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Data Brief 5: Welsh  
Health Survey

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The Welsh Health Survey (WHS) collects information on the health and health-related lifestyles of people living in Wales. It is a major source of information about the health of people in Wales, the way the NHS is used, and behaviours that can affect health, such as smoking and alcohol consumption. The WHS is designed to provide estimates of health status and health service use. This Data Brief summarises the data items that are available and particular observations surrounding the use of the WHS.

Mae Arolwg Iechyd Cymru (WHS) yn casglu gwybodaeth ar iechyd a ffordd o fyw sy'n gysylltiedig ag iechyd, y bobl sy'n byw yng Nghymru. Mae'n ffynhonnell sylweddol o wybodaeth ar iechyd pobl Cymru, y modd y defnyddir y GiG, a'r ymddygiadau a all effeithio ar iechyd pobl, fel ysmegu a'r defnydd o alcohol. Nod y WHS yw darparu amcangyfrifon o statws iechyd a'r defnydd o'r gwasanaeth iechyd. Mae'r Briff Data hwn yn crynhoi'r eitemau o ddata sydd ar gael a'r materion neilltuol sydd ynghlwm â'r defnydd o'r WHS.

## Introduction

The Welsh Health Survey (WHS) is a key source of information about the health of the general population in Wales. The WHS series takes the form of a cross-sectional annual data collection. The survey is led and funded by the Welsh Government.

Since 2003, the survey has been undertaken by the National Centre for Social Research (NatCen). Information gathered by the WHS is used to:

- ▶ Monitor health, illness, lifestyle choices and health service use
- ▶ Compare differences in health between local authorities and population groups
- ▶ Monitor and develop policies and strategies for promoting better health
- ▶ Develop local health, social care and wellbeing strategies

Though data from the WHS are made available to researchers in an anonymised format via the ESRC UK Data Archive (Study Number 33371), for the purposes of data linking, the linkable dataset can be accessed from the Secure Anonymised Information Linkage (SAIL) Databank at Swansea University.

The current annual WHS began in 2003 and replaces two previous study series: the previous WHS, conducted in 1995 and 1998, and the Health in Wales Survey which was conducted every two to three years between 1985 and 1996. Welsh Government have now decided to replace existing surveys, including the WHS, with a new survey of adults that will start during 2016-17 which will include health-related questions. 2015 will therefore be the final year for which the WHS will be run in its current form.

## Contents and Structure of the Welsh Health Survey

Table 1 provides a general overview of the themes collected under the adult and children's surveys of the WHS. The technical documentation for the survey series provides a more detailed description of these themes, as well as copies of the adult/children's questionnaires.

From 2007 onwards, more detailed information was collected in the child elements of the WHS, with child height and weight measured between 2007 and 2011.

Data for the WHS is collected via face-to-face-interviews and self-completion questionnaires. The sampling unit for the WHS are households, however all adults within households were asked to take part. Families with children under the age of 16 are eligible, however where the household has 3 or more children, up to two children between the ages of 0 and 15 are randomly selected for inclusion in the study.

Interviews are used to collect data at the household level, with questionnaires distributed to household members. Information on the household type and employment status of the household reference person are collected, and the interviewer is asked to comment on the condition of the property. Separate self-completion questionnaires are used to collect data for adults and young people (aged 13-15), whilst adults/guardians are required to complete questionnaires on behalf of children younger than 13 years old.

The WHS data, as provided via the UK Data Archive, is split into two separate datasets, these relating to adults – 16 and older – and children. The WHS can be analysed at both the individual and household level, with appropriate weights being supplied for each. The dataset provides a household identifier which allows for adult-child records to be combined for research exploring 'household' health or the links between parental and child health, for example.

**Table 1: Overview of topic areas covered by the Welsh Health Survey, split by adult/children's surveys'**

Adult Survey Topic Areas:	Children & Young People's Survey Topic Areas:
Demographic data (age, gender, ethnicity, employment status, highest academic qualification)	Demographic data (age, gender, ethnicity)
General health and wellbeing	Health status
Health service use	Health service use
Medicines and illnesses	Accidents
Untreated problems or symptoms	Illnesses and other health problems
Alcohol and smoking	Eating habits
Fruit and vegetable consumption	Physical activity
Exercise	Strengths and difficulties
Carers	
Height and weight	
Infant feeding	

## Accuracy and Limitations of WHS Data Collection

The WHS is used in the publication of a regular series of statistical outputs by the Welsh Government<sup>1</sup> which can be used as a benchmark against which to check research outputs. Additionally, metadata for the WHS is also available online via StatsWales<sup>2</sup>. The WHS user guide provides an overview of the resources that support research its research use<sup>3</sup>.

The sampling frame for the WHS is based on private households within Wales, stratified by Unitary Authority, and therefore excludes those individuals in institutions, who may also have more extreme health needs.

The data are self-reported and may be prone to respondent error. The results reflect people's own understanding of their health rather than a clinical assessment of their medical condition, and their own interpretation of the health services they have used.

**Table 2: Number of observations within the Welsh Health Survey; by year and dataset (adult/child)**

Year	Adult	Child	Total
2003/04	16,298	4,304	20,602
2004/05	16,035	4,114	20,149
2005/06	14,305	3,062	17,367
2007	13,917	2,668	16,585
2008	13,313	2,653	15,966
2009	16,017	3,223	19,240
2010	15,999	3,077	19,076
2011	16,058	3,167	19,225
2012	15,687	2,943	18,630
2013	15,007	2,996	18,003
2014	14,170	2,800	16,970

## Observations within the WHS

When creating the sample frame for the WHS, attempts were made to reach at least 600 adults within each Unitary Authority in Wales. Therefore, by design, the sample size of the WHS has remained relatively robust since its inception (Table 2). In 2014 the WHS sample was composed of roughly 16,970 cases, 14,170 adults and 2,800 children. Table 3 provides a detailed breakdown of the 2014 adult and child samples by age and gender.

**Table 3: Age and gender of individuals, Welsh Health Survey; 2014, split by child and adult dataset**

	Age band	Male	Female	Total
<b>Child</b>				
	0 - 3	357	340	697
	4 - 12	814	815	1,629
	13 - 15	238	236	474
	<b>Total</b>	<b>1,409</b>	<b>1,391</b>	<b>2,800</b>
<b>Adult</b>				
	16 - 19	304	348	652
	20 - 24	397	441	838
	25 - 29	348	461	809
	30 - 34	363	501	864
	35 - 39	400	473	873
	40 - 44	508	628	1,136
	45 - 49	531	615	1,146
	50 - 54	555	662	1,217
	55 - 59	543	612	1,155
	60 - 64	611	642	1,253
	65 - 69	666	722	1,388
	70 - 74	521	550	1,071
	75+	807	961	1,768
	<b>Total</b>	<b>6,554</b>	<b>7,616</b>	<b>14,170</b>

<sup>1</sup> See <http://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

<sup>2</sup> See <https://stats.wales.gov.uk/Catalogue/Health-and-Social-Care/Welsh-Health-Survey>

<sup>3</sup> See [http://doc.ukdataservice.ac.uk/doc/4176/mrdoc/pdf/whs\\_allwaves\\_userguide.pdf](http://doc.ukdataservice.ac.uk/doc/4176/mrdoc/pdf/whs_allwaves_userguide.pdf)

## Consent to Link

Consent to link the WHS to other datasets has only been obtained from April 2013 onwards (plus a small pilot study during 2011), and was only asked in the adult questionnaires.

The total number of cases available for linkage from 2013 is 4,362 cases, 29 percent of the 2013 WHS sample. However as consent was only asked part way through the year in 2013, scaling down the total WHS sample to reflect the shorter data collection period, the percentage of WHS cases with consent increases to roughly 39 percent. In 2014 the percentage of WHS cases in SAIL with consent to link was roughly 52 percent.

As the WHS is held within the SAIL Databank, attempts have already been made to create an individual linkage field to link the WHS to other resources. Table 4 gives an indication of the total cases with consent to link in SAIL, and those where a successful linkage field has been created, for 2013 and 2014. In both years, of those who consented to link, linkage rates of over 95 percent were achieved.

Table 5 compares the demographic profile of the total adult sample obtained in 2014, against those observations available in SAIL with consent to link. The age and gender profiles of linkable data for 2014 compared to the total WHS adult sample are similar, with only a few percentage point differences.

**Table 4: Cases from WHS, number with consent to link held within SAIL, and number with a linkage field; 2013 and 2014**

	WHS Adult Sample	Consent to Link (SAIL)	Linkage Field (SAIL)
2013	15,007	4,362	4,265
2014	14,170	7,332	7,057

**Table 5: Comparison of age and gender characteristics of total WHS adult respondents, against individuals consenting to link; 2014**

	WHS Sample	Consent to Link (SAIL)
<b>Age band (%)</b>		
16 - 19	5	5
20 - 24	6	6
25 - 29	6	6
30 - 34	6	6
35 - 39	6	6
40 - 44	8	8
45 - 49	8	8
50 - 54	9	9
55 - 59	8	8
60 - 64	9	9
65 - 69	10	10
70 - 74	8	8
75+	12	12
<b>Gender (%)</b>		
Male	46	47
Female	54	53
<b>Total (n)</b>	<b>14,170</b>	<b>7,332</b>

## Examples of Research Using WHS Data

The WHS has been used in a variety of studies covering a range of health related areas, including; disability and employment<sup>4</sup>, mental health and deprivation<sup>5</sup>, and patterns of smoking in Wales<sup>6</sup>. Within these studies, data have either been analysed for single years, or in the case of Fone et al.'s study of mental health and deprivation<sup>4</sup>, pooling the data for several years of the WHS.

The WHS has not been used extensively as a linked resource, however it has the potential to be linked for social and health research in Wales given the various attitudinal and health measures it contains. As an example of potential usage, GP and hospital data currently held in SAIL can be linked to the WHS to add a temporal dimension to the survey data, giving an indication of health service interactions over time.

The Administrative Data Research Centre Wales (ADRC-W) is one of four UK centres that along with the Administrative Data Service make up the Administrative Data Research Network (ADRN). The ADRN provides a safe, secure and transparent data linkage service for accredited, approved research using de-identified UK administrative data.

ADRC-W does not hold datasets. It works closely with government departments to make them available to researchers but this is negotiated on a case by case basis.

This report may be cited as: ADRC-W (2016) Welsh Health Survey. Administrative Data Research Centre Wales, Data Brief No. 5.

This report, along with other titles in this series is downloadable free from ADRN at <https://adrn.ac.uk/about/research-centre-wales/resources/> or by emailing [ADRCWales@Swansea.ac.uk](mailto:ADRCWales@Swansea.ac.uk).

<sup>4</sup> Jones, M.K. and Latreille, P.L. (2013) Disability, Health and the Labour Market: Evidence from the Welsh Health Survey. *Local Economy*. 24(3):192-210

<sup>5</sup> Fone, D., Greene, G., Farwell, D., White, J., Kelly, M. and Dunstan, F. (2013) Common mental disorders, neighbourhood income inequality and income deprivation: Small-area multilevel analysis. *The British Journal of Psychiatry*. 202(4): 286-293

<sup>6</sup> Wales Centre for Health (2007) Smoking in Wales: Current Facts. [Online] Available at: <http://www.wales.nhs.uk/sitesplus/documents/888/WCH%20smoking%20ban%20report%20E%20final.pdf> [Accessed: 23 July 2015]

