Viral Hepatitis in the Russian Far East

A Consultation for the United States Agency for International Development, Russia

4-17 June 2005

Susan Goldstein, MD
Colin Shepard, MD
Division of Viral Hepatitis, Centers for Disease Control and Prevention, USA

John Christian Victor, MPH, PhD
University of Michigan, USA

Nikita Afanasiev, MD, PhD
Marina Kulikova, MD
United States Agency for International Development, Russia

Victor Maleyev, MD, PhD
Central Research Institute for Epidemiology, Russia

TABLE OF CONTENTS

I. Explanation of Need.....2
II. Viral Hepatitis Background.....3
III. Russian Far East Background.....4
IV. Disease Burden.....5
A. Seroprevalence Data.....5
B. Acute Disease Surveillance Data.....6
C. Hospital-Based Data 11
V. Immunization 14
VI. Blood Safety (Transfusion).....15
VII. Laboratory.....16
VIII. Chronic Infection 18
IX. Treatment.....20
X. Hepatitis A.....21
XI. Summary of Findings and Potential Interventions.....21
Annex I: Schedule of Major Activities and Meetings.....25
Annex II: Persons Met and Consulted.....26
Annex III: HCV Seroprevalence Studies, Western and Easter Europe.....29
Annex IV: Incidence of Acute Viral Hepatitis in the United States.....31
Annex V: Standardized Surveillance Data Collection Form, Russian Federation.....33
Annex VI: Preliminary Surveillance Data Collection Form, Khabarovsk Territory,.....36
Annex VII: Blood Donation Screening Questionnaire, Primorsky 37
Annex VIII: Blood Donation Screening Questionnaire, Khabarovsk.....38
Annex IX: Prevalence of HBsAg and Anti-HCV Among Blood Donors by Territory.....39

I EXPLANATION OF NEED

At the request of the United States Agency for International Development (USAID), Russia the Division of Viral Hepatitis, Centers for Disease Control and Prevention (CDC), United States (US), was asked to conduct an assessment of viral hepatitis prevention and control activities in the Russian Far East and suggest areas for public health intervention. From 4-17 June 2005, a multinational team visited Primorsky Territory and Khabarovsk Territory in the Russian Far East and Moscow. The specific objectives of the evaluation were to:

- Collect and summarize available data on viral hepatitis disease including serologic and surveillance data, with an emphasis of hepatitis B and hepatitis C
- Summarize and evaluate acute disease surveillance activities
- Describe trends in acute viral hepatitis and groups at increased risk for infections
- Assess the risk of viral hepatitis transmission and magnitude of disease burden from various modes of transmission including injection drug use, sexual activity, blood transfusion, and nosocomial transmission
- Summarize viral hepatitis prevention activities, including hepatitis A and B immunization programs
- Develop a list of activities and interventions related to viral hepatitis epidemiology, prevention and control to be conducted collaboratively by USAID, CDC, and the Russian Ministry of Health in the Russian Far East

The team consisted of six members, from three US and one Russian organization:

CDC
Susan Goldstein, MD, Acting Associate Director for Global Activities, Division of Viral Hepatitis
Colin Shepard, MD, Medical Epidemiologist, Division of Viral Hepatitis

University of Michigan
John Christian Victor, PhD, Epidemiologist, University of Michigan

USAID
Nikita Afanasiev, MD, PhD, Senior Advisor, Infectious Diseases
Marina Kulikova, MD, Program Specialist, Infectious Diseases

Central Research Institute for Epidemiology, Russia
Victor Maleyev, MD, PhD, Chief, Infectious Diseases, Russian Federation

Meetings were held with key members of the Ministry of Health (MOH), academicians, physicians, and laboratorians in each of the territories and Moscow. MOH staff included those from the surveillance program (Sanitary and Epidemiology Station [SES]) immunization program, blood transfusion services, human immunodeficiency virus (HIV) program, and laboratory. Visits were made to universities and hospitals. Available hepatitis disease burden, surveillance, and immunization data were collected in each of the two Territories. A schedule of the major activities and meetings, and persons met during this consultation are summarized in Annex I and Annex II, respectively.

The team would like to extend our thanks to our hosts and colleagues in Primorsky Territory, Khabarosk Territory, and Moscow for their willingness to meet with us, and share their data and thoughts on viral hepatitis epidemiology and prevention. We would like to especially thank Dr. Victoria Ivantes and Dr. Alexander Popov, our hosts in Primosky Territory; Dr. Gennady Tomilka,. our hosts in Khabarovsk Territory; Ms. Anna Kanishcheva from USAID, Russia who assisted with all the logistics of this mission; and Ms. Betsy Brown, Director, Office of Health, USAID, Russia for the invitation to assist with this evaluation.

II VIRAL HEPATITIS

There are five types of hepatitis virus: hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV), and hepatitis E virus (HEV) (Table 1). All five viruses cause acute viral hepatitis - the well-known acute jaundice illness. Hepatitis B, C, and D can also cause chronic infection. Persons with chronic infection are at risk of developing and dying from liver cirrhosis and hepatocellular carcinoma [HCC]. Chronic viral hepatitis often goes unrecognized until decades after infection when cirrhosis and HCC become clinically apparent. Most viral hepatitis mortality is related to the chronic sequelae of infection.

HAV and HEV are transmitted by the fecal-oral route. Common modes of transmission include: person-to-person (HAV), contaminated food (HAV) and contaminated water (HAV and HEV). HBH, HCV, and HDV are bloodborne viruses and transmitted by percutaneous and permucosal contact with infected blood and some other body fluids (i.e., semen and vaginal fluid). Common modes of transmission include: perinatal, injection drug use (IDU), unsafe injection and other medical practices, blood transfusion, and sexual contact (HBV and to a lesser extent HCV). HDV is differs from the other hepatitis viruses in that it requires the presence of HBV to establish infection.

Hepatitis A and E are prevented through clean water and proper hygiene and sanitation. There is also a vaccine to prevent hepatitis A. Hepatitis B, C, and D, are prevented through safe sex, safe injection practices, safe medical practices, and screening of blood for transfusion. There is a vaccine against hepatitis B. Prevention of HBV infection will indirectly prevent infection with HDV.

Table 1: The Hepatitis Viruses

Virus	Transmission	Acute Hepatitis	Chronic Infection	Vaccine
A	Fecal-oral	Yes	No	Yes
B	Parenteral	Yes	Yes	Yes
C	Parenteral	Yes	Yes	No
D	Parenteral	Yes	Yes	No[1]
E	Fecal-oral	Yes	No	Yes

[1] Prevention of HBV infection with hepatitis B vaccination with prevent HDV infection.

III THE RUSSIAN FAR EAST

The Russian Far East a geographical term for the 10 Russian regions in the eastern part of the country, many along the Pacific seaboard: Amur, Chukotka, Jewish Autonomous Region, Kamchatka, Khabarovsk, Koryak, Magadan, Primorsky, Sakhalin, and Yakutia. Although the Russian Fare East is often considered part of Siberia, in 2000 it was made one of seven federal districts of the Russian Federation. The two most populous regions are Primorsky (capital city Vladivostok) and Khabarovsk (capital city Khabarovsk), the district administrative center.

The Russian Far East covers a land area approximately two-thirds the size of the continental US and has a population of approximately 6.6 million (Table 2). It is estimated that in the past 10 years over 1 million people have emigrated out of the region to other parts of Russia and abroad.

Table 2: Regions and Population of the Russian Far East

Region	Estimated Population (2002)
Amur Region	902,840
Chukotka Autonomous Area	53,820
Kamchatka Region	333,640
Khabarovsk Territory	1,436,570
Koryak Autonomous Area	25,150
Jewish Autonomous Region	190,910
Magadan Region	182,720
Primorsky Territory	2,071,210
Sakhalin (Island) Region	546,690
Yakutia (Sakha) Republic	949,280

Primorsky Territory

Primorsky Territory is located in the south-east part of the Russian Far East, bordered by China, North Korea, and the Sea of Japan. The territory is sub-divided into 34 administrative districts. Vladivostock, the capital city, is well-known as the eastern terminus of the trans-Siberian railway. The population of Primorsky is approximately 2 million, with an estimated 22,000 births per year. There are a total of 49 hospitals in the territory: two are devoted to infectious diseases and 31have infectious disease departments. Fishing, machine building, defense (ships and airplanes), shipping, agriculture, timber, and coal are the major industries. Primorsky is also the Russian Far East's banking and finance center.

Khabarovsk Territory

Khabarovsk Territory is located to the north of Primorsky Territory, also along the eastern seaboard. This territory functions as the administrative center of the Russian Far East. It is divided into 17 districts. The capital city is Khabarovsk. It has a population of approximately 1.4 million, 280,000 of which are children. There are an estimated 16,000 births per year. There are 411 hospitals in the territory, 2 of which are devoted to infectious diseases. Many of

the others have infectious disease departments. Major industries include timber, fishing, and metallurgy, petroleum refining.

IV DISEASE BURDEN DATA

There are few published studies or official data on viral hepatitis disease burden in the Russian Far East. This section summarizes available data collected during this evaluation. Much of the data are descriptive in nature. In some cases, numerator and denominator were not available and only proportions are presented. This section is divided into 3 sub-sections reflecting different types of disease burden data: seroprevalence data, surveillance data, and hospital-based data. No data were available to us regarding mortality from acute viral hepatitis, cirrhosis or HCC.

A. SEROPREVALENCE DATA

Primorsky Territory

Serologic data in Primorsky Territory were available from blood donors, pregnant women, and health care workers (Table 3). See Section VIII for a description of screening programs in the Territory.

Table 3: Prevalence of HBsAg and Anti-HBC among Blood Donors and Pregnant Women, Primorsky Territory

Group	Year	Number screened	Percent positive	Location
HBV				
Blood donors	2002-4	~28,5000	1.8-2.5%	Territory blood bank
Pregnant women	2004	369	1.9%	Private Lab
Healthcare workers[1]	NA[2]	NA[2]	2.8-3.0%	Hospital #2
Surgeons	NA[2]	NA[2]	5.3%	Hospital #2
HCV				
Blood donors	2002-4	~28,500	3.6-5.3%	Territory blood bank
Pregnant women	2004	18162	2.3%	Department of Health (SES)

[1] Excluding surgeons
[2] NA = not available

HCV prevalence studies from Western Europe, Eastern Europe, and selected other developed countries is shown in Annex III.

Khabarovsk Territory

In Khabarovsk Territory, serologic data were available from blood donors, pregnant women, health care workers, hospital inpatients, and persons tested at the Center for Prevention and Control of AIDS and Infectious Diseases (Table 4). The Center for Prevention and Control of AIDS and Infectious Diseases screens approximately 40,000 persons per year for hepatitis. Most person screened are at risk for HIV infection, but the center screens all persons for all reasons,

including pregnant women and the "worried well." See Section VIII for a description of other screening programs in the Territory.

Table 4: Prevalence of HBsAg and Anti-HCV among Various Groups, Khabarovsk Territory

Group	Year	Number screened	Percent Positive	Location
HBV				
Blood donors	2004	1855	0.9%	Hospital #1
Blood donors	2004	~20,000	0.8%	Territory Transfusion Center
Healthcare workers	2004	149	0.6%	Hospital #1
Hospital inpatients	2004	6324	2.8%	Hospital #1
Pregnant women[1]	2004	16,510	1.3%	SES data
Pregnant women[1]	2004	17,000	2.3-2.7%	Center for Prev & Cont AIDS
All persons	2002-2004	~120,000	2.9%	Center for Prev & Cont AIDS
HCV				
Blood donors	2004	1855	3.8%	Hospital #1
Blood donors	2004	~20,000	1.8%	Territory Transfusion Center
Healthcare workers	2004	532	0.7%	Hospital #1
Hospital inpatients	2004	6986	8.9%	Hospital #1
Pregnant women	2004	16,510	0.82%	SES data
All persons	2002-4	~120,000	7.9-8.9%	Center for Prev & Cont AIDS

[1] There may be overlap between data from SES and Center for Prevention and Control of AIDS and Infectious Diseases.

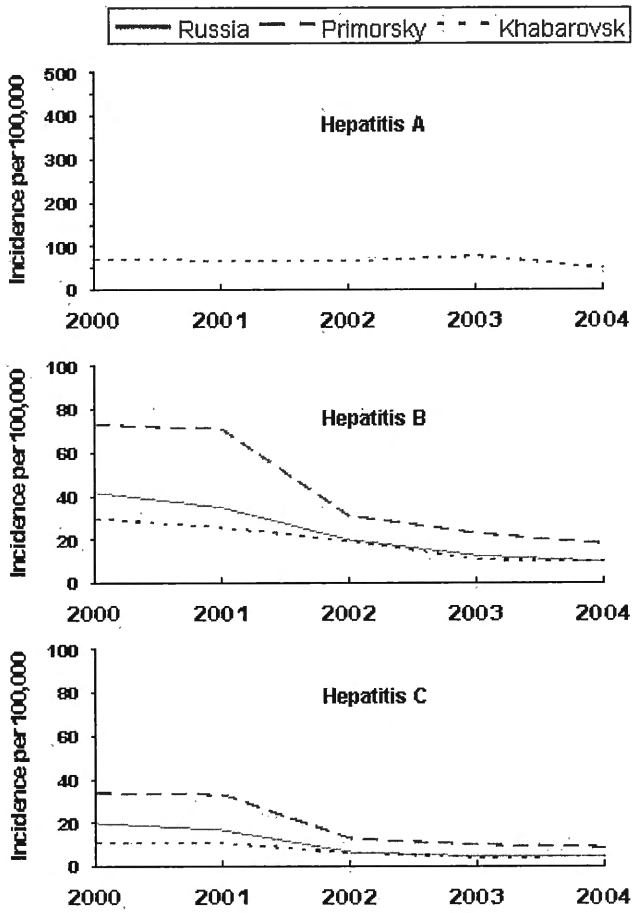
HCV prevalence studies from Western Europe, Eastern Europe, and selected other developed countries is shown in IV III.

B. ACUTE DISEASE SURVEILLANCE

Acute disease surveillance is conducted in the territories of the Russian Far East according to the standard protocol as dictated by Russian Federation Prikaz (written regulations), with some modification at the local level. Previously, the Ministry of Health unit responsible for surveillance was called the Sanitary and Epidemiology Station (SES). The Ministry has recently undergone reorganization and the unit responsible for surveillance has been renamed the Federal Service for Surveillance in the Sphere of Consumer Rights Protection and Human Well-being. In this report, however, we have continued to use the term SES.

Acute viral hepatitis A, B, and C incidence data for 2000-2004 were available from the Russian Federation and from Primorsky and Khabarovsk Territories (Figure 1). For comparison, the incidence of acute hepatitis A, B, and C in the United states is shown in Annex IV.

Figure 1: Incidence of Acute Hepatitis A, Hepatitis B, and Hepatitis C, Russian Federation, Primorsky Territory, Khabarovsk Territory (2000-2004)



Primorsky Territory

Description of System: Almost all persons with acute viral hepatitis are admitted to the hospital. Physicians report all suspect cases of acute viral hepatitis to the SES within a day of examination of the patient. Laboratory testing is conducted by the hospital and the results are forwarded to SES. SES requires all patients have laboratory testing. There is no standardized clinical case definition for acute viral hepatitis, nor standardized use of laboratory criteria for making an etiologic diagnosis. In some cases, clinical data are used to differentiate between acute and chronic hepatitis. All samples are tested for all serologic markers of viral hepatitis including A, B, C (including anti-HCV IgM), D, and G using Vector Best test systems. A diagnosis of undifferentiated hepatitis only occurs when all test results are negative or indeterminate
Only results from government-run laboratories are accepted for official statistics; cases initially tested at private labs – there are two in the territory - must be retested at the central SES laboratory

Case Investigation: Upon initial notification of a potential case of acute viral hepatitis by a physician, an epidemiologist from SES begins an interviews the patient to obtain demographic and risk factor information using a standardized questionnaire (Annex V). This questionnaire, used all over the Russian Federation for various infectious diseases, was last updated in 1980. Risk factor questions on the questionnaire include contact with a known or possible case of acute viral hepatitis, as well as occupation. The questionnaire does not contain any specific questions related to sexual activity or injecting drug use. However, SES epidemiologists can write in additional risk factor information in various sections of the questionnaire. There is no systematic or hierarchical method for determining the risk factor for infection. There is a section for the epidemiologist to record the outcome of the epidemiologic investigation, and includes such information as the 1) most likely place of infection, 2) probable source of the infection, 3) probable specific agent of infection, and 4) conditions that facilitated acquisition of infection. It was reported that all cases are investigated.

Incidence Data: The incidence of acute hepatitis B and C in Primorsky Territory from 2000-2004 is shown in Figure 1. The incidence of both is slightly higher than the overall incidence in the Russian Federation, but has declined in parallel with the overall decline in the Russian Federation. In 2004, 1821 cases of acute viral hepatitis were reported to SES. Hepatitis A accounted for 64% of cases, hepatitis B for 21%, hepatitis C for 10%, and for 5% of cases, no etiologic diagnosis was specified. Among children <15 years old, hepatitis A, B, and C accounted for 94%, 2% and 1% of acute viral hepatitis cases, respectively. Among adults, 49% of cases were hepatitis A, 30% hepatitis B, and 15% hepatitis C.

Risk Factor Data: Reported risk factors for acute hepatitis B and hepatitis C are summarized in Table 5. Injection drug use and sexual contact were the two most commonly reported risk factors for acute hepatitis B and C. Health-care-related exposures (i.e., risk factors 3 – 11) accounted for 10% of acute hepatitis B and 10% of acute hepatitis C cases. There were no cases of acute hepatitis B or C related to occupational exposure in 2004, however as noted in Table 6, there was 1 case of acute hepatitis B and 1 of acute hepatitis C among health care workers in 2004. For 29% of acute hepatitis B cases and 21% of acute hepatitis C cases no risk factor was identified.

Most patients were unemployed or day laborers. This finding is consistent with the epidemiology of viral hepatitis in the US and other developed countries where acute hepatitis B and C is associated with lower socioeconomic status. In 2004, there was one health care worker with acute hepatitis B and one with acute hepatitis C. However, it is not clear if their infections were occupationally-acquired since no cases of acute hepatitis B or acute hepatitis B related to professional exposure were reported in 2004 (see Table 5). Children accounted for 10% of acute hepatitis B cases and 3% of acute hepatitis C cases.

Table 5. Reported Risk Factors For Acute hepatitis B and Acute Hepatitis C, Primorsky Territory, 2004

	Risk Factor[1]	Hepatitis B		Hepatitis C	
		n	%	n	%
1	Injecting Drug Use	91	24%	67	37%
2	Sexual Contact	132	34%	60	33%
3	Dental Treatment	9	2%	3	2%
4	Injections	9	2%	3	2%
5	Transfusion (without operation)	2	<1%	0	0%
6	Operation (without transfusion)	4	2%	1	1%
7	Transfusion and operation	1	<1%	0	0%
8	Laboratory Blood Testing	8	2%	6	3%
9	Gynecological Treatment	5	1%	1	1%
10	Birth	1	0%	0	0%
11	Abortion	0	0%	0	0%
12	Cosmetic Procedure or Tattoo	8	2%	2	1%
13	Professional Exposure	0	0%	0	0%
14	Household Contact	2	1%	0	0%
15	Unknown	113	29%	39	21%

[1]Mutually exclusive categories

Table 6: Employment Status of Acute Hepatitis B and Acute Hepatitis C Cases, Primorsky Territory, 2004

Employment	Hepatitis B		Hepatitis C	
	n	%	n	%
Unemployed	145	39%	85	46%
Day Laborers	106	28%	61	33%
Children in School (7 to 17 years)	27	7%	4	2%
Children in Daycare/Preschool	2	1%	0	0%
Children at Home	6	2%	2	1%
Children's Homes	0	0%	3	2%
College/Technical/University	58	15%	11	6%
Medical Workers	1	0%	1	1%
Daycare Employees	3	1%	2	1%
Foodservice Workers	4	1%	5	3%
Other Employment	24	6%	9	5%

Khabarovsk Territory

System Description: In Khabarovsk Territory, almost all persons with acute viral hepatitis are admitted to the hospital. Physicians are required to report cases of suspected acute viral hepatitis to the SES within 2 hours of diagnosis. There is no standardized case definition for acute viral hepatitis: It is an individual physician's diagnosis made according to criteria used by that physician. An initial case report form (Annex VI) is completed by the person receiving this information at SES. The form includes demographic information and the physician's assessment of the most likely mode of transmission (i.e., risk factor). A wide range of potential exposures are considered by the physician including injection drug use, multiple (>1) sexual partners or sexual exposure to a case of chronic hepatitis, transfusion, operation, abortion, dental exam/procedure, gynecologic exam/procedure, and blood draws performed as part of a medical exam. However, there is no standardized list or questionnaire that the physician uses. A single risk factor is assigned to each patient by the physician. Because reports are made within 2 hours of diagnosis, results of confirmatory laboratory tests are not included with the initial report.

Laboratory testing: After receipt of the initial report, it is the responsibility of SES to collect serologic data. Only laboratory-confirmed are retained. However, SES staff report laboratory testing is available for all cases. There are no standardized laboratory criteria for laboratory confirmation of a specific diagnosis that is always and consistently used. For the purposes of surveillance, only results from government laboratories or accredited private laboratories are accepted. Within the city of Khabarovsk, there are multiple government laboratories with capacity for viral hepatitis serologic testing. In the outlying areas of Khabarovsk Territory, laboratories within government hospitals in district centers are capable of performing hepatitis serologic testing. There are two accredited private laboratories in the Territory. Patients with laboratory testing performed in non-accredited private laboratories have their serologic testing repeated at government laboratories, even if this requires a second blood draw specifically for this purpose.

Follow-up Case Investigation: A comprehensive risk factor investigation is conducted by SES on a subset of patients. These included all patients with acute hepatitis A, health care workers with acute hepatitis B or acute hepatitis C, and all children with any type of acute viral hepatitis. The investigation includes gathering additional clinical and risk factor information using the Russian Federation standardized data collection form for infectious diseases (Annex V).

Trend Analysis: The incidence of acute viral hepatitis Khabarosk Territory from 2000-2004 is shown in Figure 1. The incidence of acute hepatitis B and C is slightly lower than that of the Russian Federation, and the incidence of both declined, parallel to that of the Russian Federation.

In 2004, a total of 705 cases of acute viral hepatitis were reported (Table 7). The largest proportion (72%) were acute hepatitis A, followed by acute hepatitis B (19%) and acute hepatitis C (8%). No cases with unknown etiology were recorded. By verbal report, SES staff indicated 70% of acute hepatitis B and acute hepatitis C cases were among persons between 15 and 30 years of age in 2004. The distribution of cases among other age groups or by sex was not available.

Table 7: Reported Cases of Acute Viral Hepatitis. Khabarosk Territory, 2004

	Hepatitis A	Hepatitis B	Hepatitis C	Mixed
Number of cases	505	135	57	8
Incidence per 100,000	35.40	9.46	3.90	0.54

Risk Factor Analysis: According to verbal reports by SES staff, the most frequently reported risk factor for acute hepatitis B and acute hepatitis C was injection drug use. For acute hepatitis C, injection drug use accounted for 40% of cases and 10-15% of cases were sexually-transmitted. They stated these risk factor proportions "almost the same" among persons with acute hepatitis B were. No cases of acute hepatitis B or C attributable to blood transfusion wee reported in 2004, and no cases were reported among health care workers. Of the 135 cases of acute hepatitis B reported in 2004, 14 (15%) were thought to be acquired through exposure during a medical procedure (i.e., nosocomial transmission). Of the 57 acute hepatitis C cases, 3 (5%) resulted from a medical procedure. Most of these procedures occurred during a visit to the dentist.

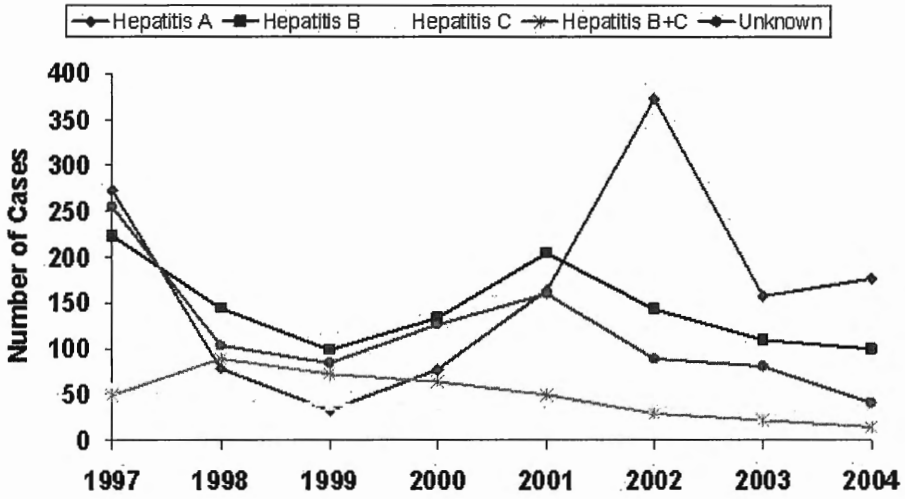
C. HOSPITAL-BASED DATA

Hospital-based data were provided by three hospitals in Khabarovsk Territory and include acute and chronic disease data, as well as data from a pediatric hospital. Because most patients with acute viral hepatitis are hospitalized, these data can be used in conjunction with data provided by SES.

Khabarovsk Territory

Adult Hospitalization Data – Acute Hepatitis: All cases of acute viral hepatitis among adults (>14 years old) living in Khabarovsk city are admitted to Hospital #10. This section summarizes data from hospital-based surveillance conducted by Dr. Gennady Tomilka at Hospital #10 and kindly provided to us during this evaluation. Trends in acute viral hepatitis in Hospital #10 are shown in Figure 2. The incidence of acute hepatitis B, C, B+C, and unknown hepatitis have decreased. The incidence of acute hepatitis A appears to be cyclical, typical of the epidemiology of this disease in regions of moderate endemicity.

Figure 2: Acute Viral Hepatitis Cases, Hospital #10, Khabarovsk, 1997-2004



In 2004, a total of 371 patients with acute viral hepatitis were admitted to the hospital: 177 with (47%) hepatitis A, 100 (27%) with hepatitis B, 100 (11%) with hepatitis C, 14 (4%) with combined hepatitis B+C, and 41 (11%) with unknown hepatitis (i.e., negative for markers of hepatitis A, B, and C).

Of the acute hepatitis B cases, it was stated that approximately 95% were true acute hepatitis B; the remaining 5% were exacerbations of chronic HBV infection. Diagnosis of acute hepatitis C is made by a positive anti-HCV IgM test. Since this test cannot reliably differentiate between acute hepatitis C and exacerbation of chronic HCV infection, there is likely to be some misclassification of chronic hepatitis C cases as acute (see Section VII).

By verbal report from hospital staff, the most commonly reported risk factors for acute hepatitis B are injection drug use, heterosexual sex, dental visit, gynecology visit, and venipuncture conducted for routine laboratory testing, such as for employment. For acute hepatitis C, injection drug use, dental visit, and gynecology visit are the most commonly reported risk factors for infection.

Additional data was obtained from a data published by Dr. Tomilka and colleagues of 201 cases of presumed acute hepatitis B (56% male) and 85 cases of presumed acute hepatitis C (64% male) (Tomilka GS and Zholondz VI. Epidemiologic analysis of hepatitis B and C cases based on the data provided by the Department of Infectious Disease of City Clinical Hospital #10). The proportion aged <40 years was 85% for presumed acute hepatitis B and 87% for presumed acute hepatitis C. Approximately 80% of presumed acute hepatitis B cases and 57% of presumed acute hepatitis C cases were thought to have been acquired as a result of a health-care-related exposure. These included dental exam or procedure, gynecologic exam or procedure, prophylactic exam (i.e., routine physical exam), blood transfusion, surgery, abortion, and childbirth. Of the 82% of presumed acute hepatitis B cases that were considered health-care-

related, over 80% were associated with "less invasive" interventions such as dental, gynecologic, or routine physical exam.

In Khabarovsk, there are many private dental and gynecology clinics. It was hypothesized by some persons interviewed during this evaluation that in these private settings, infection control practices may be less rigorous than in larger clinics and hospitals. It was also stated that in the past few years tattooing has become quite fashionable, and there is concern that since tattoos are done by non-professionals, there is the potential for HBV and HCV transmission.

Adult Hospitalization Data – Chronic Infection: In Hospital #1 in Khabarovsk Territory, there are 300-350 admissions to the Gastrointestinal Disease Unit each year, 60-65% of which are for chronic hepatitis. This hospital does not treat patients with acute viral hepatitis. Of patients admitted with chronic hepatitis, 60-65% have chronic HCV infection, 30-35% chronic HBV infection, 3% combined chronic HBV and HCV infection, and 1-2% delta hepatitis. According to verbal reports by hospital staff, the most commonly reported risk factors for these chronic infections were injection drug use, blood transfusion, and surgery. In the past 10 years, the hospital has treated 7 health care workers with chronic HCV infection.

Pediatric Hospitalization Data: The Pediatric Infectious Disease Hospital in Khabarovsk treats children (0-14 years old) with acute and chronic viral hepatitis. Although it is a city hospital and draws mainly from the population of Khabarovsk City, children from other areas of the territory may also seek treatment at this hospital. Acute viral hepatitis data from 2002-2004 are shown in Table 9. The majority of children admitted to the hospital with acute viral hepatitis have hepatitis A. In 2002 there was an outbreak of hepatitis A which explains the high number of hepatitis A cases that year.

Table 9: Number and Etiology of Acute Viral Hepatitis Cases by Year, Pediatric Infectious Disease Hospital, Khabarovsk, 2002-2004

Year	Hepatitis A	Hepatitis B	Hepatitis C	Hepatitis B+C
2002	311	9	1	0
2003	120	5	1	2
2004	102	5	0	0

Of the19 acute hepatitis B cases, three were among children who used injection drugs. These three children had also visited the dentist – presumably during the incubation period - and one had received a tattoo from a non-professional establishment. Risk factors for the remaining children with acute hepatitis B were not identified. Of the 2 children with acute hepatitis C, both reported injection drug use and one had also visited the dentist.

The hospital currently has registered 191 children with chronic viral hepatitis: 66 with chronic HBV infection, 98 with chronic HCV infection, and 27 with other Of the 66 children with chronic HBV infection, 11 (17%) were born to HBsAg-positive mothers and 16 (24%) lived in an orphanage or children's home. All children had a history of having had a medical

procedure(s) during their life, thought information the number and type of procedure(s) was not available. Of the 98 children with chronic HCV infection, 49 (50%) had a history of blood transfusion and 58 (59%) a history of undergoing some type of medical procedure. Approximately one quarter of these children (24%) had leukemia and had received multiple blood transfusions and undergone multiple medical procedures.

V HEPATITIS B IMMUNIZATION PROGRAM

A comprehensive Infant hepatitis B immunization program commenced in the Russian Federation in 2001, with vaccine provided by the federal government. There is also a national recommendation for vaccination of 13 year old children (adolescent catch-up vaccination), although federal funding for this program has been limited. Funding for all other hepatitis B vaccination programs are the responsibility of the state/local government or paid for by the recipient of the vaccine. The hepatitis B vaccination programs in Primorsky and Khabarovsk Territories are summarized in this section.

Primorsky Territory

Infant Vaccination: Routine infant immunization commenced in Primorsky Territory in 1998 with vaccination of infants born to HBsAg-positive mothers. In 2001, the program was expanded to include all infants. Vaccine is provided free-of-charge and administered according to the schedule in Table 10.

Table 10: Hepatitis B Immunization Schedule, Primorsky Territory

Maternal HBsAg Status	Vaccination Schedule
HBsAg-negative	Birth, 1 month, 6 months
HBsAg-positive	Birth, 1 month, 6 months

Infants of HBsAg-positive mothers receive the first dose of vaccine within the first 12 hours of birth. Hepatitis B immune globulin (HBIG) is not administered. Coverage with the vaccination series is 98%. Vaccine is financed through government funds. The Rotary Club is providing disposable needles and syringes for the immunization program.

***Childhood Vaccination*:** There is limited catch-up vaccination program for children 2-12 years old in 5 sub-regions of the Territory. This covers an estimated 25% of children of the approximately 200,000 children in the Territory. The program is funded by the Rotary Club through donations of vaccine: In 2004, 30,000 doses of vaccine were received; in 2005, 150,000 doses; and in 2006, 150,000 doses are expected. Since hepatitis B vaccination is administered as a 3-dose series, this amount of vaccine is sufficient to vaccinate 110,000 children. Vaccine is administered in Polyclinics, Kindergartens, and schools.

Adolescent Vaccination: In collaboration with the Rostropovich Foundation, in March 2005, Primorsky Territory began a comprehensive school-based vaccination program for adolescents. The target population is 7th, 8th, 9th, and 10th graders (13-16 years old). The Rostropovich

Foundations is providing training, vaccine, and cold chain equipment. An initial training session was held in March 2005. A second session is scheduled for September 2005.

Health Care Worker Vaccination: All health care workers must be vaccinated against hepatitis B and proof of vaccination is required for employment. Vaccine is provided free-of-charge by the hospitals in the Territory, and is paid for with government funds. It is estimated 70% of health care workers have been vaccinated. It is suggested that medical students receive the vaccination series, but are required to pay for it themselves. There are no data on the proportion of medical students vaccinated.

Household members of persons with chronic HBV infection: It is suggested that family members of persons with chronic HBV infection receive the hepatitis B vaccination series. This is paid for by the family members.

Khabarosk Territory

Infant Vaccination: Routine infant hepatitis B vaccination commenced in Khabarosk Territory in 2001. The program is financed by the government and vaccine is provided free-of-charge. Vaccine is administered according to the schedule in Table 11. Coverage with the vaccination series is 99%.

Table 11: Hepatitis B Immunization Schedule, Khabarovsk Territory

Maternal HBsAg Status	Vaccination Schedule
HBsAg-negative	Birth, 1 month, 6 months
HBsAg-positive	Birth, 1 month, 6 months

Childhood and Adolescent Vaccination: There is no catch-up childhood/ adolescent vaccination program in Khabarosk Territory, although some vaccination of children and adolescents occurs in the private sector.

Health Care Worker Vaccination: Health care workers are vaccinated through a Ministry of Health-sponsored program, free-of-charge. It is estimated 70% of health care workers have been vaccinated. It is thought to be higher – up to 100% - in some specialties, including surgery, dentistry, and hemodialysis.

VI BLOOD SAFETY

Primorsky Territory

In Primorsky Territory there are five blood donation facilities (blood stations): 4 Territory and 1 city facility. There are also hospital-based transfusion centers in every rayon (district) hospital and some of the larger town hospitals. Blood donation is voluntary. Donors are compensated with 150 Rubles, tea and cookies, and two days of paid sick leave, all in accordance with Russian Federation standards. Approximately 3000 units of blood (red blood cells) and 5000 units of plasma are transfused each year in Primorsky Territory.

All person donating blood are assessed for potential risk factors for HBV, HCV, and HIV infection by completing a standardized risk factor questionnaire (Annex VII). Potential donors are often hesitant to answer "yes" to sensitive questions related to drug and sex behaviors. All transfused blood is always screened by EIA for HBsAg, anti-HCV, and HIV (a combination antigen-antibody test). Supplemental testing (i.e., RIBA, PCR) is not done on anti-HCV positive specimens. Blood found to be HIV positive by EIA is confirmed by Western Blot. Blood is NEVER transfused without appropriate testing. The blood transfusion centers do not run out of kits. The prevalence of HBsAg and anti-HCV among blood donors is summarized in Section IV-A and Annex VIII. Of all blood donated, 7.3% of units are discarded are for all reasons. Lack of donors was noted as the main problem of the blood transfusion program.

Khabarovsk Territory

In Khabarovsk Territory there are two transfusion stations and 17 hospitals that have transfusion services. Blood donation centers are also maintained by the Ministry of Defense and the Ministry of Railroad, but these centers are not under the jurisdiction of the Ministry of Health. As in Primorsky Territory, blood donation in Khabarosk Territory is voluntary. Donors are compensated with a free meal and two paid days off from work. Professional donors - donors who donate plasma or have rare blood types - may receive monetary compensation. Approximately 15% of blood donations in Russia are from professional donors. There are approximately 20,000 units of blood transfused each year in Khabarosk Territory.

All potential donors must complete a standardized written risk factor questionnaire (Annex IX). This form is similar to the one used in Primorsky Territory in terms of information collected. Donors who report ever having used injection drugs are not allowed to donate blood. Donors who report receiving a tattoo or body piercing are asked to return in six months. All blood is screened for HBsAg, anti-HCV (commenced in 1993), HIV, and syphilis. Blood is NEVER transfused without appropriate testing. The prevalence of HBsAg and anti-HCV among blood donors is summarized in Section IV-A and Annex VIII. Of all donated blood in Khabarosk Territory, 9.2% of units are rejected for all reasons.

VII LABORATORY

Although this evaluation did not include a comprehensive evaluation of laboratories, such as an assessment of equipment or quality assurance/quality control in the laboratories, we were able to gain an understanding of how the laboratory is used for public health and diagnostic purposes, and available tests.

General

In Primorsky and Khabarovsk Territories, as in the rest of the Russian Far East and the Russian Federation, most laboratory test kits are supplied by VECTORBEST, Novosibirsk, Russia (www.vector-best.ru). An example of the cost of various hepatitis tests in a government-run facility is summarized in the Table 12. Prices are higher in private laboratories.

Table 12: Price of Hepatitis Tests, Hospital #2, Primorsky Territory

Test	Cost (Rubles)	Cost (US Dollars)
HBsAg	80-120	2.80-4.10
Anti-HBc (total and IgM)	80-120	2.80-4.10
HBeAg	80-120	2.80-4.10
Anti-HBc	80-120	2.80-4.10
Anti-HCV EIA (total and IgM)	150	5.20
HCV RNA PCR	250-500	8.70-17.50
Quantitative HCV RNA PCR	5,000	174.60

Two laboratory issues noted during this evaluation were related to hepatitis C serologic testing. The first was the use of serology to differentiate between acute hepatitis C and exacerbation of chronic HCV infection. Anti-HCV IgM tests currently available on the global market cannot reliably differentiate between acute hepatitis (i.e., new infection) and exacerbation of chronic HCV infection. Since the clinical presentation of acute hepatitis C is similar to exacerbation of chronic HCV infection, there is no 100% reliable way to differentiate between the two conditions. Using a strict clinical case definition can assist in differentiating between the two, but even when such a case definition is used, there is likely to be at least some misclassification. Differentiating acute from chronic infection is important because it allows identification of groups currently at increased risk for infection. For example, persons with chronic HCV infection may have been infected from transfused blood in the past. But, with current screening of transfused blood in the region, transfusion is no longer a significant risk factor for infection.

The second laboratory issue was related to the use and interpretation of the anti-HCV EIA. The anti-HCV EIA, despite it having a high specificity, has a high rate of false positive test results, especially in low prevalence populations. For example, among blood donors, a population expected to have a low prevalence of HCV infection because high-risk persons are "screened out" before donation, up to an average of 35% (range: 15-60%) of positive EIA results may be false positive. In contrast, among injection drug users, a group with high HCV prevalence, fewer (approximately 15%) false positive test results would be expected.

While a positive EIA is very useful for screening purposes, supplemental testing is necessary to verify a positive EIA. This is the same principle as that used for HIV testing: a positive HIV EIA result is confirmed by Western Blot. For HCV testing, a positive EIA may be verified in one of three ways: strip immunoblot assay (RIBA), PCR, or by looking at the EIA signal to cutoff ratio (http://www.cdc.gov/mmwr/PDF/rr/rr5203.pdf). VECTORBEST manufactures an EIA that they refer to as "confirmatory EIA." How this EIA differs from the screening EIA and how it compares to more standard methods used to verify a positive EIA (i.e., RIBA and PCR) is not known. It was reported that in Primorsky Territory, SES uses the confirmatory anti-HCV test and in Khabarovsk, The Research Institute of Epidemiology and Microbiology performs PCR testing on all positive anti-HCV EIA results from pregnant women. However, we were not able to systematically collect information on which laboratories do supplemental testing and under what circumstances. Thus, it is likely that the prevalence of HCV infection presented in this report overestimates the true prevalence of infection.

Primorsky Territory

In Primorsky Territory, numerous laboratories conduct viral hepatitis serologic testing: the SES laboratory, hospital and clinic laboratories (all government-run), and two private laboratories. A few laboratories also have the capacity to do PCR testing. The SES laboratory functions as the reference laboratory for the Territory. It receives specimens territory clinics and hospitals that do not have their own laboratories, and occasionally provides assistance to other laboratories in the territory related to quality control/quality assurance. The SES laboratory is visited annually by staff from the federal Ministry of Health (Moscow). Staff noted there were occasion shortages of test kits. When there are shortages in one laboratory, specimens are sent to another laboratory.

Khabarovsk

In Khabarovsk Territory, two laboratories function as reference laboratories for the territory: Center for Prevention and Control of AIDS and Infectious Diseases and the Research Institute of Epidemiology and Microbiology. Visits from Moscow are made annually to these two laboratories. Although a systematic evaluation of laboratory was not conducted during this mission, these laboratories have state-of-the-art equipment and appear to conduct high-quality laboratory testing. Both laboratories have the capacity to do molecular diagnostic testing (e.g., PCR). The Territory blood bank also has a laboratory that performs comprehensive hepatitis testing. In addition to these three laboratories, all larger hospitals in the territory have laboratories that can perform hepatitis serologic testing.

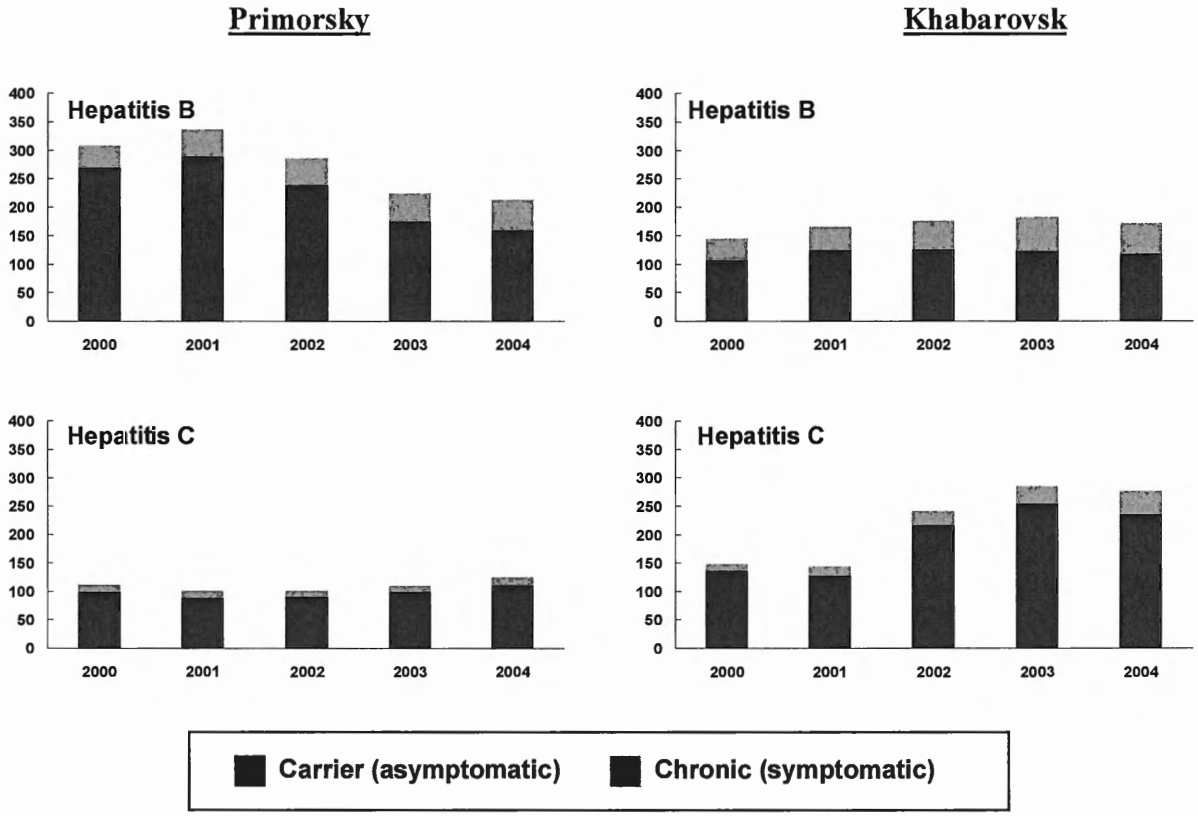
VIII CHRONIC HBV AND HCV INFECTION

Both territories perform surveillance for chronic HBV and chronic HCV infection. Hospitals and laboratories are required to report to SES all cases of chronic HBV and HCV infection. For the purpose of surveillance, there are two categories of chronic infection: "chronic" and "carrier". Persons with symptoms of chronic liver disease are classified as having chronic infection. Those who are asymptomatic are classified as carriers. We were not able to evaluate how information is transmitted from the hospitals and laboratories to SES, the completeness of reporting, the issue of duplicate reporting (i.e., the same person with more than one positive test), and what symptoms define chronic infection. In addition to the SES registry, registries are also kept at some of medical institutions such as the Center for Prevention and Control of HIV and Infectious Diseases, Khabarovsk and the Khabarovsk Territory Blood Bank.

Cases of chronic HBV and HCV infection reported to SES from 2000-2004 are shown in Figure 3. In Primorsky, the incidence of newly reported chronic HBV infection decreased and that of chronic HCV infection remained similar. In Khabarovsk, there was a notable increase in the incidence of chronic HCV infection. This increase occurred between 2000 and 2002.

There appears to be increased awareness about viral hepatitis, especially hepatitis C among health care workers in the two territories, and it may be that more people are being tested. There was not information about the number of tests done for in either territory and the proportion positive. The changes in incidence may therefore reflect screening practices and not the burden of chronic hepatitis. Also, as mentioned above, we did not have the ability to determine whether any newly-reported cases had been previously registered (i.e., duplicate reporting).

Figure 3: Reported Incidence of Newly Identified Chronic HBV and HCV Infections, Primorsky and Khabarovsk Territories, 2000-2004



Screening for chronic infection: Persons with chronic HBV or chronic HCV infection are identified in a variety of ways, including through routine hospital admission and pre-surgical screening, blood donation, screening of pregnant women, and annual health care worker surveys. Screening practices differed slightly in the two territories. In Hospital #1 in Vladivostock (Primorsky), all patients admitted to the hospital are tested for HBsAg. Patients admitted for surgery are also tested for anti-HCV. In Hospital #10 in Khabarovsk, patients admitted to the hospital are tested for HBsAg on a case-by-case basis, depending on department admitted to, illness and identification of a risk factor for infection As in Primorsky, all surgical patients are tested for HBsAg and anti-HCV.

In Primorsky and Khabarovsk, it is recommended that all pregnant women be screened for HBsAg and anti-HCV during each pregnancy. In Primorsky,, in 2004, 88% of pregnant women were screened for HBsAg and 2% for anti-HCV. In Primorsky the majority (90%) of women pay for the HBsAg and all pay for anti-HCV testing,. In Khabarovsk, testing for HBsAg and anti-HCV is financed through the state/local government and is provided free-of-charge to pregnant women.

Screening for chronic HBV and HCV infection is also conducted at the Center for Prevention and Control of HIV and Infectious Diseases, Khabarovsk, the AIDS referral center for the Territory. In addition, cases of presumptive acute hepatitis B or C identified through hospital and/or SES surveillance that are later determined to be chronic infection are reported to the registries.

IX TREATMENT

Few people in Primorsky or Khabarovsk Territory are treated for chronic HBV or HCV infection because of the cost of therapy. The mainstay of treatment for chronic hepatitis B is lamivudine, which is available in Russia from both foreign and domestic manufacturers. Adefovir is not yet licensed for use in Russia but is expected to be soon. The cost of a 1-year course of therapy for with oral lamivudine is approximately US $1,000. Chronic hepatitis C is treated with combination alpha-interferon and ribavirin. Pegylated interferon is not available. The cost of a 1-year course of therapy for chronic hepatitis C is approximately US $10,000-20,000.

In Khabarovsk Territory, the hepatology department at Hospital #1 provides combination therapy for HCV-infected persons . Treatment is not offered to patients who acquired their infection through injection drug use. The Center for Prevention and Control of AIDS and Infectious Diseases in Khabarovsk provides combination therapy to selected patients with chronic hepatitis C through a collaborative study with the pharmaceutical manufacturer Hoffman LaRoche.

X HEPATITIS A

The incidence of acute hepatitis A in Khabarovsk Territory is shown in Figure 1. It was hypothesized that the decrease in incidence of acute hepatitis A in Khabarovsk was related to improved sanitation in the territory, improved water system in Khabarovsk city, and possibly because young children are less likely to attend Kindergarten (i.e., nursery school), and instead are cared for in their homes. Both territories have noted a seasonal pattern to acute hepatitis A cases, with the majority occurring in the fall months, and both have had documented hepatitis A outbreaks in the last 5 years.

There is no hepatitis A vaccination program. Hepatitis A vaccination is "suggested" for children, but there are no established hepatitis A vaccination programs due to the expense of the vaccine. Foreign and domestic hepatitis A vaccines are available in Russia, and range in price from approximately US$ 20.00 a dose for Russian-manufactured vaccine to US $40.00 a dose for foreign-manufactured vaccine. Both territories sometime provide hepatitis A vaccine free-of-charge to children during outbreaks, and to asymptomatic children and sometimes others household members when there is a case of hepatitis A within a household. Some hepatitis A vaccination occurs in the private sector, however there are no data on who is being vaccinated and vaccination coverage.

XI SUMMARY OF FINDINDGS AND POTENTIAL INTEVENTIONS

1. Acute Viral Hepatitis

The overall incidence of acute viral hepatitis A, B, and C in Primorsky and Khabarovsk Territories has decreased from 2000 to 2004, in parallel with the decline in incidence in the Russian (Figure 1), For each of the three viruses, the incidence in Primorsky is slightly higher and the incidence in Khabarovsk slightly lower than that of the Russian Federation. In both territories, the majority of acute hepatitis cases are hepatitis A, followed by hepatitis B, and then hepatitis C.

The most commonly reported risk factors for acute hepatitis B and acute hepatitis C appear to be related to injection drug use, nosocomial transmission, and sexual transmission. However, surveillance data must be interpreted with caution given some of the limitations of the surveillance system outlined in this report including: no case definition, unclear laboratory testing algorithm, lack of systematic and comprehensive collection of risk factor information.

Potential activities:

- Enhanced surveillance for acute viral hepatitis using a strict case definition, defined laboratory criteria, and a comprehensive risk factor assessment questionnaire. The primary objective of enhanced surveillance would be:
  - Better define the disease burden from acute hepatitis A, B, C, D, and E
  - Better define risk factors for infection, including the magnitude of nosocomial transmission of hepatitis B and C viruses
  - Identify groups at increased risk for infection, including health care workers
  - Based on identification of specific risk factors and group at increased risk for infection, identify appropriate and targeted prevention activities
  - Evaluate the effectiveness of the infant hepatitis B vaccination program

- Provide assistance with data management, data analysis, and using data to develop and assess viral hepatitis public health interventions (i.e., data for decision making).

- Strengthen feedback of surveillance data to the public health and medical community

- Case-control study to scientifically quantify the magnitude of disease burden from each of the various risk factors, including nosicomial transmission.

- Case-control study to determine the effectiveness of infant hepatitis B immunization program.

2. Infant and Childhood Hepatitis B immunization

Infant hepatitis B vaccination is the cornerstone of a hepatitis B prevention programs, and The infant hepatitis B vaccination programs in the two territories are excellent, with coverage with the 3-dose vaccination series of 98-99%. Primorsky Territory has limited catch-up childhood vaccination program in collaboration with Rotary International and has just commenced with a comprehensive adolescent catch-up vaccination program in collaboration with the Rostropovich Foundation. There is no childhood or adolescent catch-up vaccination in Khabarovsk Territory. According to the Federal Ministry of Health, beginning this year there is funding for catch-up vaccination of 13-year olds.

Potential activities:

- Clarify with Moscow the availability of funding for the federally-funded adolescent vaccination program.

- In Primorsky Territory expand the childhood catch-up vaccination program in conjunction with Rotary International, and the adolescent catch-up vaccination program in conjunction with the Rostropovich Foundation.

- In Khabarovsk Territory, implement of a catch-up childhood and/or adolescent hepatitis B immunization program. A partner NGO may be able to assist with this activity.

3. Infection Control

Based on limited risk factor data available from acute viral hepatitis surveillance in the two territories, nosocomial transmission appears to be responsible for a substantial portion of acute hepatitis B and C cases. In Primorsky, an estimated 10% of acute hepatitis B cases and 10% of acute hepatitis B cases were thought to result from nosocomial transmission. In Khabarovsk, between 15-80% of acute hepatitis B cases and 5-57% of acute hepatitis C cases were thought to be health-care-related.

Potential activities:

- Enhanced surveillance for acute viral hepatitis and case-control study to better define the burden of nosocomial transmission of hepatitis B and C, as well as risk to health care workers (see above)
- Infection control training courses for health care workers to include:
  - Basic courses in infection control focusing on the prevention of transmission of bloodborne pathogens for health care workers including physicians, nurses, and public health staff
  - Basic training should be followed by more advanced courses that focus on bloodborne pathogens, as well as other aspects of infection control
  - Train the trainer courses to develop a cadre of local health care workers capable of providing ongoing training in the territory
  - Development of an infection control module to be used in medical and nursing schools that can be integrated into the existing curriculum
  - Consideration should be given to sending a select group of health care workers in another country to gain practical infection control experience. Alternatively, a well-trained infection control practitioner who speaks Russian could be sent to a hospital(s) in the territory for a period of a few months to provide ongoing practical training.
  - Training should be conducted in collaboration with partners with infection control experience in countries of the former Soviet Union as there are likely to be region-specific issues that will need to be addressed

4. Viral Hepatitis Prevention among Injection Drug Users

Data from the SES- and hospital-based surveillance suggest injection drug use is a major risk factor for acute hepatitis B and acute hepatitis C. Prevention of bloodborne pathogen

transmission among injection drug users, including hepatitis B, hepatitis C, and HIV requires a comprehensive approach of education, behavior change, risk reduction, and vaccination.

Potential activities:

- Expand HIV-oriented behavior, harm reduction, and other prevention programs to include hepatitis B and hepatitis C

5. Chronic Infection

Each territory maintains a registry of persons with chronic HBV and chronic HCV infection. The registries are divided into persons with symptomatic chronic infection (i.e., chronics) and asymptomatic chronic infection (i.e., carriers). No data were available on the number of tests done each year and proportion of positive test results, and without such data it is difficult to determine if there has been any change in the incidence of newly reported chronic infections. There appears to be an increased awareness about hepatitis C, and it is possible that more people with chronic HCV infection are being identified because more people are being tested.

Potential activities:

- Collect data on the number of tests and number positive

- Review and evaluate the process of who is being screened, the process of reporting positive results from the laboratories to SES, the completeness of reporting, duplicate reporting,

- Strengthen knowledge and implementation of recommendations for ways to prevent transmission of HBV/HCV to household and sex contacts and reduce the severity of liver disease among chronically infected persons through educational programs and printed materials for health care worker and patients.

6. Disease Burden

Few data are available on the burden of chronic liver disease. Although some serologic data were available, most data were from groups at increased risk for infection and may not reflect he prevalence in the general population. No morbidity or mortality data related to acute or chronic (i.e., cirrhosis and HCC) viral hepatitis were available.

Potential activities:

- Serologic survey for markers of viral hepatitis in the general population

- Disease burden studies to estimate the burden of chronic liver disease and attributable fraction from chronic HBV infection, chronic HCV infection, and alcohol

- Mortality studies to estimate the burden of acute and chronic liver disease

7. Blood Transfusion (Blood Safety)

Blood transfusions services in the two territories are excellent. There is comprehensive screening of transfused blood for HBsAg, anti-HCV, HIV, and syphilis. Blood is never transfused without appropriate screening. In 2004, there were 3 cases of acute hepatitis B in Primorsky who had received a blood transfusion during the incubation period. One of these

three cases had also had surgery. There were no cases of acute hepatitis C in Primorsky. In Khabarovsk, there were no transfusion-associated acute hepatitis B or C cases in 2004. Although technical assistance related to blood transfusion does not appear to be needed, staff did mention the need for additional laboratory and computer equipment.

Potential activities:

- Enhanced acute viral hepatitis surveillance to better define the current risk of acquiring hepatitis B and hepatitis C from blood transfusions (see above)
- Assessment of need for additional blood bank laboratory and computer equipment

8. Hepatitis A

Although hepatitis A was not the focus of this evaluation, it was noted that the highest rates of acute viral hepatitis were from acute hepatitis A. There is limited hepatitis A vaccination occurring in the private sector, and it is occasionally used in the context of outbreaks.

Potential activities:

- Enhanced acute viral hepatitis surveillance, as described above, would provide data to better define the magnitude of disease burden and epidemiology of acute hepatitis A in the Russian Far East, determine groups at increased risk for acute hepatitis A, and determine the need for and types of prevention programs.

9. Laboratory

Although this evaluation did not include a comprehensive laboratory assessment, each of the two territories have laboratories with well-trained staff and state-of-the art equipment. Some laboratories have the capability to perform PCR and other molecular diagnostic testing. Specific laboratory-related issues identified during this evaluation include: the need for defined laboratory criteria for diagnosing acute viral hepatitis, use of the IgM anti-HCV test to diagnose acute hepatitis C, and use of supplemental testing to verify positive anti-HCV EIA results.

Potential activities:

- Establish a viral hepatitis reference laboratory for the territory. The main should be serologic testing, but should also include molecular diagnostic capacity. This laboratory could provide ongoing training and oversight to all other laboratories in the territory, as well as provide quality assurance/quality control of these laboratories.

Annex I: Schedule of Major Activities and Meetings

Date	Activity/Meeting
June 4-6 Travel	• Travel from Atlanta to Vladivostok, Russia, with overnight in Seoul, Korea
June 6 Vladivostock	• Arrive Vladivostok, Russia • Initial meeting with team members
June 7 Vladivostock	• Department of Health • Hospital #2 • Vladivostock State Medical University
June 8 Vladivostock	• Department of Health • SES • US Consulate
June 9 Khaborovsk	• Ministry of Health • Research Institute of Epidemiology and Microbiology • Hospital #1 • Pediatric Infectious Disease Hospital • Khabarovsk Territory AIDS Center • Far East State Medical University
June 10 Khaborovsk	• Hospital #10 • Territory Blood Transfusion Center • SES • Ministry of Health – Debriefing
June 11 Travel	• Travel from Khabarosk to Moscow
June 12-13 Moscow	• Review of data and report writing
June 14 Moscow	• Ministry of Health • USAID
June 15 Moscow	• Central Research Institute of Epidemiology • SES
June 16 Moscow	• Ivanovsky Institute • Debrief USAID
June 17 Travel	• Depart Russia

Annex II: Persons Met and Consulted

VLADIVOSTOK TERRITORY	
Vladivostok State Medical University	
Dr. Victoria Ivanets	Head, Infectious Diseases Department
Dr. Alexander Popov*	Deputy Rector on Treatment, Infectious Diseases Department
Professor Yuri Kaminsky	Rector
Department of Health	
Dr. Vladimir Ushakov	Head, Department of Health
Dr. Galina Gorshunova	Deputy Head, Department of Health
Dr. Olga Goreva	Deputy Chief Doctor, Regional Blood Transfusion Station
Dr. Yelena Ibragimova	Chief, Vaccination Center
Dr. Nikolai	SES Laboratory
Hospital #2	
Dr. Antonina Alexashkina	Chief Physician
Dr. Olga Dadalova	Chief, Infectious Diseases Department
	Epidemiologist
Dr. Olga Zhavoronkova	Chief, Laboratory
Territorial Department for Surveillance in the sphere of Consumer Rights and Human Well-being (SES)	
Dr. Dmitry Maslov	Chief Sanitary Doctor
Dr. Valentina Voronok	Epidemiologist
Dr. Vasily Ananyev	Head, Federal State Health Office
Asclipe Medical Center (Laboratory)	
Dr. Yelena Kinyakina	Deputy Head
US Consulate	
Mr. John Mark Pommershein	Consul General
KHABAROSK TERRITORY	
Ministry of Health	
Dr. Andrey Derkach	Deputy Minister
Dr. Nina Prosina	Chief Specialist
Dr. Antonina Zherdeva	Chief Physician, Regional AIDS Centre
Dr. Gennady Tomilka	Chief Specialist, Infectious Diseases
Dr. Victor Polyakov	Chief Physician, Blood Transfusion
Dr. Yuri Rogachikov	Chief, Gastroenterology Department, Hospital # 1

Territory Hospital #1	
Dr. Sergei Pudovikov	Director
Dr. Tatiana Polykoc	Deputy Director
Dr. Yuri Rogachikov	Chief, Gastroenterology Department
Research Institute of Epidemiology and Microbiology	
Dr. Olga Jrotsenko	Director, HIV Center
Dr. Alexander Koganov	Specialist
Dr. Ludmila Balakharstsera	Specialist
Dr. Veronika Fomenko	Specialist
Dr. Alexander Ivanov	Specialist
Pediatric Infectious Diseases Hospital	
Dr. Vladimir Molochny	Vice Rector for Treatment, Far Eastern State
Dr. Galina Shavelera	Chief, Hepatitis Division
Center for Prevention and Control of AIDS and Infectious Diseases	
Dr. Antonina Zherdeva	Chief
Dr. Anna Kuznitsova	Deputy Chief
Far Eastern State Medical University	
Dr. Igor Koltsov	Provost, Education
Dr. Vladimir Molochny	Provost, Clinic
Dr. Svetlana Kishchenko	Provost, Health and International Affairs
Dr. Gennady Tomilka	Chief Infectionist and Head, Department of Infectious Diseases
Hospital #10	
Dr. Vera Yukhno	Chief Doctor
Dr. Gennady Tomilka	Chief Infectionist and Head, Department of Infectious Diseases
Blood Transfusion Station	
Dr. Victor Polyakov	Chief Physician
Federal Service for Surveillance in the Sphere of Consumer Rights and Human Well-being (SES)	
Dr. Vladimir Ott	Chief
Dr. Tatiana Korovyanskaya	Chief, Epidemiology and Surveillance
Dr. Anna Savina	Chief Specialist, Epidemiology and Surveillance
MOSCOW	
Ministry of Health	
Dr. Marina Shevyrena	Chief, Division of Human Well-being

Federal Service for Surveillance in the Sphere of Consumer Rights and Human Well-being (SES)	
Dr. Alexander Goliusov	Chief, HIV Department
Dr. Galina Lizikova	Deputy, Epidemiological Surveillance Management
Central Research Institute of Epidemiology	
Dr. Victor Maleyev	Deputy Director
Dr. Vladimir Chulanov	Deputy Chief, Center for Molecular Diagnostics
Dr. German Shipulin	Deputy Director for Manufacture
Ivanovsky Institute of Virology	
Dr. Dimitry Lvov	Director
Dr. Iosif Shahgildyan	Chief, Hepatitis
USAID	
Mr. Terry Myers	Director
Ms. Betsy Brown	Director, Office of Health
Dr. Marina Kulikova	Project Management Specialist, Office of Health
Dr. Nikita Afanasiev	Senior Infectious Diseases Advisor, Office of Health
Ms. Jess Bratton	Regional Coordinator

Annex III: HCV Prevalence Studies in Western and Eastern Europe

A: Prevalence of HCV Infection by Risk Group, Western Europe[1]

Risk Group	Prevalence
Blood donors	
Sweden	0,01-0,27%
Germany	0.22%
UK	0.04%
France	0.13%
Italy	1.71%
Spain	1.8%
Greece	0.56%
Hemodialyis patients	
Sweden	12%
Germany	11%
UK	7%
France	29-32%
Italy	33%
Spain	25%
Greece	23%
Injection drug users	
Sweden	92%
Germany	83%
UK	59%
France	72%
Italy	59-81%
Spain	71%
Greece	81%

,

B: Prevalence of HCV Infection among Blood Donors and Health Care Workers, Eastern Europe[2]

Country	Blood Donors	Health Care Workers
Bulgaria	1.4%	1.2%
Czech Republic	0.7%	1.0-2.0%
Estonia	1.0%	--
Hungary	0.8%	3.1%
Latvia	1.2%	--
Lithuania	2.2%	2.0-7.9%
Poland	1.4%	--
Romania	4.9%	--
Russia	1.6%	0-10.0%
Ukraine	2.3%	--

C: Prevalence of HCV Infection in the General Population in Selected Developed Countries[3]

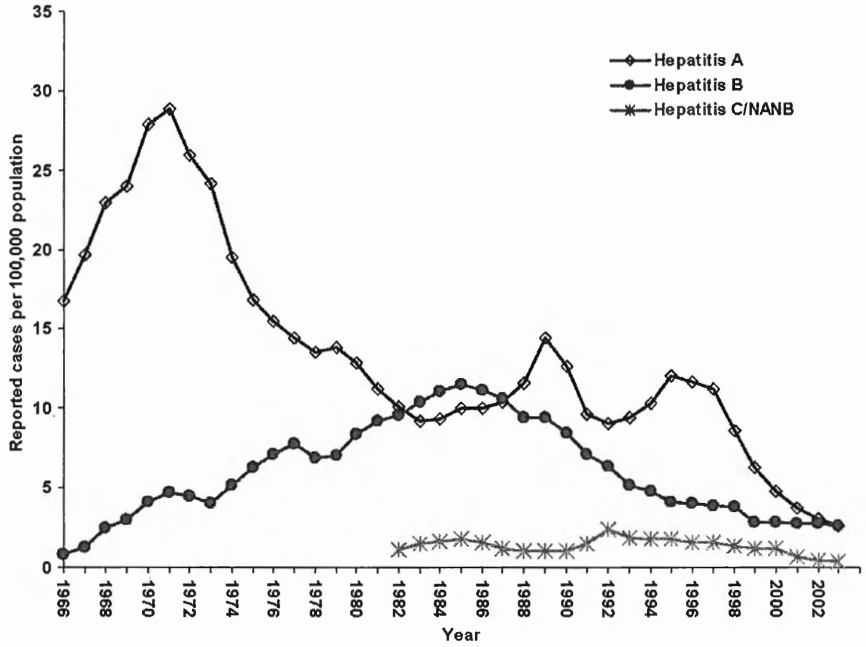
Region/Country	Prevalence
Europe	
France	1.1%
Germany	0.6%
Italy	2.2%
North America	
Canada	0.8%
USA	1.8%
Asia	
Japan	1.5-2.3%
Oceania	
Australia	1.1%

[1]Touzet, Kraemer, Colin, et al. Epidemiology of hepatitis C virus infection in seven European Union countries: a critical analysis of the literature. Eur J of Gastroenterology and Hepatotlogy 2000;12:667-78

[2] Naoumov NV. Hepaittis C virus infection in Eastern Europe. Journal of Hepatology 1999;31 (Suppl 1):84-7.

[3] Shepard CW, Finelli L, Alter MJ. Global epidemiology of hepatitis C virus infection. Lancet 2005 (in press).

Annex IV: Incidence of Acute Hepatitis A, B, and C in the United States, 1966-2003



Annex V: Surveillance Data Collection Form, Russian Federation

Primorky

Код формы по ОКУД
Код учреждения по ОКПО

Министерство здравоохранения СССР
Наименование учреждения

Медицинская документация
Форма № 357-у Утверждена
Минздравом СССР 04. 10. 80 № 1030

Карта эпидемиологического обследования №_____

очага инфекционного заболевания

1. СВЕДЕНИЯ О БОЛЬНОМ

1. Окончательный диагноз _____
2. Вид, тип возбудителя _____
3. Больной: местный (1), приезжий (2) _____
4. Фамилия, имя, отчество _____
5. Пол: (муж. (1), жен (2)
6. Дата рождения _____ (число, месяц, год) 7. Домашний адрес: населенный пункт _____ город (1), село (2), ул. _____ дом № _____ корп. № _____ кв. № _____
8. Место работы, учебы, № дет. учреждения _____ Род занятий _____
9. Дата последнего посещения места работы, учебы, дет. учреждения _____
10. Лечебное учреждение по месту жительства _____
11. Сообщение о больном получено (дата, час.) _____ (устное, (телефон) письменное)
12. Кем направлено (учреждение) _____
13. Диагноз по экстренному извещению _____
14. Основные симптомы в первые дни болезни _____
15. Больной (б-и) выявлен: профобследовании (1), обследовании по эпидпоказаниям (2), обращении за медпомощью (3).
16. Дата и час эпидобследования _____ Дата окончания наблюдения _____

17. Дата заболевания	18. Дата обращения	19. Дата установления диагноза, по поводу кот. присл. экстр. изв.	20. Дата госпитализации	21. Дата окончания диагноза

22. Место госпитализации, транспорт _____
23. Оставлен на дому (причина), отсутствие: эпидпоказаний (1), клинических показаний (2), мест в стационаре (3), отказ от госпитализации (4).
24. Причина поздней госпитализации: отсутствие эпидпоказаний (1), клинических показаний (2), мест в стационаре (3), позднее обращение (4), поздняя диагностика (5), отказ (6).
25. Лабораторные исследования проводились (1), не проводились (2).
26. Диагноз подтвержден:

Только клинически			Дата	Результат обследования
лабораторно	бактериологич.	2		
	микроскопически	3		
	серологически	4		
	биохимически	5		
Другими методами		6		

27. Данные о последней иммунизации (плановой, по эпидпоказаниям, дата, доза, препарат серия) _____
28. Вакцинация _____ Ревакцинация _____

Нет сведений (1)	Больной привит			
	по схеме (2)	с нарушением интервалов между прививками (3)	с нарушением сроков после перенес. заб. (4)	с др. нарушениями схемы прививок (5)

Больной не привит		
по мед. показаниям (7)	из-за отказа (8)	по другим причинам

II. ПОИСК ИСТОЧНИКА И ФАКТОРА ПЕРЕДАЧИ ИНФЕКЦИИ

28. Ориентировочные сроки заражения: с _____ по _____

29. Необычные обстоятельства и условия, в которых находился больной в пределах срока заражения, важные с точки зрения возникновения заболевания:

	Адрес, место	Период времени, дата
Местонахождение в другом населенном пункте		
Посещение родственников, знакомых		
Выезд на стр., сельхоз. и другие работы		
Отдых в пригородных условиях (турпоход, охота, рыбная ловля, купание и т. д.)		
Пребывание в пионерском лагере, на даче		
Нахождение в стационаре		
Переливание крови, плазмы		
Медицинские манипуляции, какие		
Общение с животными (птицами)		
Аварии на водопроводе, канализации		
Прочие		

30. Лица, которые могли явиться источником заражения (больные или подозрительные на эту инфекцию, реконвалесценты, носители инфекции, доноры).

Фамилия, имя, отчество	Диагноз и клиническая форма (или донорство)	Место, время и характер общения, адрес донора	Результат общения

31. Сведения о пищевых продуктах, воде, в результате употребления которых могло возникнуть данное заболевание (сведения вписываются о наиболее вероятных факторах).

Наименование продукта, вид водоисточника	Дата и место приобретения	Дата и место употребления	Условия хранения	Качество со слов больного или других лиц

III. МЕРОПРИЯТИЯ ПО ЛИКВИДАЦИИ ОЧАГА

44. Наблюдения за лицами, общавшимися с больными, или имевшими возможность заразиться в тех же условиях.

Фамилия, имя, отчество	Возраст	Адрес	Место и характер выполнения работы	Сведения об иммунности	Характер ограничительных мер

45. Меры специфической профилактики и обследования лиц в организованных коллективах.

Наименование коллектива	Адрес	Число общавшихся	Подлежало специфич. профилак.	Получили спец. профилак. препар.	Обслед. лабораторно		Выявлено		Дата выявления
					дата	число лиц	больных	б-я	

САНИТАРНО-ГИГИЕНИЧЕСКАЯ ХАРАКТЕРИСТИКА ЛОКАЛЬНЫХ ОЧАГОВ, СВЯЗАННЫХ С ДАННЫМ БОЛЬНЫМ

А. ПО МЕСТУ ЖИТЕЛЬСТВА

32. Жилищные условия: отдельная квартира (1), частный дом (2), комната в общей квартире (3), общежитие (4), гостиница (5), пансионат (6), прочие _____ (7).
33. Плотность заселения _____ человек в _____ комнатах площадью _____ кв. метров.
34. Водоснабжение: водопровод, колонка, колодец буровой, шахтный (общественный, частный), привозная вода, открытый водоем. Качество воды (со слов) _____ Регулярность подачи _____
35. Вид сбора и удален. нечистот: канализация, выг реб. яма, надворный туалет, др. способом _____
36. Удаление мусора: мусоропровод, мусоровоз, мусоросборник, контейнер, др. способом _____
37. Санитарное содержание квартиры _____ территории _____ туалета _____
38. Наличие педикулеза _____ других насекомых _____ грызунов _____
39. Прочие факторы, важные с точки зрения возникновения заболевания _____

Б. ПО МЕСТУ РАБОТЫ, УЧЕБЫ, ВОСПИТАНИЯ, ОТДЫХА, ЛЕЧЕНИЯ

40. Наименование объекта, его структурного подразделения (цеха, класса, группы и т. д.), в котором находился больной _____
41. Соответствие санитарно-гигиеническим и противоэпидемическим требованиям в:
    плотности размещения _____
    изолированности _____
    водообеспечения _____
    канализации _____
    санитарном содержании _____
    хранении пищевой продукции _____
    приготовлении пищи _____
42. Факторы, способствовавшие возникновению заболевания _____

43. Лабораторное исследование материала из внешней среды (включая членистоногих):

Дата	Наименование объекта, вид членистоногого, животного	Материал	Число проб	Вид исследования и результат

Специфическая и другие виды профилактики данных лиц (по месту жительства)

Кому об этом сообщено, дата	Профилактика последоват. заболеваний				Лабораторное обследование			Результат наблюдения
	дата	препарат	доза	серия	дата	результат	дата пол.	

46. Меры по разрыву механизма передачи инфекции в очагах:

Мероприятия	Вид препарата	Время проведения		Исполнители	Контроль исполнения (включая лабораторный) и результат
		по месту жительства	по месту работы и др.		
Карантин					
Текущая дезинфекция					
Заключительная дезинфекция					
Дезинфекция					

Больной госпитализирован в _____ больницу

IV. ВЫВОДЫ ИЗ ЭПИДЕМИОЛОГИЧЕСКОГО ОБСЛЕДОВАНИЯ

1. Заражение произошло на территории: 1. Республика _____ 2. Область _____

3. Район (город) _____ 4. Населенный пункт (район, город) _____

4а. Город (1), село (2) _____

2. Наиболее вероятное место заражения

Неизвестно	По месту жительства	По месту работы	В дошкольном детском учр.	В школе	В летнем детском оздоров. учрежден.	В специализированном учебном заведении	В строит. отряде, лагере труда и отд.	Лечебное стационаре	В пункте обществ. питания	По пути следования	В природн. усл.	В прочих местах временного пребывания
01	02	03	04	05	06	07	08	09	10	11	12	13

3. Вероятный источник инфекции

Источник выявить не удалось	Человек (ф., и., о.)				Животное (вид)				
	больной острой формой болезни	больной хронической формой болезни	реконвалесцент	носитель инфекции	домашние животные	дикие животные	грызуны	птицы	прочие
01	02	03	04	05	06	07	08	09	10

4. Вероятный основной фактор передачи возбудителя инфекции

Неустановлен	Вода				Напитки, соки	Молоко	Сметана, сливки	Творожные изделия	Прочие молочн. продукт.	Мясные продукты	Рыбные продукты
	водопроводн.	холодезная	открыт. водоем	канализацион.							
01	02	03	04	05	06	07	08	09	10	11	12

Винегрет, салаты	Готовые горячие блюда	Др. кулинарные изделия	Фрукты, овощи, ягоды	Др. пищевые продукт.	Контакт по сит. путям передачи	Воздушно-кап. путь	Кровь, плазма, сыворот.	Живот. сырье	Животн. переносч.	Др. факторы передачи
13	14	15	16	17	18	19	20	21	22	23

5. Условия, способствовавшие заражению

Обстоятельства выявить не удалось	Несвоевременное выявление и изоляция источника	Переуплотненность	Несоблюдение дезрежима	Несвоеврем. проведение иммунизации	Другие нарушения противоэпидемических правил	Выход в природный очаг
01	02	03	04	05	06	07

Нарушение санитарных правил при							Аварии на водопроводно-канализационной сети	Несоблюдение правил личной гигиены	Др. обстоятельства
изготовлении пищевых продук.	хранении и транспорт.	приготовлении пищи	реализации пищ. пр.	обработке сырья	обработке инструментария	содержании помещений			
08	09	10	11	12	13	14	15	16	17

6. Обследование в очаге

А. По месту жительства _____ первичное (1) _____ последовательное (2)

Б. По месту работы, учебы, воспитания, отдыха, лечения: первичное (1) _____ последовательно (2)

Обследование проводили Дата сдачи карты медстатистику _____

ПОДПИСИ: Врач-эпидемиолог _____

Помощник эпидемиолога _____ Подпись _____

Др. специалисты _____

В-ток. ППК. Зак. 5106

Annex VI: Preliminary Data Collection Form, Acute Hepatitis Cases, Khabarovsk Territory

инфекц./№ _____ принято _____ _____

(территория)

Дата

ЭКСТРЕННОЕ ИЗВЕЩЕНИЕ

Ф.И.О._____ Возраст _____

Адрес _____

место работы_____ должность _____

заболел(ла) _____

обратился(лась) _____ Первич.диагноз _____

гостпитал. _____ Куда: _____

Диагноз при госпитализации _____

бак.обследов._____ результат _____

Заключительный диагноз: _____

Прививки: _____

Эпиданамнез: _____

Передано: _____

Annex VII: Blood Donation Screening Questionnaire, Primorsky Territory

Примерный скрин
(all Russia)

Анкета донора

Отвечать на вопросы анкеты в колонках «Да» или «Нет»

Подпись донора_____

.	Общее состояние здоровья	Да	Нет
1.	Как себя чувствуете? Хорошо?		
2.	Есть ли сейчас температура, дрожь, боли в горле, простуда, респираторные заболевания, ангина?		
3.	Употребляли ли за последние 4 часа пищу?		
4.	Употребляли ли за последние 48 часов алкоголь?		
5.	Производилась ли за последние 10 дней экстракция зубов		
6.	Применялись ли за последний месяц лекарства ?		
	Какие?		
7.	Производились ли прививки в течении года?		
8.	Наблюдаетесь ли Вы у врача		
Б	**За прошедшие 6 месяцев:**		
1.	Производили ли Вам инъекции лекарств?		
2.	Прокалывали Вам уши, делали ли акупунктуру или татуировку?		
3.	Получали ли Вы трансфузии крови или плазмы?		
4.	Подвергались ли Вы хирургической операции?		
5.	Были ли вы в контакте с больным гепатитом, желтухой		
В	**Были ли у Вас когда-нибудь или недавно :**		
1.	Потеря веса		
2.	Ночные поты		
3.	Обмороки		
4.	Выезды за рубеж за последние 3 года		
	Назовите страну		
5.	Кроводачи Укажите дату последней?		
6.	Были ли отводы от кроводачи? Укажите дату и причину отвода		
Г	**Дополнительно для женщин**		
1.	Беременны ли Вы сейчас и была ли беременность за последние 6 недель		
2.	Срок последней менструации		

Состоите ли Вы на диспансерном учете?_____

Если ДА , то в каком диспансере?_____

Я правильно ответил/а на все вопросы и полностью осознал/а значимость этой информации для моего здоровья и здоровья больного/ой.

Я осведомлен о том, что за сокрытие сведений о наличии у меня ВИЧ инфекции или венерического заболевания я подлежу уголовной ответственности по статье №121 и 122 УК РФ от 24 мая 1996г.

Естественные гормоны роста (самотропин, гемотропин, нордитропин, «БИСМО» и др.) не использовались терапевт_____

Annex VIII: Prevalence of HBsAg and Anti-HBC Among Blood Donors by Territory, Russian Far East, 2004[1]

Territory	Prevalence HBsAg[2]	Prevalence Anti-HBC[2]
Khabarovsk	0.8%	1.8%
Primorsky	1.1%	2.2%
Sakhalin	1.5%	1.6%
Amur	0.8%	1.9%
Chitin	1.7%	2.1%
Kamchatka	0.3%	1.0%
Magadan	0.3%	0.6%
Sakha (Yakutia)	0.9%	0.8%
Jewish Autonomous	0.5%	0.8%
Chukotksy	0.2%	0.2%
Overall Russian Far East	**1.0%**	**1.6%**

[1]Data provided by Territory Blood Bank, Territory
[2]Numerator and denominator data not available

Annex IX: Blood Donation Screening Questionnaire, Khabarovsk Territory

АНКЕТА ДОНОРА

Ф.И.О. _____

Возраст (полное число лет) _____ Пол _____

А. ОБЩЕЕ СОСТОЯНИЕ ЗДОРОВЬЯ	___200		___200		___200		___200		___200		___200		___200	
	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет
1. Общее самочувствие в настоящее время хорошее?														
2. Есть ли сейчас температура, головная боль, боль в голове, насморк, кашель? (нужное подчеркнуть)														
3. Употребляли ли за последние 4 часа пищу?														
4. Употребляли ли за последние 48 часов алкоголь?														
5. Производилось ли за последние 10 дней удаление зуба?														
7. Принимали ли за последний месяц лекарства? Какие? _____ (указать)														
7. Производились ли прививки?														
8. Наблюдаетесь ли сейчас у врача? Если "Да", по какому поводу (указать):														
Б. ЗА ПРОШЕДШИЕ 6 МЕСЯЦЕВ														
1. Производились ли Вам инъекции лекарств?														
2. Подвергались ли Вы хирургической операции?														
3. Производили ли Вам переливание крови или ее препаратов?														
4. Прокалывали ли Вам уши, делали ли акупунктуру или татуировку?														
6. Были ли Вы в контакте с больными гепатитом, желтухой, сифилисом, ВИЧ-инфекцией? (нужное подчеркнуть)														

В. БЫЛИ ЛИ У ВАС КОГДА-НИБУДЬ:	___200		___200		___200		___200		___200		___200		___200	
	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет	Да	Нет
1. Потеря веса?														
2. Ночные поты?														
3. Обмороки?														
5. Гепатит, венерические заболевания? (нужное подчеркнуть)														
5. Крово(плазама)дачи? (нужное подчеркнуть). Если "Да", указать дату последней														
6. Были ли отводы от кроводач? Если "Да", указать причину отвода														
7. Выезд за рубеж за последние 3 года														
Г. ДОПОЛНИТЕЛЬНО ДЛЯ ЖЕНЩИН														
1. Беременны ли Вы сейчас и была ли беременность за последние 6 недель?														
2. Срок последней менструации (указать):														
3. Состоите ли Вы на диспансерном учете?														
Если "Да", указать ЛПУ и причину														
Подпись донора:														

Я правильно ответил(а) на все вопросы анкеты и полностью осознал(а) значимость этой информации для моего здоровья и здоровья больного, которому будет произведена трансфузия (переливание) компонентов и препаратов, полученных из сданной мной крови (плазмы).

Я осведомлен(а) о том, что за сокрытие сведений о наличии у меня ВИЧ-инфекции или венерического заболевания я подлежу уголовной ответственности по статьям № 121 и 122 УК РФ от 24 мая 1996г.

ООО «АМУРБЛАНКИЗДАТ», ул. Иртышская, 28, тел. 66-16-82, 66-61-37, 65-66-78