method approach that does not rely solely on statistical evidence is needed to understand demographic and population change and the impact of this on services and communities (Warren *et al.*, 2012). Local areas have distinct characteristics that provide the context in which to understand the impacts of migration. A range of factors interact at a local level including the composition of the population, history of migration, migrant characteristics, the rate of change of inward migration, levels of deprivation, housing composition and other local social, economic and political conditions (Poppleton *et al.*, 2013; Rose *et al*., 2011). Routine collection of migrant variables could further local understanding of how migration factors interact with other socio-demographic factors and be used to inform policy and practice (Jayaweera, 2011).

The use of administrative data, linked datasets and record linkage are advocated as methods to produce better quality, timely and cost effective data, at national and local levels (Allen *et al.,* 2018; Fingleton *et al.*, 2019; Harper and Mayhew, 2012). For example, it has been suggested that the School Census measurement of international migration could be improved through identification of pupils who have entered the school system from abroad, similar to 'migrant GP registrations' (Jivrai *et al.*, 2012), but this would not be without definitional and data quality issues. Furthermore, such proposals have considerable data protection and investment implications (Boden and Rees, 2010). We have demonstrated that better local sources of data are needed if local level service provision is to be improved or targeted in a systematic and cost-effective manner. This may not rely upon a single definition but the addition and consistent collection of relevant fields pertaining to international new arrivals, and appropriate to service delivery, in caseload and patient records in key administrative data systems. This would require a systematic and embedded approach to data collection and collation, including standardisation and agreement on definitions and methods, across partner agencies, systems not operating independently, and senior level commitment. Practitioners cannot currently use much of the local data because it is incomplete and some agencies argued that collecting migration-related data was not relevant to service delivery. Whilst this may be true in some senses, there are issues with this; healthcare professionals noted that data was only recorded if medically relevant but a service delivery implication related to interpreters was repeatedly highlighted. Recording relevant data could inform the allocation of resources, i.e. paid interpreters rather than NHS staff seeking support from colleagues with language skills.

The shortcomings and uncertainty in available statistical data is of critical importance to both central and local government who arguably over-rely on statistical evidence in the formulation of policy and practice related to immigration. It has implications for national and local discourses about international migration and potentially impacts upon those providing and accessing services in local communities. The improvement of migration statistics and analysis are a high priority for the ONS, in response to user demand for more detailed migration evidence, with linked government administrative data sources at the core of their long-term research plans for measuring population and migration (ONS, 2020). It is unclear currently how these developments will improve the data available at the local level, whether they will address the issues that we encountered and be able to satisfy the data requests, and requirements, of local agencies.

Conclusion

This article is based on our experience of conducting a project on behalf of a local authority who, funded by central government's Controlling Migration Fund, sought an accurate picture of recent migration patterns and population change in a large town in the North East of England. The project emerged from concerns within both central and local government about a lack of reliable and up to date information on population change. More timely data was needed in order to explore and address issues of increased demand from newer communities with differing needs and the implications for community cohesion and the impact on local services, such as health, education and housing. As such, for the quantitative element of the project the team set about accessing, assessing and analyzing local level data in order to produce a more effective source of information and toolkit on migration and population in order to inform the LA's strategic objectives in terms of service provision and community cohesion. This paper identifies the difficulties we encountered in working with local level data in terms of the politics of access and data sharing, problems of definition, use of proxy measures, and the aggregation and disaggregation of definitional categorisations. Furthermore, working with quantitative data in this way reveals the problems in imposing rigid quantitative categorisations and measurements which fail to capture the complex and dynamic lived experience of migration. At the same time however, despite the problems we encountered, our experiences on this project hint at the potential for effective data sharing and collation at the local level in order to produce detailed and timely information to inform effective service delivery and to counter the dominant negative discourses which frequently surround immigration. Local statistical data provided some useful insight and sometimes additional detail on the same fields as public data, for example the disaggregation to ward level and population characteristics for international students, supported asylum seekers and hate crime offences.

The complexity of data collection and subsequent measurement of migration at a local level raises an important ethical and political question about counting and profiling minority and migrant populations. Evidence suggests that categorising 'migrants' has often been accompanied by overt or inadvertent discrimination (Anderson, 2017; Lukes *et al*., 2018). There is an inherent tension here whereby the rights of certain groups are undermined in the name of efficient public spending. Do stakeholders and local agencies need to collate vast swathes of information on service users in order to adequately provide services? To some degree, local authorities can better support diverse populations if the data provides a clear picture of spatial concentration and service pressures. However, in a climate of institutional and often community hostility towards immigrants (Winlow *et al*., 2017), there is a risk that data could be used to police and constrain migrant populations. While the LA in this study were pro-migration and sought to demonstrate the value of recently arrived migrant populations, often in the face of local hostility, a more repressive or restrictive punitive state apparatus may utilise accurate local data for different political ends.

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