Manual

The Health and Labour Questionnaire

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Abstract

When the indirect costs form a part of an economical evaluation, a standardised method for measuring production losses, as a result of illness, is required. Standardisation will increase the comparability and transparency of the results. The Health and Labour Questionnaire (HLQ) is designed to collect quantitative data on the relation between illness and treatment and work performance. The HLQ data permits the estimation of production losses (costs) of paid and unpaid labour. It contains also an indicator for impediments for paid and unpaid labour, one of the indicators for quality of life.

The HLQ is divided into 4 modules to collect data about absence from work, reduced productivity at paid work, unpaid labour production and impediments to paid and unpaid labour. The modular structure permits the omission of questions that are not applicable to the study population. The questionnaire is suitable for self-assessment. This manual is a user guide for the HLQ. The scoring- and valuing methods are presented. Furthermore a survey of norm-scores for several groups of respondents is given. The manual contains also information with regard to feasibility and validity of the HLQ. Finally, the procedural aspects for using the questionnaire are given. Currently we are working on a short form version of the HLQ.

1. Introduction

1.1 Background
The impact of a health care programme on a patient's work performance may substantially influence both costs and health effects of the programme. Furthermore, the ability to work can be seen as one of the indicators of health related quality of life. In the early U.S. literature on health status assessment, labour performance was used as a dominant indicator of health status, and it still receives a greater emphasis in the American than in European literature. In currently available generic health outcome measures, such as the MOS 36-item Short Form Health Survey (SF-36), the health effects in the social (role) domain are partly operationalised as limitations in performing paid and/or unpaid work (Ware & Sherbourne, 1992).
Economic evaluations examine both the costs and benefits of medical health care interventions. In recently developed guidelines for farmaco-economic research, economic evaluation is performed from a social perspective. This means that all costs and benefits (regardless of whom pays or benefits from them) must be assimilated in the analysis. Within the health care economy the costs may be divided into direct and indirect costs. These costs may occur within and outside health care (see figure 1):

Figure 1: Costs of illness

	Within the health care	**Outside the health care**
Direct costs	Medical costs	Patient's costs
Indirect costs	Costs during years of life gained	Production losses

For years, the inclusion of the indirect costs outside health care in economic evaluations has been a point of discussion. At this moment there is a general consensus that these costs, if substantial, should be included because they influence scarcity and therefore economic prosperity. This may be illustrated by the comparison between two interventions, A and B. Assume that A requires a similar health care budget as programme B. Programme A, however, leads to higher production losses. The savings made by using programme B instead of programme A can be added to the health care budget (or to other budgets). Nationally and internationally a consensus has been reached that the matter of production losses outside health care must be measured and if possible taken into account in the analysis. However these costs have to be noted separately and there must be an indication as to why they are of importance.
Nowadays, the measurement of production losses is given less attention than the valuation in Medical Technology Assessment (MTA). Furthermore, the valuation of production losses within economic evaluations is usually limited to paid work and disregards unpaid work. Unpaid production can be defined as: 'Services in the unpaid sector that could also be done by a third party' (Harwryslyshyn, 1977). Households do not only consume, but also produce goods and services by combining goods and time. Within economical theories the economical consequences of these household activities have been largely ignored for a long period of time (Harwryslyshyn, 1977; Homan, 1988). But, if a patient can no longer execute his household tasks, it will influence

wealth. From a social perspective the valuation of the production losses relates to paid work as well as to unpaid work (for example household work).

Production losses appear, depending on a patient's characteristics (such as age and gender), in both the paid and unpaid sector of the economy. The way the illness manifests itself (acute, episodic, chronic) and its gravity also determine the size of the production losses. Disease may cause permanent disability or may be responsible for only a temporary reduction of productivity at work or home.

Often data on production losses are lacking or not valid. The HLQ seeks to meet this imperfection by developing a standardised method of measuring the production losses of paid and unpaid work. The HLQ was developed to collect quantitative data about the relation between illness, treatment and work-performance. With the data gathered by means of the HLQ the extent of the production losses of paid and unpaid work can be measured. Subsequently, this could be given a monetary value. In addition to this the HLQ contains an indicator for impediments to do paid and unpaid work due to illness. This can be seen as an aspect of quality of life.

This manual addresses the following subjects. In chapter 2, a description of the HLQ is given and also contains the scoring and valuation methods of the items. Chapter 3 is about the application of the HLQ with different groups of patients and non-patients and provides norm-tables for outcomes per module. Chapter 4 concerns the feasibility and validity of the HLQ. Chapter 5 contains the conclusions.

1.2 Basis of the questionnaire

In developing the HLQ, the following requirements had to be met:

- The questionnaire must produce data on economic effects of illness on labour performance from a social perspective;

- The questionnaire must produce data on the effects of health on paid and unpaid work;

- The format of the questionnaire must allow for application in a broad range of diseases (e.g., both acute and chronic diseases);

- The questionnaire must be suitable for self-assessment by patients;

- The questionnaire must be modular to permit omitting questions not applicable to the study population (e.g., paid work for retired patients).

These premises have resulted in the HLQ (Chapter 2).

2. The Health and Labour Questionnaire

The HLQ is divided into 4 modules. These 4 modules (absence from work, reduced productivity at paid work, unpaid labour production and impediments to paid and unpaid labour) are discussed in the following paragraphs. The review concentrates on the non-disease-specific general HLQ (which refers to production losses and impediments caused by health problems in general). The HLQ can also be made disease-specific by discriminating between a 'target-disease' and other health problems. An example for migraine is given at the end of this chapter. It is not always possible to use a disease-specific HLQ in which case use of the general version of the questionnaire is preferable. The conditions for a disease-specific questionnaire are also discussed in this chapter.

2.1 Module 1: Absence from Paid Work

2.1.1 Description
The questions 1 to 3 refer to module 1 (see supplement 1).

To measure absence from work, respondents with paid jobs are asked to mark on a bar for each (half) day(s) of the 2 weeks preceding the assessment whether they performed their work, were absent due to health problems or just absent. From experience it appears that two weeks is the maximum time span to use for reliable results about time–use and reduced productivity. For the calculations on production losses we assume that this time-period is representative for the period between two assessments.

The respondents are requested to fill in one of the three letters in each of the bars:

'W' = Performed paid work

'U' = Unable to perform paid work due to illness

'O' = No paid work due to other reasons (weekend, holidays etc.)

If the respondent works part-time he/she fills in 'O' for the days he/she doesn't work. The respondent can report half days by filling in 'W/O' if he/she worked in the morning and was free from work in the afternoon. If the respondent was ill in the weekend, he/she fills in a 'O' on days he/she did not have to work and 'U' on days he/she had to work. Table 1 shows an example of a non-disease-specific bar.

Table 1: Example of a non-disease-specific bar

MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU
The week before last							Last week						

Example

Suppose someone holds a paid job for 4 days a week. Last week he/she did not go to work on Thursday and Friday due to health problems. Usually this person has a day off on Wednesday.

If this person has not been ill within the last two weeks the bar looks as follows (table 2):

Table 2: Example of a non-disease-specific bar.

MO	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*	*MO*	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*
W	W	O	W	W	O	O	W	W	O	W	W	O	O
The week before last							**Last week**						

If this person was absent from work on Thursday and Friday due to health problems, the bar looks as follows (table 3):

Table 3: Example of a disease-specific bar

MO	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*	*MO*	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*
W	W	O	W	W	O	O	W	W	O	U	U	O	O
The week before last							**Last week**						

When a specific health problem is examined, a distinction can be made between absence due to the specific disease, other health problems and absence due to other reasons. Such a difference is only useful if the respondent <u>can</u> discriminate between the specific disease and other health problems. In a study on the costs of migraine in the Netherlands this distinction was made. The module was as follows:

'W' = Performed paid work.

'M' = Unable to perform paid work due to 'Migraine'.

'U' = Unable to perform paid work due to other health reasons.

'O' = No paid work due to other reasons (weekend, holidays etc.)

Example

Ms Van der Boom suffers from migraine attacks. She can not perform work while having a migraine attack. The week before last, she suffered from an attack. On Wednesday she went home because of a migraine attack. On Thursday she stayed in bed. The next day (Friday) she went back to work. On Friday-afternoon she is always free from work.
Ms Van der Boom fills in the bar as follows:

Table 4: Example of a disease-specific bar.

MO	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*	*MO*	*TU*	*WE*	*TH*	*FR*	*SA*	*SU*
W	W	W/M	M	W/O	O	O	W	W	W	W	W/O	O	O
The week before last							**Last week**						

2.1.2 Scoring
To calculate the indirect costs, the days of absence from work are measured and valued. The determination goes as follows:
For every respondent the number of 'U' is counted. If there is a combination such as 'W/U' or 'U/O' the 'U' is counted as 0.5. The maximum number of 'U' is 14, the minimum being 0.
If two weeks are representative for the absence from work during the year, the number of working-days lost per year can be calculated by multiplying the results of this module by 26. This is only possible if the sample is large enough. For a shorter period of time, an analogous procedure is followed.

2.1.3. Valuation
The information about net income according to question 13 of the HLQ (to be found in the supplement) can be used for the valuation of production losses. These data need to be tested for validity before using them. This can be done by comparing the data to national data on income for example (by age and gender). The outliers can also be checked on the basis of data about function and profession (question 1).
Two different approaches can be used to value production losses due to illness. Often the 'Human Capital' method is applied. It calculates the total production value someone could produce during his/her life. According to this method the potential production value is equal to the indirect costs. For example, when an employee is absent from work for 6 months due to depression, the indirect costs are equal to the this patient's production value during this period of time.
The valuation of the production loss using the 'Friction costs' method is preferred, because this method estimates the real production losses (Koopmanschap et al., 1996). It assumes that within the production process everyone is replaceable. The indirect costs are restricted to the amount of production lost due to disease and depend on the time-span organisations need to restore the initial production level. It is assumed that if unemployment is beyond the level of frictional unemployment, sick employees can be replaced after a period necessary for adaptation. This period is called the 'friction period'. The length of the friction period is based on the average vacancy duration, which depends on the level of unemployment and on the efficiency of the labour market in matching labour demand and supply. The time needed to fill the vacancy can be used as an indication of the friction period. The differences in estimates of the indirect costs between the 'Friction costs' method and the 'Human Capital' method will extend as time absent increases (Koopmanschap et al., 1996). When the friction costs method is used in the example above the indirect costs will be limited to the production lost during the friction period instead of 6 months.
Question 3 of the HLQ is added to gain additional information if the 'Friction costs' method is applied. If the duration of absence from work exceeds the friction period, the production losses are restricted to the friction period.

3.	*When did the illness period start? Enter the date on which you reported ill...*

Costs per friction period:
Table 5 presents the mean production value per paid worker, per friction period (123 days over 1998 in the Netherlands) by age and gender. These costs are calculated on the basis of the mean added value per worker. These are mean values for the total group of workers in the class concerned, given the existing individual differences in income, labour productivity and the number of hours worked. A proportional part of the friction costs needs to be calculated in case of absence (measured in calendar days, including weekends and holidays) shorter than the friction period. For example: at 14 days absence, 14/123 of the friction costs will be calculated.

The study indicated that a decrease in working time (for example due to absence) brings about less than proportional decrease in productivity. (CPB, 1987, Koning et al., 1984). For the Netherlands, this elasticity is estimated to be 0.8. Hence, estimates of the indirect costs should be multiplied by 0.8. For further details and explanation about the calculation of the friction costs we refer to Koopmanschap and Rutten, 1996.

Table 5: Costs per friction period per paid worker, by person, age and gender (respectively), in 1998 in thousands of guilders.

Age	Per paid man	Per paid woman
15-19	8.5	6.7
20-24	20.1	16.6
25-29	27.6	20.6
30-34	32.6	20.0
35-39	35.7	19.6
40-44	38.5	20.0
45-49	39.9	20.8
50-54	38.8	19.7
55-59	37.9	19.4
60-64	37.6	18.2

Bron: iMTA 1999

2.1.4. Group-size
In a research study, variables, such as quality of life and clinical outcomes, other than a (decrease in) absence will also be measured. Therefore, in general the group-size of the random check is also dependent of the expected differences between de groups at these variables.

For module 1, a sufficient number of respondents (depending on age and gender) needs to have paid work. 'Sufficient' depends on the expected differences in absence between two (or more) groups.

When calculating production losses it is assumed that the time-period is representative for the period between two assessments.

2.2 Module 2: Reduced productivity at paid work

2.2.1 Description
The questions 4 to 12 refer to module 2 (see supplement 1).

People with health problems are at times forced to be absent from work. Yet sometimes they do go to work in spite of their illness, which may cause production losses due to

reduced efficiency. The aim of question 4 is to differentiate between people with and without impediments at work due to heath problems. Question 4 is for that matter also a part of module 4. This question measures the experienced impediments at paid work..

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4.   Were you hindered by health problems at your paid work over the past two weeks?

   ☐   *No, not at all → Go to question 13*

   ☐   *Yes, to a degree*

   ☐   *Yes, very much*

Question 4 selects between people who have and who have not experienced health problems during paid labour. If they have had no impediments, there are no production losses without absence as a result of health problems. In that case, the other questions in module 2 need not be filled in. If they did have had impediments due to health problems, they are requested to answer questions 5 to 12. Additionally, this module contains a descriptive instrument of seven items to evaluate specific problems for labour performance. These items relate to the influence of health problems on concentration, working, pace, need to be alone, decision-making, postponement of work and taking over work by other workers. Response modalities are 'never', 'sometimes', 'often', 'always'.

Table 6: 7 items to evaluate productivity problems.

I **did** go to work, but as a result of health problems…….	(almost) never	somet.	often	(almost) always
5. ..I had a problem concentrating	☐	☐	☐	☐
6. ..I had to work at a slower pace	☐	☐	☐	☐
7. ..I had to seclude myself	☐	☐	☐	☐
8. ..I found decision-making more difficult	☐	☐	☐	☐
9. ..I had to put off some of my work	☐	☐	☐	☐
10. ..I had to let others take over some of my work	☐	☐	☐	☐
11...I had other problems, namely (please state)	………………….			

Finally respondents were asked to estimate the number of additional hours they should have worked to compensate for production losses due to illness on working days (question 12).

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*12. How many **extra** hours would you have to work to catch up on tasks you were unable to complete in normal working hours due to health problems over the past two weeks?*
*NOTE: Do **not** count the days on which you reported sick*   *…………….....Hours*

2.2.2. Scoring

Question 4 is used as an indicator for impediments due to health problems at paid work. The impediment score for paid work results after weighing the answers as follows: 'no not at all = 0', 'yes, a little = 1', 'yes, very = 2' The range of the score is 0 to 2.

For question 5 to 11 the impediment score results after summing the unweighted items. The unweighted scores are: 'never' = 1, 'sometimes' = 2, 'often' = 3, 'always' = 4. This summing of the unweighted items, mentioned in table 6 will result in the efficiency score: the minimum score is 6, the maximum score is 24.

2.2.3. Valuation

The answer of question 12 is used to make a quantitative estimate of production losses without absence. These are valued at the mean hourly income (this is a combination of question 1 and 13). The mean production value for a certain age and gender, as given in table 5, can also be used for the valuation of production losses without absence.

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*13. We would now like to know what your **net** earnings are from your paid employment. NOTE: Please fill in your own income **not** including that of your partner (if any). You may yourself choose over which time period the net income refers" per WEEK, per 4 WEEKS, per MONTH, or per YEAR.*
*You only need to fill in **one** of the following possibilities.*

☐   *My net income from paid employment is approximately:*

> *………………. per WEEK*

> *…………………per 4 WEEKS*

> *…………………per MONTH*

> *…………………per YEAR*

☐   *I do not know what my income is or I would rather not say*

2.3 Module 3: Unpaid Work

2.3.1. Description
Question 14 divides the population into 5 categories for respondents indicating that they have no paid work.

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14. You have no paid employment. Which of the following situations is most applicable to you?

☐   *I have the daily task of running a household*
☐   *I receive a pension or have taken early retirement*
☐   *I am still at school or a student*
☐   *I am unable to perform paid employment due to health problems (If you did have paid employment before would you fill in your profession and the function you held: profession…………………, function………………………)*
☐   *I have no paid employment for another reason (for example, involuntary unemployment, voluntary work, etc.).*

Regarding unpaid work, four productive activities are distinguished: household work, shopping, caring for children and odd jobs around the house. This division was derived from a national time-use survey (TUS, 1988).

Questions 15 & 16 refer to module 3 (see supplement 1)

In question 15 of the HLQ, the respondent is asked to estimate the number of hours spent on each (unpaid) activity per week in the past two weeks.

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15. How many hours did you spent on:

- *Work in the household*   ……………...hours per week
  (e.g. preparing meals, cleaning the house, washing clothes)

- *Shopping*   ……….…..…hours per week
  (e.g. shopping for the daily groceries, other types of shopping, going to the bank or post office)

- *Odd jobs and chores*   ..…….….…hours per week
  (e.g. house repairs, gardening, fixing the car)

- *Doing things for or with your own children*   ….. …..…....hours per week
  (e.g. caring for them, taking them to school, helping with homework)

We ask whether household tasks, normally performed by the respondent, were postponed or taken over by other members of the household, family or friends, and/or paid workers. In this way, estimated production losses can be corrected for substitution.

16. *It may be that people with health problems who normally do household tasks (cleaning the house, shopping, caring for the children) must leave these tasks to be done by others due to their health problems.*

Have others taken over any of your household tasks due to your health problems?
(You may tick more than one box if applicable)

☐   *Yes, family members (for example partner, children) have done my household tasks for* ……………….*hours per week*

☐   *Yes, other people (for example neighbours or volunteers) have taken over my household tasks for* ……………….*hours per week*

☐   *Yes, I have had a home-help for* ……………….*hours per week*

☐   *Yes, I have had another type of paid help for* ……………….*hours per week*

☐   *No, I have performed my household tasks myself.*

2.3.2 Scoring

The number of hours of unpaid production lost is determined by comparing the data of question 15 with time spent by the general population or, if available, by control group matched for age, gender and labour market participation (table 11). The total number of hours spent on unpaid work should exceed 112 hours (7*16), assuming that a person needs about 8 hours per day for personal care (including sleep).

The answers to question 16 can be used to calculate the number of hours unpaid work who are taken over by paid or unpaid help. 'Family-members' (item 1) and 'other people' (item 2) are categorised as 'unpaid help' (informal help). On the other hand the hours taken over by 'home-help' (item 3) and ' other paid help' (item 4) are categorised as 'paid help' (formal help). It's preferable to describe the data of question 16 separately. Furthermore the total of time spent on unpaid work (question 15) can be corrected for substitution effects for formal and/or informal help.

2.3.3. Valuation

The valuation of unpaid labour can be done in different ways. The 'opportunity costs' approach values the hours of unpaid labour equal to the net income if the subject has paid work. An important disadvantage is that this income is only available for people with paid work. An alternative method is the 'market costs approach' . This method assumes that the value of an hour of lost production is equal to a substitute at marketprices. For the valuation, it is assumed that when a person does his/her own tasks the costs for hiring paid help are saved. This method is preferable because the (lost) production has the same weight for everyone (regardless of paid/unpaid work). As an indication for the valuation of the production losses at unpaid work we use the gross income per hour for a home-help.

2.4 Module 4: Impediments to paid and unpaid labour
Questions 4 & 17 refer to module 4 (see supplement 1)

In question 17, the respondents are asked whether they have performed each of the 4 unpaid activities in the past two weeks. 'Did Do' is followed by asking about the amount of trouble experienced as a result of health problems. 'Did Not Do' is followed by the question of to what extent this was caused by health problems
The answers to question 17 are meant to describe the impediments to unpaid labour.
Question 17 is as follows:

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17. Would you now complete the table below in the same way as shown in the two examples. Put a cross next to an activity if you have performed it in the PAST TWO WEEKS. If your answer is 'DID DO' then indicate whether you were hindered or not by health problems. If your answer is 'DID NOT DO' then please indicate whether or not this was due to health problems.

	DID DO		*DID NOT DO*	
	Hindered by health problems	*Not hindered by health problems*	*Due to health problems*	*Other reasons*
Household work at home *(for example, preparing meals, cleaning, washing clothes)*				
Shopping *(for example, daily groceries, other shopping, going to the bank or post office)*				
Odd jobs and chores *(for example, house repairs, gardening, fixing the car)*				
Doing things for or with you own children *(for example, caring for them, playing, taking them to school, helping with homework)*				

2.4.2. Scoring

The item scores of impediments at paid work are mentioned in paragraph 2.2.2. on page 17. The scores for impediments at unpaid work are: Did do, hindered = 1; Did do, not hindered = 0; Did not do, due to health problems = 2; Did not do, due to other reasons = 0. The aggregated impediment score results after adding up the items. This impediment-score is a measure of difficulties experienced during unpaid work due to health problems. The minimum score per item is 0 and the maximum score per item is 2. The total score has a range of 0 to 8 and is found after adding up the score of the 4 items.

Finally some general questions are needed for the interpretation of the data in the last module. These questions refer to age, gender, co-morbidity, education and life-status (CBS, 1991).

2.5 implementation

The HLQ can be taken in writing and the following options can be chosen.

- Filling out by the respondent after a written instruction by mail.

- Filling out by the respondent after a verbal or telephonic instruction.

- Recently, there has been some use of a verbal version of the HLQ. However, there is still little information available on this kind of questioning.

3.Application

3.1 Examining groups

We have used the HLQ in several studies (table 9). First, the HLQ was sent to a representative sample of 995 people from the general population.

A second study concerned the burden of migraine (van Roijen et al., 1995). We selected patients aged 12 years and older from the general population using a screening questionnaire based on the criteria of the International Headache Society (IHS) (Olesen, 1988). From the 10,480 people who underwent a face-to-face interview, 992 patients met the IHS criteria and had experienced a migraine attack in the last 12 months. Additionally a control group was selected from the subjects in the survey population who did not meet the IHS criteria.

In a longitudinal study on electro-stimulation of the bladder among patients with spinal cord injury, we analysed the amount of trouble experienced while performing unpaid activities. We measured the impediment score as a result of spinal cord injury and of micturation problems before implantation and at 3 months, 6 months and 1 year after implantation. It was assumed that the impediments due to spinal cord injury would not change, whereas the impediments as a result of the micturation problems would decrease after the implantation of the electro-stimulation device (Wielink et al, 1997).

The HLQ was respectively applied to patients with hip or knee problems who were on a waiting list for surgery (Joosten, 1995). Finally, the HLQ was used in a study on patients who were treated for acousticus neurinoma and adult patients with a growth hormone deficiency (GHD) (Van Roijen et al, 1997; Van Roijen et al, 1998).

Table 9: Surveys in which the HLQ was employed.

Study	HLQ Module	N	Mean age	Man (%)	Response (%)	Population
Survey	1,2,4	667	45	46	68	General
Migraine	1,2,3,4	846	40	16	58	Migraine patients
Electro-stimulation	3,4	44	28	82	81	Spinal cord injury patients
Knee surgery	3,4	57	39	51	76	Knee patients
Hip prosthesis	3,4	50	65	30	75	Hip patients
GHD	1,2,4	129	57	49	75	Adult GHD-patients
Micro-surgery	1,3,4	64	52	51	92	Acoustic neurinoma-patients
Radio-surgery	1,3,4	92	55	34	92	Acoustic neurinoma-patients

3.2 Results

In this paragraph, an overview is given of the results of the HLQ in the general Dutch population and some specific patient-groups, if useful specified for males and females.

In table 8 the mean number of days of absence is given for the general Dutch population, migraine-patients, GHD-patients and acoustic neurinoma-patients. These data are given according to gender, except for the acousticus neurinoma-patients, since there were only 7 woman with paid work in the group of micro-surgery. In the migraine study the results relate to absence from work <u>due to migraine</u>, whereas in the normal population and other groups of patients information on the <u>total absence</u> from work was sought. The applies for the results on production losses without absence in table 9 (module 2 of the HLQ).

Table 8: Mean number of days absent per year to gender for the normal Dutch population, Migraine patients and Acoustic neurinoma-patients, on the basis of the HLQ, module 1.

	Normal population		Migraine patients		GHD-patients		Acoustic neurinoma	
	M	F	M	F	M	F	Micro[a]	Radio[b]
N	204	139	52	156	22	17	28	40
Days of absence	12.2	14.1	1.0	3.9	34.2	15.2	28.8	5.2

a: Treatment with micro-surgery
b: Treatment with radio-surgery

Table 9: Mean number of hours production lost per year due to production losses without absence for the normal population, migraine-patients and GHD-patients on the basis of the HLQ, module 2.

	Normal population		Migraine patients		GHD-patients	
	M	F	M	F	M	F
N	204	139	52	156	22	17
Hours of efficiency loss	8.5	11.9	18.7	22.8	2.4	0

Table 10: Mean efficiency score at paid work for the normal Dutch population and migraine-patients on the basis of the HLQ, module 2.

	Normal population		Migraine patients	
	M	F	M	F
N	204	139	52	156
Efficiency score	6.6	6.8	9.1	8.4

Table 11: Mean number of hours unpaid work per week for the normal Dutch population, migraine-patients, patients on waiting -lists and acousticus neurinoma patients, on the basis of the HLQ, module 3.

	Normal population		Migraine patients		Waiting-list		Acoustic neurinoma	
	M	F	M	F	M	F	M	F
N	309	363	70	350	46	51	53	92
Household jobs	6.4	23.3	6.6	24.6	13.5	8.1	11.9	12.9
Shopping	2.6	4.4	2.5	5.8	2.6	4.4	3.2	3.4
Childcare	2.7	6.7	3.9	6.0	-	-	1.2	2.1
Odd jobs and chores	5.9	2.8	7.1	4.0	1.5	1.7	2.0	3.2

Both the general population and the migraine population women allocate more time to household jobs, shopping and childcare than men. This is in accordance with the results of the TUS (CBS, 1988). Time spent on odd jobs and chores on the other hand is higher for men than for women. For patients on a waiting-list for knee- or hip surgery the number of hours unpaid work was, as expected, lower than in the control group. In this study childcare was not taken into account. In the group of acousticus neurinoma patients the number of hours spent on childcare is relatively low. This is due to the relative high age of this group of patients compared to the general population and the migraine patients. The number of respondents with children living at home was relatively low and the mean age of the youngest child still living at home was relatively high.

Table 12: Impediment-score for paid and unpaid work for the normal Dutch population, migraine-patients, GHD-patients and acousticus neurinoma patients on the basis of the HLQ, module 4

	Normal population	Migraine	GHD	Acoustic neurinoma	
				Micro[a]	Radio[b]
Paid work	0.32	0.39	0.21	0.55	0.11
Unpaid work	1.22	1.97	-		-
Household jobs	0.39	0.74	-	-	-
Shopping	0.30	0.53	-	-	-
Childcare	0.18	0.43	-	-	-
Odds jobs and chores	0.32	0.46		-	-

a: Treatment with micro-surgery
b: Treatment with radio-surgery

The impediment-score for paid work is based only on the respondents with paid work within the populations. This score ranges from 0 at minimum to 2 at maximum. In comparison with the normal population and the migraine-patients this score is very low for the GHD-population and the patients treated for a acousticus neurinoma by radio-surgery. Here it is possible a selection occured, namely that within this group of patients only those with relatively little health-problems keep working.
The total impediment-score for unpaid work applies to all groups of respondents and can range between 0 and 8, per item the range is 0 to 2. The impediment-score for doing

unpaid work is, as expected, higher in the group with migraine-patients than in the normal population. In table 12, the subdivision of the impediment-score is also given. The impediment-score at unpaid work was not part of the study on GHD-patients nor patients treated for an acousticus neurinoma.

4. Feasibility, Reliability and Validity

4.1 Feasibility
We used the response rates, missing values, completion time, and remarks of the respondents as empirical indicators of feasibility.

Of the 995 people in our survey among the general population, 726 returned the questionnaire. Of these, 16 were returned by the postal service as they were wrongly addressed and 43 questionnaires were returned blank, yielding a response rate of 68%.

Since only 4.5% of module 1 were missing, respondents were generally able to distinguish between absenteeism due to illness and absence due to other reasons.

16% of the subjects did not answer the question about reduced productivity, module 2, so we assumed that they experienced this part of the questionnaire as being relatively difficult either as a concept or in application in practice. In the present version of the HLQ, the path has been adapted and the explanation on the questions expanded.

For the questions on time spent on household activities, module 3, missing data ranged from 8% to 11% in the general population. Missing data on the questions on degree of experienced impediment during paid and unpaid work were at an acceptable level given the complexity of these questions, ranging from 7% to 11%. Here the path was restructured and the lay-out of the question about impediments at unpaid work was made more orderly.

The required time for completion of the entire questionnaire was about 10 minutes. The most frequently reported remarks by the respondents actually referred to descriptions of their health problems in more detail rather than difficulties concerning the questions. A small number of the respondents indicated that they had problems estimating the number of hours spent on household production, especially child care. Finally, some respondents did not, for instance, understand the phrase 'health problems' or whether 'fatigue' should be considered a health problem. This problem has been overcome by a clearer explanation at the beginning of the questionnaire.

4.2 Reliability
At this moment a reliability-analyses cannot be presented due to insufficient data. More insight on this subject must be obtained through future research.

4.3 Validity
When determining of establishing a measuring device, three different forms can be distinguished; criterion-validity, content-validity and construct-validity. Criterion-validity refers to the measuring device ability to predict. To check the measuring device for criterion-validity a 'Gold Standard' is needed. Usually this Gold Standard is missing or no data are available. Content-validity concerns theoretical testing of the measuring device, for example whether the device covers all relevant domains. Construct-validity refers to what the measuring device describes. Therefore research concentrates on the testing of a priori hypotheses about the relation between the measuring device and the validity. In the following review the construct-validity is emphasised. The data from the HLQ are compared with external data.

4.3.1 Validity module 1: Absence from Paid Work

To test the construct-validity of measuring absence from work with module 1 of the HLQ, we compared the non-disease-specific absence from work in the general population with data from the Central Bureau of Statistics (CBS, 1993). We also compared absence from work due to migraine with the result of a study from the United Kingdom (Cull, Wells & Miocevich, 1993).

Using the HLQ on the representative sample of 346 people with paid jobs, the non-disease-specific absence form work was comparable to the Dutch data, with 12.2 days for men and 14.1 days for women per year. The average amount of absence from work based on the national registry was 12.9 days for men and 13.8 days for women (CBS, 1993). The answers to the HLQ agree to a great extent with the national statistic data on absence. The estimated mean number of days absent from work due to migraine was 4 days per year for women and 1 day per year for men. These results were in accordance with a study conducted in the United Kingdom, both with respect to the absolute level and the difference between men and women. In the United Kingdom, the number of days of absence from work due to migraine was 1.6 for men and 3.6 for women (Cull, Wells & Miocevich, 1993). There is a high correlation between the answers of module 1 of the HLQ and other results from research.

4.3.2 Validity module 2: Reduced productivity at paid work

Production losses due to reduced productivity, module 2, are difficult to quantify. Measuring output per worker is the most direct way to evaluate productivity, but this kind of research is expensive and the output is often difficult to quantify. The next best solution is to use an indirect method, such as estimating the time needed to compensate for reduced production due to illness (HLQ approach). Validation of this part of the questionnaire is not possible through of a lack of reference data. To make a comparison, we added questions to determine reduced productivity according to a method proposed by Osterhaus (Osterhaus et al., 1992). This approach multiplies the number of working days impeded by health problems with the self-estimated level of performance. Pearson correlation coefficients were calculated between the number of hours at reduced productivity (HLQ approach) and the descriptive efficiency score (Osterhaus method). This method multiplies the number of working days hindered due to health problems by the self-estimated level of efficiency. These questions are as follows:

- The scale below measures to what degree of efficiency **you** consider **yourself** to have worked on the days you **did** go to work while suffering from health problems. Would you please circle the number on the scale that applies to you. One (1) means you think you worked very **inefficiently** and ten (10) means you think your problems **did not** influence your efficiency.

1	2	3	4	5	6	7	8	9	10
Very inefficiently									**As efficient as always**

- How many days over the past two weeks did you go to work whilst suffering from health problems? NOTE: Do **not** count the days on which you reported sick……………………………………….days.

To determine the number of hours of production loss with the 'Osterhaus' method, the number of days is multiplied by the number of hours worked less efficiently. Suppose that the respondent indicates having been hindered for 3 days due to health problems at paid work. at a level of 7 on the efficiency bar. The respondent works 8 hours per day. The efficiency loss equals: (3x8)(1-0.7) = 7.2 hours.

We compared estimates based on the HLQ approach with estimates of reduced efficiency according to the method proposed by Osterhaus (Osterhaus et al, 1992). According to the latter method, 8.9 working days per migraine patient per year were lost due to reduced efficiency. Using the HLQ approach, the number of days was 2.7 per patient. We found a rather low Pearson correlation between the answers according to the HLQ approach and the estimates based on the Osterhaus method (r = 0.41). The correlation between the estimates according to each of the methods and the sum scores on the seven items related to problems during working time because of health problems was r = 0.56 and r = 0.51 respectively. The validity of neither methods has not been established. In anticipation of further research we suggest using the 'HLQ-method' as a minimum estimate and the 'Osterhaus-method' as a maximum.

4.3.3 Module 3: Unpaid Production
To investigate the construct-validity of measuring time spent on unpaid work, module 3, we compared the estimated number of hours spent on each productive activity in the general population sample with results from a survey in the general population based on the more accurate but costly diary method (CBS, 1988). In a Dutch Time Use Survey (TUS), a representative sample was selected from the total population aged 12 years and older (n=6,289). For the study on migraine patients, we compared the results with the amount of time the control group spent on unpaid work (Van Roijen et al, 1995). In addition, we compared time spent on paid work by hip and knee patients with time spent by a similar age and gender group within the general population (table 14).

For the general population the average time spent on household production by gender, and labour market participation was in accordance with estimates from the aforementioned TUS, except for child care (table 10) (CBS, 1988). The description of the activities of child care is adapted in the HLQ.

Table 13: *Time spent (on average, hours per week) on household production in the general population by gender and labour market participation..*

Household activity	Paid work		Unpaid work	
	Employment status			
	TUS (a)	HLQ (b)	TUS (a)	HLQ (b)
Men				
Household work	5.5	5.9	8.9	7.3
Shopping	2.6	2.3	3.7	3.1
Child care	1.7	7.0	0.8	2.6
Odds jobs	2.2	1.7	2.0	1.5
Women				
Household work	18.1	16.5	26.4	25.3
Shopping	4.5	3.6	5.1	4.8
Child care	2.9	10.8	4.1	11.4
Odds jobs	1.4	0.9	1.0	2.5

a: Time Use Survey (CBS (1).
b: HLQ

As might be expected, a paid job reduced time spent on household production, whereas children in the household increased the time spent on these activities.

Because of the episodic character of migraine we don't expect differences between migraine patients and the control group. Patients may substitute leisure and time spent on household production or postpone non-urgent activities, since migraine is not a chronic condition. The results of the HLQ show no significant differences between the time spent on household jobs by migraine patients and the time spent on household jobs by the control group. Neither did we find significant differences between migraine patients who had not suffered from migraine in the past two weeks and patients who had one attack or more in the same period.

In the study on spinal injury patients, there was a high variation in the time spent on unpaid production. The number of patients in this group is small, which makes interpretation of the data more difficult. We found that knee and hip patients spent significantly less time (on average) on household production compared to people of similar age and gender in the general population, except for time spent on shopping by knee patients (table 14). We did not include time spent on child care due to the small number of patients with children in these groups.

Table 14: *Time spent (on average per week) on household production by hip and knee patients compared to an age/sex-matched control group from the general population.*

Household activity	Hip (n=46)	Control group	Knee (n=51)	Control group
Household work	13.5	18.2	8.1	15.7
Shopping	2.6	4.5	4.4	3.9
Odd jobs	1.5	6.9	1.7	5.6

The first attempts to measure production losses with the HLQ at unpaid work for household jobs, odds jobs and shopping seem to point to a good construct-validity. The measuring of time use for child care appears to be difficult. The modification concerning this part in the current questionnaire will further be tested for validity.

4.3.4 Module 4: Impediments to paid and unpaid labour

The construct-validity of the impediment-score at unpaid work was tested on the basis of the expected decrease of the experienced impediment as a result of micturation problems due to the implantation of a electro-stimulator. Therefore we used the data of a longitudinal study at patients with a spinal cord injury.

We assessed the ability of health status (module 4) to discriminate between subgroups of respondents by difference in the amount of absence from work due to illness. For the respondents with paid jobs, we grouped the subjects by 'no absence from work' and 'absence from work of 0.5 days or more'. Next, we tested if the impediment-score at paid and unpaid work between these groups is significantly different. The Mann-Whitney U test was used due to the non-normal distribution of the data.

According to module 4 of the HLQ, the amount of trouble experienced in labour performance due to spinal cord injury was constant over time, as expected. With respect to micturation problems, the trouble score decreased significantly over time for household production, shopping and odds jobs (table 15).

Table 15: *Impediment score (module 4, for patients with spinal cord injury on three consecutive occasions.*

Productive activities	T=0 (n=44)	T=1 (n=36)	T=2 (n=38)	T=3 (n=33)
Household work	0.4[a] (0.6)[b]	0.1 (0.2)	0.1 (0.3)	0.1 (0.2)
Shopping	0.6 (0.7)	0.1 (0.2)	0.1 (0.2)	0.1 (0.0)
Child care	0.2 (0.5)	0.1 (0.2)	0.1 (0.2)	0.1 (0.2)
Odd jobs	0.4 (0.6)	0.1 (0.2)	0.1 (0.4)	0.1 (0.2)

Abbreviations: t=0, "before implantation;" t=1, "3 months after implantation;" t=2, "6 months after implantation;" t=3, "1 year after implantation."
a: X
b: Standard deviation is given in parentheses

Table 16 shows the ability of the HLQ to discriminate between different levels in absence from work. The average impediment score for unpaid work of people with a paid job in the general population and no days of absence from work in the two weeks prior to the assessment was 0.28. In the group of persons who had been absent, the mean score was

significantly higher, 1.07. The same holds true for the impediment scores for both paid and unpaid work, which were 0.12 and 0.84 respectively (table 13). The impediment scores for both paid and unpaid work discriminates highly between the two groups. The above mentioned results give a positive indication for the construct-validity of module 4 of the HLQ.

Table 16: Impediment score on paid and unpaid work in the general population between groups differing in numbers of days absent from work.

	Absence from work		
	0 days	≥0.5 days	p-value
'Impediment score'	*(n=280)*	*(n=21)*	(MWU)
Paid work	0.28[a] (0.49)[b]	1.07 (0.73)	<.0000
Unpaid work	0.12 (0.24)	0.84 (0.67)	<.0000

a: X
b: Standard deviation is given in parentheses

5. Conclusion & Discussion

The HLQ is a useful instrument for measuring production loss at paid and unpaid work to be used for economic evaluations of medical interventions. The HLQ also contains an instrument to quantify the impediments due to health-problems at paid and unpaid work. The HLQ has 4 modules, namely absence at paid work, production loss at paid work without absence, production losses at unpaid work and impediments at paid and unpaid work. The standardised non-disease-specific version of the HLQ can easily be made disease-specific. The modular structure makes it possible to leave out the non-relevant modules. Therefore the HLQ is suitable for a broad use at various groups of patients (acute, chronic, young, old etc.). Results concerning feasibility and validity are positive. In the near future a study on reliability is desirable.

6. Translations
The HLQ is also available in English, Swedish and French. These are translations from the Dutch version. There have been no further tests with the translated versions.

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QUESTIONNAIRE ON HEALTH AND LABOUR

This questionnaire asks about the effects of health problems on paid and unpaid work (domestic). The term 'health problems' refers to acute or chronic physical illnesses, symptoms or handicaps. Other health problems like chronic fatigue or pain are also covered by this. Furthermore, psychological disorders, are also included.

At the end of the questionnaire you will be asked for your age and some other personal details. These details will assist us in gaining a more clear understanding of your answers. There are no 'correct' or 'incorrect' answers to the questions asked. We are interested only in your personal opinion.

Before filling in the form kindly write down the date
Day………month………... 199……..

In addition to the questions relating to paid work there are some concerning unpaid work such as domestic chores. Throughout this questionnaire please limit your answers to your personal situation during the PAST TWO WEEKS.

1. Do you have paid employment?

    ☐ Yes, I work………..hours per WEEK, divided over…………DAYS; my profession is………………………….., function………………………….

    Go to the section Paid Work

    ☐ No
    Please continue with question 14 (page 3)

*If your answer to the above question was **yes**, please continue by answering questions 2 to 13 (even if you are suffering from a short term illness at the present moment).*
*If your answer to the above question was **no** please ignore questions 2 to 13 and continue with question 14.*

PAID WORK
We would like you to indicate on which working days in the **past two weeks** you were unable to perform paid work due to health problems. You are requested to complete this section using the following codes. In filling in the table on the following page you may use more then one letter.

'W' = performed paid work
'U' = unable to perform paid work due to health problems
'O' = no paid work performed due to other reasons (weekend, holidays etc.)

If you have part-time employment then fill in 'O' for the days on which you were not required to work. When you worked for half a day please indicate this e.g. by writing 'W/O' if you did not work in that afternoon.
In case of illness during the weekend fill in 'O' if you were not required to work and 'U' if you were required to work.

Example:

Imagine you have four days paid employment per week, but last week you were unable to work on Thursday and Friday due to health problems. You always have Wednesdays off. Then the table would appear as follows:

MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU
W	W	O	W	W	O	O	W	W	O	U	U	O	O

The week before last   *Last week*

This was an **example**

2. Please complete the table below in the same manner. Remember that the time period concerned is the past two full weeks, counting back from last weekend.

    'W' = performed paid work
    'U' = unable to perform paid work due to health problems
    'O' = no paid work performed due to other reasons (weekend, holidays etc.)

MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU

The week before last   *Last week*
Only answer the following question if you have been completely unable to perform paid work due to health problems during the past two weeks.

3. When did this period of illness start? Enter the date on which you reported sick.
    Day…………Month…………Year………..

    Health problems sometimes force employees to be absent from their work. It is also possible that employees go to work but are unable to perform their duties with the same efficiency as usual due to health problems. Questions 4 to 13 relate to this subject.

4. Were you hindered by health problems at your paid work over the past two weeks?

    ☐ No, not at all   ➔   go to question 13 (page 3)

    ☐ Yes, to a degree

    ☐ Yes, very much

Below you find a number of statements that could be applicable to people with health problems in relation to their current work situation. Please indicate for each statement that is mentioned how often it applied to you in the past two weeks.

I **did** go to work but as a result of health problems ….

	(almost) never	sometimes	often	(almost) always
5. …I had a problem concentrating	☐	☐	☐	☐
6. …I had to go to work at a slower pace	☐	☐	☐	☐
7. …I had to seclude myself	☐	☐	☐	☐
8. …I found decision-making more difficult	☐	☐	☐	☐
9. …I had to put off some of my work	☐	☐	☐	☐
10. …Others had to take over some of my work	☐	☐	☐	☐

11. …I had other problems, namely (please state)…………………………………

12. How many **extra** hours would you have to work to catch up on tasks you were unable to complete in normal working hours due to health problems over the past two weeks?
NOTE: Do **not** count the days on which you reported sick……………..………......Hours

13. We would now like to know what your **net** earnings are from your paid work.
NOTE: this concerns your income, not including that of your partner (if any). You only need to fill out **one** of the following options.

☐ My own net income from paid work is approximately:

………………………………… per WEEK

………………………………….per 4 WEEKS

………………………………….per MONTH

………………………………….per YEAR

☐ I do not know what my income is or I would rather not say

Now go to question 15
Question 14 should only be answered by people who do not/no longer have paid work at the present time.

14. You have no paid work. Which of the following situations is most applicable to you?

☐ I have the daily task of running a household

☐ I receive a pension or have taken early retirement

☐ I am still at school or a student

☐ I am unable to perform paid work due to health problems (If you did have paid work before would you fill out your profession and the function you held: profession……………...………………..function held …………….……………)

☐ I have no paid work for other reasons (for example involuntary unemployment, voluntary work etc.)

TO BE COMPLETED BY ALL RESPONDENTS

*The following questions concern unpaid work. Here a distinction has been made between work in the household; shopping; odd jobs and chores and activities for or with the children. We would **everyone** to please answer these questions. Firstly you will be asked how many hours a week you spent on each activity. If you did not perform a particular activity than simply write " 0" hours.*
Secondly we would like to know whether you were hindered in any of the activities mentioned by health problems.
Please remember that your answers should relate to the PAST TWO WEEKS.

15. How many hours a week did you spend on:

    - Work in the household ……………....hours per week
      (e.g. preparing meals, cleaning the house, washing clothes)
    - Shopping ………...…hours per week
      (e.g. shopping for the daily groceries, other types of
      shopping, going to the bank or post office)
    - Odd jobs and chores ..………..…hours per week
      (e.g. house repairs, gardening, fixing the car)
    - Doing things for or with your own children ………...…..hours per week
      (e.g. caring for them, taking them to school, helping with
      homework)

16. It may be that people with health problems who normally do household tasks (cleaning the house, shopping, taking care of the children) must leave these tasks to be done by others due to their health problems.

    Have others taken over any of your household tasks due to your health problems? (*You may tick more then one box if applicable*)

    ☐ Yes, family members (e.g. partner, children) have taken over my household tasks for
    . ..…..……….hours **per week**

    ☐ Yes, others (e.g. neighbours or volunteers) have taken over my household tasks for
    ……………..hours **per week**

    ☐ Yes, I have had a home-help for …...….……..hours **per week**

    ☐ Yes, I have had another type of paid help for ……..………hours **per week**

    ☐ No, I have performed my household tasks myself.

In the next table we would like you to indicate which of the following unpaid activities you have performed in the PAST TWO WEEKS and whether or not you were hindered by health problems. Please tick the appropriate answer.

First we will give two examples:

Example 1

During the PAST TWO WEEKS Mrs. Johnson did no go shopping in the city due to her health problems. She did manage to go to her local corner shop in spite of her problems. She indicates this as follows:

	DID DO		**DID NOT DO**	
	Was hindered by health problems	Was not hindered by health problems	Due to health problems	Other reason
Shopping	**X**			

Example 2

Mr. Cook never vacuums. His son always performs this task because Mr. Cook hates doing it. Mr. Cook answered the question on vacuuming as follows:

	DID DO		**DID NOT DO**	
	Was hindered by health problems	Was not hindered by health problems	Due to health problems	Other reason
Vacuuming				**X**

These were two **examples.**

17. Would you now complete the table below in the same way as shown in the two examples. Put a cross next to an activity if you have performed it in the PAST TWO WEEKS. If your answer is "DID DO" then indicate whether or not you were hindered by health problems. If your answer is "DID NOT DO" then please indicate whether or not this was due to health problems.

	DO DID		DID NOT DO	
	Hindered by health problems	Not hindered by health problems	Due to health problems	Other reasons
Household work at home (for example, preparing meals, cleaning, washing clothes)				
Shopping (for example, daily groceries, other shopping, going to the bank or post office)				
Odd jobs and chores (for example, house repairs, gardening, fixing the car)				
Doing things for or with you own children (for example, caring for them, playing, taking them to school, helping with homework)				

The following questions concern a general nature

1. Are you:
    ☐ Male

    ☐ Female

2. What is your date of birth?
    day…………month………....19…..………

3. Which of the following levels of education have you completed? (you may tick more than one

    answer if applicable)

    ☐ None

    ☐ Primary school

    ☐ Lower vocational education

    ☐ General secondary education

    ☐ Intermediate vocation education
    ☐ Grammar school

    ☐ Polytechnic Higher vocational education

    ☐ University

4. How many people live in your household?
    ☐ I live alone

    ☐ I live with one or more people

5. Are there any children in your household?
    ☐ Yes, the age of the youngest child in the household is……..……………...months/years

    ☐ No

6. Below is a list of chronic conditions and illnesses. Would you please indicate whether you are suffering from or have suffered from any of these conditions in the LAST TWELVE MONTHS?

    Suffering from now or have suffered in the LAST TWELVE MONTHS:

	YES	NO
Asthma or chronic bronchitis	☐	☐
Serious heart condition or heart Infarct	☐	☐
High blood pressure	☐	☐

	YES	NO
A stroke or its consequences	☐	☐
Stomach or duodenal ulcer	☐	☐
Serious intestinal disturbance lasting more than three months	☐	☐
Gall stones or infection of the gall bladder	☐	☐
Liver condition or cirrhosis of the liver	☐	☐
Kidney stones	☐	☐
Serious kidney condition	☐	☐
Complaint of the prostate gland	☐	☐
Diabetes	☐	☐
Thyroid gland condition	☐	☐
Back problems of a persistent nature, hernia, ischia or "worn out" back	☐	☐
Arthritis of the knees, hips or hands	☐	☐
Rheumatism of the hands and/or feet	☐	☐
Other rheumatic conditions	☐	☐
Epilepsy	☐	☐
Other nervous disorders such as Parkinson's disease, multiple sclerosis	☐	☐
Serious headaches	☐	☐
Migraine	☐	☐
Malignant condition or cancer,	☐	☐
Overexertion, depression, serious nervousness	☐	☐
Chronic skin condition or eczema	☐	☐
Prolapsus	☐	☐
Varicose veins	☐	☐
Injury due to an accident in or around the house, a road traffic accident, sports injury at school or at work	☐	☐

This is the end of the questionnaire. Thank you very much for your co-operation. The space below has been provided for any remarks you may wish to make about this questionnaire.

………
………
………
…………………………………………………………………………

LETTER TO REGISTER USAGE OF THE HEALTH AND LABOUR QUESTIONNAIRE

For the purposes of our record keeping, please could you provide us with the following information:

Date………………………………………………………………………………………

Name (please print)……………………………………………………………………

Postal address
………………………………………………………………………………………………
………………………………………………………………………………………………

Postal code ………………………………………………………………………………
City…………………………………………………………………………………………
………………………………………………………………………………………………

Telephone number……………………………………………………………………….
Fax number………………………………………………………………………………
E-mail address……………………………………………………………………

Purpose of the HLQ
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

External sources of funding
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

Will you be using any other health status measures alongside the HLQ (if so, which ones?)
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

What are the likely numbers of patients involved?
………………………………………………………………………………………………
………………………………………………………………………………………………

When would you think the study would conclude?
………………………………………………………………………………………………
………………………………………………………………………………………………