The role of **UPRNs** in delivering health and social care

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Summary

Local Authorities have a vital role in the communities in which we live. Beyond the very visible services such as waste collection and pot-hole response – one of the most crucial areas of responsibility is health and social care. The scale and rapid response required by all public sector bodies in response to the COVID-19 pandemic was unprecedented in recent times.

The pandemic has placed an additional imperative on local authorities to support residents - particularly vulnerable and shielding members of the community. Data has played a critical role in informing this response. More specifically, the value of data about places has been vital to accurately provide efficient and effective service delivery solutions.

This report collates just some examples from across the country to showcase how location based data, specifically data with a Unique Property Reference Number, has been used to respond to resident needs, for instance identifying and supporting more vulnerable people needing additional care. The Unique Property Reference Number (UPRN) is a unique identifier for every addressable location in Great Britain, created and maintained by local authorities that have legal responsibility to name and number all streets and properties in the UK.

The case studies included in this report show the wide applications of the UPRN and data driven approach to service delivery challenges. The case studies highlight the role of data, its transfer and linking between the NHS, central government, local government, health and care homes, and the Care Quality Commission. Secondly the case studies show how the use of UPRNs could revolutionise data use and data linking and sharing into the future.

The research captures very tangible results. However, it also shows a consistent problem experienced by local authorities in their difficulties matching data from other bodies, including central government, due to the lack of UPRNs. Utilising UPRNs for all address related data in the public sector would prevent many of these issues occurring. It would also enable the data to be more easily consumed and allow for a quick evidence-based response to be made.

The findings are supplemented with additional guidance on data linking as well as a UPRN integration assessment tool designed to support local authorities in embedding the UPRN further into their core systems. The key is to build on the work done towards more sustainable data-driven solutions for future service delivery needs.

Background

Major policy changes

One aim of the project was to investigate how UPRNs had been used in local authorities to respond to the pandemic. On the 1st of July 2020, the UK geospatial industry went through some major changes. These came into effect as a result of Geospatial Commission policy. These changes included opening up of the licence terms of the UPRN and USRN. This was based on the work with the Geospatial Commission, the LGA, the Improvement Service (on behalf of Scottish Local Government), and Ordnance Survey.

Additionally, the Government Digital Service (GDS) Open Standards Board mandated that because of these changes, all central government bodies (including the NHS) must now use UPRNs and USRNs as standard for referencing and sharing property and street information.

As a result of these policy changes GeoPlace and the LGA wanted to gather more detail as to how UPRNs were being used by central government and local government in relation to health and social care and the benefits this data provided in aiding vulnerable individuals in relation to Covid-19 and more generally.

About the research

This report details findings from a joint project between GeoPlace and the Local Government Association (LGA) focused on the use of UPRNs in response to social and wellbeing needs in England and Wales. This paper highlights the work carried out by a number of local authorities in England, their activities during 2020 in response to COVID-19 and specifically their use of the UPRN in approaches to linking data for improved outcomes.

The Unique Property Reference Number (UPRN)

The UPRN is the unique identifier for every addressable location in Great Britain. UPRNs can be used for addressable locations such as residential and commercial buildings and for objects which may not have a typical address for example, an electricity substation or a bus shelter. The UPRN provides every property with a persistent identifier throughout its existence (from planning through to demolition).

GeoPlace maintains a national index of addresses by providing a data management framework for local authorities and other data providers to contribute data. Local authorities are key to this as they have the statutory duty to name and number every property and street in Britain. The resulting national data is available across the public and private sectors in the Ordnance Survey AddressBase® products. The AddressBase® products contain detailed attribute information describing the address, it's location on a map, classification of the object, history and relationship with other features such as a flat or business within a building.

UPRNs are unique and every property in Britain can be identified with a UPRN. This authoritative 'code' can be used to create connections between disparate sources of information based around it. The UPRN provides a simple and unique reference point.

When organisations add the UPRN to any kind of data, they can link matching records in different databases together. This means fewer errors in data exchange and communication, but far greater efficiency in all kinds of operations. The UPRN can be shared via many technologies – basic and advanced. Examples include a simple text file, spreadsheets, databases, XML/GML schema, and APIs.

Under the Public Sector Geospatial Agreement[1], UPRNs can be used on a royalty-free and open basis. For example, the data is being used for emergency response by the emergency services; by HM Revenue and Customs to collect taxes; by Department of Work and Pensions to pay benefits; and by the Environment Agency to produce flood plans. Through the use of UPRNs, immense savings are possible e.g. money, time, resources, and lives.
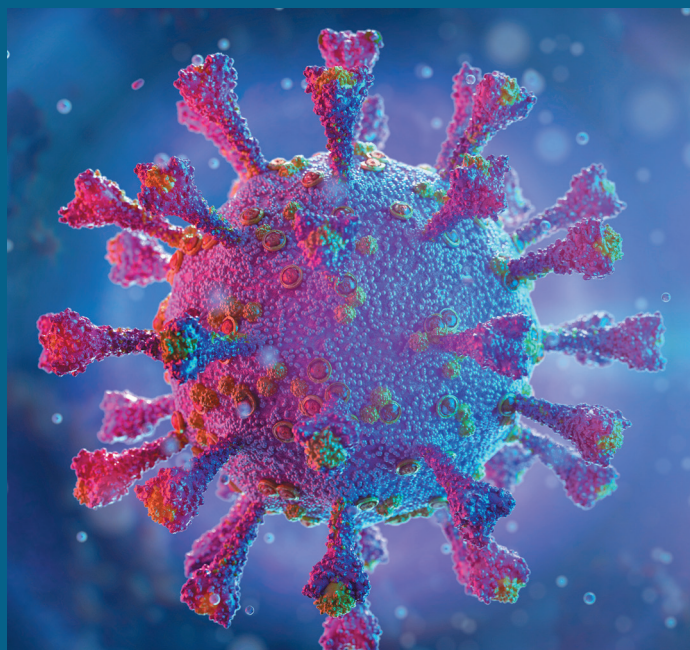
The information created and maintained by local authorities is available through the AddressBase® range of products and made available by Ordnance Survey.

1 https://www.ordnancesurvey.co.uk/business-government/public-sector-geospatial-agreement

Context
Covid-19, Health and Social Care

With the onset of the Covid-19 pandemic it became increasingly important to understand who needed support or extra help, with a strong focus identifying the most vulnerable people in communities so as to provide them with the practical help required and make them aware of the support available. Through identifying these vulnerable individuals' locations, support could be delivered in a quicker and more efficient way.

The UPRN has played an invaluable role in making this achievable, . COVID-19 has led to more dependence on the ability of our health and social care services to join up and deliver vital services exactly where they are needed the most. Local and central government also play a key role in providing these support measures.

Critical resources had to be managed efficiently. Trusted information needed to be provided in order to aid these support measures. The UPRN is embedded in critical responses to COVID-19. Using the UPRN has enabled segmentation and targeting of support. The UPRN has also helped authorities to quickly and easily link to other sources including social care systems to see who is vulnerable and already receiving social care.

Furthermore, the UPRN can enable data to be mapped and analysed spatially to look for trends. This data then allows authorities to see who is in areas of high deprivation and who has poor access to services.

The UPRN means this work can happen in minutes, avoiding time consuming address matching processes which can drain resources, be a time-consuming process, and can lead to error. In the worst case the analysis and targeting of support could just not happen because it is too difficult to link the data.

As part of this project, information was gathered from local authorities that had integrated the UPRN in internal datasets in order to aid in their response to the pandemic.

About the case studies

A total of seven local authorities took part in this research project. The local authorities were from a range of regions and different tiers of authority. The authorities that were interviewed as part of this project were:

1 Barnsley Metropolitan Borough Council

2 Durham County Council

3 Leeds City Council

4 Mole Valley District Council

5 Sedgemoor District Council

6 Sheffield City Council

7 Worcestershire County Council

The interviews took place during January 2021.

Barnsley Metropolitan Borough Council

At the onset of the pandemic Barnsley Metropolitan Borough Council wanted to take a proactive approach to support members of its community. The Council opted to build a Vulnerability Index. The UPRN played a key role in the development of the Vulnerability Index. Data from Public Heath England (PHE) was also linked using the UPRN to support Clinically Extremely Vulnerable (CEV) and shielding members of the population.

Durham County Council

With the onset of COVID-19 Durham County Council needed to identify vulnerable individuals in the area and target them with specific assistance services. Shielded population lists received from central government needed to be summarised for senior managers to plan their workload. The shielded list was used as a starting point. The data team knew that there were vulnerable residents who were not on this list but were nevertheless also in need of services. The team decided to join up internal council data sets to identify more people to support with services.

Leeds City Council

In March 2020 with the onset of COVID-19 Leeds City Council needed to identify clinically extremely vulnerable (CEV residents who had particular health conditions requiring them to shield from Covid-19. Prior to this, there were 18,000 individuals on the CEV list however this list grew vastly to 40,000 in April 2020. The council needed to make a plan of action to support these people.

Mole Valley

At the onset of the first COVID-19 lockdown in March 2020 UPRNs were not part of NHS datasets. Mole Valley District Council sought to link existing data sources to NHS shielding datasets to enhance their identification of, and support offered to, CEV residents.

Sedgemoor District Council

During the first COVID-19 lockdown (March to June 2020) CEV residents in local authorities were identified and supported through the national NHS shielding programme. Sedgemoor District Council and other neighbouring district councils needed to find a way to identify the additional group of residents who, though not clinically vulnerable, were thought to be situationally vulnerable. This group was not yet included in the vulnerable data lists but needed to be located and contacted so that they could be provided with additional support at speed.

Sheffield City Council

At the start of COVID-19 the council wanted to identify over 70s living alone to ensure they were given sufficient support; however, the council didn't have an effective way of identifying this target group. Sheffield City Council had access to council tax data but didn't have a link to the UPRN to enable the data to be linked to other systems within the organisation.

Worcestershire County Council

Worcestershire County Council saw an evident need to develop improved foresight relating to demands on services. One approach the council took was to predict longer-term care needs of individuals in the area. Risk stratification to identify households in Worcestershire that were likely to require support from older adults' social care in the future were identified. The aim was to identify potential target groups or locations in the county for preventative activity, communication, information and advice. This project was building on the NHS Digital Project to predict social care self-funder pick-ups.

About data linking

The trigger for carrying out a data linking project is typically driven by a pressing service delivery related question or series of questions that cannot be solved by looking at a single data source alone such as *"Who and where are our most vulnerable residents located and how can we proactively offer additional support to them?"*

Data linking in this context and in the case studies discussed, refers to the process of joining a dataset which contains UPRNs to an additional, or multiple other datasets that also contain the UPRN. These can be obtained from a range of sources; from within a local authority (from the core software systems that are used to facilitate each service area) or externally from central government or third parties. The role of the UPRN is that it acts as a common identifier tying the records together, allowing them to be related and centralised at the household level.

This creates a property level view of all information relating to a specific address as contributed individually by each linked data source. The best analogy to describe this is a jigsaw puzzle. On its own, a single jigsaw piece (a dataset) describes only a limited and specific amount of information (about a household). Yet when all the jigsaw pieces are combined, they come together to form a rich and complex picture far greater than what a single piece can convey alone (the compiled, household level dataset).

This linked output is a strong foundation upon which to conduct analytics and gain insights as it contains multiple threads of data spanning multiple datasets, relating to each single property and the residents contained.

Turning this compiled data source from "data" into actionable insights is a fundamental yet complex next step and is guided by breaking down the initial question that triggered the data linking project.

It is important to note that obtaining the answers to these questions relies entirely on whether the linked datasets "contribute" the required fragments of information to confidently make a decision. For example, if the question is looking to determine who is "most vulnerable", the level of "vulnerability" will need to be calculated using the known information about the residents or the household. It may be the case that additional data sources may need to be linked to add further and fuller insights.

Taking a step back, the actual act of linking datasets together based on the UPRN is a relatively simple process and can be carried out rapidly when all datasets already possess the UPRN. However, if a dataset does not contain the UPRN then this often represents the most time-consuming step in the overall process, creating a bottleneck and may well introduce a level of inaccuracy.

A process called "data matching" is typically employed to match each record in the dataset to its corresponding UPRN. This often relies on specialist software, services or in-house experts to carry out and can take a significant amount of time to do accurately. It may also be the case that this task needs to be repeated each time the dataset is re-supplied or refreshed.

In a local authority setting, the most effective and sustainable means of avoiding this is to ensure that the core software systems used in each service area are integrated with the UPRN. Integration in this sense means that the UPRN is inherently present within the system wherever a property is referred to. Depending on the specific system used, this could mean all extracts of data and subsequent refreshes of it can include the UPRN as it is effectively held at source, avoiding any requirement for data matching and enabling data linking to take place rapidly.

Considering how fundamental it is that datasets include the UPRN at source and within software systems themselves, we have created an online "UPRN Integration assessment" tool. https://s. surveyanyplace.com/uprnassessment

The tool allows services managers to ascertain how well integrated their service area and software is with the UPRN and makes recommendations on how to improve if need be. The more integrated a system is with the UPRN, the more rapidly data linking projects can reach the point where insights can be generated and action can be taken.
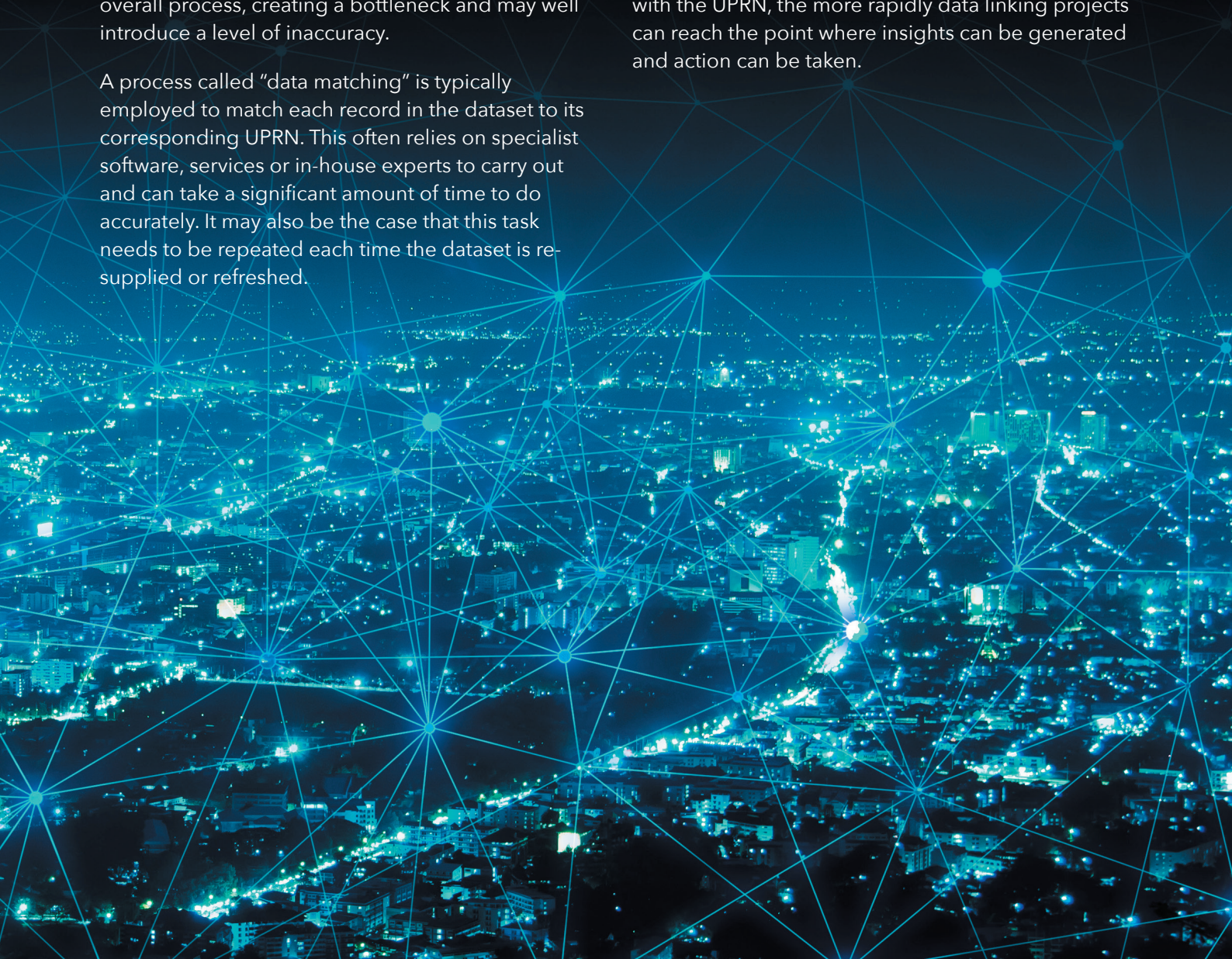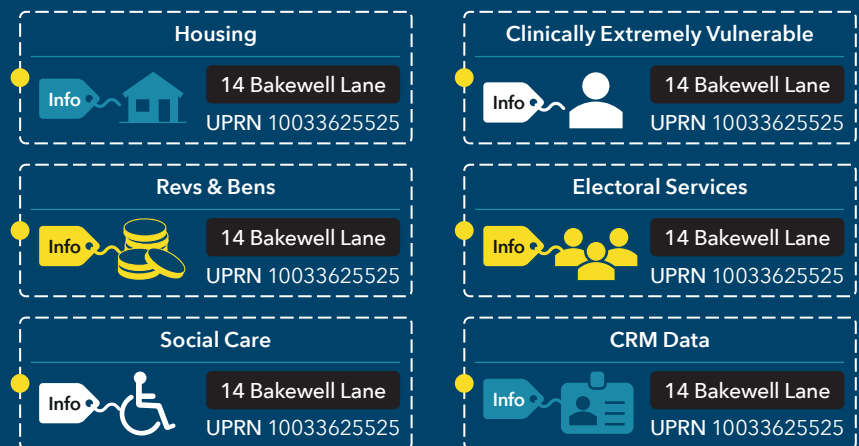
Data linking with the UPRN: What do we mean?

The UPRN is an enabler for data linking

Data linking is a process in which multiple disparate datasets are joined together by using the same common identifier present in each individual dataset. The Unique Property Reference Number (UPRN) has proven itself to be one of the most effective identifiers in facilitating data linking as it enables information to be grouped together at the household level, creating a holistic view of property information. For example:
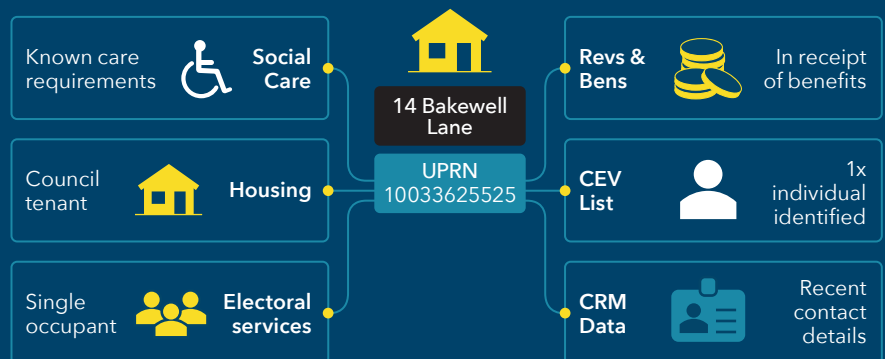
Before Linking:

Multiple disparate datasets exist, each possessing a valuable piece of information related to the property or individuals within it. Decisions are typically based on the information contained within a single system or dataset:

Housing
Info — 14 Bakewell Lane
UPRN 10033625525

Clinically Extremely Vulnerable
Info — 14 Bakewell Lane
UPRN 10033625525

Revs & Bens
Info — 14 Bakewell Lane
UPRN 10033625525

Electoral Services
Info — 14 Bakewell Lane
UPRN 10033625525

Social Care
Info — 14 Bakewell Lane
UPRN 10033625525

CRM Data
Info — 14 Bakewell Lane
UPRN 10033625525

After Linking with the UPRN:

Linking the data based on the UPRN creates a holistic household view, centralising information in a single place. The information that each data source contributes on an individual basis can now be looked at in context of everything else, meaning a more considered and informative decision can be made.

Known care requirements — **Social Care**

Council tenant — **Housing**

Single occupant — **Electoral services**

14 Bakewell Lane
UPRN 10033625525

Revs & Bens — In receipt of benefits

CEV List — 1x individual identified

CRM Data — Recent contact details

How to ensure each dataset contains UPRNs?

The most effective and sustainable means is ensuring the software systems containing the data to be linked are integrated with the UPRN. Integration means that the UPRN is used within the system wherever a property is made reference to. The more integrated a system is with the UPRN, the more rapidly data linking projects can reach the point where insights can be generated and action taken as manual, time consuming tasks such as "data matching" to the UPRN do not need to be employed.

We have created an online "UPRN Integration assessment" tool which allows service managers to ascertain how well integrated their service area and software is with the UPRN. It also makes recommendations on how to improve if need be:

https://s.surveyanyplace.com/uprnassessment

How the UPRN has been used

The way local authorities responded to the challenges followed a similar data-driven approach:

1 Barnsley Metropolitan Borough Council

The Council used the UPRN as a key to link disparate data sources. In total, 26 different data sources were linked together within just under two weeks. This composite vulnerability index was also presented visually by the corporate GIS to allow non experts to really understand the information. This data was then communicated to outbound contact groups who then provided support to these individuals.

The council received data from Public Health England daily on COVID-19 test results of residents in the area. The data received from PHE contains the name, address and NHS number, data is received on an individual level. As PHE data did not have UPRNs, the council built a series of algorithms to match data in an attempt to match UPRNs to incoming PHE data. This was successful and the matching took place automatically.

Whilst anyone who needed assistance could contact the council through an online service or via telephone, the Council also wanted to be proactive in their support for residents. Using the composite Vulnerability Index, between March and April in 2020 over 17,000 calls were made to 10,000 properties. An additional 330 households which used services such as food and shopping aid were also identified. The UPRN was the only key through all the different data sets which allowed the council to create the Vulnerability Index score.

There were also cases where PHE provided data on positive Covid-19 test results but lacked contact details which would have enabled the council to contact them. However, because the Data Team appended UPRN to the PHE data it was possible to find other sources for these contact details across internal systems. Through this, the council was able to contact people who otherwise would be difficult to reach or non-contactable. A welfare call was made to every person who tested positive for Covid-19.

② Durham County Council

During the first lockdown period, shielded population lists were provided daily by central government, this then became weekly after November 2020. These lists did not contain UPRNs. This made it much harder to link different data sources together and to identify an address where contact was needed. The Council went through a process of looking through these lists, record by record, and comparing them against their internal address data containing the UPRN. Doing this allowed the council to join the lists to other internal geographies to produce internal summary reports. The Council looked at internal datasets such as adult and children social care services and assisted bin collections and used the data to identify those known to the council to be potentially vulnerable. The UPRN was used to join these data sources together to identify properties where people who had multiple vulnerabilities lived, in addition to being on the shielded population list.

The UPRN allowed the Council to summarise data and see where hotspots might be based upon geographical locations. This could then join to other data sets such as Index of Depravation to support potential correlations between the shielded population and multiple vulnerability lists. The Council found that there was in fact a correlation.

③ Leeds City Council

Leeds set up call centres and systems to make calls to shielding individuals to offer support and resources. Leeds needed to know who these individuals were. They found real barriers in using their own local intelligence to supplement the national CEV list data provided regularly.

The CEV list did not contain UPRNs, making it much harder to link this with council data sources. However the Council, having already linked UPRNs to all council tax and housing data, leveraged these linkages to help generate stronger match rates to the CEV data. Manual data matching created the first linked dataset, using the UPRN as the key. Scripts were then developed to automate the linking as much as possible moving forward.

Furthermore, the Council used records of households receiving single person Council Tax to identify people living alone. With this information, the Council was able to call these isolated individuals who were potentially more vulnerable during lockdown. . During the first lockdown the Housing Department's usual services were suspended to support the Council's COVID-19 response so there was a lot of capacity for calls to be made. Individuals on these lists then received an initial welfare check and support was offered where needed.

4 Mole Valley District Council

Mole Valley District Council, alongside other local authorities including Surrey County Council, lobbied Central Government for UPRNs to be included in NHS datasets. The lobbying was successful and council officers are now able to crossmatch the UPRNs from the NHS dataset with their own vulnerable people record.

An automatic system is used to achieve the linking up of the datasets. Using automation allows data to be easily collected and linked to other datasets. The data can also be translated into HTML or webpage format. In these instances, a graph or report can be generated which is meaningful to staff who lack technical expertise.

The joining up of datasets enabled Mole Valley to identify whether they were already supporting those in need or whether there were CEV residents whom they had not yet identified. Council officers also used this information to undertake location analysis which enabled them to determine the proximity between CEV residents' homes with community groups and services. This work enabled the Council to improve outcomes for some of the most vulnerable residents in the locality through ensuring they were both identified and given the most appropriate support.

5 Sedgemoor District Council

Sedgemoor District Council, along with other neighbouring councils, worked to find a way to identify the additional group of residents who, though not clinically vulnerable, were thought to be situationally vulnerable. Identifying this group was dependant on access to comparable resident data from across the four district authorities. There was a need to quickly establish a set of attributes that the organisations felt were the indicators of vulnerability either directly or in combination. The district councils each had different data systems and held data items which covered a range of themes such as electoral registration, council tax, housing benefits, etc.

Sedgemoor Council co-ordinated and encouraged agreed data standards in spreadsheet form (based upon a sense of what the key indicators were, allied with the availability of data) and then asked the districts to provide data to them using this format. As the districts had commonly been using the UPRNs in their systems for some time this was included, as they were all well placed to provide this.

Gathering this data using the UPRN proved vital as it enabled the identification of vulnerability at a household level and allowed the Council to quickly establish vulnerability indicators coinciding at a household at a property level. The use of the UPRNs was a constant feature across all four district councils and provided a method to enable the linking of a variety of datasets.

In addition, the exercise was attempting to incorporate data from the intelligence that it dealt with such as social care. This was more complex as these systems did not inherently use the UPRNs. This meant that various lengthy data cleansing exercises would be needed to incorporate this information and there was little time. It was the use of the UPRNs in the district data that provided a capability that the right vulnerable people were quickly being identified.

6 Sheffield City Council

In order to identify vulnerable people over 70 years old, the Council used the data it had and the underutilised UPRN as a key to link these data sources together. The exercise has been valuable as it gave the impetus to incorporate the UPRN into their customer accounts CRM system. Utilising customer CRM data with other data sources such as council tax made the identification and support of individuals much more effective.

7 Worcestershire County Council

Worcestershire took a very data-driven approach to the challenge of COVID-19. Data was used to identify indicators that might predict need for social care. Numerous disparate data sources were combined ranging from thermal imaging information, hospital admissions, council tax single occupancy data and several others. The UPRN was used to link these data sources together.

The project revealed that households in certain areas were six times more likely to have someone aged 65+ with social care requirements. It was also found that households in certain areas with high hospital admission rates were 14 times more likely to have someone aged 65+ with social care requirements.

Trends and challenges

The full case studies can be found in the appendix. The summaries detailed above demonstrate the wide applications of the UPRN and the benefits of a data-driven approach to service delivery challenges. They also show how using data in problem solving can enhance understanding and more accurate service delivery. In addition to the very real outcomes identified above, there were several trends common between the authorities.

An increased demand to work with external data sources

A common theme was an increase in data demands with the onset of the pandemic. Regular reporting was vital both for public interest as well as strategic monitoring. Local authorities had the important task of identifying and contacting vulnerable individuals in their region. Central government provided data on these individuals to local authorities. Councils received lists identifying CEV or shielding individuals in their area from central government. In some instances, Public Health England (PHE) also provided data on Covid-19 test results to authorities on a daily basis in the first wave of the pandemic. The strong UPRN-linked foundation councils already had available, such as those having matched council tax data, customer account information and social care information, allowed a more insightful and rapid understanding of the CEV lists along with the specific individuals needs to be considered.

Lack of UPRN matched data from central government

A trend observed through the interviews was that data received from central government by local authorities did not routinely contain UPRNs. Data on shielding/CEV individuals and Covid-19 test results often included the name and address of individuals but was missing UPRNs. To overcome this where UPRNs were not present, different council data sets e.g., council tax or housing records (which did contain UPRNs) were combined with the CEV lists. This led many authorities to realise that the UPRN played a vital role in responses to the pandemic.

The shielding and CEV lists received by local authorities from central government did not include UPRNs. PHE test and trace data did not use an address lookup and therefore could not supply UPRNs either. The lack of UPRNs made it more difficult for authorities to accurately locate these individuals and target them with the support they needed.

This research project confirmed that many of the authorities that took part combined the UPRN and other council data sets e.g., council tax, housing data to append the UPRN to CEV and shielding lists to remedy missing location data.

The various datasets from the authorities would not usually be linked or used together but this exercise showed the value of the common use of the UPRN as a means to connect data across systems from disparate sources in order to create a holistic household view. It enabled information to be joined up easily allowing many of those residents-in-need to receive the support they urgently required. The use of UPRNs enabled there to be rapid progress in this challenge and highlighted the power of data in ensuring that support was focused on the most vulnerable residents. (see appendix).

Challenges with lack of understanding around UPRNs

It was also found through conducting these interviews with members of local authorities that UPRNs have enabled councils to carry out rapid interventions since the onset of COVID-19. Many used this as an opportunity to build on good practice and increase awareness of UPRNs within their councils. Lack of experience and knowledge around UPRNs caused some challenges. Custodians found that colleagues often did not understand what the end goal of work would be but nevertheless trusted the outcome. To overcome the lack of understanding and accessibility and to aim to explain the work undertaken to incorporate the UPRN into data received from central government to staff without expertise, some councils ran workshops, informal conversations, information graphics, etc.

For At Barnsley Council, the team faced challenges in getting people to visualise what the end result would be. The Data Team had confidence in the approach but they had to convince wider council colleagues. It was known that they would be able to join data through the UPRN and give households a score based on the vulnerability indicators. The team constantly encouraged people to engage with the work they were doing, and this meant initial hesitancies among the wider workforce were overcome.

Similarly, at Mole Valley those working with UPRN data and combining it to other datasets found that the role of UPRNs was, widely misunderstood among the broader workforce and this sometimes resulted in missed opportunities to join up data between departments. The organisation continues to raise awareness of the importance of UPRNs among all members of staff through making the sharing of UPRNs a requirement across the Council.

Durham also found that there was a need to increase the understanding of UPRNs amongst the wider council. The data team found that colleagues usually wanted a summary position of what the data was describing instead of the full data. The team found that difficulties in combining datasets increased suspicions and uncertainty within the council. Those working on using the UPRN to combine data for the council's Covid-19 response have suggested that the Council might establish a data warehouse with readymade linkage to provide benefits that would better support more efficient services in the future.

Future plans

Maintaining the data driven response and insights capability

Every council planned on extending their work to support future priorities.

Barnsley Metropolitan Borough Council

Going forward the Council is in talks with the health sector who are keen to do a funded and structured piece of work based on the project undertaken by Barnsley Council to look at the principle of using cross-system data to prioritise hospital operations. The Council found that the lack of UPRNs in central government and NHS data was a hindrance when it came to aggregating data. The use of the UPRN was a good demonstrator to these bodies of the potential. It showed that people in households can be profiled when data is joined together.

Durham County Council

Durham County Council has plans to apply techniques used in their Covid-19 response datasets for activities such as the school census. This would require requesting pupil level record data to analyse and aggregate by geography. It would allow the council to report on this data and identify possible anomalies.

The Council found they can take many data sets and aggregate them by geography. This information can then be summarised in a non-disclosive way that it is useful to identify trends in target areas.

Additionally, the Council would like to establish a programme to build a data warehouse, as the benefits of combining this data would result in improved services. The UPRN is key to this process.

Leeds City Council

Leeds plans to identify young people and children who live with adults with a history of drug, alcohol, etc. (adverse childhood events). It aims to take a population health management approach, looking at what data says about young people and, if they can be identified, show the type of support required. The alternative would be for these individuals possibly presenting themselves to mental health services in the future. The intent is for funding from mental health services to be deployed to support proactive interventions.

A further piece of work the Council is looking at includes using health information in GP practices. A project could test outcomes if the UPRN was incorporated into GP systems, identifying, and locating individuals and providing support could be done in a more efficient manner. Through this it would be possible to link people who may have certain health conditions which affect other people in the same household and possibly in the wider community. To deploy UPRNs in NHS systems is a key outcome for this project.

Mole Valley District Council

A new GIS analyst role at Mole Valley provides extra capacity and an opportunity for new work streams in this area to develop. The council plans to continue to promote the use of UPRNs and embed them in everyday practice within the organisation through making it mandatory for staff to share URPNs within datasets.

Sheffield City Council

The council feel they have seized the opportunity and have made good progress in a short period of time. There has also been an increase in understanding amongst staff on the potential of UPRNs and the importance of data sharing. This was apparent when 100 people working in the council attended a webinar on the Council's GIS day. They have learnt the importance of a good IT network and good data practice. At the onset of COVID-19 only 500 people could log onto the network and so access was challenging. Since then the digital infrastructure of the organisation has improved considerably.

Sedgemoor and the role of iStandUK

The Chief Information Officer at Sedgemoor is also the Director of Standards at iStandUK which is the Local eGovernment Standards Body. After the first wave of COVID-19, the iStandUK steering board under the leadership of its Director of Standards made a successful bid for COVID-19 challenge funding to the Ministry of Housing, Communities and Local Government (MHCLG). This was to develop the scalable approach to Vulnerability Via Interoperability (SAVVI) project. This set out to examine how councils had used data during the pandemic and to propose improved data standards which could have assisted councils further during the first wave of the pandemic, as well as in future activity. As a result SAVVI has produced a risk index and a case index, created a set of data standards and a catalogue of good practice recommendations, data matching guidance and suggestions for using and investing in UPRNs in back office systems.

SAVVI has most recently been informed that its work has secured continuous funding to further the work in 2021/22. This will enable a 'test and prove' phase to take place with two councils and will include using and demonstrating the use of UPRNs as well as highlighting the challenges when they are not used. SAVVI is also keen to undertake an in-depth academic study on a national scale to examine how councils identified vulnerability during COVID-19, ascertain which were more successful than others and consider which approaches worked well or less well. The SAVVI project aim is to support a knowledge-based community of practitioners working in this area and will be encouraging ideas on further ways of identifying vulnerable people through the use of data.

UPRN Integration Assessment

- This assessment is aimed at local authority service managers and takes less than 3 minutes to complete.

- It asks questions about the role of address data and the Unique Property Reference (UPRN) in your service area and the system used to deliver your service.

- Once this assessment is completed it will provide you with an approximate grading of how well integrated your system is with the UPRN and its ability to facilitate data linking for wider authority purposes.

- It will also highlight areas to focus on to improve your integration capability.

Begin

Return on Investment – UPRN

There are substantial economic benefits to be gained through utilisation of the UPRN throughout council data processes. Research carried out by ConsultingWhere identified a £4 return on every £1 spent on council address and street information.

Key findings from the report found that Government investment in Local Land and Property Gazetteers and Local Street Gazetteers[2] over the period 2010-2015 yielded a net benefit of approximately £86m in savings from reduced data duplication and integration, improved tax revenues, channel shift and route optimisation in waste management. The return could be significantly higher if barriers to adoption, particularly access to funds, staff retention and improved national collaboration are addressed.

Next steps guidance

To provide further support for Councils that have been inspired by the outcomes covered in this report, are a series resources designed for service delivery managers and their staff in how to take integration and data linking to the next stage, from whichever stage of current integration an authority is at.

These aim to assist both service delivery managers and Authority Address Custodians alike by providing advice on how to enhance the integration of the UPRN within their systems, spread visibility and awareness of the UPRN and maximise the capture of address intelligence to ensure address data is as accurate as possible

Conclusion

The findings presented in this research report demonstrate how there has been a critical role of data in informing the response to COVID-19. More specifically, the value of data about places and location has been vital to accurately provide efficient and effective service delivery solutions. The results show what can be achieved when different data sources are combined using a unique key to provide a single version of place to aid response. There are opportunities for the wider sector to learn further from our collective experience of the COVID-19 pandemic. As a result of policy developments, the UPRN is available under open licence for all bodies to use to underpin their data. There is significant financial and operational benefit of doing so.

There is an opportunity to create more sustainable data integration programmes to ensure that the work carried out by local authorities lasts but also to ensure future responses are even more robust and wider reaching.

2 https://www.geoplace.co.uk/addresses-streets/data-in-use/faqs

Barnsley Council use the UPRN to identify vulnerable individuals and provide support during the Covid-19 pandemic

At the onset of the pandemic Barnsley Metropolitan Borough Council wanted to take a proactive approach to support members of its community. The Council opted to build a Vulnerability Index. The Unique Property Reference Number (UPRN) played a key role in the development of the Index, which was a composite of 26 different data sources – all combined through their common location. Data from NHS England was also linked with the UPRN to support Clinically Extremely Vulnerable (CEV) and shielding members of the population. 330 additional households were identified as in need from this work, and over 17,000 support calls made across the Borough.

The Solution

At the beginning of the pandemic, officers were asked to provide maps showing residents over 70 years of age, as these were a known group of people most at risk from COVID-19. However it was acknowledged that in fact everyone was at risk during the pandemic and as such using data to better understand the range of factors of residents proved valuable.

To develop this deeper view of residents, Barnsley developed a Vulnerability Index. This intended to show vulnerability on a scale according to the known risk factors. This could then be used to segment and prioritise proactive signposting to support services.

The Council identified 26 different data sources which could inform the Vulnerability Index. This included Council Tax information,

housing benefits, electoral roll and other internal data sets. The common factor between these different data sources was their location. This is where the UPRN provided the key to be able to link the different data sources together at the property level.

Manually matching the UPRN to these data sources and combining them together took staff around two weeks to complete. From this, they could indicate every property in the area and to see the distribution of scores throughout the borough based on physical and geographical data.

Outcomes

The Vulnerability Index was made available to internal staff both via map format and an interactive dashboard. Using this intelligence, council staff could prioritise the outreach

programme, including letters, telephone calls and home visits to vulnerable residents.

Through March, April and May 2020, over 17,000 calls were made to 10,000 properties. Importantly, the Vulnerability Index enabled to Council to identify an additional 330 households who had not been identified so far as vulnerable. Additional support and help was offered to these households and brings to life the acute value of location based solutions.

In addition to the information held by the Council, daily feeds of data from Public Health England were received - reporting Covid-19 test results of residents in the area. This valuable information contained resident names, addresses and NHS number, but not the UPRN. This meant that daily manual matching was required to gain maximum value from the intelligence.

There was a need to make the Vulnerability Index sustainable and as such, over time the team developed matching scripts to automatically match the new data together. This proved more sustainable and offers opportunities for the future too.

Challenges Faced

At the onset of the first wave of Covid-19 the council team received 70 data requests from across the organisation and knew that there would be a lot of data requests to follow. Therefore, the custodian went to the Council Data Protection Officer (DPO) to establish the legal basis for sharing and combining data in an emergency response, with the Civil Contingencies Act (2004) providing greater freedoms to access data which are usually constrained to specific uses, for example the full electoral register.

The team also faced some challenges around a lack of understanding from colleagues on the project, it was difficult to get people to visualise what the end result would be. However, within the team it was known that they would be able to join data through the UPRN and give households a score based on the vulnerability indicators. The team constantly encouraged people to engage with the work they were doing, and this challenge was overcome quickly, mainly by showing the outputs and maps. This enabled other staff to really see the power of what the team were doing and brought it to life.

Lessons Learnt

During the second lockdown the council used the lessons they learned from the first lockdown through joining the UPRNs to corporate inputs (Vulnerability Index, priority groups etc.) Interrogating customer account information allowed patterns to be examined such as whether residents had contacted the council about financial support.

During the second wave of Covid-19, other data sources were also combined to the Index. For example, data on deaths and hospital admissions. This enabled staff who were contacting residents to know more about the particular needs of residents and tailor the support offered where possible, as well as being sensitive to the situations of people who were suffering from disease and bereavement.

A case management system and a dashboard were put together using the UPRN which allowed the council to support 15,000 residents who tested positive for Covid-19. The UPRN was pivotal in the creation of the system, supplementing data provided from the National Test and Trace service with local data. As Barnsley Councils IT department had good understating of the UPRN they were able to build a robust custom case management system.

Future Plans

A lot of the work carried out during the pandemic was cross sector work. Going forward, the council plans to work with local health services to develop the project further and ensure vulnerability is better understood across local services. However, the council used UPRNs as the key data set which linked further data sets. Central government and the NHS often do not use UPRNs and aggregate data. The use of the UPRN was a revelation to these bodies, it displayed that people in households can be profiled when data is joined together.

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Durham County Council combines datasets using the UPRN to assist vulnerable residents

With the onset of Covid-19 Durham County Council needed to identify vulnerable individuals in the area and target them with specific assistance services. Shielded population lists received from central government had to be summarised for senior managers for them to plan their workload. The shielded list was used as a starting point. The data team knew that there were vulnerable residents who were not on this list but were nevertheless also in need of services. The team decided to join up internal council data sets to identify more people to support with services.

The Solution

During the first lockdown shielded population lists were provided daily by central government, this then became weekly since November 2020. At the time, these lists did not contain Unique Property Reference Numbers (UPRNs). The Council went through a process of looking through these lists record by record and linking up the UPRN to the list. Doing this allowed the council to join the lists to other internal geographies to produce internal summary reports.

During the Covid-19 pandemic the county was divided into two areas which were called Hubs. The UPRN was applied to every record in the shielded list. Once the UPRN was applied to the lists, it was divided into groups based on these hubs. These lists were then used to contact individuals and make them aware of the support available to them.

The council also looked at internal datasets such as adult and children social care services and assisted bin collection and used the data to identify those known to the council to be potentially vulnerable. The UPRN was then added to these data sets. The datasets were then joined together to find people who had multiple vulnerabilities in addition to being on shielded population list. A lot of manual

work was involved in this process as every address data base in the council is different and there is currently no standardisation.

The UPRN allowed the council to summarise data and see where hotspots might be by geography. This could then join to other data sets such as Index of Deprivation so potential correlations between the shielded population list and multiple vulnerability lists could be identified. The council found that there was a strong correlation between the lists.

Challenges

One of the greatest challenges involved attaching UPRNs to different data sets, particularly those coming in from central government. In addition, although the shielded population list could be attributed with the right details, subsequent updates meant a continuous manual process of verification was necessary.

The data team also found that colleagues usually wanted a summary instead of a full data set – because it was difficult to understand that information's granular detail. However, the addition of the UPRN delivered standardisation and that made it easier for people without a technical background to interpret results.

Future Plans

Durham County Council has plans to apply learnings from its use of COVID-19 response data. In the school census, for example, it has used student-level data to derive location-based insights that enable the council to report on and identify possible problems. By using the UPRN, the council doesn't need to use students' personal details. It can run analysis and create summaries with non-disclosive data that still identifies target areas for action. The council is also looking at ways to extend this approach into a wider range of services; building a data warehouse, using UPRNs as the key to future insights.

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Leeds City Council uses UPRNs to identify shielding individuals during COVID-19

In March 2020 with the onset of COVID-19 Leeds City Council needed to identify clinically extremely vulnerable (CEV) who had particular health conditions. Particularly those who needed to shield or be protected from Covid-19. Prior to this, there were 18,000 individuals on the CEV list however this list grew vastly to 40,000 in April 2020. The council needed to make a plan of action to support these people.

The Solution

Call centres and systems were established to make outbound calls to these shielding individuals. The CEV list contained the address and postcode of individuals but did not contains Unique Property Reference Numbers (UPRNs). Combining UPRNs to this data would make it easier to link to other council information, such as customer contact data. The council therefore decided to link the CEV list to other data sets in the authority.

In the council's housing data and council tax data, every property had a UPRN. The question was, how to add this data to the CEV list? The Gazetteer Team were able to take the address information from the CEV list and append the UPRN – as a manual process to start with. Once a routine had been set up however, a lot of the work was done automatically. In addition, data held about

council tax payments were cross-referenced to further refine results: a household paying single person Council Tax was a proxy for someone who may be living alone.

Once these three data sets (Council Tax data, Housing data and CEV data) were joined together, it was also easier to identify council tenants who might be shielding. During the first lockdown, the housing department's usual services were stood down to enable a more robust first-line response to COVID -19 needs. This increased the capacity to make outbound calls to individuals who would then receive an initial welfare check and support where needed.

The Challenge

The council found that there were some challenges around a lack of understanding about the work amongst some colleagues who lacked knowledge around the

UPRN. Over time, after seeing the benefits of linking data together using the UPRN through more accurate contact information, colleagues really began to see the benefit of the UPRN.

On a national level if the data could be linked it would be possible to link the data to the Index of Multiple Deprivation (which is a composite dataset measuring relative deprivation in small areas[1]) and other valuable data sources, to further enrich the intelligence. Additionally, information on ethnicity; wards etc could be used to support particular individuals in ways that best suited them, such as through community leaders.

Lessons learnt

In the first lockdown, residents who were on the CEV lists received letters advising them to stay at home. These residents could

[1] https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

also register through the councils websites for a number of support services such as priority slots for supermarket shipping etc. During the first lockdown the CEV list had to be combined to the UPRN, the work done during this time has been applied throughout the second and third lockdowns, resulting in swifter and more efficient targeting of services.

Future plans

One question that came up in the council was how to identify financially vulnerable individuals who are on the CEV list. The council had an amount of money that could be distributed to these people. Leeds Council wanted to be proactive in contacting these individuals rather than waiting to be contacted. The council wanted to make residents aware of the financial assistance that could be offered to them. A problem that occurred with matching data to benefits data was that the Department for Work and Pensions (DWP) did not use UPRNs. To overcome this the council used internal council systems such as council tax discount data as this could be combined with the UPRN.

Another project the council plans to begin is identifying young people and children who live with adults who history of drug, alcohol (Adverse childhood events). Leeds aims to take a population health management approach, looking at what data says about young people and if they can be identified what support can be proactively provided, instead of these individuals possibly presenting themselves to mental health services in the future. The idea being that funding from mental health services can be split with proactive interventions.

A further piece of work the council is looking at includes Health information in GP practices. The idea being that if the UPRN was incorporated into GP systems, identifying, and locating individuals and providing support could be done in a more efficient manner. Through this it would be possible to link people who may have certain health conditions which affect other people in that household and therefore in the community. To get the UPRN used in NHS systems is a key step for this project.

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Mole Valley's use of UPRNs to link datasets to support clinically extremely vulnerable people

The challenge: At the onset of the first COVID-19 lockdown in March 2020 UPRNs were not part of NHS datasets. Mole Valley District Council believed that if NHS shielding datasets were linked to UPRNs their identification of, and support offered to clinically extremely vulnerable residents (CEVs) in the district would be improved.

The solution

Mole Valley District Council, alongside other local authorities including Surrey County Council, lobbied Central Government for UPRNs to be included in NHS datasets. The lobbying was successful and council officers are now able to crossmatch the UPRNs from the NHS dataset with their own vulnerable people record.

An automation system is used to achieve the linking up of the datasets. Using automation allows data to be easily collected and linked to other datasets. The data can also be translated into HTML or webpage format. In these instances a graph or report can be generated which is meaningful to staff who lack technical expertise.

The impact

The joining up of datasets enabled Mole Valley to identify whether they were already supporting those in need or whether there were CEV residents whom they had not yet identified. Council officers also used this information to undertake location analysis which enabled them to determine the proximity between CEV residents' homes with community groups and services. This work enabled the Council to improve outcomes for some of the most vulnerable residents in the locality through ensuring they were both identified and given the most appropriate support.

Challenges/Lessons Learnt

The main challenges and subsequent lessons learned were:

1   Capacity – Officers have been experiencing increased workloads due to additional COVID-19 pressures so manging capacity has proved difficult at times. Prioritisation helps overcome this.

2   Understanding of UPRNs – The role of UPRNs was, and still is not, widely understood among the broader workforce and this has sometimes resulted in missed opportunities to join up data between departments. The organisation is still trying to raise awareness of the importance of UPRNs among all members of staff.

Future learning/Progress and ambition

The new GIS analyst role at Mole Valley District Council provides extra capacity and an opportunity for new work streams in this area to develop. The Council plans to continue to promote the use of UPRNs and embed them in everyday practice within the organisation through making it mandatory for staff to share URPNs within datasets.

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Using property identifiers to locate vulnerable people in Sedgemoor District in Somerset

The COVID-19 pandemic highlighted the key importance of data held by local authorities in identifying and supporting vulnerable residents. Local Authorities in Somerset needed to contact those residents who were not already covered by the national NHS shielding programme but were nonetheless situationally vulnerable. The work was coordinated by the County Council, working in partnership with District Councils in the region. Where possible, those district councils holding appropriate data were able to use the Unique Property Reference Number (UPRN) to enable this.

This case study takes the work of Sedgemoor District Council's experience in contributing to the county's work in this area. This activity and experience has also contributed to the work of IStandUK (local government's eStandards body) within its current initiative - the Scalable Approach to Vulnerability Via Interoperability (SAVVI). SAVVI aims to review and reflect upon the activities of authorities during the pandemic and to provide guidance, data standards and support for the future when making use of data for identifying vulnerable residents.

The challenge

During the first COVID-19 lockdown (March to June 2021) clinically vulnerable residents in local authorities were identified and supported through the national NHS shielding programme. Somerset County Council and its four district councils needed to find a way to identify the additional group of residents who, though not clinically vulnerable, were thought to be situationally vulnerable. This group were not yet being included in the national vulnerable data lists but needed to be located and contacted so that they could be provided with additional support at speed.

The solution

Identifying this group was dependant on access to comparable resident data from across the four district authorities. There was a need to establish a set of attributes that the County Council felt were the indicators of vulnerability either directly or in combination. The four district councils each had different data systems and held data items which covered a range of themes such as electoral registration, council tax, housing benefits, etc. The County co-ordinated and encouraged agreed data standards in spreadsheet form (based upon a sense of what the key indicators were, allied with the availability of data) and then asked the districts to provide data to them using this format. Sedgemoor had been using UPRNs in their systems for some time which assisted significantly in matching data.

Matching this data using the UPRN proved vital as it allowed the council to quickly establish vulnerability indicators coinciding at a household and at a property level. The use of the UPRNs provided a method to enable the linking of a variety of data sets.

In addition, Somerset County Council was attempting to incorporate data from the areas that it dealt with such as social care. This was more complex

as its systems did not inherently use the UPRNs, which meant that some additional data cleansing exercises were needed to match up the data.

The impact

The various data sets from the authorities would not usually be linked or used together but this exercise showed the value of the common use of the UPRN as a means to connect data from different sources on different systems. It enabled information at Sedgemoor to be joined up easily allowing many of those residents-in-need to receive the support they urgently required. The use of UPRNs highlights the power of data in ensuring that support was focused on the most vulnerable across communities.

Challenges/Lessons Learnt

Where UPRNs were already present in back-office systems, they provided assurance that the right contacts were being made with individuals in the community. However where UPRNs were absent there remained data matching issues, and as a result, it may have taken longer to contact some individuals, or they may have been contacted multiple times by the council and by the NHS. There was little time available for data cleansing and so, where UPRNs were present, they accelerated the use of the most appropriate data available.

COVID-19 has highlighted the need for councils to continue their work on linking and joined up data to identify early signs of vulnerability using it to enable effective intervention by both support groups and local partners. Understanding community wellbeing and intervention is increasingly part of councils' core responsibilities and there is a growing understanding that data plays a pivotal role in achieving this.

Future learning/Progress and ambition

The IStandUK initiative is led by Tameside Council to promote how data standards can improve local public services; Sedgemoor's Chief Digital Officer, Paul Davidson is the Director of Standards. iStandUK is leading a project called SAVVI – 'Scalable Approach to Vulnerability via Interoperability', to propose good practice and data standards when tackling vulnerability. The project's web site at http://www.savviuk.org recommends applying UPRNs to back-office systems so that household data can be matched.

SAVVI is funded withing the COVID-19 challenge funding from the Ministry of Housing, Communities and Local Government (MHCLG). The project has examined how councils used data during the pandemic and also proposed improved data standards which could have assisted councils further during the first wave of the pandemic, and also in future activity.

SAVVI has proposed a process and data standards to support a multi-agency approach to a risk-index and a case index and is cataloguing examples of good practice from councils.

SAVVI is now about to bid for its next phase of funding. If successful, this will enable a 'test and prove' phase to take place with two councils and will include using and demonstrating the use of UPRNs as well as highlighting the challenges when they are not used. SAVVI is also keen to undertake an in-depth academic study on a national scale to examine how certain councils identified vulnerability during COVID-19, ascertain which were more successful than others and consider which approaches worked well or less well. The SAVVI aim is to support a knowledge-based community of practitioners working in this area and will be encouraging ideas on further ways of identifying vulnerable people through the use of data.

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Sheffield's linking of UPRNs to council tax data to support over 70's living alone

The challenge: At the start of COVID-19 the council wanted to identify over 70s living alone to ensure they were given sufficient support; however, the council didn't have an effective way of identifying this target group. Sheffield City Council had access to council tax data but didn't have a link to the UPRN to enable the data to be linked to other systems within the organisation.

The solution

Data sharing was made easier when laws were lifted at the outset of the coronavirus pandemic and the council had recently matched council tax data for the elections department so had already undertaken the background work. Data from the council tax had a reference which provided the link between the UPRN and council tax.

Steps taken

To incorporate the UPRN, Sheffield City Council holds council tax references as a cross reference within the LLPG. There are 252,382 cross references and only 182 anomalies. After quick investigation staff can tell why anomalies don't link up and then provide the UPRN. They manually go through the anomalies and have links with two local officers who go out on the ground and have good knowledge of council tax so if there are any queries, they get responses from them too.

Building on the work and next steps

Following this work, Sheffield City Council have been looking at ways to record the help clinically extremely vulnerable people have been given throughout the pandemic. A customer service network went live in summer 2020 and a full cut of the LLPG was taken. CRM went live with an update of the LLPG and a category related to COVID-19 was added. This hadn't been updated in the last ten years so was regarded as a big step for the council.

Staff would like to build on the work internally – two departments have processed data from council tax and need further help around how to link this up.

Lessons learned

Sheffield City Council had always felt it could be doing a lot more in this field and staff believed they were five to ten years behind where they would like to be. The council feel they have grabbed the opportunity and have seen a great deal of progress in a short period of time. There has also been an increase in understanding amongst staff around UPRNs and the importance of data sharing. Sheffield's custodian teamed up with the GIS officer, one member of staff working on COVID clusters and a colleague working in data management (all champions of the LLPG) and ran a webinar on GIS day about UPRNs. One hundred staff members in the council attended and this helped increase their knowledge around the UPRN. The event was related to Covid-19 and staff running the event thought this helped staff feel that it was relevant to them.

Finally, at the start of COVID the IT network could only have 500 people on at once and this work wasn't deemed critical enough for Sheffield's custodian to be of those 500 people. When framed as 'COVID response work', UPRNs were suddenly seen to be in the council's best interest and full access to the new network was granted. Sheffield recently reached the end of an external IT contract and a large-scale tech rollout was planned to span across 2020. Due to the pandemic everyone was given IT at the same time, and this meant the network wasn't fully set up and not all laptops had the correct software. Since undertaking this work the council now understands the importance of a good IT network and digital infrastructure.

Predicting longer-term care needs using UPRNs

Worcestershire County Council saw a need to develop improved foresight relating to demands on services. One approach the council took was to predict longer-term care needs of individuals in the area. Risk stratification was employed to identify households in Worcestershire that were likely to require support from adult social care in the future. The aim was to to identify potential target groups or locations in the County for preventative activity, communication, information and advice. This project was building on the NHS Digital Project to predict social care self-funder pick-ups.

The Approach

To Identify data with indicators that might predict need for social care the following data was used: Household Acorn data, energy efficiency (EPC, thermal imaging), hospital admissions and social care. The council was unable to include some datasets due to the need for data sharing agreements e.g., Council Tax single occupancy data.

Once the data was gathered it was matched using Unique Property Reference Number (UPRN) where possible. UPRNs played a key role in matching the data sets and were used as the main source of data matching. Some datasets matched by address were difficult to match due to differing address formats e.g., flats. Therefore, some matching had to be done manually as oppose to automatically.

This allowed Worcestershire County Council to test by how well indicators identify households currently receiving older adult social care services at home or in the community.

The results

Through matching the data using UPRNs it was possible to identify that thermal imaging showed that 0.8% of households receive social care. Furthermore, the project revealed that households in certain Acorn types were 6 times more likely to have someone aged 65+ with social care. It was also found that households in certain Acorn types and in areas with high hospital admission rates were 14 times more likely to have someone aged 65+ with social care.

Strengths and Limitations

Worcestershire County Council found that it was possible to combine data to identify households likely to be at higher risk of needing social care. It was found that 11.2% of households with a combination of indicators had someone with social care aged 65+ compared with 0.8% for all households.

However, it became apparent that some indicators were not good predictors of risk. For example, households with someone aged 65+ with social care were less likely to have a high EPC / poor thermal rating than all households.

It was also identified that adding indicators could increase the proportion likely to be at risk, but also lowers the size of the target group.

This approach identified around 1,000 households not currently receiving social care that could be targeted for preventative activity. The project identified those at risk, but the council has plans to work on intervention to reduce risk. The information

gathered from the project was provided to the Social Care team at the council who plan to use the data gathered in their responses to predicting long-term care needs. The UPRN played a vital role in the prediction of these needs. The UPRN was the ley data set which allowed further data sets to be linked together.

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UPRN Integration Checklist

A tool for local authority Service Managers

The below checklist summarises key action points to follow up on within your service area to help improve its UPRN integration capability. Further notes on why this is important and how to go about finding out the answers are also provided.

We also have an interactive integration assessment tool to help you establish what "integration level" you are at, as well as providing tailored recommendations on points to improve: https://s.surveyanyplace.com/uprnassessment

GeoPlace are here to help. Should you need any further guidance or want to discuss your systems' integration with the UPRN then please get in touch: support@geoplace.co.uk.

Completed?	What	Why
☐	**1. Find out who your Authority Address Custodian is.** **How**: *Get in touch with GeoPlace if you would like to find out this information*	• Knowing who your Authority Address Custodian is key to improving your integration. They are responsible for creating and maintaining the addresses within your authority and possess a wealth of knowledge about how to use it more effectively. If you haven't already done so, reaching out to them can really help fast track integration.
☐	**2. Provide your Custodian with the system access and tools they need to investigate address queries.** **How**: *Ask your Authority Address Custodian what you can do to help*	• Simple read-only access to your system or provision of related exports are all that is needed to get started. By doing this they will be able to help you with any address queries you may have or that of your service users.
☐	**3. Find out if your system can consume address data and the UPRN.** *(Either the OS AddressBase range of products, or your authority's own Local Land & Property Gazetteer - LLPG)* **How**: *Ask your supplier or I.T department (system administrator)*	• Your ability to integrate the UPRN into your system is heavily dependent on the capability of your software. • We believe software should work for you and help you improve your service delivery rather than constrain it, especially when it comes to integrating with the UPRN. • If you feel you are not getting the most out of your software in terms of UPRN integration or it cannot consume address data, then please get in touch, we'd like to hear more about it: support@geoplace.co.uk

4. Check if manually entered addresses can be prevented in your system.

If manually entered addresses **are not** permitted, skip to question **6**

- Manually entered addresses such as those inserted directly from customer contact are not verified against a definitive source. This means they may well not actually exist, lack official planning permission, be prone to spelling mistakes or be duplicated within your system multiple times over.

- Addresses should be sourced from a central, verified dataset such as the OS AddressBase range of products or your authority's own Local Land & Property Gazetteer (LLPG) and be accompanied with their respective UPRN.

- The goal is to prevent manual entry of addresses if a property cannot be found through the utilisation of frequent address data loads or APIs providing authoritative address data.

- Using these data sources ensures addresses are correct, legally known to your authority and positioned accurately geographically. It will also create efficiencies as addresses can be searched rapidly and simply selected rather than being manually typed.

5. Confirm if your system can generate reports of properties that do not have a UPRN.

How: *Ask your supplier or I.T department (system administrator)*

- If your system permits manual entry of addresses, ask your supplier or I.T department if it is able to generate periodic exports of these. This a valuable source of address intelligence for your Authority Address Custodian who can then retrospectively validate each of these, matching it to its corresponding UPRN.

- Any address that remains unmatched is an anomaly and needs investigation - It may well be spelt incorrectly or may even lack official planning permission and therefore not exist.

- Once the UPRN is obtained (and if possible) this should be updated within your system ensuring that the UPRN is then held against the property along with any corrections to the address itself.

6. Confirm if your system can generate a load report if it imports file-based address data.

How: *Ask your supplier or I.T department (system administrator)*

- Ensuring that address data being imported into a system correctly is key. Some systems neglect to provide adequate feedback on whether or not the load was successful.

- At minimum your system should detail what went wrong during a load and list out key fields such as the UPRN and the line number this occurred on, plus the reason why.

- Importing address data is a complex process involving many validations - it is important that errors are flagged so that the properties in question can then be subsequently loaded without fault, otherwise the risk is that your system will not be in synchronicity with your LLPG or OS AddressBase products.

- This could mean that properties may be missing or appear differently when you need to raise a service request against it compared to what they should be.

7. Utilise address lookups for any public facing webforms relating to your service instead of manually entered, free-text boxes.

How: *Ask your web team, Authority Address Custodian, or I.T department*

- Address lookups should be used for any public facing webforms for your service rather than asking citizens to enter their address in a free text form.

- Selecting from a pre-populate address list leads to a much quicker and better user experience for the citizen.

- The addresses are validated, correct and contain the UPRN as they are sourced from either your LLPG or OS AddressBase products and avoids user's spelling mistakes or them not supplying enough address information. It also means that you will be able to locate the property geographically if need be.

8. Establish a process to feed back address issues to your Authority Address Custodian.

- A mechanism should be established to report address related issues (missing, new, incorrect or wrong location) to your Authority Address Custodian for investigation.

How: *Speak with your Authority Address Custodian*

- This should cover both internal operational use of addresses within your service area and also external, public facing use of addresses linked to your service, for example when citizens use an online web form.

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- The process should allow users / citizens to report these issues easily and should flow through to your Authority Address Custodian for investigation. It can be as simple as an email being sent to a generic inbox or even a dedicated web form.

- Capturing address issues is key to detecting address inconsistencies, potential properties that lack planning permission or fraudulent activity. Allowing these to be reported is the first step in identifying these.

9. Establish if your system can consume an Address API rather than importing files and look to utilise this.

- Address APIs represent a rapid and interoperable means of integrating current address data along with the UPRN within your system.

How: *Ask your supplier, I.T department (system administrator) if this is possible. Check with your Authority Address Custodian or GIS Team to see if APIs' are already in use.*

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- Utilisation removes the significant overhead in obtaining files to load, loading the data and then the system having to process and validate and the data.

- Address APIs are provided free of charge by Ordnance Survey under the Public Sector Geospatial Agreement (PSGA). These may already be in use by your web or GIS team.

10. Check if your system displays the UPRN in its user interface.

How: *Ask your supplier or I.T department (system administrator)*

- The simple visibility of the UPRN allows users to be aware of it and tangibly see it. It enables them to refer to it to colleagues and other departments.

- This improves communication and removes ambiguity when referring to properties by their addresses alone.

11. Check if your system enables users to search based on the UPRN.

How: *Ask your supplier or I.T department (system administrator)*

- Being able to search for a property using the UPRN enables users to locate the exact property in question extremely rapidly without ambiguity.

- It avoids any possibility of accidentally selecting the wrong property from a typical address entry based search and can save time having to using multiple different address search terms.

12. Confirm if your system can generate exports of service related information along with the UPRN.

How: *Ask your supplier or I.T department (system administrator)*

- Being able to export the UPRN along with your service related information (in a simple text file for example) facilitates wider authority data matching and linking projects. A preferred method would be to do this at the database level but a file export is a good first step.

- Extracts of your service's related data along with the UPRN allows it to be combined with other departments' data if also linked to the UPRN.

- This provides deeper insight and intelligence at the household level and the possible circumstances at play, ultimately creating a basis for decision making.

13. Check how often address data is imported / updated in your system and make this as frequent as possible.

How: *Speak to your Authority Address Custodian, supplier, or I.T department (system administrator)*

- There is always scope to improve the currency of address data by ensuring it is updated as frequently as possible. Even If this is an API then this will still need to be "refreshed" at some point centrally.

- Frequent updates will enable you to have the most recently created and edited addresses within your system ready to be used such as new builds, conversions or properties that no longer exist.

14. If you have a requirement to deliver services to properties outside of your authority, check how these are sourced in your system.

How: *Speak to your Authority Address Custodian, supplier, or I.T department (system administrator)*

- Whilst your system may utilise UPRNs for properties within your authority, out of authority address may typically be manually entered without validation or a UPRN. This should be avoided.

- This could lead to duplicate entries, incorrect addresses or entry of properties that lack official planning permission.

- You may want to consider utilising the OS AddressBase range of products or the OS Places API to provide these addresses. These data products are free for members of the Public Sector under the PSGA.

15. Check to see if you are taking full advantage of the geographic element of address data.

How: *Speak to your GIS Team, Business Intelligence Team or Authority Address Custodian*

- Each property linked to a UPRN is positioned accurately geographically meaning it can be mapped.

- By speaking to your GIS Team, Business Intelligence team (or similar) about what mapping and spatial analytics could be done on the properties held within your system, could unearth data insights that cannot be detected from viewing the data textually.

16. Deepen your understanding of the capability of address data and the UPRN.

How: *Visit the GeoPlace website www.geoplace.co.uk*

- We have created a series of videos and guides explaining why it is important to integrate your system with the UPRN.

- For further inspiration on the "art of the possible" when linked to the UPRN, please visit the GeoPlace website.

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Socitm's research during the Covid-19 pandemic has revealed the crucial role of data in promoting growth and innovation, creating new jobs, targeting interventions and resources, commissioning of services, evaluating performance and preventing people from entering into crisis in their lives. Integrating diverse data sets that employ standard UPRN geospatial referencing is a key capability for ethical, digital place-making, enabling people, communities and places to thrive. This report showcases the outstanding work of local authorities during the pandemic in harnessing geospatial data and thrusting place-based innovation into the spotlight – work that will help lay the foundations for future recovery and resilience. "

Martin Ferguson, Director of Policy & Research, Socitm