Highly active prevention: scale up HIV/AIDS/STI prevention, diagnostic and therapy across sectors and borders in CEE and SEE

BORDERNETwork

WP 7

Referral, management, treatment and care of HIV/STIs and co-infections

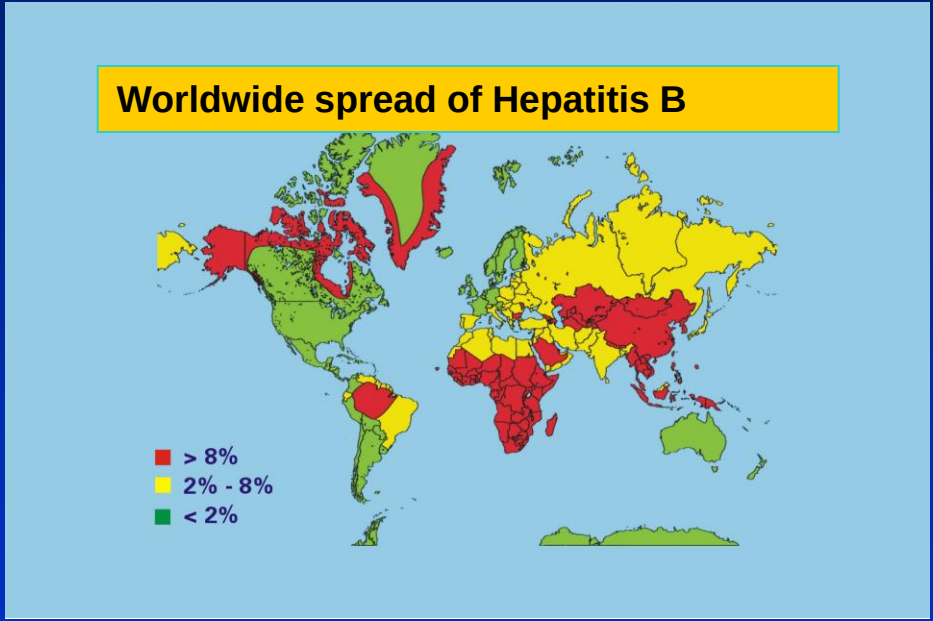
- **Leader:** AHP (DE)
- **Associated partners involved:**
  HESED (BG), NIHD (EE), RKI (DE), MAT (DE), SPWSZ (PL), ARAS (RO), PRIMA (SK)
- **Collaborating partner:**
  KompNet (DE), League of PLH in Moldova (MD), LRAC (UA), THBB (DE), Ministy of Health (BG), CORRELATION II (NL)

- **Duration:** 21 months
- **Start:** M8 **End:** M28

Viral Hepatitis

	Virus	Transmission	Clinical outcome
Hep. A	RNA	fecal-oral	never chronic
Hep. B	DNA	parenteral	5-10% chronic
Hep. C	RNA	parenteral	50 - 80% chronic
Hep. D	RNA	parenteral	as super infection 90% chronic
Hep. E	RNA	fecal-oral	never chronic

Viral Hepatitis B



- **HBV:** **DNA-Virus, worldwide**

  ca. 350 - 400 Millions
  with chronic infection

- **Incubation period: 2 - 6 month**

- Transmission - blood contact
  - sexual intercourse
  - vertical transmission

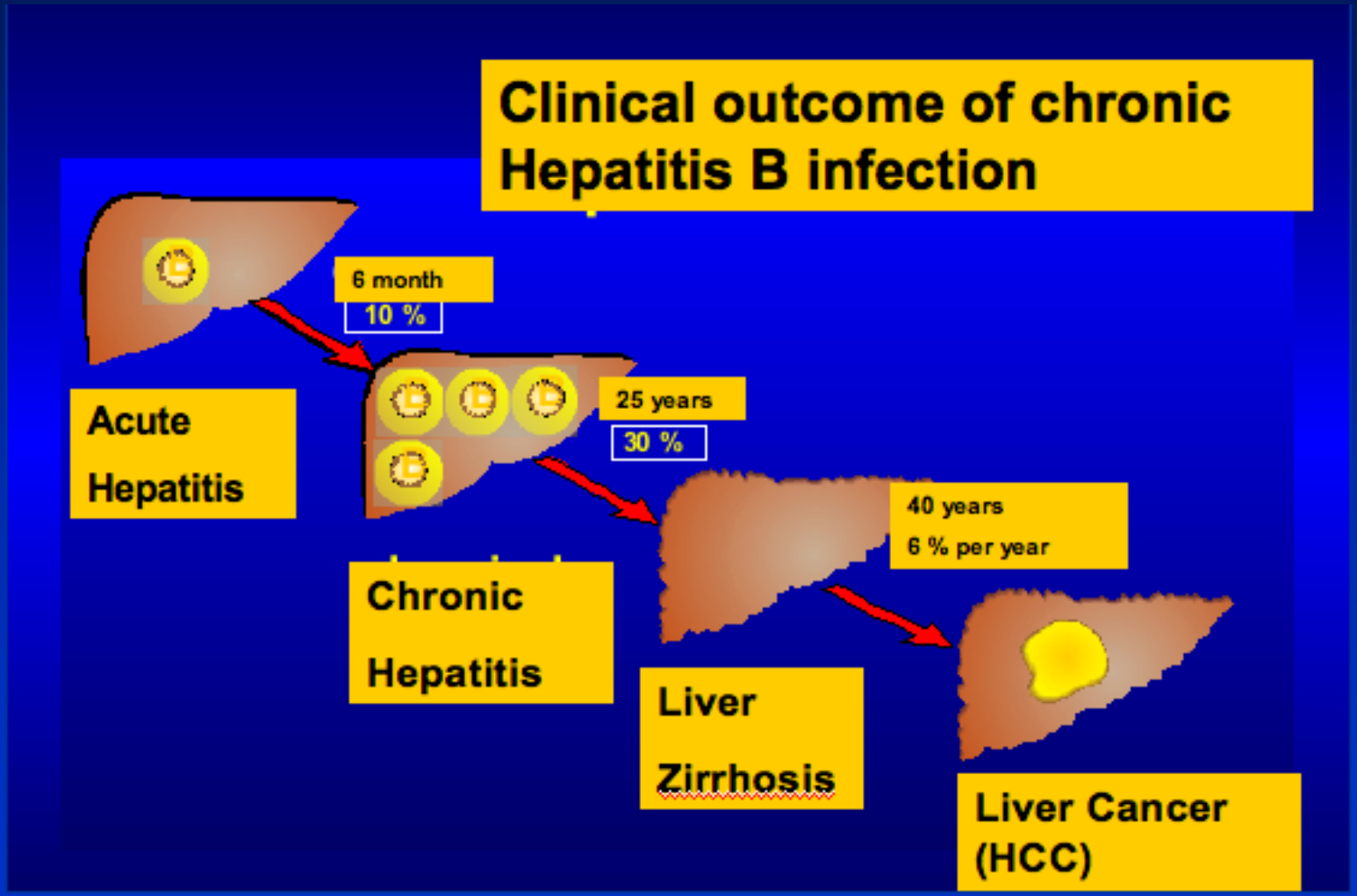
Diagnostic of HBV – Infection

The different viral components surface and core induce the production of corresponding antibodies

Viral components		Antibodies
Viral surface	HBsAg	antiHBs
Viral core	core - HBcAg	antiHBc
		antiHBc IgM
		antiHBc IgG
	envelope - HBeAg	antiHBe

HBVDNA

Hepatitis B


Clinical outcome of chronic Hepatitis B infection
6 month
10 %
Acute Hepatitis
25 years
30 %
Chronic Hepatitis
40 years
6 % per year
Liver Zirrhosis
Liver Cancer (HCC)

Chronic Hepatitis B

HBe positive Hepatitis

HBsAg positive
HBeAg positive

HBe negative Hepatitis

(YMDD – Mutation)
HBsAg positive
HBeAg negative

Decision for therapy depends on

- HBVDNA concentration (>100 000 copies/ml)

- liver biopsy with grading and staging

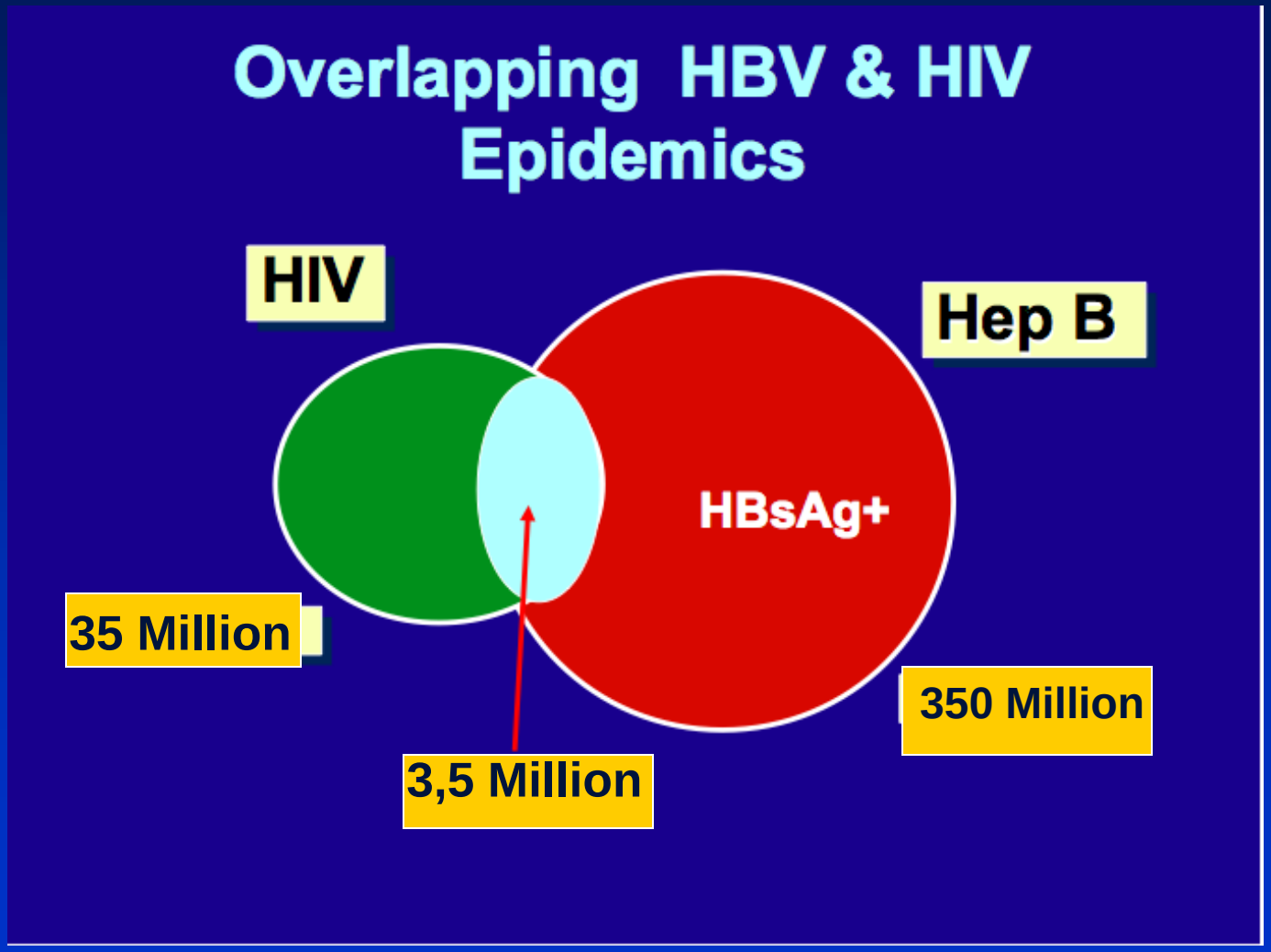
- ALAT / ASAT increased

Patiens with HBeAg negative chronic Hepatitis have more severe histological changes, the incidence of cirrhosis appears to be twofold higher than in HBeAg positive patients

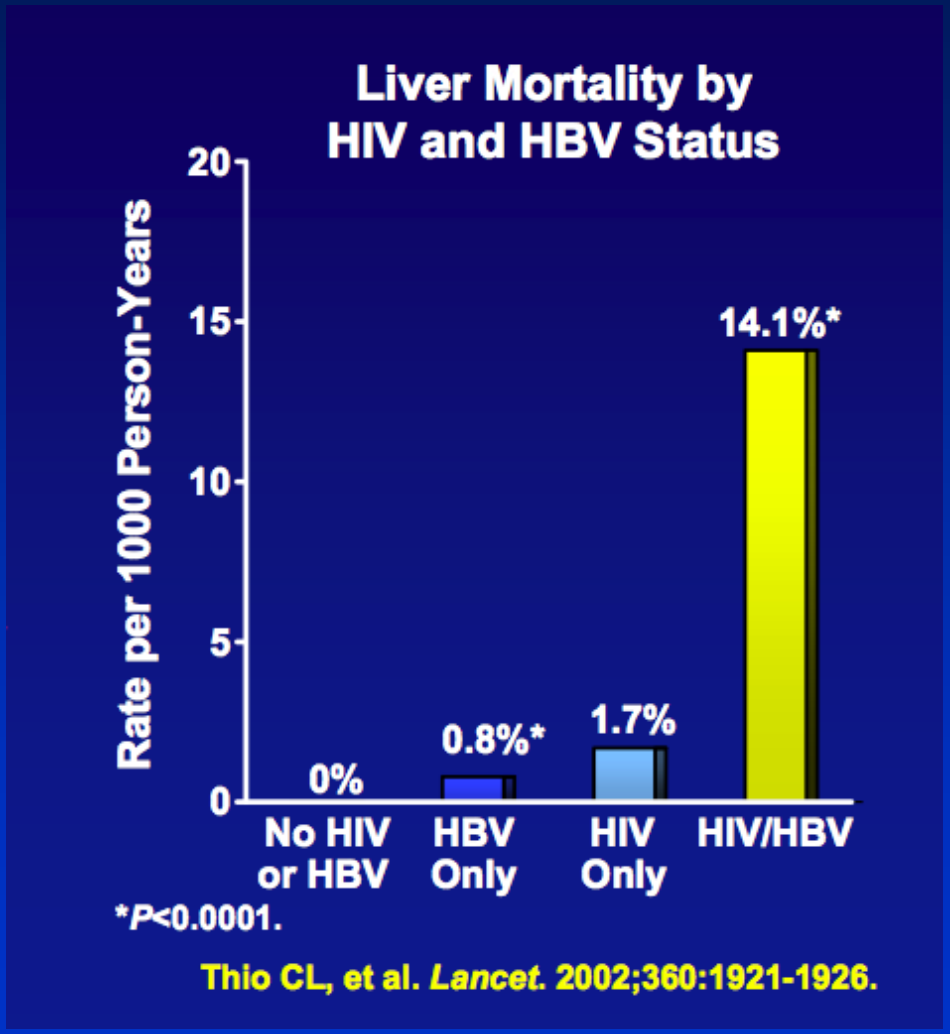
Treatment of chronic Hepatitis B

- Pegylated Interferon is given by injection once a week usually for six months to a year. The drug can cause side effects such as flu-like symptoms and depression.
- Lamivudine is a pill that is taken once a day, with few side effects
- Adefovir Dipivoxil (Hepsera) is a pill taken once a day, with few side effects
- Entecavir (Baraclude) is a pill taken once a day, with few side effects
- Telbivudine (Tyzeka, Sebivo) is a pill taken once a day, with few side effects, approved October 2006 for adults
- Tenofovir (Viread) is a pill taken once a day, with few side effects, approved August 2008 for adults.

HIV Infection and Chronic Hepatitis B



Increased Liver Mortality in HIV /HBV coinfected Patients



- Increased rates of chronic hepatitis after infection
- Higher levels of HBVDNA viraemia
- Faster progression to liver cirrhosis
- Increased rate of liver cancer development

HIV / HBV Coinfection

- There are two main reasons for considering HBV therapy as a priority in HBV/HIV co-infected patients:

1. Liver disease may progress more rapidly in those patients and could lead to serious liver disease complications such as cirrhosis and liver cancer at younger ages.

2. Second, there is a higher risk of developing hepatotoxicity following the initiation of antiretroviral therapy in HIV patients co-infected with HBV than in patients infected with HIV alone.

Virus C-Hepatitis

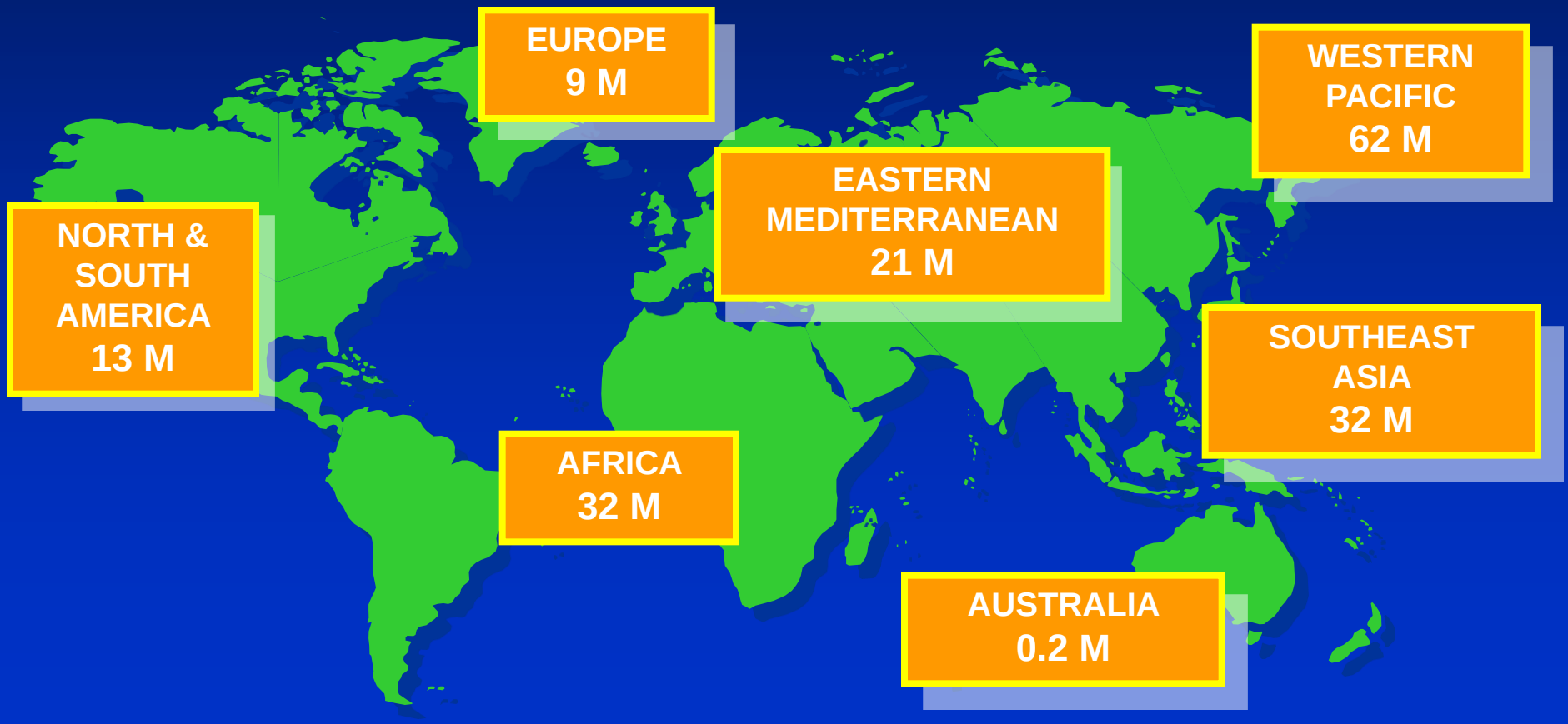
- **Cause:** RNA-Virus
- **Incub. period:** 4 month
- **Transmission:** parenteral
- **Natural course:** **> 50 - 80% chronic**

No vaccination – prophylaxis of exposure !!

Hepatitis C: A Global Health Problem

>170 Million Infected Worldwide

3-4 Million New Cases/Year



Weekly Epidemiological Record. N° 49, 10 December 1999, WHO

HIV / HCV Coinfection in IDU

- HCV co-infection with HIV is common particularly among IDUs, who acquire both viruses from injecting drugs;
- A study among people living with HIV and AIDS (PLWHA) showed high prevalence in the Eastern Europe

- Estonia	- 80%;
- Latvia	- 61%;
- Russia	- 52%;
- Ukraine	- 77 to 80%

(WHO Europe, 2006)

Diagnostic Possibilities

Laboratory

- ALAT (SGPT), ASAT (SGOT)
- Gamma-GT

Serology

- Detection of antibodies (anti HCV)

Viral detection

- PCR
- Quantity (Roche/AmpliPrep Taqman)
- Genotype

Virus C – Hepatitis - Risk Situations

- Parenteral transmission
- Direct Blood contact
- Hidden Blood contact

(professional risk)

- Tattoos
- Piercing
- needle sharing

decrease of Infection-risk

- Sexual intercourse
- Vertical Transmission

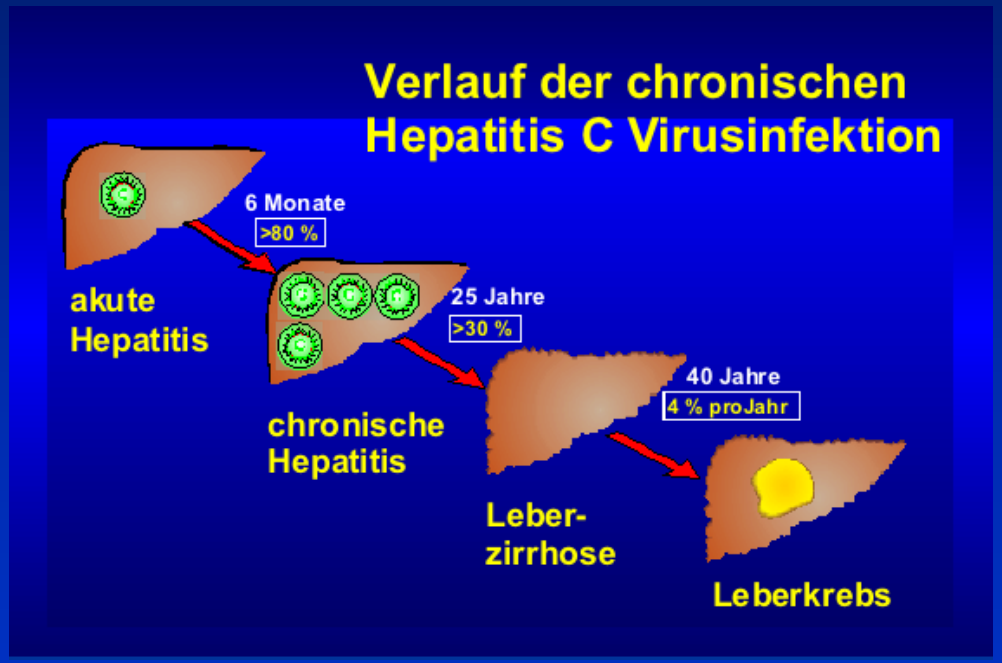
Treatment of Hepatitis C

- Pegylated Infereron + Ribavirin over 24 to 48 (to72) weeks
- sustained virological response (cure) in 40 to 90%
- it depends on HCV Genotyp, viral concentration, duration of infection and other predictive markers

but

- many side effects
- expensive and not everywhere available

Clinical Outcome of Chronic Hepatitis C



- High chronification
- Slow developement of liver cirrhosis
- In HCV-related liver cirrhosis - high risk of liver cancer

HIV / HCV Interaction

- HIV-related immunosuppression accelerates clinical outcome
  - Time to liver failure or liver cancer only 10 to 20 years
- Risk of hepatotoxicity of ART is higher (cave Nevirapin, Atazanavir)

Coinfection HIV / HCV

- In coinfected patients HIV treatment should be started earlier
- evaluation for chronic liver disease
- Coinfected patients should receive hepatitis A/B vaccine because the risk for fatal hepatitis associated with hepatitis A and B is increased in persons with chronic liver disease.
- Patients should be given information about prevention of liver damage (alcohol)

A short overview of WP7

Three phases of WP7

1. Stocktaking of country-specific medical conditions in HIV & co-infections: August 2010 - March 2011
2. Devolopement & initiation of educations-programms /case management models: March 2011 – January 2012
3. Devolopment of country-specific guidelines: June 2011 – April 2012

No. & time	Activity	Partner	Tasks
1. August-Sept. 2010	Preparatory work and desk review; Build of contacts with institutions and physicians involved in treating HIV/AIDS	AHP & associated partners	• support the WP7-Leaders to build of contacts • inform and convince the physicians and experts
2. Oktober 2010 - March 2011	Conducting a stocktaking of country-specific medical conditions in HIV and co-infections, diagnostic and treatment	AHP & associated partners	• translate the questionnaire and the cover letter in the language of the land concerned • provide the questionnaire
3. March - April 2011	Common development of education programs with basic and special knowledge in HIV and co-infections.	AHP	• common development of education programs: oriented on needs and conditions
4. March - May 2011	Implementation of recurrent workshops for HIV-treatment professionals and two medical expert on-site visits Potsdam, 18/6/11: HESED.NIHD, ARAS Rostock, 23/11/11: Salus, SPWSZ, PRIMA	AHP & associated parners	• help to get 15 physicians • to make sure constant contacts • MAT organises :

5 May 2011 Jan. 2012	Piloting of individual STIs/HIV case management and referral and screening of HIV patients for TB, Hepatitis B and C, including an on-site of WP leader (AHP) to treatment institutions in Estonia	AHP and all associated partners on the spot	• provide education programs • convince medical opinion leaders
6 June 2011 - Jan. 2012	On-site visit to HIV treatment clinics in Tallinn and Narva (EE) connected to piloting of case management for HIV Co-infection and development of guidelines	AHP to NIHD (EE)	• organise on-site visit
7 Feb. 2012	Development of country-specific guidelines in managing HIV/HBV- and HIV/HCV co-infection is planned	AHP	• regular contacts
8 April 2012	Diagnostic and clinical pathways for all HIV, Tuberculosis, Hepatitis B, Hepatitis C and STIs will be worked out and presented at concluding expert workshop in Berlin	AHP, RKI, MAT SPI and Collaborating partners	• regular meetings and contacts • discussion, working-group

Thank your for your attention!