

## UKHLS Waves

### NEW ENTRANTS

*Waves 1, 3-5 [Note: New entrants were not asked about their health conditions in Wave 2]*

Were asked the question, HCOND, *“Has a doctor or other health professional ever told you that you have any of the conditions listed on this card?”*

They could choose one or more conditions from 17 conditions listed on the card: *Asthma, Arthritis, Congestive heart failure, Coronary heart disease, Angina, Heart attack or myocardial infarction, Stroke, Emphysema, Hyperthyroidism or an overactive thyroid, Hypothyroidism or an under-active thyroid, Chronic bronchitis, Any kind of liver condition, Cancer or malignancy, Diabetes, Epilepsy, High blood pressure and Clinical depression.* Their responses were recorded in HCOND1-17 (0= not mentioned 1=mentioned). If the respondent mentioned a health condition, they were asked two follow up questions:

1. Whether they still had the health condition and their responses are recorded in HCONDS01-17 (1=yes, 2=no). *Except for Wave 1, these follow-ups were not asked in case of heart attack and stroke as it does not make sense to ask if someone if they still have these conditions. So, HCONDS6 & HCONDS7 do not exist.*
2. The age at which they were first diagnosed and their responses are recorded in HCONDA01-17.

If the respondent did not choose any of the 17 listed conditions, then HCOND96 (“none of these”) was set to 1, otherwise it is 0.

*In Waves 6*

The list of health conditions included a new option “Other” and the response to this was recorded in HCOND18. Respondents were allowed to report the specific “other” health condition and this was recorded verbatim but this is not released.

*In Waves 7-9*

The list of health conditions included two new health conditions, multiple sclerosis and HIV and these responses were recorded in HCOND19-20. They were also asked the only the follow-up question about age at which the condition was diagnosed and their responses were recorded in HCONDA19-20. *Note: Responses to HIV health condition is only available under Special License.*

### **In Wave 10 onwards, the health condition questions were changed further to better capture the diagnosed health conditions**

The health conditions question was the same, HCOND, but list of conditions was changed:

- two additional conditions “COPD (Chronic Obstructive Pulmonary Disease)” & “An emotional, nervous or psychiatric problem” and their responses were recorded in , HCOND21 & HCOND22.
- did not include the health conditions “Hyperthyroidism or an over-active thyroid” (HCOND9) and “Clinical Depression” (HCOND17)

Additionally, if “Arthritis” (HCOND2), “Cancer or malignancy” (HCOND13), Diabetes (HCOND14) and “An emotional, nervous or psychiatric problem” (HCOND22) were chosen they were asked to identify the specific type of that health condition in the follow-up questions ARHTYP, CANTERTYP, DIABETESTYP, MHEALTHYP, respectively.

Using all responses from the HCOND and the follow-up questions, a composite list of health conditions was created: HCONDCODE1, 3-8, 10-12, 15-16, 19-21, 23-43, 97. Those who did not choose any of these health conditions were coded as 1 for HCONDCODE96.

There were two follow-up questions:

1. Whether they still had the health condition and their responses are recorded in HCONDS1-43,97 (1=yes, 2=no). *These follow-ups were not asked in case of some health conditions for which it does not make sense and so HCONDCODES 6/7/19/25/32/36/43/97 do not exist.*
2. The age at which they were first diagnosed and their responses are recorded in HCONDA01-43,97. *These follow-ups were not asked in cases where “other” type health conditions were chosen so HCONDA25/32/36/43/97 do not exist*

### **CONTINUING SAMPLE MEMBERS** (including BHPS sample members)

*In Waves 2-5*

Were asked, HCONDN, “*Since [previous interview date] has a doctor or other health professional newly diagnosed you as having any of the conditions listed on this card?*”, and they could choose one or more options from 17 conditions listed on a card: *Asthma, Arthritis, Congestive heart failure, Coronary heart disease, Angina, Heart attack or myocardial infarction, Stroke, Emphysema, Hyperthyroidism or an overactive thyroid, Hypothyroidism or an under-active thyroid, Chronic bronchitis, Any kind of liver condition, Cancer or malignancy, Diabetes, Epilepsy, High blood pressure and Clinical depression.*

Their responses were recorded in HCONDN1-17 (0=not mentioned, 1=mentioned). If the respondent did not choose any of the 17 listed conditions, then HCONDN96 (“none of these”) was set to 1.

If the respondent mentioned a condition they were asked 3 follow-up questions:

1. HOSPC: *Thinking of your [HCondN], have you been in hospital or clinic as an in-patient overnight or longer since [ff\_IntDate] because of this health condition?* With response options Yes and No.
2. HOSPCD [If HOSPC = Yes]: *How many days have you spent in hospital or clinic as an in-patient since [ff\_IntDate] because of your [HCondN] ?*
3. HCONDNS: Whether they still had that new health condition with response options Yes & No. *Note: These follow-ups were not asked in case of heart attack and stroke as it does not make sense to ask if someone if they still have these conditions.*

*In Waves 6-9*

The list of health conditions included a new option “Other” and the response to this was recorded in HCONDN18, with no follow-up.

## In Waves 7-9

The list of health conditions included two new health conditions, multiple sclerosis and HIV and these responses were recorded in HCONDN19 & HCONDN20, and for these conditions there were only HOSPC & HOSPCD follow-ups. *Note: Responses to HIV health condition is only available under Special License.*

### Box 1

The responses to the health conditions question, HCONDN were provided as a series of 17 variables, HCONDN1-HCONDN17, with values 0 (Not mentioned) or 1 (Mentioned).

The responses to this question is also provided as a series of variables, HCONDNO1-HCONDNO $n$  where each variable simply recorded the number of the health condition from the list. So, if someone reported two health conditions, first they reported cancer and then arthritis, then for that person, HCONDNO1=13, HCONDNO2=1, HCONDNO3-HCONDNO $n$ =-8. So, in each wave because the maximum number of health conditions reported varied, so did  $n$  – it is 8 in Waves 2-3-6, 10 in Wave 4, 7 in Wave 5-8 and, 5 in Wave 9. Their responses to whether they still had this condition, whether they had been to the hospital for this condition and the number of days during the hospital visits were recorded in HCONDNS1-HCONDNS $n$ , HOSPC1-HOSPC $n$ , HOSPDC1-HOSPDC $n$ .

To produce a series of variables that recorded whether the person still had the health condition & the hospital visits that correspond with the health conditions reported in HCONDN1-HCONDN20, requires a few more steps. The Stata code for this conversion is:

```
foreach w in b c d e {
use pidp `w'_hcondn* `w'_hospc* `w'_hospdc* using "`w'_indresp.dta", clear
    local x=8
if "`w'"=="d" {
    local x=10
}
if "`w'"=="e" {
    local x=7
}
forvalues k=1/17 {
    generat `w'_hcondnS`k'=.
    generat `w'_hospc`k'=.
    generat `w'_hospdc`k'=.
    forvalues i=1/\`x' {
        replace `w'_hcondnS`k'=`w'_hcondns`i' if `w'_hcondno`i'==`k'
        replace `w'_hospc`k' =`w'_hospc`i' if `w'_hcondno`i'==`k'
        replace `w'_hospdc`k' =`w'_hospdc`i' if `w'_hcondno`i'==`k'
    }
}
drop `w'_hcondno* `w'_hcondns* `w'_hospc* `w'_hospdc*
rename `w'_hcondnS* `w'_hcondns*
rename `w'_hospc* `w'_hospc*
rename `w'_hospdc* `w'_hospdc*
drop `w'_hcondns6 `w'_hcondns7
}

foreach w in f {
use pidp `w'_hcondn* `w'_hospc* `w'_hospdc* using "`w'_indresp.dta", clear
if "`w'"=="f" {
    local x=8
}
}
```

```

forvalues k=1/17 {
  generat `w'_hcondns`k'=.
  generat `w'_hospC`k'=.
  generat `w'_hospDC`k'=.
  forvalues i=1/\`x' {
    replace `w'_hcondns`k'=`w'_hcondns`i' if `w'_hcondno`i'==`k'
    replace `w'_hospC`k' =`w'_hospC`i' if `w'_hcondno`i'==`k'
    replace `w'_hospDC`k' =`w'_hospDC`i' if `w'_hcondno`i'==`k'
  }
}
drop `w'_hcondno* `w'_hcondns* `w'_hospC* `w'_hospDC*
rename `w'_hcondns* `w'_hcondns*
rename `w'_hospC* `w'_hospC*
rename `w'_hospDC* `w'_hospDC*
drop `w'_hcondns6 `w'_hcondns7
}
foreach w in g h i {
  use pidp `w'_hcondns* `w'_hospC* `w'_hospDC* using "`w'_indresp.dta", clear
  if "`w'"=="i" {
    local x=8
  }
  if "`w'"=="h" {
    local x=7
  }
  if "`w'"=="g" {
    local x=5
  }
  forvalues k=1/19 {
    generat `w'_hcondns`k'=.
    generat `w'_hospC`k'=.
    generat `w'_hospDC`k'=.
    forvalues i=1/\`x' {
      replace `w'_hcondns`k'=`w'_hcondns`i' if `w'_hcondno`i'==`k'
      replace `w'_hospC`k' =`w'_hospC`i' if `w'_hcondno`i'==`k'
      replace `w'_hospDC`k' =`w'_hospDC`i' if `w'_hcondno`i'==`k'
    }
  }
  drop `w'_hcondno* `w'_hcondns* `w'_hospC* `w'_hospDC*
  rename `w'_hcondns* `w'_hcondns*
  rename `w'_hospC* `w'_hospC*
  rename `w'_hospDC* `w'_hospDC*
  drop `w'_hcondns6 `w'_hcondns7 `w'_hcondns19
  drop `w'_hcondns18 `w'_hospC18 `w'_hospDC18
}

```

***Wave 10 onwards, the health condition questions were changed further to better capture the diagnosed health conditions***

### **Wave 10**

While continuing sample members were asked if they had been diagnosed with a new health condition since the last interview, they were not asked if they still had the conditions they had reported earlier. So, in Wave 10, they were all asked the if they ever had been diagnosed with a health condition, and the same set of 22 health conditions as for new entrants. The plan was that then from Wave 11, they would be asked if they still had the health condition they had reported in Wave 10. As these were being asked again, these variables were given a different name: HCONDEVER1-9, HCONDEVER10-16, HCONDEVER19-22, HCONDEVER97.

Additionally, if “Arthritis” (HCONDEVER2), “Cancer or malignancy” (HCONDEVER13), Diabetes (HCONDEVER14) and “An emotional, nervous or psychiatric problem” (HCONDEVER22) were chosen they were asked to identify the specific type of that health condition in the follow-up questions ARTHTYPN, CANTERTYPN, DIABETESTYPN, MHEALTHTYPN, respectively.

Using all responses from the HCONDEVER and the follow-up questions, these new variables were computed: HCONDNCODE1, 3-8, 10-12, 15-16, 19-21, 23-43. So, these show the complete list of health conditions ever diagnosed by continuing members.

If the respondent mentioned a condition they were asked 3 follow-up questions:

1. HCONDNA: *What age were you when you were first told you had a {if HCondncode = 6|7} [HCondncode] ? This was not asked in case of HCONDNCODE=25/32/36/43/97.*
2. HCONDNS: *Do you still have [HCONDNCODE] ? With response options Yes & No. This was not asked in case of HCONDNCODE=6/7/19/20/25/32/36/43/97*
3. HOSPC: *Thinking of your [HCondN] , have you been in hospital or clinic as an in-patient overnight or longer since [ff\_IntDate] because of this health condition? With response options Yes and No.*
4. HOSPCD [If HOSPC = Yes]: *How many days have you spent in hospital or clinic as an in-patient since [ff\_IntDate] because of your [HCondN] ?*

## Box 2

The responses to the health conditions question, HCONDEVER combined with the responses to the follow-ups were provided as a series of variables, HCONDNCODE1, 3-8, 10-12, 15-16, 19-21, 23-43,97 with values 0 (Not mentioned) or 1 (Mentioned).

The responses to these combined health conditions were also provided in a series of variables, HCONDNO1-HCONDNO $n$ , where each variable simply recorded the number of the health condition from the list. So, if someone reported two health conditions, first they reported cancer and then arthritis, then for that person, HCONDNO1=13, HCONDNO2=1, HCONDNO3-HCONDNO $n$ =-8. So, in each wave because the maximum number of health conditions reported varied, so did  $n$  – it is 13 in Wave 10

Their responses to the age at which they were diagnosed with the condition, whether they still had this condition, whether they had been to the hospital for this condition and the number of days during the hospital visits were recorded in HCONDNA1-HCONDNA $n$ , HCONDNS1-HCONDNS $n$ , HOSPC1-HOSPC $n$ , HOSPCD1-HOSPCD $n$ .

To produce a series of variables that recorded the age at which the health condition was diagnosed, whether the person still had the health condition & the hospital visits associated with the health conditions reported in HCONDNCODE1, 3-8, 10-12, 15-16, 19-21, 23-43,97, requires a few more steps. The Stata code for this conversion for Wave 10 (wave j) where the maximum number of health conditions reported was 13 is:

```
foreach w in j {
use pidp `w'_hcondncode* `w'_hcondno* `w'_hcondns* `w'_hcondna* `w'_hospc*
`w'_hospcdc* using "$ms/`w'_indresp.dta", clear
if "`w'"=="j" {
```

```

    local x=13
}

foreach k in 1 3 4 5 6 7 8 10 11 12 15 16 19 20 21 23 24 25 26 27 28 29 ///
    30 31 32 33 34 35 36 37 38 39 40 41 42 43 97 {
    generat `w'_hcondns`k'=.
    generat `w'_hcondnA`k'=.
    generat `w'_hospC`k'=.
    generat `w'_hospDC`k'=.
    forvalues i=1/\`x' {
        replace `w'_hcondns`k'=`w'_hcondns`i' if `w'_hcondno`i'==`k'
        replace `w'_hcondnA`k'=`w'_hcondna`i' if `w'_hcondno`i'==`k'
        replace `w'_hospC`k' =`w'_hospc`i' if `w'_hcondno`i'==`k'
        replace `w'_hospDC`k' =`w'_hospc`i' if `w'_hcondno`i'==`k'
    }
}

drop `w'_hcondno* `w'_hcondns* `w'_hcondna* `w'_hospc* `w'_hospcdc*
rename `w'_hcondns* `w'_hcondns*
rename `w'_hcondnA* `w'_hcondna*
rename `w'_hospC* `w'_hospc*
rename `w'_hospDC* `w'_hospcdc*
drop `w'_hcondns6 ///
    `w'_hcondns7 ///
    `w'_hcondns19 ///
    `w'_hcondns25 `w'_hcondna25 `w'_hospc25 `w'_hospcdc25 ///
    `w'_hcondns32 `w'_hcondna32 `w'_hospc32 `w'_hospcdc32 ///
    `w'_hcondns36 `w'_hcondna36 `w'_hospc36 `w'_hospcdc36 ///
    `w'_hcondns43 `w'_hcondna43 `w'_hospc43 `w'_hospcdc43 ///
    `w'_hcondns97 `w'_hcondna97 `w'_hospc97 `w'_hospcdc97
}

```

## Wave 11 onwards

Questions for new entrants remained the same.

All continuing sample members (as planned), were asked

- If they still had the health conditions they had reported in a previous wave (FF\_PREVHCONDSTIL\*). These health conditions were recorded in PREVHCONDNO1-10, and whether they still had it or not in HCONDP1-10. See Box 3 to convert these into the 37 health condition variables.

### Box 3

These health conditions reported (FF\_PREVHCONDSTIL\*) were also provided in a series of variables, PREVHCONDNO1-PREVHCONDNO $n$  (where  $n$  was the maximum number of health conditions reported in that wave) where each variable simply recorded the number of the health condition from the list. So, if someone reported two health conditions, first they reported cancer and then arthritis, then for that case, PREVHCONDNO1=13, PREVHCONDNO2=1, PREVHCONDNO3-PREVHCONDNO $n$ =-8.

Their responses to the questions, whether they still had this condition, whether they had been to the hospital for this condition and the number of days during the hospital visits were recorded in HCONDP1-HCONDP $n$ , HOSPCP1-HOSPCP $n$ , HOSPCDCP1-HOSPCDCP $n$ . If in a wave, the maximum number of health conditions reported by anyone was 10, then  $n$ =10.

To produce a series of variables that recorded whether the person still had the health condition & the hospital visits associated with the health conditions reported in PREVHCONDNO1-PREVHCONDNO $n$ , requires a few more steps. The Stata code for this conversion for Wave 11+ is:

```

foreach w in k l {
use pidp `w'_prevhcondno* `w'_hcondp* `w'_hospcp* `w'_hospdcp* using
"$ms/`w'_indresp.dta", clear
if "`w'"=="k" {
    local x=10
}
if "`w'"=="l" {
    local x=9
}
generat `w'_prevhcondstil96=1
forvalues i=1/`x' {
    replace `w'_prevhcondstil96=0 if `w'_prevhcondno`i`>0
}
foreach k in 1 3 4 5 6 7 8 10 11 12 15 16 19 21 23 24 25 26 27 28 29 ///
    30 31 32 33 34 35 36 37 38 39 40 41 42 43 97 {
    generat `w'_prevhcondstil`k`=0
    generat `w'_hcondP`k`= .
    generat `w'_hospCP`k`= .
    generat `w'_hospDCP`k`= .
    forvalues i=1/`x' {
        replace `w'_prevhcondstil`k`= 1 if `w'_prevhcondno`i`==`k'
        replace `w'_hcondP`k`= `w'_hcondp`i' if `w'_prevhcondno`i`==`k'
        replace `w'_hospCP`k`= `w'_hospcp`i' if `w'_prevhcondno`i`==`k'
        replace `w'_hospDCP`k`= `w'_hospdcp`i' if `w'_prevhcondno`i`==`k'
    }
}
drop `w'_prevhcondno* `w'_hcondp* `w'_hospcp* `w'_hospdcp*
rename `w'_hcondP* `w'_hcondp*
rename `w'_hospCP* `w'_hospcp*
rename `w'_hospDCP* `w'_hospdcp*

drop `w'_hcondp6 ///
`w'_hcondp7 ///
`w'_hcondp19 ///
`w'_hcondp25 `w'_hospcp25 `w'_hospdcp25 ///
`w'_hcondp32 `w'_hospcp32 `w'_hospdcp32 ///
`w'_hcondp36 `w'_hospcp36 `w'_hospdcp36 ///
`w'_hcondp43 `w'_hospcp43 `w'_hospdcp43 ///
`w'_hcondp97 `w'_hospcp97 `w'_hospdcp97
}

```

- Were also asked if they had been newly diagnosed with any of the 22 health conditions listed. So, these variables were given a different name: HCONDNEW1-8, HCONDNEW10-16, HCONDNEW19-22, HCONDNEW97. Then if some of these conditions were selected, additional questions were asked to identify additional health conditions (those who chose HCONDNEW2=1 were asked ARTHHTYPN, HCONDNEW13=1 are asked CANCEHTYPN, HCONDNEW14=1 are asked DIABETESTYPN, HCONDNEW22=1 are asked MHEALTHHTYPN). Using the responses from HCONDNEW and the follow-up questions HCONDNCODE1, 3-8, 10-12, 15-16, 19-21, 23-43 were computed. So, these show the complete list of health conditions newly diagnosed for continuing members.

- While those who chose a condition were asked follow-ups if they still had the condition they were not asked the age at which it was diagnosed. As the diagnosis was between the last interview and the current interview, analysts can choose the age at last interview, the current interview or sometime in between.

#### Box 4

These health conditions reported (HCONDNEW\*) were also provided in a series of variables, HCONDNO1-HCONDNO $n$  (where  $n$  was the maximum number of health conditions reported in that wave) where each variable simply recorded the number of the health condition from the list. So, if someone reported two health conditions, first they reported cancer and then arthritis, then for that case, HCONDNO1=13, HCONDNO2=1, HCONDNO3-HCONDNO $n$ =-8.

Their responses to the questions, whether they still had this condition, whether they had been to the hospital for this condition and the number of days during the hospital visits were recorded in HCONDNS1-HCONDNS $n$ , HOSPC1-HOSPC $n$ , HOSPDC1-HOSPDC $n$ . If in a wave, the maximum number of health conditions reported by anyone was 13, then  $n$ =13.

To produce a series of variables that recorded whether the person still had the health condition & the hospital visits associated with the health conditions reported in HCONDNCODE1, 3-8, 10-12, 15-16, 19-21, 23-43, requires a few more steps. The Stata code for this conversion for Wave 11+ is:

```
foreach w in k l {
use pidp `w'_hcondncode* `w'_hcondno* `w'_hcondns* `w'_hospc* `w'_hospdc* using
"$ms/`w'_indresp.dta", clear
if "`w'"=="k"|"`w'"=="l" {
    local x=9
}
foreach k in 1 3 4 5 6 7 8 10 11 12 15 16 19 21 23 24 25 26 27 28 29 ///
    30 31 32 33 34 35 36 37 38 39 40 41 42 43 97 {
    generat `w'_hcondns`k'=.
    generat `w'_hospc`k'=.
    generat `w'_hospdc`k'=.
    forvalues i=1/\`x' {
        replace `w'_hcondns`k'=`w'_hcondns`i' if `w'_hcondno`i'==`k'
        replace `w'_hospc`k' =`w'_hospc`i' if `w'_hcondno`i'==`k'
        replace `w'_hospdc`k' =`w'_hospdc`i' if `w'_hcondno`i'==`k'
    }
}
drop `w'_hcondno* `w'_hcondns* `w'_hospc* `w'_hospdc*
rename `w'_hcondns* `w'_hcondns*
rename `w'_hospc* `w'_hospc*
rename `w'_hospdc* `w'_hospdc*
drop `w'_hcondns6 ///
    `w'_hcondns7 ///
    `w'_hcondns19 ///
    `w'_hcondns25 `w'_hospc25 `w'_hospdc25 ///
    `w'_hcondns32 `w'_hospc32 `w'_hospdc32 ///
    `w'_hcondns36 `w'_hospc36 `w'_hospdc36 ///
    `w'_hcondns43 `w'_hospc43 `w'_hospdc43 ///
    `w'_hcondns97 `w'_hospc97 `w'_hospdc97
}
```

## **BHPS Waves 1-18**

The health condition questions in BHPS were worded differently. The questions asked whether they had the condition rather than whether a health professional had told them they had it and the list of health conditions they could choose from was different. So, these questions are not exactly harmonisable with the UKHLS questions. The health conditions offered from Wave 1 were Arms, legs, hands, etc, Sight, Hearing, Skin conditions/allergy, Chest/breathing, Heart/blood pressure, Stomach or digestion, Diabetes, Anxiety, depression, etc, Alcohol or drugs, Epilepsy, Migraine, Other. Responses were recorded in HLPBBA-M (0=not mentioned, 1=mentioned). From Wave 11, Cancer and Stroke were also added and responses were recorded in HLPBBA-O. In Waves 11 and 16 some additional questions were included on treatment for those conditions the respondent said they had, which were recorded in HLPBBA-O (1=yes, 2=no).