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BRIEF REPORT

Hepatitis C Management and the Infectious Diseases Physician: A Survey of Current and Anticipated Practice Patterns

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This query of North American infectious diseases physicians reviews current and anticipated practice patterns related to hepatitis C virus (HCV) care. Less than 20% of survey respondents evaluated and/or treated >10 HCV-infected individuals in the past year. We review HCV practice patterns, barriers to management, and education among infectious diseases physicians.

Keywords. hepatitis C virus; infectious diseases specialty; healthcare surveys.

Hepatitis C virus (HCV) and related liver disease are leading causes of morbidity and mortality worldwide [1]. In the United States, >2.7 million noninstitutionalized individuals are chronically infected with HCV; when including all risk groups, there may be as many as 5.2 million [2, 3]. HCV-associated liver disease, including cirrhosis and hepatocellular carcinoma, will peak over the next decade [4].

To prevent end-organ dysfunction related to HCV, interventions focused on screening, linkage to care, and treatment are needed. The US Preventive Services Task Force (USPSTF) guidelines recommend screening patients not only with risk factors but also those born from 1945 to 1965; effectively screening this cohort may yield >800 000 newly diagnosed HCV infections [5, 6]. Direct-acting antiviral (DAA) therapies are being rapidly developed for HCV infection, increasing efficacy while decreasing side effects compared with interferon and ribavirin–based regimens [7].

The number of patients chronically infected with HCV, the rapid influx of newly diagnosed patients, and the increased number of patients eligible for treatment with interferon-free regimens are likely to overwhelm the capacity of current HCV providers. Infectious diseases (ID) physicians are a group uniquely suited to engage in HCV care, particularly as DAA regimens are akin to human immunodeficiency virus (HIV) therapy [8]. However, there is a lack of published data regarding how many ID physicians currently care for HCV, how many plan to care for HCV in the future, and what issues affect these practice patterns.

METHODS

Study Population

The Emerging Infections Network (EIN) of the Infectious Diseases Society of America is a provider-based emerging infections sentinel network [9]. Members include ID physicians who provide clinical ID care.

Hepatitis C and the ID Physician Survey

A 10-question multiple choice/short answer survey was developed to assess ID physicians' practice related to HCV as well as the type and volume of HCV treatments currently offered. We also solicited opinions about barriers to HCV care, ID physicians' anticipated role in HCV management in the future, and best models for educating providers regarding rapidly evolving treatment modalities.

The survey was distributed by electronic mail and facsimile by the EIN coordinating site (University of Iowa) to EIN members in the United States, Canada, and Puerto Rico. Two reminders were sent to nonresponders at 8 and 22 days following the initial distribution. EIN activities have an institutional review board exemption from the University of Iowa.

Statistical Analyses

Data analysis was performed using SAS software, version 9.3 (SAS Institute). The χ^2 test was used to measure associations between categorical variables. P values <.05 were considered statistically significant.

RESULTS

Demographics

The survey was distributed between 28 January and 3 March 2014. Of 1172 eligible respondents, 550 physicians responded

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(47%). Most respondents were from the South Atlantic East (19%), Pacific (18%), Mid-Atlantic (14%), and East North Central (14%) regions, although every US region was represented. Most were employed in a university (34%), private practice (30%), or hospital/network-based setting (28%). Most had >14 years of experience since ID fellowship (57%). Response rates did not differ by region, employment, or primary hospital type. Respondents were significantly more likely than nonrespondents to have >14 years of experience since ID fellowship ($P < .0001$) (Supplementary Table 1).

ID Physicians Should Evaluate and/or Treat HCV

Most respondents (71%) believed that ID physicians should evaluate and treat HCV infections with gastroenterology/hepatology support for cirrhosis and other complications. A minority believed that ID physicians should limit HCV care to patients with no or mild liver fibrosis (16%) or HIV/HCV coinfection (9%). Four percent of respondents believed that ID physicians should not evaluate or treat HCV.

Limited HCV Evaluation and/or Treatment by ID Physicians

Most respondents (84%) reported that that they regularly screen patients for HCV as per USPSTF guidelines. Overall, 54% of respondents evaluate and/or treat HCV in some capacity. Forty percent of respondents evaluate and/or treat HCV monoinfection, 49% evaluate and/or treat HIV/HCV coinfection, and 34% evaluate and/or treat both HCV monoinfection and HIV/HCV coinfection. However, the number of patients seen is small; only 16% of respondents evaluated >10 HCV-monoinfected patients within the past year, whereas only 14% evaluated >10 HIV/HCV-coinfected patients within the past year (Figure 1). Evaluating and/or treating >10 HCV-infected patients in the past year was not associated with region, primary hospital type, or years of experience after ID fellowship. Providers in private or group practices were more likely to treat HCV monoinfection ($P = .008$).

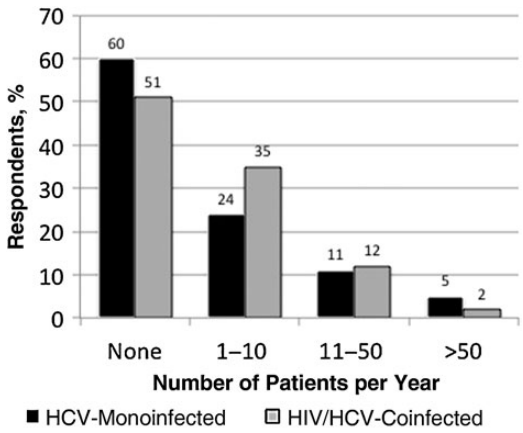

Figure 1. Number of hepatitis C virus (HCV)–monoinfected and human immunodeficiency virus (HIV)/HCV–coinfected patients managed by infectious diseases physician respondents per year.

ID Physician Roles in HCV Care May Evolve Depending on Practice Barriers

Twenty-seven percent of respondents do not treat HCV monoinfection and do not plan to do so in the future. Respondents identified multiple practice barriers to HCV care, including insufficient clinical capacity, infrastructure, or other support (44%); lack of desire to treat HCV (39%); and lack of training/experience (26%). Respondents who do not currently treat HCV monoinfection but plan to in the future reported that they are awaiting interferon-free regimens for all HCV genotypes (53%); additional clinical capacity, infrastructure, or other support (51%); and additional training/experience (44%).

HCV Training Impacts ID Physician Activity in HCV Care

The majority of respondents (61%) felt they had not received adequate training to evaluate, treat, and/or manage complications of HCV in clinical practice. Among these, 17% evaluated and/or treated >10 HCV-infected patients in the past year, compared with 49% of those who felt they had received adequate training ($P < .0001$). Among those who reported evaluating and/or treating >10 HIV-infected patients in the last year, 66% felt they had received adequate training.

Respondents identified multiple sources of prior HCV-related training, including continuing medical education presentations, workshops, courses, and conferences (76%); practice guidelines (67%); clinical experience/training (65%); peer-reviewed journal publications (65%); and other online resources (40%). Most respondents identified these sources as desirable for future training (82%, 79%, 59%, 62%, and 56%, respectively).

DISCUSSION

We report a large survey detailing ID physicians' opinions, current practice, and anticipated future practice related to HCV care. Although most respondents felt that ID physicians should evaluate and treat HCV infections with gastroenterology/hepatology support for cirrhosis and other complications, less than half currently evaluate and/or treat HCV monoinfection, and <1 in 5 evaluate and/or treat >10 HCV-infected patients annually.

A large majority of respondents reported that they regularly screen patients for HCV. The intensity of this practice across inpatient and outpatient settings was not assessed.

ID physicians have been identified as a group that may augment the current HCV provider workforce [8]. However, more than one-quarter of respondents do not plan to treat HCV in the future. Based on survey results, it appears that the majority of ID physicians who anticipate caring for HCV in the future already do so at this time. To augment HCV care capacity, it

may be important to focus on ID physicians in training, younger ID physicians developing their practices, or other provider groups. Additionally, the volume of HCV patients seen by treating providers may need to increase to successfully care for patients infected with HCV.

Most respondents felt that prior training (including residency and fellowship) did not prepare them adequately to evaluate and/or treat HCV in clinical practice. The transformation of HCV clinical care has left many dependent on continuing medical education to acquire new knowledge. However, those who felt adequately trained appear more likely to treat larger volumes of HCV-infected patients. Emphasizing HCV management as part of graduate medical education may influence future workforce dynamics. For those already in practice, many educational formats have been used in the past and remain desirable in the future.

Our study has several limitations. First, as the EIN is not a random sample of ID physicians, these responses may not reflect the general ID physician community. The survey response reflects EIN membership and is similar to other EIN surveys [10, 11]. Second, the response rate was higher among physicians with >15 years of experience; this is consistent with other EIN surveys but may minimize the opinions of those who more recently completed ID fellowship training [10, 11]. Third, current practices were obtained by self-report only, and respondents were not audited regarding actual practices. Finally, this survey was limited to 10 questions to minimize response fatigue, and the brevity of our query limited our ability to assess other factors [9].

CONCLUSIONS

HCV will continue to be an important source of morbidity and mortality in the United States. The impact of recent advances in HCV therapy will be contingent on diagnosis, linkage to care, and subsequent treatment of HCV infection. Based on this survey, the majority of ID physicians who plan to evaluate and treat HCV already do so, but most care for relatively few HCV-infected patients each year. Graduate and continuing medical education related to HCV should be intensified to adequately prepare ID physicians for HCV care. There is ample opportunity for ID physicians to become more involved in managing this important disease.

Supplementary Data

Supplementary materials are available at *Clinical Infectious Diseases* online (http://cid.oxfordjournals.org). Supplementary materials consist of data provided by the author that are published to benefit the reader. The posted materials are not copyedited. The contents of all supplementary data are the sole responsibility of the authors. Questions or messages regarding errors should be addressed to the author.

Notes

Disclaimer. The content of this publication is solely the responsibility of the authors and does not necessarily represent the official views of the Centers for Disease Control and Prevention (CDC) or the Department of Health and Human Services.

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