National Strategy for Control and Prevention of Viral Hepatitis: An Update

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Disclosure

• *There is no conflict of interest relevant to this presentation*
• 8499 Egyptians aged 10-50 years were tested the overall prevalence of HCV was 14.5% and HBV was 4.5%

• Only 16% of HCWs were HBV vaccinated.
• 30% of HCWs reported needle stick injuries within 3 months.
• Only 7% of injections observed met WHO criteria of SAFE.
• Infection with HCV in 24 MOHP hospitals hemodialysis units was 37%.

• Egyptian National Strategy 2007-2012
• National HCV treatment program 2007
• Egyptian Demographic Health Survey 2008
• Awareness program and campaigns 2007-2010
Injection Safety - Egypt

- **Rate of injections**: 26.2% reported taking injection 3 months prior to the study, the majority of which was therapeutic.

- **Rate of Unsafe Injections**: 8.4% reported receiving an injection with an opened syringe (not coming from a sealed package).

- **Estimated Number of Injections administered in Egypt/year**: 281 million injections/year.

- **Estimated Number of unsafe Injections administered/year**: 23 million Injections/year!
Surveillance

• The MOH Epidemiological Surveillance Unit, established in 1999 with the cooperation of WHO, EMRO and the CDC, coordinated surveillance of communicable and non-communicable diseases.

• Cases of acute hepatitis B, and C were reported monthly from the network of all district surveillance units.

• MOH needed to update the Hepatitis Surveillance Guidelines and improve the reporting system.
The **National Committee for Control of Viral Hepatitis (NCCVH)** Established by MoH in **2007**

**Objectives:**

- National Survey & Burden of Disease
- Develop a National Strategy
- Treatment Program
- Prevention
  - Awareness and media Campaign
  - Infection control
- Clinical Research
- Management of advanced liver disease
The Main Goals of the National Control Strategy

• Detect prevalence and incidence of HBV & HCV

• Reduce the prevalence of chronic HBV & HCV infections by 20% of 2008 levels by 2012

• Expand access to treatment to within 100 km for all Egyptians and treat 50% of persons needing treatment by 2014.

• Continue to produce high-quality scientific research

• Ensure program sustainability

The Main Goals of the National Control Strategy (Cont’d):

• Institutionalize the National Committee on Viral Hepatitis and the viral hepatitis control program within the Egyptian governmental structure

• Ensure programmatic sustainability by finding new sources of funding from both governmental and international sources

• Implement effective monitoring & evaluation (including detailed record-keeping for financial and other aspects) to ensure accountability and the good use of funds

Percentage of HCV-infected individuals between 15-59 years

Anti-HCV prevalence:
- 15 years 3.8%
- 19 years 4.9%

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HCV Prevalence and Education

**Women**

- No Education: 21.7%
- Some Primary: 16.1%
- Primary Complete/Some Secondary: 10.1%
- Secondary Complete/Higher: 4.3%

**Men**

- No Education: 30%
- Some Primary: 24.3%
- Primary Complete/Some Secondary: 15.2%
- Secondary Complete/Higher: 13.9%

% HCV AB POSITIVE
HCV Prevalence and Medical Procedures

**WOMEN**

- **SURGERY**: 13.6, 9.2
- **BLOOD Tx**: 22.2, 14.1
- **DENTAL**: 13.2, 8.6
- **ANTI SCHISTO INJECTION**: 25.3, 16.7
- **INJECTION FOR OTHERS**: 12.2, 7.9
- **REUSED SYRINGES**: 15.3, 7.3

**MEN**

- **SURGERY**: 22.1, 15.5
- **BLOOD Tx**: 26.7, 18.2
- **DENTAL**: 20.1, 14
- **ANTI SCHISTO INJECTION**: 31.5, 21.1
- **INJECTION FOR OTHERS**: 17.9, 12.4
- **REUSED SYRINGES**: 31.8, 26.7

9/28/2014
Clinical Research Strategy: Well-characterised multidisciplinary cohorts

Ain Shams Hospital

1 to 2 months

Occupational exposure
Early natural history

National treatment centers

6 months

Fibrosis studies
Clinical trials

10 to 30 years

INCUBATION

ACUTE PHASE

CHRONIC PHASE

HCV risk factors:
- Iatrogenic
- IDU
- Intra-familial

Fever Hospitals

Treatment efficacy

Factors associated with HCV clearance:
- epidemiology
- lipids
- virology
- immunology

Village cohorts

- Incidence
- Genetic epidemiology
- Metabolic studies
- 10-year natural history

Mathematical modeling:
Prediction, cost-effectiveness

9/28/2014
<table>
<thead>
<tr>
<th><strong>Health Care Providers</strong></th>
<th><strong>School children / University</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Orientation days for Service Providers</td>
<td>• Expand viral hepatitis messages into schools and universities:</td>
</tr>
<tr>
<td>• Health educators to Sanitarians in rural areas</td>
<td>• Seminars</td>
</tr>
<tr>
<td>• TOTs and peer-educators</td>
<td>• Held 17 national contests</td>
</tr>
<tr>
<td></td>
<td>• Subsidized HBV vaccination and information for students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>General Population</strong></th>
<th><strong>Hotline</strong></th>
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</thead>
<tbody>
<tr>
<td>• In clinic seminars</td>
<td>• Established in May 2008</td>
</tr>
<tr>
<td>• Public services during WHD</td>
<td>• A free number</td>
</tr>
<tr>
<td>• Summer Camps and desert road kiosks</td>
<td></td>
</tr>
<tr>
<td>• General public attending health care units</td>
<td></td>
</tr>
</tbody>
</table>

**Mass Media Campaigns**

TV, Radio, Press, Printed Materials
Viral Hepatitis Prevention Campaign in Universities

Goals
• Improve knowledge & attitude of youth about VH
• Improve VH prevention behaviors
• Increase protection from HBV via vaccination & follow up boosters

Key Audience
Youth and Healthcare workers

Rationale
• Critical entry point for health messages
• 50% of Egypt’s population are under age 20
• Healthcare workers are most-at-risk groups (needle stick injuries)

Pilot in two universities (Ain Shams & Tanta)

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Program Highlights

• Information Booths on Campus
• Sports events
• Seminars in faculties
• Face to face awareness
• Sports events
• Arts & Knowledge competitions
• Media Coverage
• Vaccination

Beneficiaries
• All Faculties
• Nursing School
• Higher Institute of Nursing
• University hospitals:
  HCWs, Nurses & Auxiliaries

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Viral Hepatitis Prevention Campaign in Universities

Key Results

- 110 WHF volunteers participated in the Campaign
- More than 100,000 students reached
- 30,000 students vaccinated against HBV
- Multiple private-public partnerships supporting campaign
Main Challenges

• High prevalence HCV with limited resources for prevention.
• Priority for hepatitis care and treatment services more than preventive activities
• Improve HBV vaccination practices and harm reduction interventions
• Data accuracy challenged by lack of diagnostic capacity, underreporting and inability to enforce mandatory reporting by private facilities & university hospitals.
• Low penetration of Infection Control policy
• Blood safety?
• Behavioral changes need time.
• Raising awareness is a responsibility of all partners (MOHP, Ministry of Education, Media, NGOs,.....)
Need to move to intervention

• Choice of interventions:
  – Community: education
  – Health care centres: disposable material, sterilisation

→ Importance of social sciences to identify the relevant interventions.

→ Importance of mathematical modeling to estimate the impact of interventions (and of the treatment of viremic people)

• How can we monitor the impact of interventions?
  – Experimental sites: randomised trials
  – National scale: sentinel surveillance, DHS
Action Plan for the Prevention, Care & Treatment of Viral Hepatitis in Egypt 2014-2020
(MoH-NCCVH-WHO-CDC-Pasteur)

VISION AND PURPOSE

• “VIRAL HEPATITIS TRANSMISSION IS REDUCED THROUGH INCREASED PREVENTION AND EDUCATION AND ALL EGYPTIANS HAVE ACCESS TO SAFE AND EFFECTIVE CARE AND TREATMENT.”
Components of VH PoA

1. Strengthening surveillance to detect viral hepatitis transmission and disease (acute and chronic)
2. Promoting Infection Control Practices to Reduce Transmission of Viral Hepatitis
3. Improving blood safety to reduce transmission of viral hepatitis
4. Eliminating Transmission of vaccine-preventable viral hepatitis
5. Role of care & treatment in reducing transmission of viral hepatitis
6. Educating providers and communities to reduce transmission of viral hepatitis
7. Research Agenda for Viral Hepatitis
A) Deliverable 1:
• Structure of National Viral Hepatitis Program: (VHU; NCCVH; TFs; PPCs) – Organogram

B) Deliverable 2:
• Training plans are charted out

C) Deliverable 3:
• Progress on implementation of different components of PoA

D) Deliverable 4:
• A WHO researcher has been already selected. He started gathering data from different sources including blood donors, fever hospitals and patients seeking treatment from liver treatment centers.
Progress on implementation of different components of PoA:

<table>
<thead>
<tr>
<th>Component</th>
<th>Tasks</th>
<th>Progress of implementation</th>
<th>Responsibility</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveillance</td>
<td>Acute surveillance</td>
<td>ongoing</td>
<td>NAMRU-3 &amp; MoHP</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>ANC sero-surveillance</td>
<td>Protocol under development</td>
<td>CDC, MoHP &amp; NCCVH</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>Gathering surveillance data on other high risk groups</td>
<td>In progress</td>
<td>WHO researcher</td>
<td>2014</td>
</tr>
</tbody>
</table>
# Progress on implementation of different components of PoA:

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<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infection control</strong></td>
<td>Update of national guidelines</td>
<td>completed</td>
<td>IPC &amp; WHO</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>Practical curriculum for under-graduates</td>
<td>Agreement with Claude Bernard University</td>
<td>NCCVH</td>
<td>2014-2015</td>
</tr>
<tr>
<td><strong>Injection safety</strong></td>
<td>Baseline assessment</td>
<td>Planned</td>
<td>IKEA (global initiative) &amp; WHO</td>
<td>2014-2015</td>
</tr>
<tr>
<td></td>
<td>Other supportive components</td>
<td>Planned</td>
<td>IKEA (global initiative) &amp; WHO</td>
<td>2014-2015</td>
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Progress on implementation of different components of PoA:

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<th>responsibility</th>
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</thead>
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<tr>
<td>Blood safety</td>
<td>Series of training workshops on national standards of blood transfusion services</td>
<td>In progress</td>
<td>NBTC, WHO &amp; CDC. Others</td>
<td>2014-2015</td>
</tr>
<tr>
<td></td>
<td>Workshop on drafting the full package of national blood law</td>
<td>Planned</td>
<td>NBTC, WHO &amp; CDC. Others</td>
<td>2014-2015</td>
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<tr>
<td></td>
<td>Series of workshops to start development of National Blood Authority</td>
<td>Planned</td>
<td>NBTC, WHO &amp; CDC. Others</td>
<td>2014-2015</td>
</tr>
<tr>
<td>Communication</td>
<td>Selection of an expert of communicator</td>
<td>Planned</td>
<td>WHO</td>
<td>2014-2015</td>
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<tr>
<td>Care &amp; treatment</td>
<td>Introduction of DAA</td>
<td>Ongoing</td>
<td>MoHP</td>
<td>2014</td>
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<tr>
<td>Vaccination</td>
<td>Introduction of Birth Dose</td>
<td>Pilot being implemented</td>
<td>VH, MCH, EPI, CDC, WHO</td>
<td>2014</td>
</tr>
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*Hepatitis B (relevant documents attached)*
Organogram for Viral Hepatitis Program

Supreme Committee
Chaired Prime Minister / Sec. MOHP Minister
Member of Relevant Ministeries

National Committee for Viral Hep Control

Minister of Health & Population

Viral Hep Control Unit

Surveillance
Immunization
Infection Control
Blood Safety
Communication
Curative and Research

Supreme committees

Executive committee
Flow chart of reporting on live births and vaccination status with viral hepatitis Birth Dose

1. Registration of all live births in birth registry
2. Recoding them again in a separate document (attached)

Sending birth notification forms indicating status of vaccination with birth dose

Sending weekly reports on number of live births + number vaccinated with birth dose

1. Prepare cumulative weekly statistical reports.
2. Share with VHU & EPI with semi-analytical report.

VHU

EPI

Health office

Provincial coordinator

MCH center

Maternity hospital

HIO hospital

University hospital
Communication Plan


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Communication Plan
Communication Plan
Proposed Disease Control Strategy

Total Infected Cases (Viremic) - Egypt

- Basecase
- Increased Efficacy & Treatment
- Increased Efficacy & Treatment-No Incidence Reduction

<table>
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<tr>
<th>Scenario</th>
<th>2014</th>
<th>2030</th>
<th>Change</th>
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<tr>
<td>Base Case</td>
<td></td>
<td>4,420,000</td>
<td>-26%</td>
</tr>
<tr>
<td>Increased treatment &amp; SVR, reduce incidence</td>
<td>6,000,000</td>
<td>285,000</td>
<td>-95%</td>
</tr>
<tr>
<td>Increased treatment &amp; SVR, without incidence reduction</td>
<td></td>
<td>1,250,000</td>
<td>-79%</td>
</tr>
</tbody>
</table>
Key to Success

- Data and situation analysis
- Integration of efforts
- Empowerment and demand
Acknowledgement

NCCVH (2007-Current)
Prof Wahid Doss (Chair)
Prof Gamal Esmat
Prof Moustafa K Mohamed (late)
Prof Manal H El-Sayed
Dr Nasr El-Sayed (MoH)
Dr Arnaud Fontanet

Recent Members (mid 2011)
Prof Magdy El-Serafy
Prof Ayman Yousry
Prof Ashraf Omar
Prof Wagida Anwar
Prof Maissa Shawky
Dr Amr Kandil (MoH)

WHO-TAG for Prevention, Control and Treatment of Viral Hepatitis (June 2011)
Dr. Arnaud Fontanet (Chair)
Prof Manal H El-Sayed (Vice Chair)
Dr Francisco Averhoff
Dr Steven Wieresma
Prof Gamal Esmat
Prof Wahid Doss
Prof Mohsen Gadallah
Dr Jaoad Mahjour

Ad hoc International Experts
Prof Mark Thursz
Dr David Goldberg
THANK YOU