Operational guideline for Prevention and control of Viral hepatitis in Afghanistan
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Preface

The present document has been developed by the Ministry of Public Health (MoPH) of Afghanistan, the World Health Organization (WHO), and other collaborative partners.

The currently available guiding documents and standards of the MoPH-Afghanistan and WHO, for viral hepatitis outbreak control were used as basis of reference to frame the present document.

This publication brings together the existing relevant guidelines, fills knowledge and operational gaps which were not addressed previously, and adapts the information and operational needs to the specific features of Afghan context. The ultimate result is a much needed, ready-to-use, and user-friendly operational guidance.

We hope the document will be of value by providing quick reference and guidance for field outbreak control teams, namely, clinicians, nurses, and surveillance focal points of health facilities, along with the members of the Provincial Emergency Response teams. Ultimately, it will serve to strengthen the Emergency Preparedness and Response (EPR) capacity of all health sector partners for the benefit of all men, women, and children of Afghanistan.

Sincerely,

[Signature]

Minister of Public Health – Afghanistan
Acknowledgement

I am grateful to all team members who joined and shared their expertise to develop these guidelines. Particularly, I would like to thank the MoPH team, WHO and other health cluster partners who added their valuable comments and contributions to the draft and shaped the final document.

In addition, special thanks to the EPR Department of MoPH and WHO/EHA/Health Cluster who initiated and led the process; and the General Directorate of Preventive Medicine/Communicable Diseases Control, DEWS, Environmental Health and Health Promotion departments that provided substantial technical support throughout the process.

I would also like to extend my sincere gratitude to the funding partners supporting the multiple EPR interventions for health. My particular thank goes to the European Commission Humanitarian Office (ECHO) for its contribution to make these guidelines become possible.

Sincerely

Director of ANPHI
MOPH Afghanistan
Acronyms

ARCS  Afghanistan Red Crescent Society
BPHS  Basic Package Of Health Services
CDC   Communicable disease Control
DEWS  Disease Early Warning System
ERP   Emergency Response and Preparedness
HF    Health Facilities
HMIS  Health Management Information System
HR    Human Resource
IDU   Injecting Drug Users
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>MOPH</td>
<td>Ministry of Public Health</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>PHD</td>
<td>Provincial Health Department</td>
</tr>
<tr>
<td>RRD</td>
<td>Rural Rehabilitation Department</td>
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<tr>
<td>SOP</td>
<td>Standard of Procedures</td>
</tr>
<tr>
<td>TOR</td>
<td>Terms of Reference</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</table>
While you are reading through the guideline the following icons will help you to make a quick reference of relevant topic of interest.

- = Background information
- = Objectives
- = Definition
- = Alerts
- = Warning
- = Intervention guidelines and procedures at facility level
- = Provincial surveillance Officer/Focal point
- = Intervention Guidelines and procedures for field Intervention teams
- = necessary tools for the intervention procedures
- = Guidance for Management team
- = Go to

Words described in glossary are printed in blue bold italic fonts.
1. Introduction

1.1. Worldwide distribution and burden due Viral hepatitis

Hepatitis is defined as “a disease characterized by inflammation of liver”. This might be due to infection or other physiological changes in the body as a result of non-communicable diseases. But the burden due to viral infections is gigantic and generally accounts for the term “hepatitis”.

Hepatitis is most commonly caused by viral infection. There are five known hepatitis viruses, referred to as types A, B, C, D and E. These five types are of greatest concern because of the burden of illness and death they cause and the potential for outbreaks and epidemic spread.

- Globally, there are an estimated 1.4 million cases of hepatitis A every year.
- Around 500,000,000 people are chronically infected with hepatitis B virus (HBV) or hepatitis C virus (HCV).
- Approximately 1,000,000 people die each year (~2.7% of all deaths) from causes related to viral hepatitis, most commonly liver disease, including liver cancer.
- An estimated 57% of cases of liver cirrhosis and 78% of cases of primary liver cancer result from HBV or HCV infection.

In particular; types B, C and D are spread via blood and body fluids and seen more often in recipients of blood, tissue and organs along with persons working or receiving care in health settings. These types of viral hepatitis lead to chronic disease in hundreds of millions of people and, together, are the most common cause of liver cirrhosis and cancer.

Hepatitis A and E are generally water and food born (Fecal-oral) viral infections and they are common in communities where food and sanitation services are not optimal. Hepatitis A alone causes a commendable complications and mortality.

It is estimated that approximately 4.3 million people are infected with HBV and 800,000 people are infected with HCV annually. The HCV prevalence is estimated to be 1-4.6%, with levels higher than 20% in Egypt and Pakistan. Overall, an estimated 17 million people in the EMRO region suffer from chronic HCV infection. The risk of infection with HBV is high in five countries (Afghanistan, Pakistan, Yemen, Sudan and Somalia), accounting for more than 55% of the total population of the region, and moderate in the remaining 17 countries. The prevalence of HEV infection is high in Sudan, South Sudan, Pakistan and Somalia. However, the burden is unknown. Largely Viral hepatitis cause acute or chronic infections and liver cell damage give rise to a major
global public health problem due to its costly management, complications and case fatality.

1.2. **Current context of viral hepatitis outbreaks/outbreaks control activities in Afghanistan**

Existing information of reported viral hepatitis outbreaks in Afghanistan would give an idea about progress of viral hepatitis outbreaks in Afghanistan.

Based on 2005 blood donor screening data and community surveys, it is estimated that 7% (1.7 million persons) of the general population have chronic HBV infection\(^5\).

A recent meta-analysis estimates the percentage prevalence was 1.9% for HBV and 1.1% for HCV in all available Afghanistan population. Most at risk population to hepatitis include injecting drug users who share needles and female sex workers, while truck drivers, prisoners and homosexual men needs attention, as their statistical figure are missing\(^6\).

While we were search the recent surveillance data; we found that all types of viral hepatitis were reported under acute viral hepatitis and we couldn’t get an actual figure of different types of viral hepatitis. The following graph can be taken as a sample of the trend of viral hepatitis in Afghanistan.

**Graph: 2**

![Number of Hepatitis cases reported by DEWS Afghanistan from 2009 to 2012](image)

Although the graph shows an increasing trend of viral hepatitis, this might be due to increasing number of sentinel sites of DEWS as well. But still there would have been 4-5 fold cases which were not reported from unreached outbreak areas or out of the sentinel sites.

In future there must more effort to be set on laboratory investigations particularly to identify the types of viral hepatitis and better case investigation and follow up to find the risk groups, predominant mode of transmission and source of infection. Further more evidence based studies and researches to be
conducted to find specific outbreak control mechanism with collaboration of relevant departments.

Figure 1: Current surveillance system in Afghanistan

Under the current health care system in Afghanistan; primary health care facilities (Mobile clinics, Health posts, sub health centers, and Comprehensive Health Centers), District, Provincial and regional public health hospitals and Private hospitals are endowed with the health needs of the communities.

The health facilities are governed by the Provincial Health Directorate (PHD) at provincial level and Ministry of Public Health (MoPH) at national level with the assistance of national and international contracted out agencies. The current curative health services are not up to the EM regional health service standards and afflicted with inadequate resources and inadequate quality assurance.

The PHDs have a reasonable information sharing system as depicted in figure 1: Disease Early Warning System (DEWS) is one of the existing Surveillance system which collects weekly incidence of highly infectious diseases from well distributed 338 sentinel sites across the country with coverage of more than 70% district public health facilities. It also targets to increase representation of private sector and introducing community based surveillance in Afghanistan. Under the system the data is analyzed weekly at regional and central level of the country. Weekly morbidity and mortality data and details outbreak investigation and response reports are shared at provincial, regional and central level with all stakeholders including NGOs, donors, UN organization, coalition forces and WHO Eastern Mediterranean Regional Offices.
Health Management Information System (HMIS) unit collect and prepare reports on all relevant health related events from all the Public health facilities to the provincial directorate of health on monthly basis and a quarterly report is forwarded to the MoPH from all the provinces. Although there is a provision for facility based instant notification of six notifiable diseases; the system failed to do so and monthly reporting at provincial level might not help to quickly detect the outbreaks.

Based on the formal and informal information; alerts are detected and disease out breaks are verified with preliminary investigation and identified after laboratory confirmation. Immediate control measures are carried out by Provincial early outbreak investigation and response teams. But still there are some setbacks with some coordination and communication hiccups. On top of it security threats and natural barriers hamper the activities. This might lead to a hazardous situation during large outbreaks and other natural disasters.

1.3. Importance of preparedness and development of an operational guideline for hepatitis outbreak response

Currently there is a functional system for detection and control of hepatitis outbreaks in Afghanistan with some guiding instruments. At the same time there were several constrains identified regarding control of outbreaks in general and hepatitis outbreaks in particular; that can be attributed to:

- There is no universally accepted catchment population figure for health facilities to detect the actual incidence rate.
- Unavailability of proper referral system and chances of duplication
- Improper planning due to lack of analysis and integration of different sources of epidemiological data,
- Viral hepatitis is broadly categorized into acute Viral hepatitis and sometimes the cases might be miss diagnosed under other non-communicable hepatitis and wise versa
- Poor preventive measures; particularly substantial vaccination coverage and inadequate control over risk behaviors
- Lack/difficult access of MOPH staff in insecure areas
- Poor capacity of outbreak investigation amongst field staffs,
- Poor case management skills and facilities at the field level
- Inadequate awareness among the community at risk
- Poor and inconsistent integration of outbreak response plans into the BPHS planning combined with lack of clear strategy for resource mobilization.
- Insufficient intra and inter-sectoral coordination particularly to establish an effective integrated surveillance and response system

While we are appreciating the excellent job done by the health service providers who controlled the acute viral hepatitis outbreaks in the past; we have to evaluate and strengthen the system as well.

In 2010 initiatives for strengthening the surveillance system were started with “road map for strengthening the system capacity to responds to outbreaks” and development of operational guidelines was defined as an integral part of...
this initiative aiming to provide a practical guiding document for the health managers and field health staff in Afghanistan.

This operational guideline is trying to strengthen the health system of Afghanistan to efficiently manage outbreaks of viral hepatitis through pragmatic guidance to the health managers and field staff. This might help us to prevent and efficiently control hepatitis outbreaks in future.

1.4. Objectives of the operational guidelines for hepatitis outbreak response

- To briefly describe the basic facts, risks, burden and preventable nature, morbidity and mortality trends of hepatitis
- To operationally guide the outbreak management teams to prepare, detect, report, verify, identify and control hepatitis outbreaks in time
- To improve the capacity of health service providers to efficiently manage hepatitis outbreaks
- To guide the health service providers on prevention of spread of hepatitis outbreaks and creation of community awareness
- To improve the technical capacity of managerial level staffs of MOPH of Afghanistan through providing necessary technical guidance, in order to efficiently manage and coordinate the outbreaks of hepatitis with available resources
- To guide the outbreak control teams to capitalize the lessons learned from the outbreak and improve their future plans and activities
- To guide all the stakeholders to clearly understand their responsibilities during an outbreak and cooperate and collaborate with the national hepatitis control coordination mechanism

1.5. Key facts for major viral hepatitis types

**Hepatitis A**
- Hepatitis A can cause mild to severe illness.
- The hepatitis A virus is transmitted through ingestion of contaminated food and water, or through direct contact with an infectious person
- Epidemics can be explosive in growth and cause significant economic losses.
- Improved sanitation and the hepatitis A vaccine are the most effective ways to combat the disease.
1.1. Causative organism, clinical feature and risk factors

Hepatitis B
- Most of the people who are infected are unaware of their infection and this has resulted in the silent HBV infection becoming one of the biggest threats to the health of the world.
- HBV is about 10 times more prevalent than HIV infection worldwide.
- The general perception is that HIV virus is very infectious and contagious however Hepatitis B Virus is 100 times more infectious than HIV.
- The hepatitis B virus can survive outside the body for at least seven days. During this time, the virus can still cause infection if it enters the body of a person who is not protected by the vaccine.
- If not properly monitored or treated; HBV infection can kill 25% of the infected.
- Individuals with high risk of infection with HBV include - illegal injection of drugs, homosexual and bisexual males, sexually active heterosexual persons with multiple partners, prisoners, patients on hemodialysis, hemophiliacs, health care staff who have needle stick injury and people who indulge in body piercing and tattooing.
- Hepatitis B recombinant vaccine is a very safe vaccine as it has no human blood or blood products and it is produced by genetic recombination process and usually requires three injections for protection over a six months period.
- Pregnant women who have hepatitis B infection or those who are carriers of hepatitis B virus can pass this infection to their babies during birth.
- Despite there is an effective vaccine, Hepatitis B Virus (HBV) infection kills one person every 30-45 seconds.

Hepatitis C
- Hepatitis C is a liver disease caused by the hepatitis C virus.
- The disease can range in severity from a mild illness lasting a few weeks to a serious, lifelong condition that can lead to cirrhosis of the liver or liver cancer.
- The hepatitis C virus is transmitted through contact with the blood of an infected person.
- About 150 million people are chronically infected with hepatitis C virus, and more than 350,000 people die every year from hepatitis C-related liver diseases.
- Hepatitis C is curable using antivirals.
- There is currently no vaccine for hepatitis C; however, research in this area is ongoing.
<table>
<thead>
<tr>
<th>Type of hepatitis</th>
<th>Hepatitis A³ (RNA virus, family picorna, genus Heparnaviridae)</th>
<th>Hepatitis B⁸ (DNA virus from genus Hepadnavirus)</th>
<th>Hepatitis C⁸ (RNA virus from genus hepaciviridae)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubation period</td>
<td>14 to 28 days</td>
<td>90 days on average, but can vary from 30 to 180 days</td>
<td>2 weeks to 6 months</td>
</tr>
<tr>
<td>Mode of transmission</td>
<td>Fecal-oral</td>
<td>Between people by direct blood contamination, contact or semen and vaginal fluid of an infected person</td>
<td>Exposure to infectious blood, organ transplants, syringes and needle-stick injuries. Perinatal transmission. Rarely among sexual contacts</td>
</tr>
<tr>
<td>Clinical presentation</td>
<td>Fever, malaise, loss of appetite, diarrhoea, nausea, abdominal discomfort, dark-coloured urine and jaundice</td>
<td>Most people do not experience any symptoms. Some people have acute illness with yellowing of the skin and eyes (jaundice), dark urine, extreme fatigue, nausea, vomiting and abdominal pain</td>
<td>80% are asymptomatic. Others may have fever, fatigue, poor appetite, nausea, vomiting, abdominal pain, dark urine, pale faeces, joint pain and jaundice (yellowing of skin and the whites of the eyes).</td>
</tr>
<tr>
<td>Risk factors</td>
<td>Adults develop prominent signs and symptoms; severe illness, and mortality than children. Poor water and sanitation could increase the chance of outbreaks injecting drugs. Living closer with an infected person being a sexual partner of an acute hepatitis A infection. Travelling to areas of high endemicity without being immunized.</td>
<td>Unscreened blood and blood product transfusions and tissue or organ transplants. An infected female becoming pregnant. Injecting drug users. Unprotected sexual practices unsafe invasive clinical procedures.</td>
<td>Unscreened blood and blood product transfusions and tissue or organ transplants. An infected female becoming pregnant. Unsafe injecting drug use unsafe invasive clinical procedures.</td>
</tr>
<tr>
<td>Nature of outbreak</td>
<td>Rare big outbreaks in areas with poor water and sanitation. The chance of outbreak is high in places with transitional economy and risk groups of developed countries.</td>
<td>Is endemic in most part of the world (1-10% have chronic infection). Obvious outbreaks occur among the risk groups.</td>
<td>Worldwide. Outbreaks common among injecting drug users.</td>
</tr>
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2. Strategies for prevention and control of viral hepatitis

The sixty third World health assembly held in May 2010; urged the member countries to stimulate the strengthening of preventive and control measures of Viral hepatitis by the following activities:

- Implement and/or improve epidemiological surveillance systems, strengthen laboratory capacity, and management of viral hepatitis in order to generate reliable information for guiding prevention and control measures.
- Support or enable an integrated and cost-effective approach to the prevention, control and management of viral hepatitis considering the linkages with associated co-infection such as HIV through multi-sectoral collaboration among health and educational institutions, nongovernmental organizations and civil society, including measures that strengthen safety and quality and the regulation of blood products.
- Incorporate the policies, strategies and tools recommended by WHO in their specific contexts in order to define and implement preventive actions, diagnostic measures and the provision of assistance to the population affected by viral hepatitis including migrant and vulnerable populations.
- Strengthen national health systems in order to address prevention and control of viral hepatitis effectively through the provision of health promotion and national surveillance, including tools for prevention, diagnosis and treatment of viral hepatitis, vaccination, information, communication and injection safety.
- Provide vaccination strategies, infection-control measures, and means for injection safety for health-care workers.
- Consider, using existing administrative and legal means in order to promote access to preventive, diagnostic and treatment technologies against viral hepatitis.
- Develop and implement monitoring and evaluation tools in order to assess progress towards reducing the burden from viral hepatitis and to guide evidence-based strategy for policy decisions related to preventive, diagnostic and treatment activities.
- Promote the observance of 28 July each year, or on such other day or days as individual Member States may decide, as World Viral hepatitis Day.
- Promote total injection safety at all levels of national health-care system.

Based on the WHA recommendations; following vision, goal and frame work developed by W.H.O and published in July 2012.

**Vision:** A world where viral hepatitis transmission is stopped and all have access to safe and effective care and treatment

**Goals:** Within a health systems framework and using a public health approach, the goal of the WHO viral hepatitis strategy is:

- To reduce transmission of the agents that cause viral hepatitis.
- To reduce morbidity and mortality due to viral hepatitis and improve the care of patients with viral hepatitis.
To reduce the socio-economic impact of viral hepatitis at individual, community and population levels.

The framework consists of four main axis/blocs shown in figure 5.

Figure 5

- Evidence based policy and data for action (Surveillance)
- Screening care and treatment
- Prevention of transmission
- Raising awareness, promoting partnership and mobilize resources

The following chapters will provide guidelines to work on the frameworks.
3. Guidelines for viral hepatitis surveillance

Early detection of outbreaks with an efficient surveillance system is the cornerstone of outbreak control. DEWS Afghanistan has a reasonable capacity to detect the outbreaks and outbreaks at early with its regular reporting from sentinel sites. There is a structure and trained staff to do analysis of the surveillance data and to start rapid response initiatives at provincial and national levels. Guidelines for routine surveillance and early warning of hepatitis outbreaks could be expounded through sets of definitions, standards and procedures. The following sub-topics try to guide us to understand the steps of surveillance activities, detection of outbreaks and control measures from the health facility to Provincial Health Directorate (PHD).

3.1. Case definition

For any surveillance system there should be a defined uniform case definition to detect the cases. The case definition for viral hepatitis in Afghanistan is defined by Disease Early Warning System is as follow.\(^\text{11}\)

Suspected case of viral hepatitis syndrome:
An acute illness with discrete onset of symptoms of jaundice, dark urine, anorexia, malaise, extreme fatigue, and right upper quadrant tenderness

OR elevated serum alanine aminotransferase level >2.5 times the upper limit.  
Note: Most early childhood infections and a variable proportion of adult infections are asymptomatic.

Confirmed case:
A suspected case that meets the clinical case definition AND is laboratory confirmed for:

- Hepatitis A: Anti-HAV IgM antibodies (anti-Hepatitis A virus immunoglobulin M) positive OR, for Hepatitis A only, a case compatible with the clinical description, in a person who has an epidemiological link with a laboratory-confirmed case of HAV.
- Hepatitis E: Anti-HEV immunoglobulin M (IgM) positive
- *Hepatitis B: positive for IgM anti-HBc or (less desirably) hepatitis B surface antigen (HBsAg)
- *Hepatitis C: positive for anti-HCV IgM

(*WHO-recommended standards for surveillance of selected vaccine-preventable diseases)
3.2. Essential channels of surveillance communication and data flow at field level

The following guidelines give operational guides to the field staff from surveillance focal points and clinicians of health facilities to provincial emergency preparedness and early response committee.

3.3. Guideline for surveillance focal points of sentinel sites and clinicians/primary health care service provider

Objective: to ensure that, the quality data is produced and promptly notified from health facility

- Ensure that you and your team has clear understanding on case detection, notification and diagnosis of viral hepatitis based on the standard case definition above
- Regularly maintain daily incidence data (among the cases attended to the health facility) of new cases of viral hepatitis on daily incidence charts and carefully observes the changes of case trends.

Be aware of alert threshold of viral hepatitis cases.
Alert threshold of hepatitis

**Geographic cluster of two or more cases**¹¹

**Outbreak threshold**

Can be variable in different locations and seasons

**But geographic clustering of 8-10 cases in one location can be taken as an outbreak**¹²

Be aware of importance of notification of suspected alerts of suspected viral hepatitis cases
Be familiar with notification modes, alert forms and weekly reporting forms

**Annex: B1, 2&3 (Daily viral hepatitis incidence chart, Alert notification format and DEWS weekly reporting format)**

If you observe clustering of clinically diagnosed viral hepatitis cases; then notify to the provincial surveillance officer as early as possible or to the BPHS agency surveillance and outbreak control focal point.

**Annex-D updated details of provincial surveillance officers**

A hard copy of the notification form should be sent to the provincial surveillance officer as early as possible
Also recheck and confirm that, the notification reached the surveillance officer
Take serum samples from all suspected cases and properly dispatch them for confirmatory immunological and virological tests.

**Annex E: Standard procedures of sample collection and transport**
3.4. **Guideline for Provincial surveillance officer**

**Objective:** To ensure efficient surveillance activities in the province to detect outbreaks

- Ensure as a Provincial surveillance officer, you are well capacitated with surveillance procedures, computerized analyzing techniques and sound knowledge on communicable disease control activities.
- Train all clinicians and surveillance focal points of the health facilities on case definition, health facility based new case recording, daily summarization and maintenance of daily new case summary chart and proper notification methods.
- Ensure all the tools and supplies (Updated Case definitions, Manuals, guidelines, Forms, Charts with alert and outbreak threshold information, records/registers, blood sample collection containers) for diagnosis, notification, sample testing and collection are available at each facility.
- Update them with on job trainings and regular mentoring during supervision visits.
- Ensure regular notifications are received from all facilities under the province, if not; remind, visit and rectify the issues related to notification.
- Collect data on **Hepatitis B3** (i.e. DTwPHibHep penta-valent) vaccine coverage, suspected cases and confirmed cases.
- Regularly compile the data collected from the surveillance focal points or the clinician or the health care provider of the health facilities and analyze (by time, place and person) to detect any alerts at provincial level.
- If any significant alerts are detected during data analysis; clearly verify the same from the source of data.
- Share the compiled data and weekly analysis reports and any alert notification with provincial emergency preparedness and response committee in time.
- Forward the same to MOPH in time as softcopy and all hard copies to be filed at provincial surveillance office.
- Take the lead and provide necessary technical guidance to the rapid outbreak investigation and early response team of the provincial emergency preparedness and response committee under the instruction of Provincial Health Director.
- Investigate all the suspected alerts and outbreaks with necessary serological confirmation.
- Find out the source of outbreak and apply an appropriate strategy for control and prevention of spread of hepatitis in the outbreak area.
3.5. Guideline for Provincial Emergency Response and Preparedness Committee (ERP)

Objective: To assess and guide on enhanced surveillance, case investigation and outbreak response

Once the Provincial surveillance officer shared the details (Time, place and person) of the suspected alert or outbreak with the provincial emergency response committee; it should call for a meeting and plan its activities with the following steps.

- Deploy a pre trained Outbreak investigation and early response team (For the composition of the team; see Chapter 6) with necessary investigation tools and early response supplies to visit and investigate relevant sites (Health facility, households of the cases, food and water sources and waste management sites etc.) to verify surveillance data and find out the source and nature of the alert or outbreak.

- Get weekly feedback from the Outbreak investigation and early response team and do an epidemiological analysis

- If the morbidity and mortality are on the rise; enhance the surveillance activities (through mobilizing the available provincial surveillance system) and relevant control activities of outbreak investigation and early response team

- Update the MOPH regularly on progress

3.6. Guideline for outbreak investigation and early response team

Objective: To verify the outbreak, enhance surveillance and control of hepatitis outbreaks

The team should verify the alerts with the help of alert verification form and telephone conversations and also collect data from other relevant sources and clinicians.

Annex-F sample case investigation form

Before visit to the location for rapid assessment and response;

- Be clear about the alert message
- Plan and collect all the contacts to be met and investigated
- Organize all necessary logistic arrangements including appropriate transport and communication facilities
- Prepare and take necessary investigation (forms, sample collection materials, water testing kits) and control materials with you (Personal protective materials, recommended chemicals and repellents for tick bite prevention and a megaphone, necessary IEC materials, necessary medicine supplies for health facilities where there are no prepositions)
During visit to the suspected source of infection and households of the suspected cases and health facilities:

- In the health facility, examine the suspected cases; collect necessary information from cases, care takers or family members, villagers.
- Collect evidence of close contact with any hepatitis infected persons among cases and contacts.
- Collect blood (serum) samples from suspected cases.
- Explore the possible type of hepatitis and mode of transmission from the available information (Incubation period, nature of distribution of the disease among different age groups etc.)
- Depending on the decided type of hepatitis and its mode of transmission; organize and train community based organizations on prevention of spread of the disease.
- Provide health education and necessary preventive supplies, to the family members and neighbors who would have share the source of infection. (The details of prevention of spread are described in chapter-5)
- In the health facilities; check diagnostic criteria in use (case definition) and case management procedures (Details of case management procedures are mentioned in chapter-3.1)
- Also find out about any shortages of medical supplies and support the clinical teams with urgent supplies.

After visit, when you are back from the field:

- Send the samples to the laboratory as early as possible and track the progress according to scheduled time period.
- Never suspend/await the outbreak response and control operations until receiving the lab results from your confirmed findings.
- Line list the cases according to the standard format given in annex B 3, summarize the relevant findings related to time place and person and identify the clustering of cases and sources.
- Discuss the findings with the (provincial) emergency preparedness and response committee and make a preliminary decision until the laboratory report arrives.
- Send the feedback to the facility within 24 hours with instructions of standard case management, control measures with necessary supplies.
- Keep in touch with the facility and gather updated morbidity and mortality data and also implement an enhanced surveillance with the help of community based focal points/ organizations with details needed for line listing.

During re-visit:

- Assist the facility to manage the cases.
- Evaluate the community participation on awareness campaigns and activities on prevention of spread activities based on the given tasks.
- Plan and implement an intensive community hygiene promotion program which would help for enhanced surveillance as well.

Follow up:

Once the laboratory confirmation is available and still the cases and complications are on rising trend; then the situation should be discussed with the provincial emergency
response committee and expanded control measures should be taken by strengthening HR (bringing in public health experts and case management specialists) and supplies.

4. Case management

4.1. Clinical Diagnosis

Early diagnosis is essential in terms of case management and prevention of outbreaks. Differential diagnosis should also be considered for other diseases showing similar symptoms that could be due to other organism or other non-infectious diseases as well. Viral hepatitis should be clinically considered in those patients having:

- compatible clinical manifestations (e.g. Fever, yellow discoloration of sclera or palm and dark urine), Epidemiological risk factors such as contact with any hepatitis case, exposure to infected unhygienic food or water etc.
- Outdoor activities in outbreak areas travel or be residents in those areas
- Compatible laboratory findings

See annex G: Steps for differential diagnosis and laboratory confirmation of jaundice

4.2. Laboratory criteria for diagnosis\(^3\)

The diagnosis of hepatitis and their types and nature could be diagnosed only by laboratory investigations particularly based on their serological studies. Following are the common markers used for the diagnosis for each hepatitis type

**Hepatitis A:** immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive

**Hepatitis B:**
- IgM antibody to hepatitis B core antigen (anti-HBc) positive or hepatitis B surface antigen (HBsAg) positive
- IgM anti-HAV negative (if done)

**Hepatitis C:**
- Serum aminotransferase levels greater than 2.5 times the upper limit of normal, and
- IgM anti-HAV negative, and
- IgM anti-HBc negative (if done) or HBsAg negative, and
- Antibody to hepatitis C virus (anti-HCV) positive, verified by a supplemental test

**Hepatitis E:** IgM anti body positive for hepatitis E virus (anti HEV)

The serological changes are summarized in figure 4
Figure 4: Clinical and serological changes during viral hepatitis

**Hepatitis A**

![Graph showing clinical and serological changes during Hepatitis A](image)

**Hepatitis B** (changes during acute and chronic phases)

![Graph showing clinical and serological changes during Hepatitis B](image)
4.3. General management

Only small proportion of the viral hepatitis cases shows acute symptoms particularly jaundice or proceed into fulminant hepatitis or acute on chronic hepatitis status.
There are no specific treatments for these cases. But the cases should be carefully treated for symptomatic relief with maintenance of fluid, electrolytes and nutritional balance.

4.4. Treatment

Hepatitis A treatment

There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and take several weeks or months. Therapy is aimed at maintaining comfort and adequate nutritional balance, including replacement of fluids that are lost from vomiting and diarrhea.

Hepatitis B treatment

Acute hepatitis B: it is not usually necessary to treat a new hepatitis B infection in the first six months. Nine out of ten new infections go away on their own, with or without treatment. In this early stage of disease, treatment makes very little difference to the chances of a cure. Antiviral drugs may only be necessary and helpful in rare cases, if the acute infection causes very aggressive liver inflammation.
Treatment of chronic (long-lasting) hepatitis B:\(^14\):

Refer the cases to a hospital with proper investigation facilities with clear clinical history. Some people need treatment, while others should wait. Treatment does not usually cure hepatitis B, but it can turn an ‘aggressive’ hepatitis B infection into a mild infection. This can stop the liver from being damaged. If the infection is considered mild, it might be better to monitor it and wait until later for treatment. Chronic hepatitis B can be treated with **peg-interferon** or with pills, which are called nucleoside or nucleotide analogues.

Peg-interferon-Alfa comes in a syringe and the injection stimulates the immune system against the virus. This treatment may have side effects, such as fatigue, flu-like symptoms, depression, skin and hair problems and changes in blood chemistry, amongst others. Treatment continues for 24 to 48 weeks and while not all hepatitis B patients respond well to interferon, certain types of hepatitis B infection do. For example, patients with genotype A, HBe Ag positive, with elevated liver enzymes but no cirrhosis can often successfully reduce their viral infection to a milder state. The clinician needs to monitor the interferon treatment closely. Interferon treatment should not be used for patients already have cirrhosis of the liver.

Nucleoside and nucleotide analogues come in pills. They stop the virus from replicating. The pills have very few side effects, and even patients with cirrhosis can take them. However, patients need to take their pills every day, for several years and sometimes a lifetime. If the virus becomes resistant to one type of pill, it might stop working, and another, different drug will need to be added to their treatment to get the virus back under control. The clinician should monitor viral load (HBV DNA) to make sure that the treatment works. The pills have to be continued, even if the patient feels well. If many doses are missed or treatment stopped too early; the disease might become worse than it was before. Make sure that there is access to medication for several years before start treatment with pills.

**Hepatitis C treatment**

In many countries, the second quarter of 2011 marked the arrival of a new current standard of care for people with HCV genotype 1; Boceprevir (Victrelis) and Telaprevir (Incivek), which are protease inhibitors taken orally and added to the Pegylated interferon alfa and ribavirin combination treatment, have been launched in different countries given their significantly higher success rates.
Pegylated interferon -Alfa and ribavirin: this is still being used as first line therapy choice for HCV patients with genotypes 2,3,4,5 and 6. It is also being used to treat HCV genotype 1 patients in countries where the new protease inhibitors have not been approved yet or where decisions on how to commission the drugs have not been taken yet.

Pegylated interferon alfa and ribavirin cures approximately half of all hepatitis C patients. A patient is considered to be cured if there is no virus in the blood six months after the end of treatment. This is different from hepatitis B therapy, which controls rather than cures the infection. Interferon comes in a syringe and ribavirin is available in pills. The treatment may have side effects such as fatigue, flu-like symptoms, depression, hair and skin problems, and changes in blood chemistry. Therefore, treatment should be monitored by an experienced doctor or clinic. The duration of treatment is different from patient to patient. You usually need 24 to 48 weeks of treatment, but in some cases, 72 weeks may be recommended. There are several subtypes of the hepatitis C virus, which are called genotypes. They do not seem to influence the course of the disease, but they respond differently to treatment. Patients infected with genotypes 1, 4, 5 and 6 are more difficult to cure than those infected with genotypes 2 and 3.

There are a number of new hepatitis C treatments that are in development.
5. Prevention of spread of viral hepatitis outbreak

5.1. Primary Prevention

- Advocate and raise awareness of all types of viral hepatitis infections to reduce transmission in the community.
- Ensure vaccines are available for the prevention of HAV and HBV infections through the provincial health system.
- Ensure implementation of blood safety strategies, including blood supplies based on voluntary non-remunerated blood donations, effective public education on blood donation, donor selection, and screening (Quality-assured screening of all donated blood and blood components used for transfusion can prevent transmission of HBV and HCV).
- Implement necessary infection control precautions in health care and community settings to prevent transmission of viral hepatitis as well as many other diseases.
- Ensure safe injection practices and safer sex practices, including minimizing the number of partners and using barrier protective measures (condoms), to protect against HBV and HCV transmission.
- Introduce harm reduction practices for injecting drug users prevent HAV, HBV and HCV transmission.
- Strictly follow the occupational safety measures prevent transmission of viral hepatitis to health care workers.
- Supervise and ensure safe food handling, water and sanitation facilities to protect against HAV and HEV infections.

5.2. Secondary and Tertiary Prevention

Early diagnosis provides the best opportunity for effective medical support and prevention of further spread. It also allows the infected persons to take steps to prevent transmission of the disease to others. Early diagnosis of those with chronic infection also allows people to take precautions to protect the liver from additional harm, specifically by abstaining from alcohol and tobacco consumption and avoiding certain drugs that are known to be toxic to the liver.

Both the introduction of confirmatory testing and the notification and counseling of blood donors who have reactive results detected during screening of donated blood provide unique opportunities for early diagnosis and medical support to asymptomatic individuals who come to donate blood.

Antiviral agents against HBV and HCV exist. However, drugs active against HBV or HCV are not widely accessible.
Currently, three anti-retroviral (TDF, 3TC, FTC) are effective for treatment of both HIV and HBV, so co-infected patients can take fewer drugs to treat the two diseases.

Although HCV can be treated, access to treatment remains an issue in many countries. Therapeutic advances and intense research have led to the development of many new oral antiviral drugs for HCV infection. A number of HCV-specific oral drugs are in the late stage of development and some have been recently registered.

Much needs to be done to ensure access to and availability of reliable and low-cost diagnostics and safe and simple treatment regimens, especially in resource-constrained areas of the world.

5.3. Health education and behavioral change

Behavior is the way in which a person behaves and responds to a particular situation or living environment. This is determined by several factors, among them preemptive perception of the situation and the sense of experience are much influential. If we wanted to make aware of viral hepatitis and the mode of spread of the diseases; we have to spread the knowledge of preventive measures through simple and culturally acceptable mode or media.

This can be made through child hood or community education or dramas, songs or posters and Media programs and announcements from respectable sources like community leaders.

Once the knowledge is repeatedly spread through appropriate Medias among the community it will process into attitude change in the community.

If the environment is conducive for practicing the knowledge it would make a change in their practice and behavior. (E.g. Outbreaks of diseases and adequate availability of clean water supply and sanitation facilities, adequate syringe needle and condom supply might improve appropriate personal protective habits)

Children, women and sensible community members will follow the practice first, and ultimately majority will adopt the healthy habits

To encourage the community on water sanitation, safe sex and universal precaution of patient care; we have select some very important messages regarding the above primary preventive steps and formulate them into attractive messages/posters/songs/dramas and publish among right people at right time.

**Right message** through **right media** at **right place** among **right people** at **right time** will make a **reasonable behavioral change**
6. Coordination and Management of hepatitis outbreaks

6.1. Management and coordination structures and governance

Under the current coordination system in Afghanistan; hepatitis outbreaks within the provinces could be managed by provincial emergency response and preparedness committee.

The organizational structure of national, provincial and field level outbreak control task force is described here with two way communication (command and feedback) channels this would prevent duplication of commands and feedbacks during outbreaks.

Figure: 6

Legend:  = Command line  = communication line

Members of the National and Provincial emergency response committee, and Outbreak investigation and early response team are summarized in table 4.
Table: 4

<table>
<thead>
<tr>
<th>Position</th>
<th>National emergency response and preparedness commission</th>
<th>Provincial emergency response and preparedness committee</th>
<th>Outbreak investigation and early response team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>Deputy minister of health</td>
<td>Director of Provincial Health Department</td>
<td>DEWS/ CDC officer</td>
</tr>
<tr>
<td>Committee members</td>
<td>ERP directorate</td>
<td>Provincial DEWS officer or CDC officer</td>
<td>One Medical doctor from the health facility</td>
</tr>
<tr>
<td>Director of DEWS</td>
<td>NGOs (BPHS implementer)</td>
<td>UNICEF</td>
<td>One Nurse from HF</td>
</tr>
<tr>
<td>Preventive medicine directorate</td>
<td></td>
<td></td>
<td>One Lab technician</td>
</tr>
<tr>
<td>Curative medicine directorate</td>
<td>WHO (regional health coordinator, regional health cluster coordinator or provincial polio officer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant units of WHO/UNICEF and NGOs</td>
<td>ARCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRD and other related ministries</td>
<td>RRD and other related directorate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annex K- Roles and responsibilities of different stakeholders at different levels

6.2. Steps of outbreak response

- Rapid assessment and reporting by the outbreak investigation and early response team
- For the assessment, use the standard rapid assessment tool and gather the necessary information from appropriate sources.
- Particularly relevant information about all the suspected or confirmed hepatitis cases from the health facility and then detailed case history from the cases and their contact is important to detect the affected persons, place, time of onset and the source of infection
- Identify the constrains and shortages regarding management of the cases (including transportation, human resource and their capacity and supplies)
- Analyze the situation, Identify who, where, when and how affected by the outbreak and prioritize necessary interventions and immediate support needed
- Reinforce the response team with necessary, leadership, HR with specific TORs and supplies (Adequate prepositioning of ribavirin) and logistic support
- Define a target and timeline for the intervention
- Implement the plan with close monitoring
Regular review of interventions and outcome (preferably weekly for hepatitis outbreak control) with a response matrix update

Sample emergency response committee management response matrix

<table>
<thead>
<tr>
<th>Recommendations of the Rapid assessment</th>
<th>ERC’s comments/ amendments</th>
<th>Action to be taken</th>
<th>Responsible person/unit</th>
<th>Resources needed and provided</th>
<th>Time frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendation 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Communicate the updates and outcome of the outbreak control activities to the higher authorities and the public through appropriate channels.
7. Post outbreak activities

7.1. Continuation of enhanced surveillance and health awareness activities

It’s mandatory to continue the enhanced surveillance until complete control of outbreak.

The health awareness creating teams should continue to make awareness among the community on control of transmission of hepatitis.

7.2. Actions to be taken from the lessons learned

Once the outbreak is under control we have to review all our activities under each management level and consolidate information about constrains faced by our teams and gaps they observed at the field level.

The constrains and gaps should be thoroughly discussed by technical teams and means of preventing such constrains and filling the gaps should be identified and recommendation to be given to the appropriate authorities dealing with such outbreaks in future

The gaps and weakness of resources should be identified and capacity building programs should be prioritized to successfully face outbreaks in future

The lessons learned could be used to establish a better outbreak control mechanism in country as well as in countries under similar context

The identified gaps and recommendations could be used to bring the focus of the donors towards the practical constrains and gaps and plan a better outbreak control mechanism in future

Long term plans should be developed from the lessons learned, particularly to improve healthy living standards in hepatitis A outbreak prone areas with better water and sanitation standards

Based on the practical legal issues, recommendations to be made to strengthen the current legislation and regulation of food handling establishments/vendors, IDUs and sexworkers with regular implementation mechanism

Continue with regular evaluations and strengthen surveillance, prevention, preparedness and control mechanism,
Annexes

Annex A: Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert threshold</td>
<td>A pre-determined number of reported cases or a reported incidence rate of a disease, above which the situation is defined as an alert. It can be differ depending on the context of the disease burden of the location</td>
</tr>
<tr>
<td>Attack rate</td>
<td>The proportion of a group that experiences the outcome under study over a given period.&quot;</td>
</tr>
<tr>
<td>Case definition</td>
<td>A set of criteria (not necessarily diagnostic criteria) that must be fulfilled in order to identify a person as representing a case of a particular disease</td>
</tr>
<tr>
<td>Case fatality rate</td>
<td>The proportion of cases of a specified condition that is fatal within a specified time. Case fatality rate = number of deaths from a disease(in a given period) / 100% number of diagnosed cases of that disease(in same period)</td>
</tr>
<tr>
<td>Codan unit</td>
<td>A wireless communication system used in Afghanistan for communicating daily health emergency information from provinces to central health department</td>
</tr>
<tr>
<td>Contracted out</td>
<td>Arrange for work to be done by another organization.</td>
</tr>
<tr>
<td>Endemic disease</td>
<td>The constant presence of a disease or infectious agent within a given geographic area or population group</td>
</tr>
<tr>
<td>Epidemic</td>
<td>The occurrence of an illness or cases, specific health-related behavior, or other health-related events in a community or region of clearly in excess of normal expectancy</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>The study of the occurrence and distribution of health-related states or events in specified populations, including the study of the determinants influencing such states, and the application of this knowledge to control the health problems</td>
</tr>
<tr>
<td>Incidence</td>
<td>The number of instances of illness commencing, or of persons falling ill, during a given period in a specified population</td>
</tr>
<tr>
<td>Incidence rate</td>
<td>The rate at which new events occur in a population. The numerator is the number of new events that occur in a defined period or other physical span</td>
</tr>
<tr>
<td>Incubation period</td>
<td>The time interval between invasion by an infectious agent and appearance of the first sign or symptom of the disease in question</td>
</tr>
<tr>
<td>Informal information</td>
<td>Facts from an informal source that have not been arranged and/or transformed to provide the basis for interpretation</td>
</tr>
<tr>
<td>Morbidity</td>
<td>A measure of a sickness measured by the number of affected person, the illnesses experienced by the persons and the duration of the illness</td>
</tr>
<tr>
<td>Mortality</td>
<td>Numbers of deaths and/or rates by age, sex, cause, and sometimes other variables</td>
</tr>
<tr>
<td>Notifiable diseases</td>
<td>A disease deemed of sufficient importance to the public health to require that its occurrence be reported to health authorities</td>
</tr>
<tr>
<td>Outbreak</td>
<td>An epidemic limited to localized increase in the incidence of a disease, e.g. in a village, town, or closed institution</td>
</tr>
<tr>
<td>Outbreak investigation</td>
<td>The investigation procedure undertaken by trained staffs to detect the persons, time, place and source of the outbreak in order to implement an effective control mechanism</td>
</tr>
<tr>
<td>Outbreak threshold</td>
<td>The outbreak threshold is a pre-determined number of reported measles cases or a reported incidence rate above which the situation is defined as an outbreak</td>
</tr>
<tr>
<td>Prevalence</td>
<td>A measure of disease occurrence: the total number of individuals who have an attribute or disease at a particular time (it may be a particular period) divided by the population at risk of having the attribute or disease at that time or midway through the period</td>
</tr>
<tr>
<td>Sentinel surveillance</td>
<td>Surveillance based on selected population samples chosen to represent the relevant experience of particular groups</td>
</tr>
<tr>
<td>Surveillance</td>
<td>Systematic and continuous collection, analysis, and interpretation of data, closely integrated with the timely and coherent dissemination of the results and assessment to those who have the right to know so that action can be taken</td>
</tr>
</tbody>
</table>
**Surveillance focal point**
The person assigned to do the surveillance activity within an area or an institution

**Transmission**
Any mechanism by which an (infectious) agent is spread from a source or reservoir to another person

---

**Annex B1: Sample hepatitis incidence chart**

**Daily hepatitis incidence chart**
Month________Year_______

**Number of cases**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|  0 |  1 |  2 |  3 |  4 |  5 |  6 |  7 |  8 |  9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

**Date**

**Annex B2: Sample Alert notification form**

Date: __________ Region_________________ Province_____________________

District_________________ Health Facility/camp__________________________
**Name of focal point** __________________________  **Contact number** __________________________

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Address</th>
<th>Complaints/signs and symptoms</th>
<th>Suspected disease</th>
<th>Date of onset</th>
<th>Outcome*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Province Name/Code:** __________________________  **District Name/Code:** __________________________

**Town/Village/Camp:** __________________________  **Facility Name/Code:** __________________________  **NGO/Donor:** __________________________

*Recovered/referred/Dead

**Annex B3:** [DEWS Weekly reporting format](#)

**Surveillance Reporting Form for Morbidity (Diseases) and Mortality (death)**

*Bring to PHD office on every Saturday*
## Events Under Surveillance

<table>
<thead>
<tr>
<th>Male/Less than 5 years old</th>
<th>Female/Less than 5 years old</th>
<th>Male/ 5 years old and over</th>
<th>Female/ 5 years old and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>Deaths</td>
<td>Cases</td>
<td>Deaths</td>
</tr>
<tr>
<td>1</td>
<td>ARI- Cough and cold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ARI- Pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Acute Diarrhoea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bloody Diarrhoea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>AWD w Dehydration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Suspected Meningitis (SIC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Susp. Acute Viral Hepatitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Suspected Measles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Suspected Pertussis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Probable Diphtheria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Tetanus/ Neonatal Tetanus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Acute Flaccid Paralysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Suspected Malaria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Suspected HEPATITIS Fever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Susp. Hemorrhagic Fever</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please include only those cases that were examined / admitted during the surveillance week and deaths that occurred during the surveillance week. Each case should be counted only once.

- Write “0” (zero) if you had no case or death of any of the Health Events listed in the form.
- Deaths should be reported only under “Deaths”, NOT under “Cases”, and please fill the following table for each reported death.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name</th>
<th>Age</th>
<th>Se</th>
<th>Cause</th>
<th>Residence/ Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Investigate with history and lab specimen single cases of suspected avian influenza, HEPATITIS, measles, pertussis, diphtheria, AFP, meningitis and hemorrhagic fever and search for other cases. Similarly, investigate clusters of pneumonia, bloody diarrhea, hepatitis, malaria, and HEPATITIS and increasing trends of ARI and diarrhea.

Annex C: Surveillance focal points by Regions, Provinces and Districts (To be updated)
<table>
<thead>
<tr>
<th>Name</th>
<th>Post Title</th>
<th>Provinces</th>
<th>District</th>
<th>Contact No</th>
<th>E-Mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Bashir Noormal</td>
<td>General Director APHI</td>
<td>Kabul</td>
<td>Kabul</td>
<td>700281134</td>
<td><a href="mailto:noormalb@yahoo.com">noormalb@yahoo.com</a></td>
</tr>
<tr>
<td>Dr. Mir Ismal Sayed</td>
<td>Surveillance DEWS Director</td>
<td>Kabul</td>
<td>Kabul</td>
<td>700290955</td>
<td><a href="mailto:km_islam2001@yahoo.com">km_islam2001@yahoo.com</a></td>
</tr>
<tr>
<td>Dr. Naqibullah Ziar</td>
<td>Deputy, Surveillance Direct</td>
<td>Kabul</td>
<td>Kabul</td>
<td>799001491</td>
<td><a href="mailto:nziarhaleem@gmail.com">nziarhaleem@gmail.com</a></td>
</tr>
<tr>
<td>Mr. M. Eshad Bayani</td>
<td>Data Manager</td>
<td>Kabul</td>
<td>Kabul</td>
<td>799226429</td>
<td><a href="mailto:ershadbayani@yahoo.com">ershadbayani@yahoo.com</a></td>
</tr>
<tr>
<td>Ms. Rashida Bano</td>
<td>Epidemiologist/TO DEWS</td>
<td>Kabul</td>
<td>Pol-e-Charkhi</td>
<td>708811856</td>
<td><a href="mailto:banor@afg.emro.who.int">banor@afg.emro.who.int</a></td>
</tr>
<tr>
<td>Dr. Ahmad Farid Ghiasi</td>
<td>National Technical Officer</td>
<td>Kabul</td>
<td>Pol-e-Charkhi</td>
<td>700602174</td>
<td><a href="mailto:ghiasia@afg.emro.who.int">ghiasia@afg.emro.who.int</a></td>
</tr>
<tr>
<td>Dr. Nawid 'Musarat'</td>
<td>Regional DEWS Officer</td>
<td>Kabul</td>
<td>Kabul</td>
<td>799413160</td>
<td><a href="mailto:nawidmusarat@gmail.com">nawidmusarat@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Aimal Alkozai</td>
<td>Regional DEWS Officer</td>
<td>Nangarhar</td>
<td>Jalalabad</td>
<td>700606303</td>
<td><a href="mailto:aimal.alkozai@gmail.com">aimal.alkozai@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Naeem</td>
<td>Regional DEWS Officer</td>
<td>Balkh</td>
<td>Mazar</td>
<td>789469627</td>
<td></td>
</tr>
<tr>
<td>Dr. Aminullah</td>
<td>Provincial DEWS Assistant</td>
<td>Balkh</td>
<td>Mazar</td>
<td>786720019</td>
<td></td>
</tr>
<tr>
<td>Dr. Mohd Sarwar Firozi</td>
<td>Regional DEWS Officer</td>
<td>KDH</td>
<td>Shar-e-Naw</td>
<td>703009008</td>
<td><a href="mailto:sarwarfirozi@gmail.com">sarwarfirozi@gmail.com</a></td>
</tr>
<tr>
<td>Dr. Zarif Ahmad Akbaryan</td>
<td>Regional DEWS Officer</td>
<td>Hirat</td>
<td>Herat City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. M. Afzal Khosti</td>
<td>Regional DEWS Officer</td>
<td>Paktia</td>
<td>Gardiz City</td>
<td>700933102</td>
<td></td>
</tr>
</tbody>
</table>
Annex D: Standards of Procedures (SOPs) of sample collection and transport

Specimen collection
Separated serum is the most preferable specimen taken to investigate outbreaks of hepatitis. Venous blood can be separated into serum for the detection of genetic material (e.g. using the polymerase chain reaction), specific antibodies and antigens (e.g. by ELISA).
When specific antibodies are being assayed, it is often helpful to collect paired sera, i.e. an acute sample at the onset of illness and a convalescent sample one to four weeks later.

Venous blood sample collection
Materials for collection
- Skin disinfection: 70% alcohol (isopropyl alcohol, ethanol) or 10% povidone iodine, swabs, gauze pads, band aid
- Disposable latex or vinyl gloves
- Tourniquet, Vacutainer, Monovette, or similar vacuum blood collection devices, or disposable syringes and needles
- Vacutainer or sterile screw-cap tubes (or cryotubes if indicated)
- Labels and indelible marker pen.

Method of collection
- Place a tourniquet above the venepuncture site.
- Palpate and locate the vein. It is critical to disinfect the venepuncture site meticulously with 10% Povidone iodine or 70% isopropyl alcohol by swabbing the skin concentrically from the center of the venepuncture site outwards. Let the disinfectant evaporate.
- Do not re-palpate the vein again.
- Perform venepuncture.
- If withdrawing with conventional disposable syringes, withdraw 5-10 ml of whole blood from adults, 2-5ml from children and 0.5-2ml for infants.
- If withdrawing with vacuum systems withdraw the desired amount of blood directly into each transport tube and culture bottle.
- Remove the tourniquet. Apply pressure to site until bleeding stops, and apply sticking plaster (if desired).
- Using aseptic technique; transfer the specimen to relevant cap transport tubes and culture bottles. Secure caps tightly. Be sure to follow manufacturer’s instructions on the correct amount and method for inoculation of blood culture bottles.
- Label the tube, including the unique patient identification number and details, using indelible marker pen.
Do not recap used sharps. Discard directly into the sharps disposal container.
Complete the case investigation and the laboratory request forms using the same identification number and details.

Separation of serum from blood
Additional materials required
- Sterile Pasteur pipettes and bulb, or soft, disposable transfer pipettes (pastettes).
  The latter are easier to handle and dispose of in the field laboratory.
- Sterile screw-cap tubes - 2 per sample.

Method of separation
- Using the materials and methods described above draw 10 ml of venous blood and transfer to a screw cap tube without anti-coagulant. Alternatively,
- Blood may be collected directly into a proprietary collection and transport tube (e.g., Vacutainer, Monovette, etc.),
- Let the blood specimen clot for 30 minutes at ambient temperature, then place in a cool box to retract at 4 to 8°C for a minimum of 1 to 2 hours (it may be stored at this temperature for 48-72 hours).
- The specimen should be centrifuged at the laboratory at low speed (1000g for 10 minutes) to remove residual blood cells. When serum separation is performed in a field laboratory proper safety precaution should be taken.
- Ensure that the centrifuge is in good condition and the tubes are properly closed and balanced to avoid breakage and spilling. If a viral haemorrhagic fever is strongly suspected, samples should only be processed in properly equipped, specialized laboratories. Discuss with the laboratory whether a separation gel blood tube (see Note) would be acceptable in this case.
- Separate the serum aseptically from the clot using a sterile Pasteur pipette and bulb or soft, disposable transfer pipette. Transfer equally to 2 plastic screw cap tubes. Secure the caps tightly.
- If a centrifuge is not available and there will be a delay before samples can be transported to a laboratory, serum may still be separated carefully from the retracted clot using a disposable transfer pipette.
- Allow 4-6 hours to elapse after taking the blood sample to ensure adequate clot retraction.
- Using the transfer pipette, remove the clear yellow serum whilst taking care to keep the tip as far as possible from the clot, and avoid agitating the blood tube during the removal process. (This may be easier if a separation gel collection tube has been used.) Transfer to plastic screw cap tubes and secure caps tightly.
- Label the tubes with the same patient details that appear on the blood sample tube.

NOTE: In some instances it may be acceptable to use a special blood tube containing a separation gel, which encourages separation of serum from clot. In this case, the centrifugation step is eliminated. This has advantages for ease and safety of specimen processing under field conditions, but it is important to check with the laboratory in advance to ensure that these devices are appropriate for your particular investigation.

Handling and transport
If serum will be required for testing, separation from blood should take place as soon as possible, preferably within 24 hours at room temperature. If the specimen will not reach a laboratory for processing within 24 hours, serum should be separated from blood prior to transportation. Sera may be stored at 4-8°C for up to 10 days. If testing is delayed for a long period, serum samples may be frozen. If separation on site is not possible, or is inadvisable for safety reasons, the blood sample should be stored at 4-8°C. Protect such non separated samples from excessive vibration while transporting.

**Non separated blood samples should not be frozen.**

- All specimens must be transported in a leak-proof triple packing (Figure 6). Place the properly labeled blood tubes into a leak-proof container. (Make sure there is enough absorbent material available to cushion tubes and contain specimen should there be any breakage of the tubes.)
- Secure the requisition form on the outside of the leak-proof container.
- Insert the leak-proof container into a rigid outer container suitable for transport.
- If there is any delay to transport; store the specimens at 4-8°C until reaching the lab.

**Figure 6:**

1. Place separated serum in tubes/Primary container
2. Wrap in absorbent material

3. Keep the wrapped tubes in a secondary container

4. Securely pack in a hard tertiary container
Annex E: Sample case investigation form

Sample case/cluster investigation form

<table>
<thead>
<tr>
<th>Province:</th>
<th>Date/time of first report:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Who Reported?</td>
</tr>
<tr>
<td>District:</td>
<td>Village/town:</td>
</tr>
<tr>
<td>Date of investigation:</td>
<td>Distance from Center of Province:</td>
</tr>
<tr>
<td>Name of the nearest health facility:</td>
<td>Total population of the area:</td>
</tr>
<tr>
<td></td>
<td>Number at risk:</td>
</tr>
<tr>
<td>Name of the team leader:</td>
<td>DPTHH coverage of the area:</td>
</tr>
<tr>
<td>Telephone number:</td>
<td>OPV3 coverage:</td>
</tr>
<tr>
<td></td>
<td>Measles Coverage of the area:</td>
</tr>
</tbody>
</table>

**Health event/suspected disease**
(tick one box only)

**Symptoms and signs**
(several boxes can be ticked)
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Acute diarrhoea</td>
<td>□ 3 or more loose stools per 24 hours</td>
</tr>
<tr>
<td>□ Acute bloody diarrhoea</td>
<td>□ loose stools with blood</td>
</tr>
<tr>
<td>□ Suspected HEPATITIS</td>
<td>□ fever</td>
</tr>
<tr>
<td>□ Suspected measles</td>
<td>□ rash</td>
</tr>
<tr>
<td>□ Suspected rubella</td>
<td>□ other skin lesion</td>
</tr>
<tr>
<td>□ Suspected pertussis</td>
<td>□ cough</td>
</tr>
<tr>
<td>□ Suspected diphtheria</td>
<td>□ vomiting</td>
</tr>
<tr>
<td>□ Suspected meningitis</td>
<td>□ yellow eyes and/or skin</td>
</tr>
<tr>
<td>□ Acute lower respiratory infection</td>
<td>□ neck stiffness</td>
</tr>
<tr>
<td>□ Acute jaundice syndrome</td>
<td>□ convulsions or seizures</td>
</tr>
<tr>
<td>□ Hepatitis</td>
<td>□ muscle weakness</td>
</tr>
<tr>
<td>□ Acute hemorrhagic fever syndrome</td>
<td>□ increased secretions (e.g. sweating or drooling)</td>
</tr>
<tr>
<td>□ Acute flaccid paralysis (suspected poliomyelitis)</td>
<td>□ altered level of consciousness</td>
</tr>
<tr>
<td>□ Suspected malaria</td>
<td>□ other (specify): ___________</td>
</tr>
<tr>
<td>□ Adult tetanus</td>
<td></td>
</tr>
<tr>
<td>□ HEPATITIS fever</td>
<td></td>
</tr>
<tr>
<td>□ Unexplained fever</td>
<td></td>
</tr>
<tr>
<td>□ Unexplained cluster of health events</td>
<td></td>
</tr>
</tbody>
</table>

**GPS**

Ev:

N:

L:
- **Other (specify):** ________________
- **Team Members:** ________________

**Total number of cases reported:**

**Total number of cases investigated:**

**Total number of deaths reported:**

**Response:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Direction</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

**Surrounding Villages**

- ☒ In case of town please mention the number of street and house

- (a) **Age:** by days (for newborn), months (for infants), and years

- (b) **Sex:** M for male; F for female;

- (c) **Date (day/month/year)**
(d) Records using the following codes: I = currently ill, R = recovering or recovered, D = died, L = lost to follow-up, U = unknown.

(e) Record using the following codes: B = blood, S = stool, C = cerebrospinal fluid, U = urine, R = respiratory specimen, O = other.

**Line list of suspected cases**

Province: _______________ District: _______________ Village: _____________

Estimated population__________ Informant: ____________________________

Nearest health facility______________________

<table>
<thead>
<tr>
<th>No</th>
<th>Full Name</th>
<th>age</th>
<th>sex</th>
<th>Symptoms and signs</th>
<th>Date of onset</th>
<th>Treatment given</th>
<th>history of disease contact or travel or source*</th>
<th>Outcome**</th>
<th>If died; Date of death</th>
</tr>
</thead>
</table>

*= Any relevant case/contact/travel history or suspected source suggested by the informant

**= Sick/Recovered/Died

*Information collected from the health facility registration books on the suspected disease*
### Operational guidelines for viral hepatitis outbreak response in Afghanistan

<table>
<thead>
<tr>
<th>Number of the cases this week</th>
<th>Total</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of the cases for the last week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of the cases in the same week of the last year (☼)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average number of the cases for the last 3 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

please mention if there was an outbreak of the disease in the same weeks of last year

### Outbreak investigation (information recorded from the village’s graveyard visit)

<table>
<thead>
<tr>
<th>Number of the new children graves:</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of the new adult graves:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Death cases confirmed by the village Mullah Imam in last 2 weeks

<table>
<thead>
<tr>
<th>Number of new children deaths:</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
</table>
Number of the new adults deaths:

Grand total

Draw Map of the Area below:
Annex F: Steps for differential diagnosis and laboratory confirmation of jaundice

Suspected outbreak

**ACUTE JAUNDICE SYNDROME**

Definition of syndrome

Acute onset of jaundice AND severe illness AND absence of known predisposing factors

Possible diseases/pathogens

- Yellow fever
- Hepatitis A-E
- Leptospirosis and other spirochaetal diseases

Specimens required

- Post mortem liver biopsy
- Serum
- Blood culture (urine*)

Laboratory studies

- Viral:
  - Culture
  - Antigen detection
  - Antibody levels
  - Genome analysis
- Leptospiral:
  - Culture
  - Antibody levels
  - Serotyping

* Requires specialized media and handling procedures
### Annex G: Broad TORs of stake holders before during and after outbreaks

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gov. Health department</strong></td>
<td><strong>Before outbreak</strong> 1. Develop an Outbreak preparedness plan and ensure all the resources (Money, man, Material and Management with regular review) are arranged from community to national level, 2. Make awareness among the public particularly among risk groups and support them to control the risk behavior (E.g. condom supply, syringe needle program, voluntary screening etc.) 3. Ensure routine surveillance system is efficiently functional (train, implement and regularly M&amp;E the process of notification, analysis, alert Investigation and outbreak control activities) 4. Ensure adequate prepositioning of necessary emergency supplies according to the expected incidence 5. Ensure existence and functional standard laboratory investigation net working 6. Train all the clinicians on standard Case management and <strong>During outbreak</strong> 1. Efficiently manage the resources allocate and mobilize according to the priorities 2. Ensure fully functional enhanced surveillance is in place in all affected areas and relevant areas under risk 3. Ensure necessary supplies and buffer stocks are reached to the affected sites in time 4. Ensure quick access to sample transport and feedback from laboratory are reached the field in time 5. Review the case management issues and rectify accordingly and enhance the referral system as well <strong>After outbreak</strong> 1. Reorganize the resources and withdraw excess from the affected site or utilize them for long term sustainable solutions 2. Continue enhanced surveillance until complete control is observed 3. Keep an emergency stock at risk locations and withdrew back the balance to the provincial stores 4. Maintain a laboratory investigation data base for future reference 5. Identify the practical issues faced by the clinical staff on case management and plan to rectify them in future 6. Appreciate all the work forces and prepare them for future emergencies as well 7. Evaluate the outbreak response and</td>
</tr>
<tr>
<td>Role</td>
<td>Activities</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Gov. Education department                                            | 1. Participate and contribute to outbreak preparedness  
2. Spread the knowledge of hepatitis preventive measures through regular education system and special campaigns | 1. Organize campaigns in the school and surrounding community regarding prevention of spread of hepatitis  
2. Volunteer service provision to the health facilities to manage the cases and blood donation | 1. Continue to campaign on regular vector control and personal protective measures  
2. Participate and contribute in emergency/outbreak review and planning |
| Private business community, funding agents and financial supporters | 1. Support the injecting drug users and sex workers to change their life style and behavior with micro financing/revolving funds to establish a better life  
2. Support the community based water and sanitation programs  
3. Support community based awareness and screening activities | 1. Support water and sanitation activities in the outbreak area  
2. Continue to support for awareness and control of risk behavior campaigns | 1. Identify the gaps in the activities and develop appropriate plans to rectify them |
| NGOs and UN agencies                                                  | 1. Support relevant Government departments in the process of planning, implementation and maintenance of hepatitis prevention and control programs (Fund, HR, Supplies, technical advice and management) | 1. Support the government departments with technical advice, HR, laboratory, vaccine supplies and logistics  
2. Support the outbreak control and case management teams  
3. Support the monitoring and evaluation of outbreaks and prevalence of hepatitis | 1. Identify the gaps in outbreak control and support for a sustainable solution |
| Community                                                             | 1. Understand their basic needs | 1. Support health  
1. Support the
<table>
<thead>
<tr>
<th>Organizations and public</th>
<th>Operate guidelines for viral hepatitis outbreak response in Afghanistan</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Arrange all possible resources from the community and get support from micro financing agencies, NGOs and UN agencies and implementation of community-based hepatitis preventive measures.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>Organize active community based teams for maintenance of water and sanitation, control IDU, sex workers and making awareness about the risk factors.</td>
<td>2.</td>
</tr>
<tr>
<td>Gov. Departments of Law and order</td>
<td>1. Develop and implement necessary public laws related to water and sanitation, IDU and sex workers. Make the public to be aware of the laws and follow.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>Identify the gaps in laws and implementation and rectify them.</td>
<td></td>
</tr>
</tbody>
</table>
1 Oxford dictionary version 6.4
2 http://www.who.int/csr/disease/hepatitis/en/
3 Hepatitis A, Fact sheet N°328, WHO July 2012
4 Prevention and control of viral hepatitis infection, frame work for global action, WHO 2012
5 Introduction of Hepatitis B Vaccine in Afghanistan, MoPH, Afghanistan 2005
6 Share of Afghanistan populace in hepatitis B and hepatitis C infection’s pool: is it worthwhile?, Khan and Attaullah Virology Journal 2011, 8:216
7 National Health Management Information system procedures manual, MOPH Afghanistan June 2006
8 Hepatitis C Fact sheet N°164HO July 2012
9 Hepatitis B Fact sheet N°204, WHO, July 2012
10 Sixty third world health assembly, WHA63.18, Agenda item 11.12 21 May 2010
11 Disease early warning system, Ministry of public health of Afghanistan, 2006
12 Case Definitions and Standard Procedures for Collection and Transportation of Human Infectious Disease’s Samples, including Prevention & Control Measures, Disease Early Warning System (DEWS) Pakistan updated in June 2009
13 http://www.cdc.gov/mmwr/preview/mmwrhtml/00047449.htm#top
14 http://www.worldhepatitisalliance.org/AboutViralHepatitis/Prevention_Diagnosis_Treatment.aspx
15 Prevention & Control of Viral Hepatitis Infection, frame work for global action, WHO 2012
17 Guidelines for the collection of clinical specimens during field investigation of outbreaks, CSR, WHO, April 2000