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Data Insight

Causes of death among people experiencing homelessness in Wales

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Summary

This ADR Wales Data Insight presents findings from research into the underlying causes of death among people experiencing homelessness in Wales.

Currently, the main source of information on this topic in Wales comes from annual estimates produced by the Office for National Statistics. The purpose of the analysis in this Data Insight was to explore the potential of linking administrative data to provide a supplementary source of information on deaths among people experiencing homelessness. It uses data acquired by ADR Wales on people who have sought assistance from a local authority homeless service.

Causes of death identified among people approaching homeless services are compared to similar studies in Wales using administrative data. The nature and extent of underlying causes of death were found to differ between studies, particularly deaths due to accidents and suicide.

Findings illustrate how researchers define homelessness, and the sources of data being analysed, can influence evidence generated about this group of people.

Background

Early in 2024, the UK Government ran a consultation on stopping the production of statistics related to the deaths of homeless people in England and Wales[1]. These statistics were produced by the Office for National Statistics (ONS) and had been classed as 'experimental'[2]. Responses to the proposed change were resoundingly negative, and though generation of these statistics has been paused, the ONS indicates that they will continue to be produced. Seeing the importance placed on the ONS's death statistics by the homelessness sector, the ADR Wales team became interested in the use of administrative data in Wales to generate alternative insights into this topic.

Several studies in the UK have used administrative data to explore causes of death among people experiencing homelessness. Studies covering Wales include the ONS statistics[2] and findings from research undertaken by Song et al.[3] – detailed summaries of which can be found in the appendix. Differences in their design mean that these studies provide lenses bringing into focus different elements of the broader population of people experiencing homelessness in Wales[4]. This Data Insight provides a further lens, from the perspective of people interacting with the statutory homelessness system in Wales.

What we did

All data was accessed and analysed via the Secure Anonymised Information Linkage (SAIL) Databank. Data from the local government operated homeless service covering the City and County of Swansea were linked to records of deaths from the Annual District Death Extract. The homelessness dataset related to the lead applicant of households assessed by the service. Applications for support that closed between January 2012 and March 2017 were included in this study. Homelessness data only covered 'adult' applicants; a separate team in the local authority, who were unable to provide their data, were responsible for youth homelessness

provision. Death records include information related to Welsh residents who died outside of Wales. Only deaths occurring up to 1 January 2020 were analysed to remove the impacts of the Covid-19 pandemic on mortality.

SAIL Databank uses an anonymous linkage field to uniquely identify people and link between different data sources. The anonymous linkage field is assigned to all records as they enter SAIL Databank[5]. In an attempt to limit matching death records to the wrong person in the homelessness dataset - i.e. saying someone had died when they had not - only records where the anonymous linkage was assigned with >99% certainty were included in this analysis.

Legislation in Wales adopts a broad definition of homelessness, which includes situations where someone has no accommodation, where it is unreasonable for the household to remain in their accommodation (e.g. because it is in an unacceptable condition), or where there is risk of domestic abuse. Due to data quality issues and radical changes in housing legislation which occurred during the period covered by the homelessness data, formal legal decisions could not be used to classify people in/out of scope for analysis. Instead, all cases for support were included. This study therefore includes people who were not homeless in a statutory sense, but who were nonetheless seeking advice and support because of housing-related issues—from inadequate housing, up to literal rooflessness because of rough sleeping[4].

Underlying cause of death was extracted from death records and categorised so that comparisons could be made across studies (see Supplementary Table 1 for the coding scheme). The ONS estimates of death among people who were homeless were downloaded from the ONS website[2]. Estimated deaths registered in 2019 were used in this Data Insight. Song et al.[3] provide the underlying data from their analysis as supplementary material, covering deaths between January 2014 and July 2020. Breakdowns of underlying cause of death are compared for the current study, ONS estimates, and Song et al.

What we found

232 deaths were identified among people who had approached the homeless service and whose support ended between January 2012 and March 2017. Table 1 provides a breakdown of underlying cause of death (categories) for people approaching the homeless service, and as reported by Song et al. and the ONS. Figure 1 extracts the top three unique underlying causes of death from each study (excluding 'Other causes') and compares their levels across studies.

The top three unique underlying causes of death among people accessing the statutory homeless service in the current study were:

1. accidents (33%)
2. malignant cancers (13%)
3. heart disease (13%).

Combined, accidents, cancers, and heart disease accounted for 59% of deaths among people approaching the statutory service. These same three causes accounted for 55% of deaths estimated by the ONS, and 39% by Song et al.

Though the top three causes of death were the same in Song et al.'s study, their distributions differed, being 16%, 12%, and 11% for accidents, cancers, and heart disease respectively. The top three underlying causes for death reported by the ONS were accidents (43%), suicide (15%), and heart disease (8%).

Table 1 - Breakdown of underlying cause of death by study.

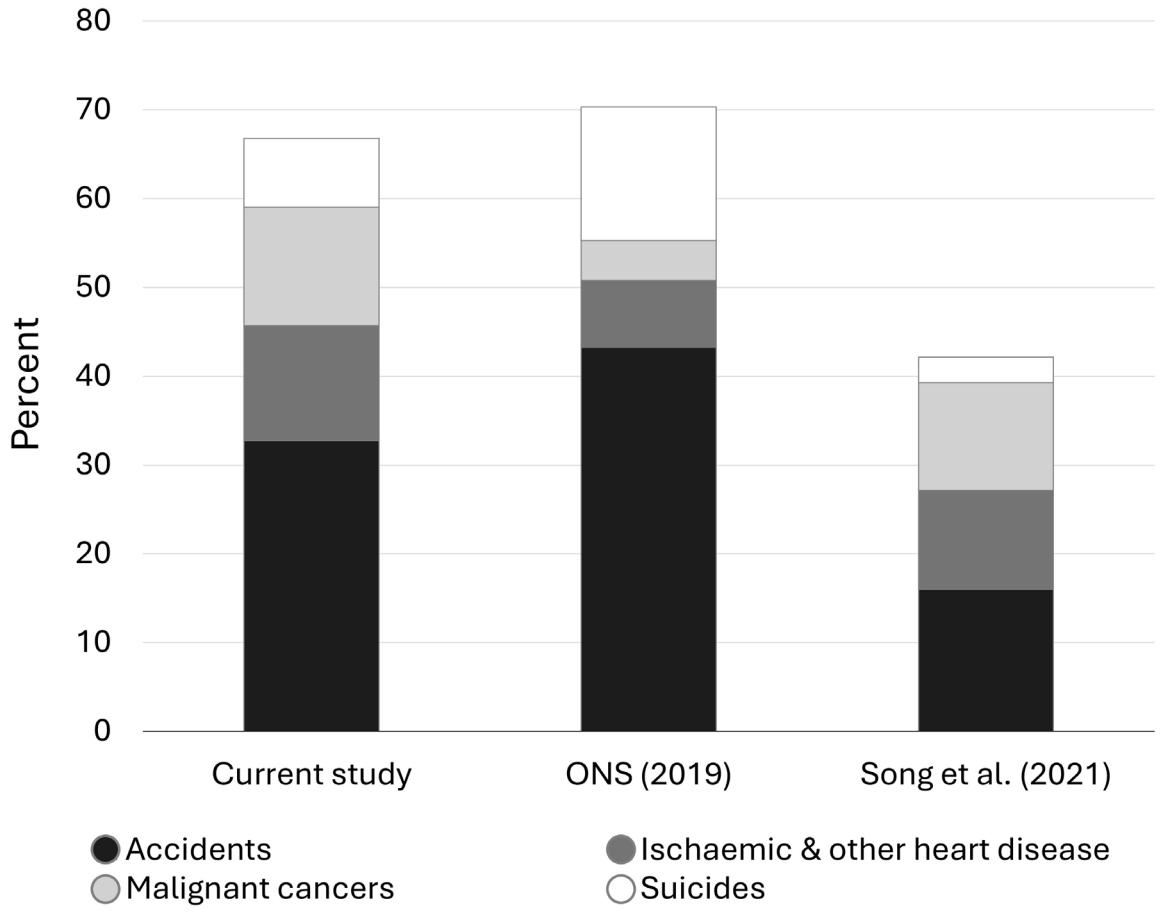
	Current study		ONS (2019)		Song et al. (2025)	
	Count	%	Count	%	Count	%
Accidents	76	33	334	43	206	16
Malignant cancers	31	13	35	5	156	12
Ischaemic & other heart disease	30	13	58	8	143	11
Suicides	18	8	116	15	37	3
Diseases of liver	16	7	57	7	137	11
Chronic lower respiratory diseases	11	5	19	2	72	6
Influenza & pneumonia	6	3	23	3	47	4
Unknown	5	2	30	4	21	2
All other causes	39	17	100	13	467	36
Total	232	100	772	100	1286	100

Though accidents were the single largest unique cause of death reported by all studies, levels of reporting varied. The category of accidents includes deaths due to drug or alcohol poisoning. Higher levels of drug or alcohol use among people experiencing extreme forms of homelessness (e.g. sleeping rough), may translate into higher rates of deaths due to poisoning among this group - and therefore classified under the cause of accidents. As ONS statistics focus on people who die whilst experiencing more extreme forms of homelessness, this may partly explain why cause of death due to accidents was so high (43%). Compounding this definitional bias, many deaths in the ONS data were certified by a coroner (~80%)[2], with this happening where cause of death was external or unclear—hence a potential bias towards these causes of death. The particularly low levels of accidents in Song et al.'s study may stem from their e-cohort being partly identified in healthcare settings, leading to bias towards long-term 'chronic' illnesses over external causes. The remainder of Song et al.'s e-cohort were people accessing substance misuse services, which may have had a protective effect in limiting drug poisonings, and therefore accidental death.

Deaths due to suicide demonstrated the starkest difference across studies: the lowest levels being reported by Song et al. (3%) and the highest in ONS estimates (15%), with the current study sitting in between the two (8%). The higher levels of deaths due to suicide found in the ONS estimates may reflect the mental stressors associated with experiencing extreme forms of homelessness, on the streets or in hostels. It is notable that deaths due to suicide among people accessing the homeless service were only half that of the ONS, and not closer to Song et al., despite the inclusion of people in inadequate housing and other insecurely housed people in the current study.

The extent of deaths due to illness, as opposed to external causes, were generally greater among people approaching the statutory service and in Song et al.'s study, compared to estimates produced by the ONS (Table 1). Of illnesses in the top three underlying causes of death, cancers were 13% and 12% in Song et al. and the current study, versus 5% in ONS estimates, whilst deaths due to heart disease were 13% and 11%, versus 8% in the current study, Song et al., and ONS, respectively. The broader definition of homelessness used in Song et al. and captured in the statutory homelessness services data may account for their similarities in terms of deaths due to cancer and heart disease.

Figure 1 - Breakdown of selected causes of death by study.



Why it matters

To ensure efforts to prevent and end homelessness are having an impact, policymakers and practitioners need to have a baseline understanding of homelessness, including the issues people face. Findings presented in this Data Insight illustrate that how we define homelessness and go about enumerating causes of death—particularly where we look for people experiencing homelessness—impact our understanding of the health challenges facing this diverse group of people.

However, adopting very broad definitions of homelessness potentially hide important variations in the causes of death among sub-groups of people - for instance, those with histories of rough sleeping. Rather than advocating for a single approach to measuring causes of death among people experiencing homelessness in Wales, adopting multiple approaches, each of which provide insight into the different groups that make up this diverse and dynamic population, should be adopted.

This Data Insight provides a case study of how linking to statutory homelessness data could be used to generate insights into the health of people experiencing homelessness in Wales, including their deaths. Findings are also of direct relevance to linking statutory homelessness data in England to wider government and health agency data, which is being considered by the Ministry of Housing, Communities and Local Government[6].

The scope of our analysis has been limited by the availability of data from a single local authority area acquired by ADR Wales in 2018. In July 2024, Welsh Ministers agreed a new strategic direction for homelessness data collection in Wales, toward an individual-level approach[7]. When this new national data collection is implemented, and more importantly deposited in the SAIL Databank for use by the wider research community, it will facilitate national monitoring of deaths among people who have approached statutory homelessness services in Wales.

References

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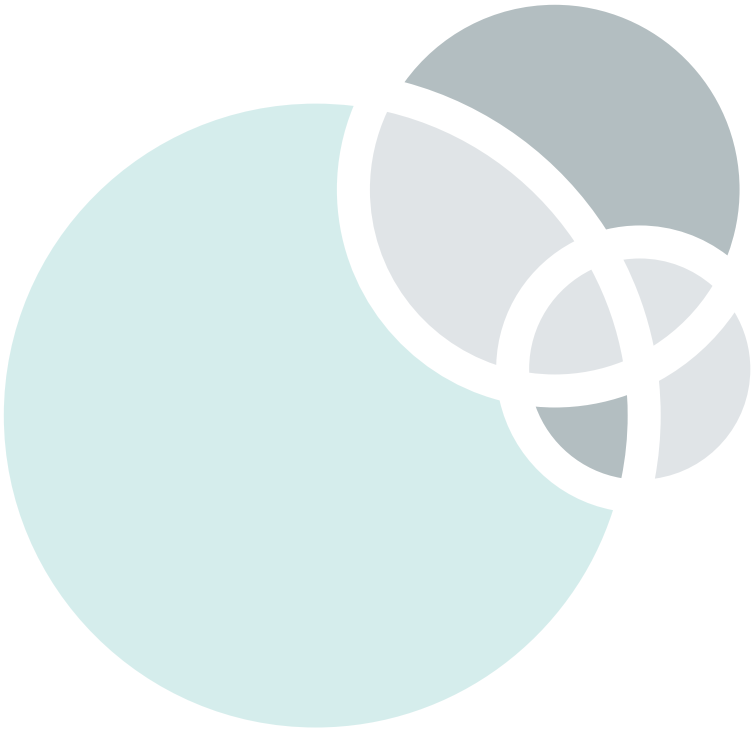

Appendix. Overview of relevant studies in Wales.

ONS homelessness death statistics[2] cover England and Wales. Due to small sample size, estimates of cause of death are not released at a regional level. To produce the statistics, searches are conducted of death certificates for location details that suggest the person was homeless either at or close to the time of death. Examples of location information that suggest homelessness include the person being of "no fixed abode" (rough sleeping) or where their address was a shelter, hostel, or other temporary accommodation for people who are homeless. The ONS apply further statistical techniques, known as capture-recapture, to generate their estimates. Given the method for searching death certificates, the homeless population underpinning ONS estimates reflect people who had been in more extreme temporary housing situations when they died, whose causes of death potentially reflect those extremes.

Song et al.[3] explored deaths of people with lived experience of homelessness using an electronic cohort ('e-cohort') derived from healthcare and substance misuse services records. People were included in the e-cohort if they had a medical diagnosis related to homelessness and/or if the cohort member had indicated accommodation needs when being initially assessed by substance misuse treatment services. Though the definition of homelessness in Song et al.'s study was potentially broader than that used by the ONS, the very fact that people were seeking medical care and support for substance misuse may bias cause of death.

Supplementary Table 1 - International Classification of Diseases 10th Revision (ICD-10) coding scheme for underlying cause of death.

	ICD10 Codes
Accidents	V01-X59
Chronic lower respiratory disease	J40-J47
Disease of liver	K70-K77
Influenza & pneumonia	J09-J18
Ischaemic & other heart disease	I20-I25; I30-I52
Malignant cancers	C00-C97
Suicides	X60-X84; Y10-Y34
Unknown	U50; R95-R99

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ADR Wales unites specialists from Swansea University Medical School and the Wales Institute of Social and Economic Research and Data (WISERD) at Cardiff University with statisticians, data scientists and social researchers from the Welsh Government. The cutting-edge data analysis techniques and research excellence developed, along with the world-renowned SAIL Databank – which is an accredited processor under the 2017 Digital Economy Act (DEA) – allow the delivery of robust, secure and informative research that can inform future policy decisions in Wales. The ADR Wales programme of work is aligned to the priority themes as identified in the Welsh Government's Programme for Government.
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