The World’s Largest Hepatitis C Screening Program in Egypt

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BACKGROUND
With the highest prevalence of HCV and 5.5 Million viremic patients, HCV elimination became a national health priority in Egypt. The national HCV treatment program with DAAs began in 2014, and by September 2018, about 2.5 million patients had been evaluated for and started treatment. Those represented most patients who had been living with the diagnosis, and by mid 2018, the rate of patients registering for evaluation and treatment markedly decreased.

METHODS
Mass screening program
To augment treatment flow and meet disease elimination targets, a national population screening program was initiated in October 2018 aiming at screening:
- all adults above the age of 18 (61 million), and
- all school children between the ages of 12 and 18 if their parents signed a letter of approval (15 million) within two years.

Screening is totally free and includes testing for anti-HCV using WHO pre-qualified rapid diagnostic test (SD Bioline HCV, Abbott, Abbott Park, IL, USA), diabetes, hypertension, and obesity.

The country was divided into three geographic sections and the mass screening program is being implemented as follows:

<table>
<thead>
<tr>
<th>Governorates</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>October 1st, 2018</td>
<td>December 1st, 2018</td>
<td>March 1st, 2018</td>
</tr>
<tr>
<td>Duration, months</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>fixed screening sites, n</td>
<td>5,000</td>
<td>6,000</td>
<td>7,000</td>
</tr>
<tr>
<td>Millions to be screened, n</td>
<td>17</td>
<td>21</td>
<td>23</td>
</tr>
</tbody>
</table>

Screening coverage and seropositivity
The screening program was configured using handheld devices, and cell networks. All results were transferred instantaneously to a central database.

<table>
<thead>
<tr>
<th>Number Screened and Percent Seropositive by Age Group</th>
<th>Number of Patients Screened</th>
<th>Percent Seropositive</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>4,708,400</td>
<td>5,9%</td>
</tr>
<tr>
<td>26-35</td>
<td>5,274,600</td>
<td>8,0%</td>
</tr>
<tr>
<td>36-45</td>
<td>6,107,900</td>
<td>10,5%</td>
</tr>
<tr>
<td>46-55</td>
<td>7,100,000</td>
<td>12,5%</td>
</tr>
<tr>
<td>56-65</td>
<td>8,000,000</td>
<td>14%</td>
</tr>
</tbody>
</table>

RESULTS
In the first 4.5 months of the program, turnout was massive:
- 29.8 Million persons were screened (78.5% of the target population in the areas where screening is still ongoing).
- Of these, 1.2 million were seropositive (4%), were referred for further evaluation, of whom 75% were viremic.
- Those who test positive and fail to show for their evaluation appointments are contacted to identify the cause of the “no show”.

CONCLUSION
With this screening program and the mass treatment effort that has been the largest in the world so far, Egypt is on a fast track to HCV elimination, and has the potential to be the first country to achieve the WHO disease elimination targets.

ACKNOWLEDGMENT
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