Background

- In France, hepatitis C virus (HCV) serological surveys conducted in the mid 1990s, estimated around 600,000 persons with anti-HCV antibodies.
- Three national programmes for hepatitis C control have been implemented from 1997, targeted to prevention, screening and treatment.
- In order to contribute to the evaluation of these programmes, INVS developed 2 national surveillance networks in 2000.
  - to surveillance of patients newly referred to hepatology reference centers,
  - to surveillance of hepatitis C screening through laboratories (RENA-VHC network).

Objectives

The objectives of RENA-VHC were:
- to monitor trends of screening over time,
- to characterise persons (in terms of age and gender) screened positive for hepatitis C.

Methods: definitions

Type of tests
- Screening test: search for anti-HCV (ELISA) on a first blood sample.
- Validation of screening test: validation of a positive screening result searching for anti-HCV (ELISA, RIBA) or HCV RNA (qualitative PCR) on a second blood sample.

Type of activity
- Overall activity: overall number of blood samples taken for screening, validation of screening and other tests search for anti-HCV with unprecised indication, over a period of time.
- Validation of screening activity: overall number of blood samples taken for validation of screening over a period of time, whatever the technique used (ELISA, RIBA and PCR).

Type of indicators
- Overall indicator of positivity (OIP): rate of positive overall activity over the overall activity.
- Validation indicator of positivity (VIP): rate of positive validation of screening activity over the overall activity.
- Anti-HCV confirmed positive person: person with 2 positive tests (screening & validation of screening).

Methods: organisation of RENA-VHC network

Selection of laboratories:
- 357 laboratories who participated to surveillance were invited to participate to RENA-VHC on a voluntary basis.
- They were:
  - spread all over France,
  - able to carry out the tests or have them done by other laboratories,  
  - either hospital (157) or private laboratories (200).

Data collection:
- All blood samples (except those of children < 1 year of age) tested for hepatitis C were included.
- Two types of monthly reports were completed:
  - overall activity, validation of screening activity, number of positive tests among these two activities,
  - for each positive test: indication and type of test used, person’s gender and age.
- Reports were sent to InVS on a quarterly basis.
- Laboratories participation was defined by sending at least one quarter’s worth of data.

Participation
- Among 357 laboratories contacted, 281 accepted to participate, of whom 263 (94%) participated at least 1 quarter over the period 2000-2004.
- Among the 263 laboratories, 163 (62%) participated all along the 20 surveillance quarters, divided into:
  - 76 private laboratories (47%),
  - 87 laboratories in hospitals (53%).

Trend of overall activity

- The overall anti-HCV screening activity increased of 37%
  between 2000 (315,343 tests) and 2004 (431,278 tests).
- A seasonality of one year period was observed with:
  - a decrease during the 3rd quarter,
  - a peak during the 1st quarter of the following year.

Trends of indicators

- A statistically significant decrease (p<0.001, X2 linear trend)
  of both the OIP and the VIP was observed over time.
- For both indicators, a stabilization in trends seemed to occur from 2003.

Anti-HCV confirmed persons

- From 20 to 49 years-old, men were predominantly anti-HCV confirmed positive, whereas from 50 years-old and over, women were predominant.
- Majority of men (56%) was in the 30-49 age group.
- Majority of women (53%) was distributed among the 30-49 age group (37%) and the 70-79 age group (16%).

Regional results

- It was observed among men:
  - an increase of the proportion of the 40-49 years-old,
  - a decrease of the proportions of the <20 and 60-69 years-old.
- It was observed among women:
  - an increase of the proportion of the 80 years-old,
  - a decrease of the proportions of the 20-29 and 30-39 years-old.

Conclusions

- The increase of hepatitis C screening between 2000-2004 (fig 1) is consistent with other French data.
- The decreasing VIP over time (fig 2) may suggest that more persons at lower risk have been screened.
- Among women aged 20-39, the decrease of anti-HCV positive diagnosis (fig 4) could be linked to an observed decline of anti-HCV prevalence in this group over the past 10 years.
- Identically, the increase of anti-HCV confirmed positive men 40-49 years-old (fig 4) could be linked to an increase of prevalence in this group.
- These results cannot be extrapolated to all French laboratories. Therefore, a national survey is currently conducted in order to provide national estimates.

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