Public Health Impact of Antiviral Therapy in the US

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• Antiviral therapies are improving, but to do any good they have to get to the patient
Outline

1) What is the public health impact of current antiviral therapy?
2) What are the barriers to treatment?
3) How can those barriers be eliminated?
1) Public health impact of antiviral therapy
Our 2009 analysis

- New PEG-IFN prescription data were obtained from a market research firm for 2002-2007
- Markov model of the US HCV population
  - Proportion of liver-related deaths averted by antiviral therapy

Volk et al. Hepatology 2009;50:1750
## New PEG-IFN Rx

<table>
<thead>
<tr>
<th>Year</th>
<th># new prescriptions</th>
<th>95% CI</th>
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</thead>
<tbody>
<tr>
<td>2002</td>
<td>126,040</td>
<td>125,449–126,649</td>
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<tr>
<td>2003</td>
<td>144,275</td>
<td>143,616–144,943</td>
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<tr>
<td>2004</td>
<td>107,131</td>
<td>106,653–107,614</td>
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<tr>
<td>2005</td>
<td>114,197</td>
<td>113,580–114,823</td>
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<tr>
<td>2006</td>
<td>88,083</td>
<td>87,685–88,486</td>
</tr>
<tr>
<td>2007</td>
<td>83,270</td>
<td>82,897–83,647</td>
</tr>
</tbody>
</table>

- Approximately 5% of the HCV population being treated each year
Results from the Markov model

![Graph showing hepatitis C population over years with and without treatment]
Markov results (cont)

• Between 2009 and 2030, an estimated 14.5% of liver-related deaths in the HCV population averted by antiviral therapy

• Sensitivity analysis:
  – Increasing SVR to 75%: 21% of deaths averted
  – Increasing patients treated by 50%: 30% of deaths averted
2) Barriers to treatment
The test and treat process

- **Diagnosis**
  - Identification of those at risk, order test, patient gets test, follow-up
- **Referral to specialist**
  - Access to specialists willing to treat
- **Doctor recommends treatment**
  - Patient medical and psychosocial comorbidities
- **Patient takes treatment**
  - Willingness, insurance, side effects
- **SVR**
  - Efficacy of medication, appropriate management on treatment
NHANES f/u survey: reasons for lack of treatment
3) How can barriers be eliminated
Eliminating barriers in the DAA era

• Patient
  – Public education campaigns (general or targeted)
  – Public screening campaigns

• Healthcare system
  – Who treats HCV?

• Medication
  – Complexity of tailored therapy
Discussion