



# Monitoring of HCV

testing in low-threshold  
drug services

Results from four European countries

Heike Zurhold



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## Colophon

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# 1 Introduction

Monitoring of the testing for hepatitis C has been implemented in low-threshold services in Germany, Romania, Portugal and Finland. Low-threshold services were selected as they attract a considerable number of active drug users who might be engaged in risk behaviour. Due to the number of drug users visiting low-threshold services, this setting provides a good opportunity to screen for risk behaviour and the need for HCV testing. Most often low-threshold services do not monitor the prevalence of infectious diseases among their clients. Therefore the monitoring aimed at collecting data on the proportion of drug users who have been tested for HCV, the prevalence of HCV and the number of drug users that should be tested for hepatitis C.

# 2 Methods

The monitoring tool is a one page anonymous screening instrument with predefined questions. With regard to anonymity only data on gender and age is collected. In order to exclude double information each participant was given an individual code. The monitoring tool has three sections: The first is on risk behaviour of the participants which might constitute reasons for HCV testing. The second section is focussed on screening for need to get tested. For instance, if a participant never has been tested before or the last testing took place more than 12 months ago, testing for HCV antibodies is recommended. On the other hand, if someone has already been tested positive for hepatitis C, further testing on HCV antibodies is useless as antibodies will always be detected. The third section is on the HCV testing procedures and the test result. This section also includes questions on the availability and acceptance of a confirming PCR test in case of a positive antibody test.

The monitoring was implemented in drug services which provide needle and syringe programmes, outreach services or opioid substitution treatment. Monitoring data have been collected in

- Portugal: five different low-threshold drug services with drop-in areas or outreach programmes, including opioid substitution treatment in the three cities of Porto, Lisbon and Vila Nova de Gaia;
- Finland: six low-threshold drug service in the cities of Helsinki, Tampere, Espen and Hämeelinna;
- Romania: one fixed and two mobile units providing needle exchange programmes and one unit for opioid substitution treatment in the city of Bucharest;
- Germany: one drug service with a consumption room in the city of Frankfurt.

The monitoring tool was used on a progressive scale, starting March 2013 in Bucharest, April 2013 in the Portuguese and Finnish cities and May 2013 in Frankfurt. The monitoring was continued in all cities until the end of December 2013. Accordingly the monitoring covers a period of at least eight months.

During the implementation period the monitoring tool was to be applied among each individual client appearing at the participating low-threshold drug services.

### 3 Results

During the eight months of the monitoring a total of 539 drug users were screened for their HCV-related risk behaviour in the four European countries/cities. The number of drug users targeted for the active HCV screening varies considerably between the countries, reflecting the different number of low-threshold services in the countries which have implemented the monitoring. Almost 43 % of all clients were from Portugal, while no more than 9 % of the clients were from Germany. In Romania, 28 % of all 539 clients were included and in Finland this is the case for 20 %.

With regard to gender most of the clients monitored were male (75.5%), less than one quarter were female and one person was transgender (table 1). In particular in Portugal the vast majority of the clients were male. In contrast, a high number of the clients monitored in Finland were female. This gender distribution does not comply with the reality in drug services in Finland. In fact, special emphasis was placed on addressing women drug users with HCV screening. However, the differences in the gender distribution across the countries are statistically significant.

**Table 1: Number and gender of clients monitored per country**

| Country    | Total number of clients | % of females |
|------------|-------------------------|--------------|
| Finland    | 108                     | 41.7         |
| Germany    | 48                      | 22.9         |
| Portugal   | 231                     | 16.5         |
| Romania    | 152                     | 24.3         |
| <b>SUM</b> | <b>539</b>              | <b>24.3</b>  |

Chi<sup>2</sup> =  $p < 0.001$

The age of the clients shows a huge variation, ranging from 17 to 67 years with an average age of 36.2 years. On the country level, the mean age of the clients who have been screened for HCV differs significantly (table 2). In Germany and Portugal the clients were the oldest with a mean age above 40. Compared to these two countries the clients from Romania and Finland were almost 10 years younger. In comparison the Finnish clients were particularly young with an average age of 26.7 years.

**Table 2: Age of clients per country (n=534)**

| Country  | Mean age (min-max) | Anova       |
|----------|--------------------|-------------|
| Finland  | 26,7 (17-53)       | $p < 0.001$ |
| Germany  | 40,3 (21-59)       |             |
| Portugal | 43,5 (25-67)       |             |
| Romania  | 30,8 (18-57)       |             |

\* For five clients the age is missing.

The analysis demonstrates considerable heterogeneity as to the number, gender and age of the clients monitored. As a first result one can conclude that in each country a specific group of drug users was screened in low-threshold drug services for their risk behaviour and their need for HCV testing.

### 3.1 Screening of risk behaviour

The monitoring instrument included three categories of risk behaviours which are associated with the potential risk to become infected with hepatitis C. These categories were drug-related risks, sex-related risks and risks due to unsafe tattooing and piercing. Considering only valid data<sup>1</sup>, the results of the screening demonstrate that the risks mentioned by the majority of the clients were life-time prevalence of drug injecting (n=419, 78.2 %) and unsafe sex (n=377, 74.8 %). Furthermore, more than half of the clients admitted to have shared drugs or paraphernalia with others (n=271, 52.1 %). Risks related to unsafe tattooing or piercing were reported by more than one fourth of all clients (n=135, 28.7 %). A few clients (n=4) also specified needle stick injuries or blood contact with injector as individual HCV-risk.

If comparing the reported risk behaviour across the four countries, the findings reveal significant differences in HCV-related risks between the clients of the countries (table 3). Overall, the clients of low-threshold drug services in Romania had the highest risk behaviour in all categories. All of them show a life-time prevalence of drug injecting, nearly all had engaged in unprotected sex and three quarters had shared drugs and/or paraphernalia. Most clients in Finland and Germany also reported a life-time prevalence of drug injecting and unsafe sex. Sharing of drugs and paraphernalia is also rather widespread but still lower compared to Romanian clients. On the other hand, the clients from Portugal show the lowest risk behaviour compared to all other clients.

**Table 3: Reported risk behaviour per country – double counting**

| Risks (%)                  | Finland | Germany | Portugal | Romania | Total (n) | Chi <sup>2</sup> |
|----------------------------|---------|---------|----------|---------|-----------|------------------|
| Ever injected              | 86.9    | 72.9    | 60.7     | 100     | 536       | <i>p</i> <0.001  |
| Shared drugs/paraphernalia | 43.6    | 50.0    | 40.4     | 75.7    | 520       | <i>p</i> <0.001  |
| Unsafe sex                 | 78.2    | 80.0    | 60.3     | 93.4    | 504       | <i>p</i> <0.001  |
| Unsafe tattooing/piercing  | 33.9    | 20.5    | 23.0     | 37.2    | 471       | <i>p</i> <0.05   |

Most clients who were screened for their risk behaviour reported more than one of the risks presented in table 3. If counting the number of risks stated by an individual client, the results show: Almost the same number of clients reported either of three or two different risks (31.8 % and 29.3 %). Slightly more than one fifth of the clients admitted engagement in all four risks (15.5 %), while a similar number stated one risk (14.7 %). Surprisingly 44 clients said not to have engaged in any of the four types of risk behaviour (8.6 %). A further analysis of the number of reported risks in relation to the countries does not show any considerable differences.

The new guideline of the WHO on screening and treatment of persons with HCV infection recommends Hepatitis C antibody testing for individuals exposed to risks of an infection with hepatitis C such as persons injecting or sniffing drugs and those with body piercings and tattoos made under poor hygienic conditions (WHO 2014). Considering the risk behaviour reported by the clients it can be stated that all of them should have been tested for hepatitis C.

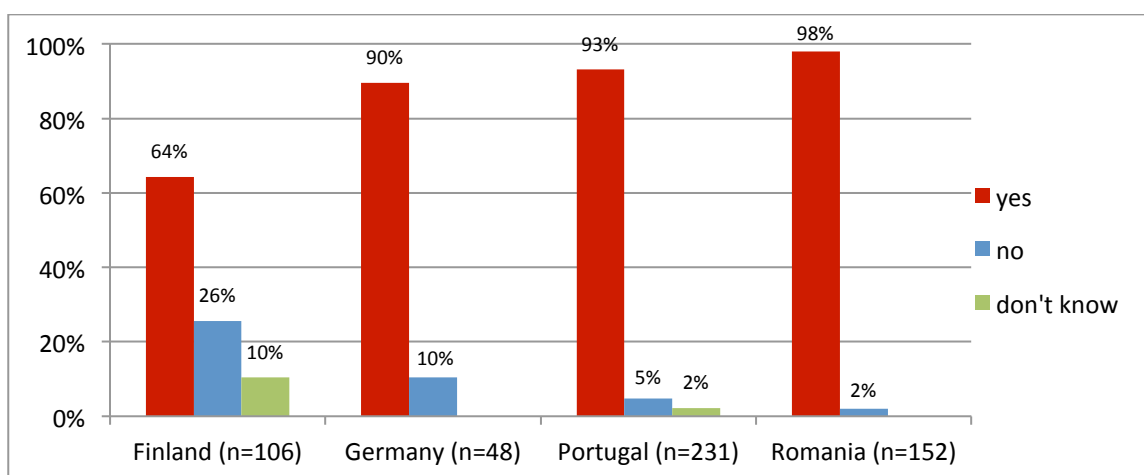
<sup>1</sup> All cases with no answer to questions on risk behaviour were excluded from the analysis.



### 3.2 Previous uptake of HCV antibody testing

The vast majority of the clients has been tested for antibodies of hepatitis C at least once in their lives (n=475; 88.5 %). Of the screened drug users 46 individuals have never been tested and 16 individuals did not know if they had ever been tested for HCV. High rates of previous HCV testing were found in Romania and Portugal (figure 1). In Romania almost all clients included in the HCV monitoring had at least once been tested for HCV (98 %). According to the Romanian expert, testing rates are high among drug users who utilise drug services in Bucharest. In Germany 90 % of the clients of the drug consumption room in Frankfurt have been tested for HCV at least once. The high testing rate is the consequence of a recent national surveillance study of the Robert Koch Institut (RKI) which surveyed the prevalence of HIV and HCV among injecting drug users through blood tests.<sup>2</sup> In Finland most of the clients have also previously been tested for HCV, but compared to the other countries the testing rates are significantly lower (p<.001). In addition, more than one fourth of the drug users visiting low-threshold drug services in Finland never took up any testing for hepatitis C. Furthermore there is a notable group of clients who did not know if they had ever been tested for HCV (10 %). As a consequence, there is substantial group of drug users in Finland who are not aware about their HCV status, who need to be screened for their risk behaviour, and tested for HCV if required.

**Figure 1: Percentage of clients who have been tested for HCV at least once (n=537)**



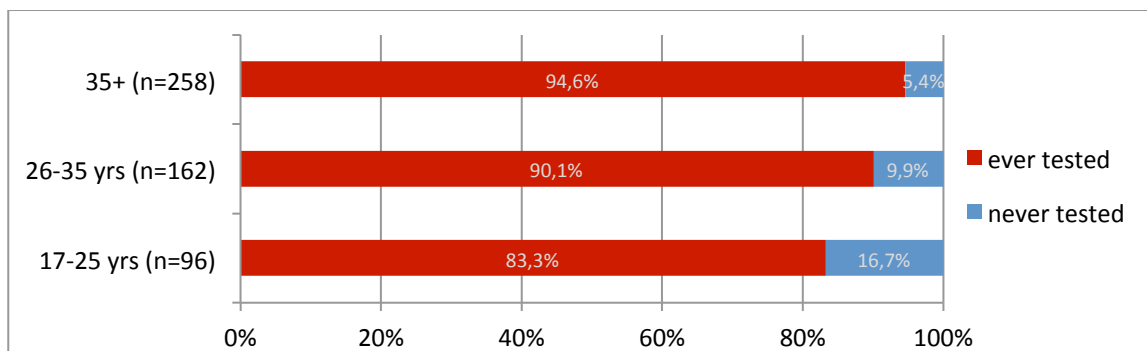
Chi<sup>2</sup> = p<0.001; two cases are missing

In general, the rates of HCV testing among the clients of low-threshold drug services are considerably high. For this reason no correlation between the reported risk behaviours and the uptake of hepatitis C antibody testing was found. Further analysis included an examination of whether there is any correlation between the age of the clients and their uptake of previous antibody testing. The underlying hypothesis was that younger drug users might be less likely to ever having been tested for HCV. A comparison of the mean age and life-time HCV testing demonstrated a significant correlation between the age and testing rates of the drug users (F=5.586; p<0.005). The 46 drug users who had never been tested for HCV were 31.4 years old on average while those with previous hepatitis C antibody testing were 36.7 years old on average (n=470). The 16 drug users who could not remember if they had been tested for HCV had an average age of 36.1.

<sup>2</sup> Frankfurt was one of the cities included in the so-called Druck-Studie of the RKI. In this city two drug services participated in the survey in March 2013, one of which is part of this European project. A total of 285 IDUs were tested for hepatitis C, among them 65 % were anti-HCV positive and 48.4 % were anti-HV and HCV-RNA positive ([http://www.rki.de/DE/Content/InfAZ/H/HIVAIDS/Studien/Newsletter\\_08-2013.pdf](http://www.rki.de/DE/Content/InfAZ/H/HIVAIDS/Studien/Newsletter_08-2013.pdf)).

For those drug users who reported to be sure of having been previously tested for HCV a further analysis of HCV testing in relation to the age was conducted (figure 2). Younger drug users aged 17 to 25 had the lowest testing rates as almost 17 % had never been tested for HCV antibodies. With growing age the number of drug users without previous HCV testing declined significantly ( $p < 0.005$ ). Among the clients above 35 years of age, only 5.4 % have never been tested for HCV.

**Figure 2: HCV testing in relation to age of drug users (n=516)**



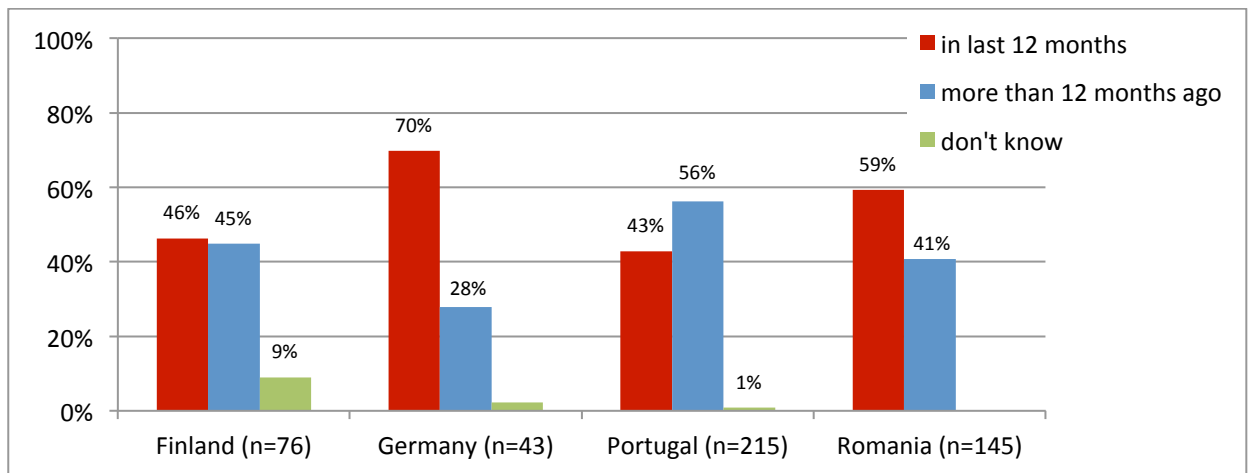
$\text{Chi}^2 = p < 0.005$ ; five cases are missing

The high uptake of HCV testing among the clients of low-threshold services indicates awareness for this highly prevalent disease among the health care professionals or the drug users or both. However, in order to reduce the period of an undiagnosed HCV infection frequent screening and re-testing is recommended. At present, most guidelines recommend testing for persons exposed to risks at least every 12 months (EMCDDA 2010).

Accordingly the monitoring tool included the question whether the last testing for hepatitis C antibodies had taken place within the last 12 months. Data on the period of time which had passed since the last testing was provided by 470 out of 475 clients with previous HCV testing. The results show that 239 clients had been tested in the last 12 months (50.9 %). In 222 clients the last testing had taken place more than 12 months ago (47.2 %), and 9 clients could not remember the date of the last HCV testing.

On the country level there were significant differences regarding the time which had passed since the last HCV testing (figure 3). In Germany 70 % of the clients had been tested for HCV during the last 12 months. However, the considerable high rate of recent HCV testing is related to the above mentioned study of the Robert Koch Institut. In Romania, 60 % of the clients had been tested for hepatitis C in the recommended period of 12 months. On the other hand, in Finland and Portugal not even half of the clients had been tested in this period. In fact, in every second client the last testing for hepatitis C had taken place more than 12 months ago. The differences between the countries as regards the last testing period are highly significant ( $p < 0.001$ ).

**Figure 3: Period of last HCV testing (n=470)**



$\chi^2 = p < 0.001$ ; five cases are missing

In relation to all 539 clients uptake of testing for hepatitis C is indicated in all clients who

- have never been tested before (n=46) or
- cannot remember any testing (n=16) or
- have not been tested in the last 12 months (n=222).

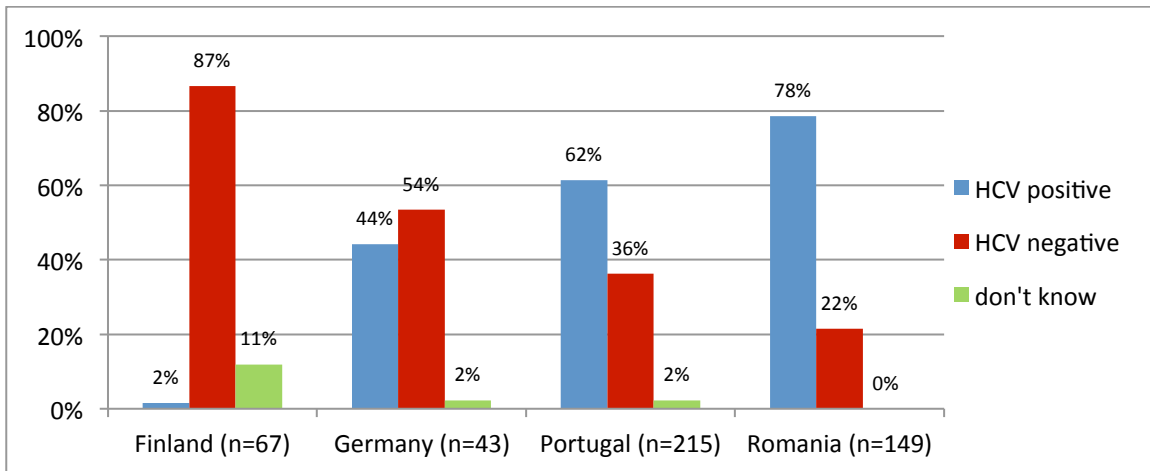
However, if a drug user has ever been tested for hepatitis C antibodies and has turned out to be anti-HCV positive, further antibody testing is not indicated as the test result will remain positive. In order to learn about the rate of clients in need for present HCV testing, the results of previous testing have to be taken into account.

### 3.3 Results of HCV antibody testing

Data on the result of anti-HCV testing was available for 474 clients who confirmed to have undergone previous testing for HCV (one case is missing). Among this number 269 clients (56.8 %) were anti-HCV positive, 191 clients (40.2 %) were anti-HCV negative and another 14 clients (3.0 %) did not know their test result.

A comparison of the countries showed significantly different results of HCV antibody testing (figure 4). The drug users in Bucharest, Romania, had the highest prevalence of an infection with HCV; here almost 80 % of the clients reported to be positive for HCV. In Portugal, the majority of 60 % also confirmed to be anti-HCV positive. In contrast, in Finland the vast majority of 87 % of the drug users were tested negative for HCV antibodies. The test results for the drug users in Frankfurt, Germany, show that more than half of them were anti-HCV negative and a considerable proportion of 44 % were infected with hepatitis C. The test results across the countries achieved statistical significance ( $p < .001$ ).

**Figure 4: Percentage of clients infected with HCV (n=474)**

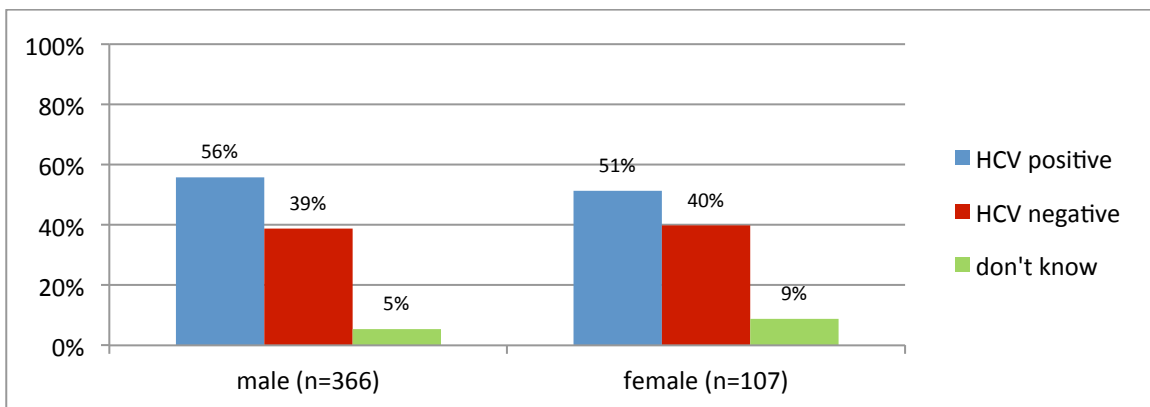


Chi<sup>2</sup> = p<0.001; one case is missing

A number of drug users did not know their test result, which was particularly the case in Finland. Not knowing the test result might be related to the circumstances that the last test had been conducted a long time ago or that one had never received the test results. However, this group needs to be tested for HCV antibodies again.

If comparing the results of the HCV antibody testing for males and females, the analysis did not reveal considerable gender differences (figure 5). Slightly more male than female drug users received an HCV positive test result. On the other hand slightly more female drug users did not know their test result.

**Figure 5: HCV antibody test result according to gender (n=473)**



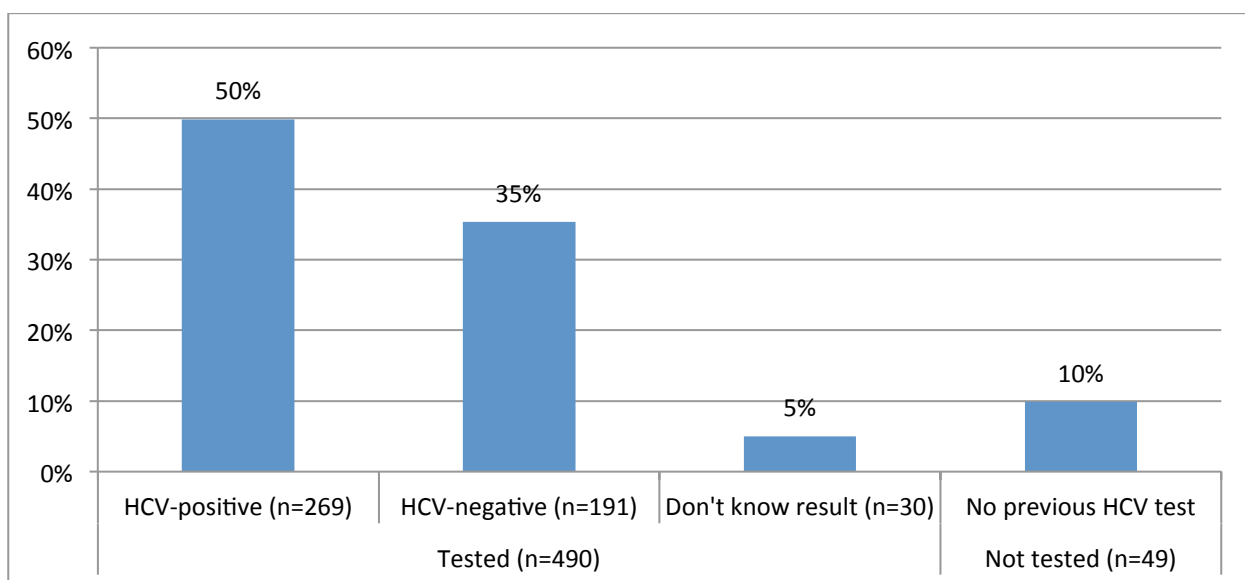
Chi<sup>2</sup> = p=0.769; two cases are missing

In conclusion, the monitoring data demonstrate a high prevalence of hepatitis C infections among drug users who utilise low-threshold drug services. The HCV prevalence for those with previous HCV testing is almost 57 %. If calculating the prevalence rate for all 539 clients who participated in the monitoring, nearly 50 % of the clients were infected with hepatitis C.

### 3.4 Current need for HCV testing

As already mentioned, drug users who were tested positive for hepatitis C antibodies do not need to be tested again for antibodies. In the four European countries 269 clients out of 539 reported to be anti-HCV positive (49.9 %). The remaining 270 clients either have been tested anti-HCV negative or cannot remember their test result or have not been tested at all. Figure 6 presents an overview on the percentage of clients with and without previous HCV testing. Of the 539 clients 10 % have not been previously tested for hepatitis C and 5 % of those with previous HCV testing did not know the test result. Accordingly the uptake of HCV testing is recommended for at least 15 % of all clients (n=79).

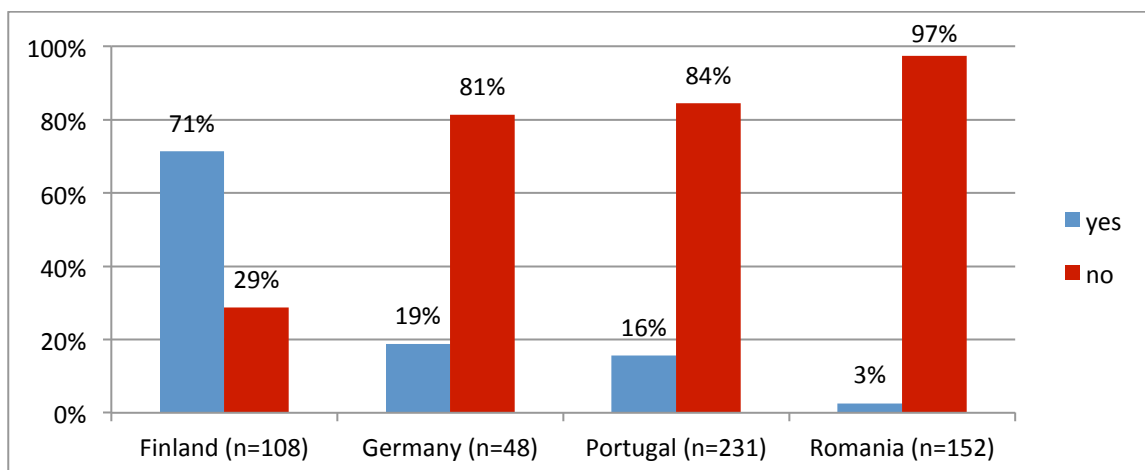
**Figure 6: Previous HCV testing and test result (n=539)**



To identify the need for HCV antibody testing among those 191 clients who have previously been tested anti-HCV negative, the last testing period is taken into consideration. A total of 144 anti-HCV negative clients have been tested during the past 12 months (75.4 %); these clients did not require re-testing during the monitoring period. In the remaining 47 clients re-testing was recommended as their last antibody test had been performed more than 12 months ago. In sum, 126 clients were recommended to undergo testing during the monitoring period (47 anti-HCV negative clients plus the 79 clients without previous test or without knowing the test result).

With regard to the current need for HCV testing there are considerable differences between the four countries (figure 7). The highest need for HCV testing exists in Finland where the uptake of antibody testing for hepatitis C was necessary in 77 clients (71 %). In Germany and Portugal a number of clients should also be tested for hepatitis C in order to receive information on their HCV status (n=9 and n=36 respectively). In Romania, on the contrary, only four clients needed to be tested for hepatitis C (3 %). The differences in testing needs between the countries are significant ( $p < .001$ ).

**Figure 7: Current need for HCV antibody testing (n=539)**



Chi<sup>2</sup> = p<0.001

Based on the results of the monitoring a total of 413 clients did not require testing for HCV during the monitoring as they had either already been tested anti-HCV positive or had been tested during the past 12 months (76.6 %). On the other hand the monitoring detected a substantial group of drug users who should take up antibody testing for HCV. In fact, 126 clients were identified as in need for current testing for hepatitis C (23.4 % of the whole sample).

### 3.5 Procedures and results of the current HCV antibody testing

126 clients required HCV antibody testing and the majority of them accepted the recommended testing (table 4). Only seven clients refused HCV testing; among them all four clients from Romania. However, finally 131 clients were tested for hepatitis C antibodies. This number is higher than the number of those in need for HCV testing because a few clients were included who had already been tested during the last 12 months. Most of the clients who were tested for HCV antibodies were from Finland (68.7 %). Aside from that more than one fourth of the newly tested clients were from Portugal.

**Table 4: Need for, acceptance and uptake of HCV testing**

| Country              | Needed | Refused testing | Uptake of testing <sup>1</sup> |
|----------------------|--------|-----------------|--------------------------------|
| Finland              | 77     | 0               | 90 (68.7%)                     |
| Germany <sup>2</sup> | 9      | 1               | 7 (5.3%)                       |
| Portugal             | 36     | 2               | 34 (26.0%)                     |
| Romania              | 4      | 4               | 0                              |
| SUM (n)              | 126    | 7               | 131 (100%)                     |

1 In Finland 13 additional clients were tested.

2 In Germany eight clients accepted HCV testing but for one client testing was not conducted.

Data on the testing method are available for 129 out of 131 tests conducted. In almost 90 % of the hepatitis C antibody testing laboratory tests were used (n=116). Laboratory tests summarised antibody tests such as Elisa (Enzyme linked immuno sorbent assay) which require blood through venepuncture. The blood has to be sent to a laboratory for analyses and test results are usually available after a couple of days. Rapid tests usually detect HCV antibodies from capillary blood taken from the finger and the test result is available 20

minutes later. Hence, if HCV testing is performed with rapid tests drug users can receive their test result rather immediately. However, only 13 of the 129 HCV tests have been conducted with rapid tests; in Germany all tests were conducted with rapid tests, and in Portugal rapid tests were used in 5 out of 34 HCV tests (15 %).

Testing for infectious diseases requires appropriate and informed pre- and post-test counselling (NHS 2004, Blystad & Wiessing 2009). Pre- and post-test counselling should be given individually and provide at least a minimum of information on the transmission of hepatitis C, the testing procedure, strategies for risk reduction, the confidentiality of test results and the implications of a positive or negative result for the individual and his or her sexual partners. Within this European project the vast majority of the HCV testing was combined with pre-test and post-test counselling (95 % and 88 %). However, post-test counselling was less frequently provided than pre-test counselling; in case of a positive antibody test result counselling was always carried out.

Of the 131 clients who were tested for HCV antibodies 83 clients were found to be antibody-negative (63.4 %). Nevertheless a substantial number of clients turned out to be infected with hepatitis C (table 5). In fact, almost 37 % of the tested drug users were positive for HCV. In particular the clients in Portugal were found to be anti-HCV positive (62 % of all clients tested in Portugal). In Finland about 29 % of the 90 clients tested received a positive result of the hepatitis C antibody test.

**Table 5: Results of current HCV antibody testing (n=131)**

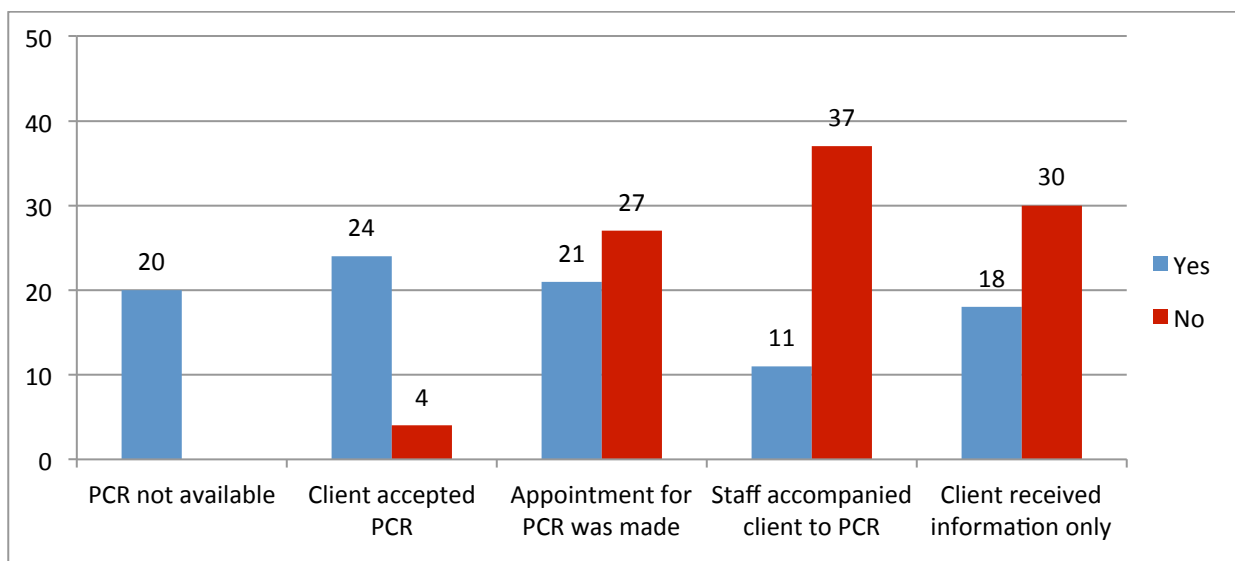
| Country              | Tested     | Anti-HCV negative | Anti-HCV positive | Chi <sup>2</sup> |
|----------------------|------------|-------------------|-------------------|------------------|
| Finland              | 90 (68.7%) | 64                | 26                | <i>p</i> <0.01   |
| Germany <sup>2</sup> | 7 (5.3%)   | 6                 | 1                 |                  |
| Portugal             | 34 (26.0%) | 13                | 21                |                  |
| SUM                  | 131 (100%) | 83 (63.4%)        | 48 (36.6%)        |                  |

In a further analysis the testing results were examined for those clients with and without previous HCV testing. 30 % of the clients who had not been previously tested for hepatitis C received a positive test result. Those clients with previous negative HCV test had a seroconversion rate of almost 36 %. If the clients reported that the last HCV test was longer than 12 months ago, the seroconversion rate was even higher with 40 %. These results clearly demonstrate the need for repeated HCV testing at least every 12 months.

Following a positive antibody HCV test result it is a standard procedure to confirm the presence of a hepatitis C infection through PCR (polymerase chain reaction). It is necessary to conduct PCR tests in order to detect HCV RNA (ribonucleic acid) which allows for determining the genotype of the infection and the viral load. HCV RNA confirmation is important as results of antibody testing could be false positive, and as the detection of HCV RNA is needed for the diagnosis of chronic HCV infections and the decision about HCV treatment. Accordingly, the monitoring tool also included questions on the procedures the staff provided to their anti-HCV positive clients for PCR confirmation.

The following figure presents the results on the support the staff provided to the 48 clients who had received a positive HCV antibody test result (figure 8). Most of the clients accepted the PCR confirmation for diagnosis of their infection with hepatitis C. Surprisingly for 20 clients – all from Finland –PCR confirmation was reported not to be available. Obviously in Finland PCR is not provided for drug users who have been tested in low-threshold drug services (this accounts to 77 % of the 26 anti-HCV –positive clients). In about 44 % the staff of the drug services arranged an appointment for PCR confirmation; this was particularly the case in Portugal. In addition, only in Portugal clients were accompanied by staff to medical services for PRC confirmation. However this was provided in 11 of 21 anti-HCV positive Portuguese clients. Furthermore 18 clients received information on PRC or liver function tests or both.

**Figure 8: Confirmation of HCV infection for anti-HCV positive clients (n=48)**



## 4 Summary

In four European countries – Germany, Finland, Portugal and Romania – a one page monitoring tool was implemented in a number of low-threshold services to screen active drug users

- for their risk behaviours and previous HCV antibody testing, and
- to identify those in need for present HCV testing and uptake of testing.

Low-threshold services were selected for the monitoring as they reach a population at high risk for acquiring an infection with hepatitis C. According to the most recent WHO guidelines on hepatitis C (2014), targeted screening and testing is recommended for high-risk populations such as PWID (people who inject drugs), persons with intranasal drug use, those with unsafe tattoos and body piercing and those who have been imprisoned. Drug users might be exposed to several of these HCV-related risks, and accordingly HCV case finding through screening and testing is clearly indicated in this population. Evidence from primary studies shows that targeted HCV antibody testing is associated with an increased uptake of HCV testing (Lindenburg et al. 2011; Jones et al. 2013; Barocas et al. 2014).

The monitoring was implemented for a period of eight months (March to December 2013) during which a total of 539 drug users were screened for their risk behaviour, previous HCV antibody testing, and their test results. Major findings from the analysis of the data reported on the 539 drug users are:

- Risk behaviour

Exposure to an infection with hepatitis C was predominantly related to life-time drug injecting (78 %), unsafe sex (75 %), and sharing of drugs or paraphernalia with others (52 %).

- Previous HCV antibody testing

With almost 89 % of clients who have at least once been tested for HCV antibodies the testing rates are remarkably high. Among the four countries Finland emerged as the country with the significantly lowest testing rates; no more than 64 % of the Finnish clients had previously been tested for HCV.

Based on the monitoring data a significant correlation between the age and the previous uptake of HCV testing was found. The older drug users were the higher were the rates of



previous HCV antibody testing. On the contrary, young drug users (>25) had the lowest testing rates if compared with other age groups (83 % vs 95 %).

- Need for first or repeated HCV antibody testing

A total of 269 out of 539 clients reported to be anti-HCV positive (49.9 %) and consequently did not need to be tested again for antibodies. However, it is worth mentioning that only 2 % of the Finnish clients had been tested positive for HCV antibodies. 191 clients stated to be anti-HCV negative (40.2 %) and among them 144 persons had been tested during the past 12 months. As testing for HCV is recommended for high-risk groups at least every 12 months, these clients did not need to be re-tested during the monitoring period. Finally a group of 126 clients was identified as in need for current HCV antibody testing (23.4 %).

- Uptake of HCV antibody testing

During the monitoring period 131 clients were tested for HCV antibodies; most of whom were from Finland (n=90). In about 63 % of the cases the tests were negative for HCV while in almost 37 % the clients were found to be anti-HCV positive (n=48).

An anti-HCV positive test requires confirmation through a HCV RNA detection test (e.g. a PCR test). The HCV RNA test is necessary as antibody testing can be false positive and as antibody tests do not allow to distinguish between a previously resolved or current infection with hepatitis C. For instance the German surveillance study of the Robert-Koch Institut provided antibody and HCV RNA test results for drug users in four cities (Hannover, Munich, Frankfurt and Cologne). On average 66.7 % of the drug users were tested anti-HCV positive and 44.7 % were both anti-HCV and HCV RNA positive. The WHO guideline for hepatitis C noted that 15–45 % of those initially infected with hepatitis C will spontaneously clear the virus, usually within six months of acquiring the infection (WHO 2014).

Hence, the detection of HCV RNA is vital to confirm the infection with hepatitis C and to decide upon the indication for HCV antiviral treatment. However, half of the drug users found to be anti-HCV positive were stated to accept a PCR test for confirmation. The remaining half of the anti-HCV positive clients was from Finland where PRC tests were reported not to be available for anti-HCV positive drug users. This result does not mean that no PRC tests are conducted in Finland, but it implies that active drug users seem to have no access to this conformation test. It can be assumed that drug users may not be accepted by health care services for HCV RNA testing as this is linked to the question of the potential need for HCV treatment, which is rather cost intensive.

Targeted HCV antibody testing of drug users mainly aims at increasing the uptake of testing among this high-risk group and thus increasing the number of drug users who are aware of their HCV status. In this respect targeted antibody testing is one approach for preventing the transmission of hepatitis C to others. In addition, antibody testing is linked to the diagnosis of acute and chronic hepatitis C and consequently could lead to an increased demand for antiviral treatment.

Along with HCV antibody testing it is important to ensure access to HCV RNA confirmation tests and to treatment following the HCV RNA test result. Such an approach requires resources such as training of the staff for pre-and post-test counselling, testing equipment and laboratory and clinical services for serology, diagnosis and treatment. In conclusion, this implies a health policy which provides the same health care services to drug users as to any other patient.

## 4.1 Additional explanations on the results of Finland

In general, the monitoring intended to screen each active drug user - who contacted a low-threshold drug service - for their previous HCV antibody testing and the need for re-testing or first testing.

However, after printing the results it appeared that in Finland the monitoring was implemented differently. Here only those drug users were screened who asked themselves for first HCV antibody testing because of a risk situation. Accordingly previous test rates were low in Finland (figure 1, page 7).

Out of 106 drug users 68 (64%) had ever been tested for HCV antibodies, and 30 of them had been tested in the previous 12 months (figure 3, page 9). As in Finland the monitoring was rather selective, the majority of the drug users reported to be anti-HCV negative (figure 4, page 10). That also explains why the demand for HCV testing was comparably high in Finland (page 11).

Finally, the availability of PCR confirmation in Finland needs further explanation (page 13). In Finland, active drug users usually have no access to HCV treatment. Medical examination of the treatment eligibility requires a period of 6 to 24 months without the use of illicit drugs. This implies either drug abstinence or stable opioid substitution treatment. For this reason staff of drug services perceived PCR as not available for active drug users.

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