Characteristics, Treatment Rates, Quality of Life (QOL), and Activity Impairment Among US Adults With Hepatitis C–An Analysis by Birth Cohort

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BACKGROUND

- In 2012, the US Centers for Disease Control and Prevention published recommendations for one-time hepatitis C virus (HCV) screening for adults born during 1945 through 1965[1]
- Evaluating US populations with hepatitis C by birth segment may provide insights that could be increasingly relevant to payers and healthcare providers

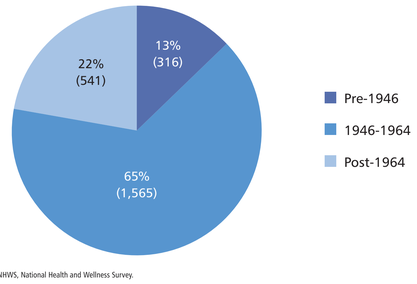
METHODS

- Data was obtained from the US National Health and Wellness Survey (NHWS), a cross-sectional, self-administered, Internet-based survey, from 2009-2012
- Respondents aged ≥18 years who self-reported a hepatitis C diagnosis were included
- Unique respondents were stratified into 3 mutually exclusive cohorts based on year of birth:
  - Those born before 1946 (pre-1946),
  - Those born between 1946 and 1964 (1946-1964), and
  - Those born after 1964 (post-1964)
- Data from the Medical Outcomes Study 12-item (NHWS years 2009-2011) and 36-item (NHWS 2012) Short-Form Survey Instruments (SF-12v2 and SF-36v2, respectively)[2,3] were utilized in this analysis. Both instruments are validated health surveys comprised of 12 or 36 items assessing 8 health domains (vitality, physical functioning, bodily pain, general health perceptions, physical role functioning, emotional role functioning, social role functioning, and mental health) that may be summarized into a physical component summary (PCS) and a mental component summary (MCS) score. PCS and MCS scores were normed to the United States, with higher scores indicating greater quality of life (QOL)
- The Work Productivity and Activity Impairment (WPAI)[4] questionnaire is a validated instrument that has a 7-day recall period and measures the impact of health on ability to work and perform regular activities. From the WPAI, total activity impairment (the percentage of impairment in daily activities) because of one's health can be evaluated
- Cohorts were descriptively evaluated for observed characteristics, treatment rates, self-reported QOL (MCS and PCS scores), and activity impairment assessments; bivariate analyses were performed

RESULTS

- Among the 2009-2012 NHWS respondents, 2,422 individuals self-reported a hepatitis C diagnosis (HCV respondents)
- Most (64.6%) 2009-2012 unique HCV respondents were born between 1946 and 1964 (**Figure 1**)

Figure 1. HCV respondents by birth cohort (n = 2,422 total unique HCV respondents from 2009-2012 US NHWS).



HCV, hepatitis C virus; NHWS, National Health and Wellness Survey.

- The 1946-1964 cohort had a significantly higher proportion of males than the post-1964 cohort (65.3% vs 59.3%; $P < 0.05$; **Table 1**)
- Insured status was significantly ($P < 0.05$) higher in the pre-1946 cohort (96.5%) versus the 1946-1964 (75.5%) or post-1964 (70.2%) cohorts (**Table 1**)

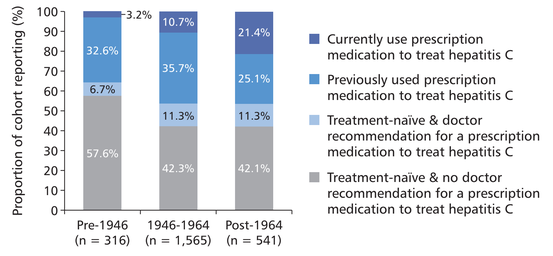
Table 1. HCV Respondent Characteristics by Birth Cohort (n = 2,422 Total Unique HCV Respondents From 2009-2012 US NHWS)

	Pre-1946 (n = 316)	1946-1964 (n = 1,565)	Post-1964 (n = 541)
Male, n (%)	203 (64.2)	1,022 (65.3)*	321 (59.3)
White, n (%)	271 (85.8)*,†	1,098 (70.2)*	339 (62.7)
College graduate, n (%)	121 (38.3)*,†	328 (21.0)	132 (24.4)
Have health insurance, n (%)	305 (96.5)*,†	1,182 (75.5)*	380 (70.2)

HCV, hepatitis C virus; NHWS, National Health and Wellness Survey.
*P value <0.05 versus post-1964 cohort.
†P value <0.05 versus 1946-1964 cohort.

- Current use of HCV treatment was reported by a lower proportion of individuals in the pre-1946 cohort (3.2%) versus the 1946-1964 (10.7%) or post-1964 (21.4%) cohorts ($P < 0.05$; **Figure 2**)
- More than half in each of the 3 cohorts were treatment-naïve (64.2% pre-1946; 53.5% 1946-1964; and 53.4% post-1964)
- A significantly lower ($P < 0.05$) proportion of treatment-naïve respondents in the pre-1946 cohort had a prior doctor recommendation for HCV therapy (10.3% [n = 21/203] vs 21.0% [n = 176/838] of the 1946-1964 cohort, or vs 21.1% [n = 61/289] of the post-1964 cohort)

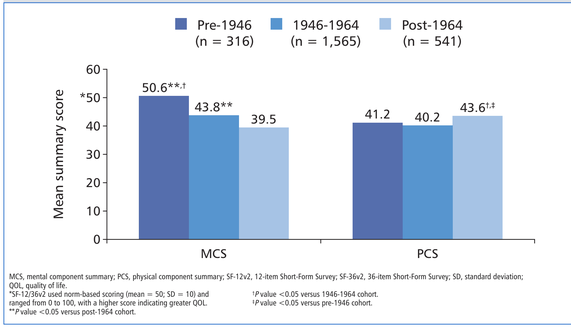
Figure 2. HCV treatment status by birth cohort.



HCV, hepatitis C virus.

- Mean MCS scores worsened from oldest to youngest cohorts (pre-1946 = 50.6; 1946-1964 = 43.8; post-1964 = 39.5; **Figure 3**)
- Mean PCS scores were higher ($P < 0.05$) for the post-1964 cohort (43.6) versus the 1946-1964 (40.2) or pre-1946 (41.2) cohorts

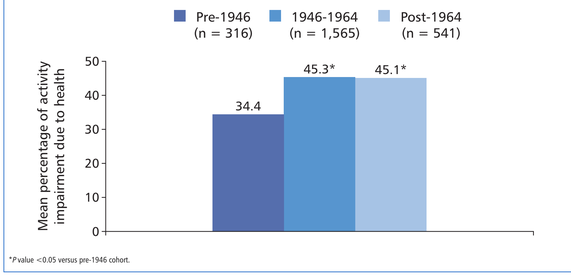
Figure 3. Mean MCS and PCS scores by birth cohort.



MCS, mental component summary; PCS, physical component summary; SF-12v2, 12-item Short-Form Survey; SF-36v2, 36-item Short-Form Survey; SD, standard deviation; QOL, quality of life.
*SF-12/36v2 used norm-based scoring (mean = 50; SD = 10) and ranged from 0 to 100, with a higher score indicating greater QOL.
**P value <0.05 versus post-1964 cohort.
†P value <0.05 versus 1946-1964 cohort.
‡P value <0.05 versus pre-1946 cohort.

- Mean percentage of activity impairment due to health was higher ($P < 0.05$) among the 1946-1964 (45.3%) cohort and among the post-1964 (45.1%) cohort when compared to the pre-1946 cohort (34.4%; **Figure 4**)

Figure 4. Mean percentage of activity impairment by birth cohort.



*P value <0.05 versus pre-1946 cohort.

LIMITATIONS

- All data were subject to inherent limitations in self-reported surveys, such as patient recall, and HCV diagnoses were not confirmed with clinical records (eg, medical charts)
- Multivariate analyses were not performed

CONCLUSIONS

- In this hepatitis C population analyzed by birth segment, individuals born in 1946-1964 represented the largest segment of the population at nearly two-thirds of the total hepatitis C survey respondents
- These results suggest that differences by birth cohort may exist within this population regarding their characteristics, treatment rates, and patient-reported outcomes, such as quality of life and activity impairment due to health
- Further research by birth segment in US populations of hepatitis C patients may provide insights that could be increasingly relevant to both payers and healthcare providers

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AUTHOR DISCLOSURES

- Jamie Forlenza and Neeta Tandon are employees of Janssen Scientific Affairs, LLC, and hold stock in Johnson & Johnson
- Jessica Lopatto is a Janssen-sponsored fellow at Thomas Jefferson University
- Kathy Annunziata and Nikoletta Sternbach are employees of Kantar Health and consultants for Janssen Scientific Affairs, LLC

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