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POLICY DEPARTMENT **A**  
ECONOMIC AND SCIENTIFIC POLICY

Economic and Monetary Affairs

Employment and Social Affairs

**Environment, Public Health  
and Food Safety**

Industry, Research and Energy

Internal Market and Consumer Protection



# Food Safety and Public Health Situation in Croatia

NOTE





DIRECTORATE GENERAL FOR INTERNAL POLICIES  
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

# FOOD SAFETY AND PUBLIC HEALTH SITUATION IN CROATIA

## ENVI delegation to Croatia

29-31 October 2012

### NOTE

#### Abstract

This briefing document provides in two separate reports an overview of the Croatian situation respectively in the fields of Food Safety and Public Health.

As regards the food safety, the note reviews the Croatian food and drink industry, the organisation and official controls involved in food safety, the risk management and risk communication of animal diseases and, the status of the preparation of Croatia against the *acquis* in the area of food safety.

Concerning the public health situation, the note presents the health status of the population, reviews determinants of health and describes the Croatian health care system. It also provides information on the status of, and challenges with regard to, the implementation of the EU *acquis*.

This document was requested by the European Parliament's Committee on Environment, Public Health and Food Safety (ENVI).

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## LIST OF ABBREVIATIONS

<b>AVO</b>	Authorised Veterinary Officer
<b>BIP</b>	Border Inspection Post
<b>CA</b>	Competent Authority
<b>CAA</b>	Croatian Agriculture Agency
<b>CCA</b>	Central Competent Authority
<b>CFA</b>	Croatian Food Agency
<b>CNIPH</b>	Croatian National Institute of Public Health
<b>CSF</b>	Classical Swine Fever
<b>CVI</b>	Croatian Veterinary Institute
<b>DAPI</b>	Directorate for Agricultural and Phytosanitary Inspection
<b>DFSQ</b>	Directorate for Food Safety and Quality
<b>DSI</b>	Directorate for Sanitary Inspection
<b>DVI</b>	Directorate for Veterinary Inspection
<b>ECDC</b>	European Centre for Disease Prevention and Control
<b>EFSA</b>	European Food Safety Authority
<b>FVO</b>	Food and Veterinary Office of the European Commission
<b>GDP</b>	Gross Domestic Product
<b>GMO</b>	Genetically Modified Organisms
<b>HACCP</b>	Hazard Analysis and Critical Control Point
<b>ISO</b>	International Organization for Standardization
<b>MAFRD</b>	Ministry of Agriculture, Fisheries and Rural Development
<b>MANCP</b>	Multi-annual National Control Plan
<b>MHSW</b>	Ministry of Health and Social Welfare

**NRL** National Reference Laboratory

**OIE** World Health Organisation of Animal Diseases

**RASFF** Rapid Alert System for Food and Feed

**VD** Veterinary Directorate

**WAHID** World Animal Health International Database

## EXECUTIVE SUMMARY

### Background

This briefing has been prepared to inform the Environment Public Health and Food Safety (ENVI) Committee's delegation to Croatia planned for October 2012.

### Aim

The report reviews the Croatian food and drink industry, the organisation and official controls involved in food safety, the risk management and risk communication of animal diseases, and the status of the preparation of Croatia against the *acquis* in the area of food safety.

The EU member states already represent the main trading partner of Croatia (over 61.1% of exports and 60.2% of imports in 2010). Agriculture remains an important source of livelihood, employing 15% of the working population. Major agricultural products are cereals, seeds, tangerines, tobacco, medicinal herbs and honey. In addition to tropical and Mediterranean fruits and coffee, Croatia imports significant amounts of live pigs, cattle, cocoa and oil crops and is a net importer of food products. Many establishments are small family owned enterprises, which mostly produce for their own needs, with some large state owned agri-businesses. The size of livestock herds has increased recently.

Croatia also has a diverse and well developed food processing industry supplying both the domestic market and those of neighbouring countries. Food and drink manufacturing comprises 21% of the gross value added in the Croatian manufacturing industry. The most profitable sectors include fish processing, beer production, processing of milk, tea, coffee and soft drinks.

There are three organisations responsible for food safety – Ministry of Agriculture Food and Rural Affairs (MAFRD), Ministry of Health and Social Welfare (MHSW) and the Croatian Food Agency (CFA). The MAFRD is the Competent Authority and, with MHSW, is responsible for the adoption, alignment, enforcement and interpretation of legislation under the Food Act and for risk management. Local enforcement is the responsibility of county inspectorates with inspections being conducted by veterinarians and sanitary inspectors.

The CFA was established in 2007, according to the Food Act (Official Gazette No 46/07), and is responsible for risk assessment and providing scientific advice and technical support to MAFRD. The CFA also provides information, advice and education to all stakeholders in the food chain.

The principal legislation in the area of food safety in Croatia is the Food Act (Official Gazette no 46/2007). It transposes the provisions of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. All legislation implemented since 2000 is in line with the *acquis*.

Products originating from Croatia have been the subject of relatively few notifications and the number has decreased in recent years. Croatia has developed a national RASFF system and recognises that this requires additional administrative resource to operate effectively; this is addressed in the Multi-annual National Control Plan.

Food business establishments have been reviewed and categorised according to EU standards. However this area requires further development. Croatia has been granted a transitional period until 31 December 2015 for establishments in the meat, milk, fish and animal by-products sectors in order to meet structural EU standards.

Croatia has fulfilled its obligations with respect to notifications to the World Organisation for Animal Health (OIE) and the European Animal Disease Notification System (ADNS). National contingency plans have been developed for a number of animal diseases. It has been awarded the status of Foot and Mouth Disease Free without vaccination and has taken steps to institute programmes to also be able to apply for Bovine (and also ovine and caprine) Brucellosis free status. Methods of control of Classical Swine Fever have been brought into line with those of the EU.

A system of identification and registration of porcines, caprines, ovines and bovines and their movements has been implemented, and is continually verified.

Croatia has a large border area with a number of countries. On the eastern side, this will represent an external border of the EU on accession. The presence and effective operation of Border Inspection Posts is therefore important in ensuring the safety of products entering Croatia and ultimately the EU.

The number of Border Inspection Posts (BIPs) has been rationalised following a consideration of current import / export routes and practices and the location of long term BIPs identified. Programmes have been undertaken to build / refurbish the new posts where required and to equip these accordingly and to ensure adequate staffing levels. In addition the information technology capacity / computer systems have been upgraded and / or developed to cope with the capacity and ability to integrate into the EU systems. Problems have been experienced in the recruitment of sufficient staff and in engaging contractors to undertake the construction of certain BIPs. Four of the designated Border Inspection posts are due for completion in 2012.

## **Conclusions**

Croatia has made good progress in achieving harmonisation with EU legislation, although there are a number of areas outstanding including the completion of BIPs the approval of establishments, animal welfare as regards laying hens and veterinary control (movement of pigs in the Neum corridor).

## 1. INTRODUCTION

This briefing on food safety in Croatia has been prepared for the Environment, Public Health and Food Safety Committee (ENVI) Delegation to Croatia in October 2012. It addresses:

- The structure of the food safety and control system;
- Risk management and risk communication of certain animal diseases, notably Classical swine fever
- Preparedness (based on the *acquis Communautaire*) for Community membership in the area of food safety and forthcoming challenges.

### 1.1. Method

Sources of information:

EU accession negotiations with Croatia opened on 3 October 2005 and concluded on 30 June 2011. The Treaty of Accession (Treaty between the Members of the European Union and the Republic of Croatia concerning the accession of the Republic of Croatia to the European Union) was signed in December 2011. The negotiations on Chapter 12 - Food Safety, Veterinary and Phytosanitary policy opened on 2 October 2009 and closed on 19 April 2011. Croatia is expected to join the European Union on 1 July 2013 subject to ratification of the Treaty by the other 27 EU member states. Twelve member states have so far ratified the Treaty of Accession of Croatia to the European Union (Croatian Parliament).

The initial Screening Report on Croatia, Chapter 12 Food Safety, Veterinary and Phytosanitary Policy 2007 and subsequent progress reports of the European Commission were examined to evaluate Croatia's progress against the *acquis Communautaire*.

Thereafter European Commission Food and Veterinary Office (FVO) reports were reviewed to inform an evaluation of the progress made by Croatia in relation to Chapter 12 of the *acquis* - Food safety, veterinary and phytosanitary policy. The FVO helps to ensure that Community legislation on food safety, animal health, plant health and animal welfare is properly maintained and enforced. Its inspections assure effective control systems and evaluate compliance with EU standards in third countries in relation to their exports to the EU. Croatia has been the subject of eight reported FVO inspections since 2005. This report considers the latest available reports as reflecting the recent situation.

The scientific literature was searched and the websites and publications of various regulatory and other authorities were examined.

## 2. AGRICULTURE, FOOD PRODUCTION AND EXPORTS

### KEY FINDINGS

- Approximately 60% of all Croatian exports are destined for EU-27 countries
- Agriculture is important to the country's gross value added but the industry is fragmented, with many small family owned enterprises. The number of larger enterprises however has increased in recent years.
- The food processing sector is well developed, supplying to both the domestic market and neighbouring countries.
- The mass retail grocery market is growing and is dominated by a small number of major companies. 47% of consumers purchase food via supermarkets.

This chapter provides general and background information on the status of, and developments in, the Croatian food industry.

Croatia has a population of approximately 4.4 million (of whom 800,000 live in the capital Zagreb) (Croatian Bureau of Statistics). It is one of only two current enlargement countries where the population level has fallen over the last twelve years (Eurostat, 2012).

The Gross Domestic Product (GDP) fell by 6.0% in 2009, a trend that continued in 2010 when the economies of other enlargement countries grew. Croatian GDP per capita is some 40% below the EU-27 average (Eurostat, 2012). According to recently revised data, real GDP in the first quarter of 2012 was 13.0% lower than during the pre-recessionary peak in the first quarter of 2008. The available data suggest that the GDP declined by 2.1% in the second quarter 2012 (Croatian Bureau of Statistics)

The EU member states already represent the main trading partner of Croatia (over 61.1% of exports and 60.2% of imports in 2010). Food and drink represented 10.5% of total exports and approximately 10% of total imports in 2010 (Eurostat, 2012). Croatia also exports worldwide – including to neighbouring Balkan (18.7%) and other European (3.7%) countries, America (5.2%) and Asia (3.3%) (Croatian Bureau of Statistics).

Major agricultural products are cereals, seeds, tangerines, tobacco, medicinal herbs and honey. In addition to tropical and Mediterranean fruits and coffee, Croatia imports significant amounts of live pigs, cattle, cocoa and oil crops. (Croatian Chamber of Economy – Agriculture, 2009).

The utilised agricultural area in Croatia represents 23.6% of the total. Of this, 67% is arable (EU average 60%). The production of cereals has increased by 30% since 2000 and the production of sugar beet has risen sharply. Whilst the population of pig herds has remained stable at just over 1.2 million, the population of sheep, goats and cattle has increased in recent years. In 2010 pig meat accounted for almost 50% of total meat production in Croatia (Eurostat 2012).

The gross value added from agriculture comprised 5.5% of the total in 2010 (1.7% EU-27) (Eurostat, 2012). Approximately 42% of the country's population live in rural areas and agriculture remains an important source of livelihood, employing 15% of the working population (World Bank).

Many establishments are small family owned enterprises, which mostly produce for their own needs, but there are some large state owned agri-businesses, particularly in relation to poultry flocks. (In Croatia generally 99.5% of businesses were reported as small-medium sized enterprises in 2009) (Croatian Chamber of Commerce).

As well as agriculture Croatia also has a diverse and well developed food processing industry supplying both the domestic market and those of neighbouring countries. Food and drink manufacturing comprises 21% of the gross value added in the Croatian manufacturing industry. The most profitable sectors include fish processing, beer production, processing of milk, tea, coffee and soft drinks. The food, drink, and tobacco industry consists of over 1,200 companies which employ about 47,000 people: 20% of the total employees in the manufacturing industry. The food manufacturing and processing industries have attracted foreign investment. (Croatian Chamber of Commerce).

The fifteen largest companies share 75.3% of the food retail market: ten years ago the top ten had a market share of just 16.6%. The market leader is a domestic company (Konzum). Consumers purchase food predominantly via supermarkets (47%), small shops (23%), hypermarkets (15%) or discount stores (2%). (Croatian Chamber of Economy, 2010 – Distributive Trade).

### 3. STRUCTURE OF THE FOOD SAFETY AND CONTROL SYSTEM

#### KEY FINDINGS

- Three principal organisations are involved in ensuring food safety: The Ministry of Agriculture, Fisheries and Rural Development (MAFRD), which is the central competent authority; the Ministry of Health and Social Welfare (MHSW); and the Croatian Food Safety Agency (CFA)
- The Food Law reflects the requirements of the EU General Food Law Regulation 178/2002
- Analytical studies and compliance monitoring are conducted by a range of official laboratories

This chapter summarises the principal organisations and legislation that ensure food safety.

The initial screening study of the control systems for food safety, animal health, animal welfare and plant health carried out by the European Commission's Food and Veterinary Office (FVO) in 2005 (European Commission, 2005) concluded that Croatia had a relatively well-developed food control system. The main areas identified for improvement were the development of a clear Food Safety Strategy and the coordination and collaboration between the different food safety institutions. Since then considerable work has been undertaken to meet these requirements.

The major organisations involved and their inter-relationship are shown in Figure 1. A summary of their areas of responsibility is given in Table 1 and discussed below:

#### 3.1. Principal organisations

The three principal organisations involved in ensuring food and feed safety are the:

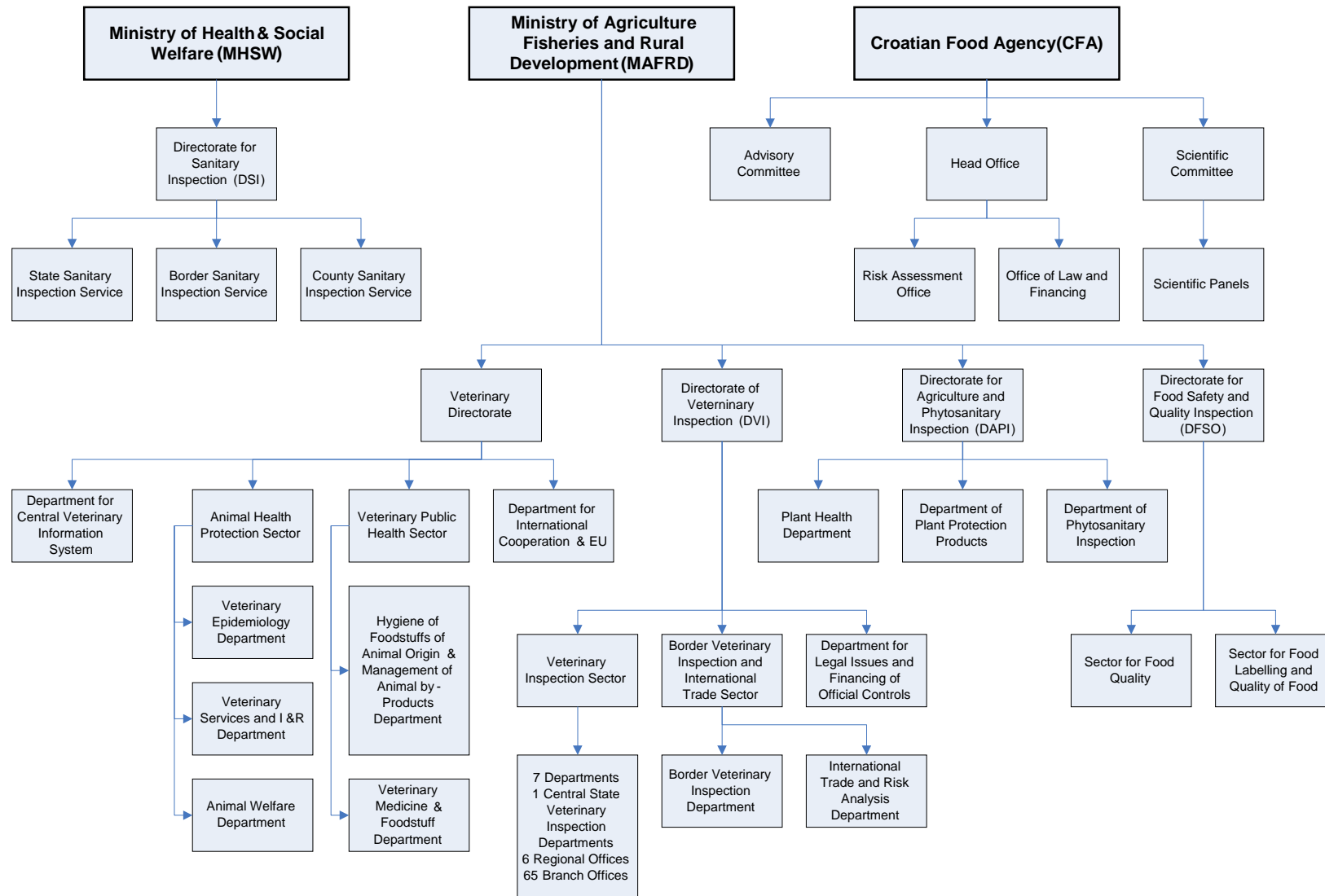
- Ministry of Agriculture, Fisheries and Rural Development (MAFRD)
- Ministry of Health and Social Welfare (MHSW)
- Croatian Food Agency (CFA).

The MAFRD is the Competent Authority and with MHSW is responsible for the adoption, alignment, enforcement and interpretation of legislation under the Food Act and for risk management. Local enforcement is the responsibility of county inspectorates, with inspections being conducted by veterinarians and sanitary inspectors.

The CFA was established in 2005. Its activities are defined according to the Food Act (Official Gazette No 46/07), and it is responsible for risk assessment providing scientific advice and technical support, and the characterisation and monitoring of risks which have a direct impact on food and feed safety and hygiene to the Ministry of Agriculture, Ministry of Health, those working with food and feed, consumers and other legal bodies. It consists of a number of scientific panels, comprised of experts from government bodies, institutions and other legal bodies; it works with other organisations and institutions in the field of food and feed safety and encourages scientific research. Work is coordinated with other authorized bodies, including the Croatian National Institute of Public Health (CNIPH) and Croatian Veterinary Institute (CVI), which monitor food safety and animal food safety.



Figure 1: Principal organisations involved in food safety



**Table 1: Organisation of responsibilities in the area of food safety**

<b>Organisation</b>	<b>Responsibility</b>
Ministry of Agriculture, Fisheries and Rural Development (MAFRD)	Central state administrative authority responsible for food safety and hygiene, development of food safety policy, organisation of official controls, and ensuring efficient and effective co-ordination between all the authorities and their directorates Developing the multiannual national control plan (MANCP) Approval of establishments Designation of official and reference laboratories
Veterinary Directorate (VD)	Drafting national legislation in the veterinary field Programmes related to veterinary public health Monitoring and coordination of the implementation of programmes
Directorate of Veterinary Inspection (DVI)	Conducting official controls on food of animal origin and food containing ingredients of animal and non-animal origin at the level of primary production, production and processing, and import (veterinary inspection and border veterinary inspection) Conducting official controls on food containing ingredients of animal and non-animal origin, at the level of retail in those establishments approved by MAFRD Official controls in establishments that are registered and approved by MAFRD
Directorate for Agriculture and Phytosanitary Inspection (DAPI)	Conducting official controls on food of non-animal origin at the level of primary production
Directorate for Food Safety and Quality Inspection (DFSO)	Co-ordination of official control activities / co-ordination of the authorities responsible for carrying out official control activities in the food safety area.
Ministry of Health and Social Welfare (MHSW)	Drafting and enforcing legislation for risk management. MHSW also co-operates with MAFRD as regards the preparation of the MANCP, annual control plans and reports, implementation of official controls, development of legislation, documented procedures, authorisation of official laboratories and registration of establishments
Directorate for Sanitary Inspection (DSI)	Conducting official controls on foods of non-animal origin, and food containing ingredients of animal and non-animal origin, at the level of production and processing and at import (sanitary inspection and border sanitary inspection); Conducting official controls on food containing ingredients of animal and non-animal origin, at the level of retail (except in establishments approved by MAFRD) Official controls in establishments that are registered by the MHSW.
Croatian Food Agency	Risk Assessment Characterisation and monitoring of risks which have a direct impact on food and feed safety and hygiene Provision of scientific advice and technical support Provision of information, advice and education to stakeholders throughout the food chain

As well as the principal organisations, other ministries, institutions and laboratories, are also involved in the food safety system some of which are described below.

## **3.2. Other ministries**

### **3.2.1. Ministry of Information Systems (MIS)**

Although not directly involved in food safety, the Ministry of Information Systems is responsible for ensuring the effective management of data and information. It has established a central facility to house information and integrates the entire management of all the processes of information communication technology. As such it has undertaken work on improving existing or developing new systems including: e-Inspector for inspection supervision including the Phytosanitary Information System (FIS) and the Central Veterinary Information System (CVIS).

## **3.3. Other institutions**

### **3.3.1. Croatian National Institute of Public Health (CNIPH)**

This institute collates and publishes data on the incidence of foodborne diseases.

### **3.3.2. Croatian Centre for Agriculture, Food and Rural Affairs**

The centre, established by Decision 25/09, merged a number of individual institutes that conduct, or commission, research in various areas related to agriculture under MAFRD.

## **3.4. Official and reference laboratories**

Official and reference laboratories are authorised by MAFRD under the Food Act and Ordinance on authorisation of official and reference laboratories for food and feed (Official Gazette No. 86/10, 7/11). This stipulates the procedure and methods for authorisation, the conditions laboratories need to meet, their obligations and the areas where reference laboratories are required to be authorised. These are in line with EU Regulation (EC) 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules and two additional areas of national interest, namely olive oil, and honey and honey products. The main requirement for authorisation as a reference laboratory is accreditation according to EN ISO 17025 General requirements for the competence of testing and calibration laboratories. A list of authorised official and reference laboratories for food and feed is available on the Ministry of Agriculture website.

The Croatian Accreditation Agency, an independent, not for profit institution, acts as the national accreditation service and is reported to comply with all requirements of the international and European standard for accreditation bodies.

The official and reference laboratory network is organised through the:

- Croatian Veterinary Institute (CVI), which provides laboratory services required to monitor animal health programmes, as well as official controls of animal health, food and feed of animal origin. It comprises the Central Veterinary Laboratory in Zagreb, the Poultry Centre and four regional veterinary laboratories.

- Croatian National Institute of Public Health (CNIPH) which provides central and local laboratories that analyse food for human consumption, water and human transmissible diseases. It prepares and implements annual monitoring programmes. The County Institutes of Public Health (21) form a national network.

Private laboratories undertake analyses of food samples on behalf of the food industry.

### **3.5. Legislation**

The Food Act (Official Gazette no 46/2007) is the basic framework law on food safety in Croatia. It transposes the provisions of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. In addition it contains national provisions relating to the CFA and the competencies of authorities carrying out official controls, and puts in place penalties for infringements of the Act.

Details of those national laws applicable to food safety are available from a variety of sources. Legislation enacted since 2000 is in line with the *EU acquis*.

Responsibility for the adoption, alignment and interpretation of legislation under the Food Act is shared between MAFRD and MHSW. All legislation adopted by MHSW is subject to the consent of MAFRD.

Enforcement of laws and regulations is carried out on a central and regional/local level. Centrally it is a responsibility of MAFRD and MHSW.

The European Commission's recent Monitoring report (European Commission, 2012) indicated that with respect to Chapter 12 Food Safety, Veterinary and Phytosanitary Policy a generally good level of alignment had been achieved with the *acquis*.

#### **3.5.1. Finance**

The Food Act requires that the State Budget finances the necessary number of staff to perform official controls and to cover the cost for their implementation. Fees and charges are levied to cover the costs of official controls.

## 4. RISK MANAGEMENT AND RISK COMMUNICATION OF CERTAIN ANIMAL DISEASES

### KEY FINDINGS

- The infrastructure to enable participation in the RASFF system has been established, although additional resources may be required
- Croatia has a broadly effective animal health control system
- National contingency plans are in place for BSE, Bluetongue, Newcastle Disease, Avian Influenza, Classical Swine Fever and Foot and Mouth Disease
- Croatia is recognised as free from Foot and Mouth Disease without vaccination
- An animal identification system is in place for bovine, caprine and porcine animals
- Croatia is instituting programs to apply for Bovine (and also ovine and caprine) Brucellosis free status.

This chapter considers risk management and communication and reviews the current situation relating to animal diseases, in particular Classical Swine Fever.

### 4.1. Risk management and communication

Although the CFA provides scientific advice and technical support, collecting and analysing data to allow for the characterisation and monitoring of risks which have a direct impact on food safety, it does not have a direct role in risk management activities. MAFRD (Directorate for Food Safety and Quality) and the MHSW (Directorate of Sanitary Inspection) are responsible for this activity.

MAFRD, MHSW and CFA provide information to food business operators, consumers and other stakeholders concerning food risks. In the event of a crisis MAFRD is responsible for setting up a crisis unit while both MAFRD and MHSW are responsible for crisis management.

### 4.2. Reporting incidents

#### 4.2.1. Infrastructure

The European monitoring system for reporting, recording and exchanging information about measures taken responding to serious risks detected in relation to food or feed is the Rapid Alert System for Food and Feed (RASFF). Croatia has established a national RASFF system and already exchanges information and data with the European Commission. On accession the Croatian RASFF will need to be fully compliant with the EU RASFF. MAFRD's Strategic Plan 2012 – 2014 recognised that the need for the system to be operational 24 hours, 7 days a week had been hampered by a lack of adequately trained personnel, IT equipment and funds. This, it acknowledged, had affected the timely and continuous communication and exchange of data and implementation of control activities and measures. Accordingly the Plan undertook to address these issues.

#### 4.2.2. Incidents

Products originating from, or transiting, Croatia have been the subject of a number of RASFF notifications, although the most recent Annual Report (RASFF, 2011) showed a decline from 29 in 2009, through 19 in 2010 to 12 in 2011.

The CINPH publishes reports of the results of analyses carried out by laboratories on food samples. In 2010 7.4% (7.2% in 2009) of samples of domestic origin and 0.96% (2.16% in 2009) of those of imported samples were found to be microbiologically unsafe. Other problems, including incorrect labelling, additives, pesticides, heavy metals and mycotoxins at above permitted levels, and food products not in compliance with provisions regulating genetically modified organisms, were reported in 3.6% of domestic products and 4.7% of imported products which were rejected. The number of samples analysed varied considerably from 1990 – 2010 with a decrease being noted in 2010 compared to 2009 (CNIPH,2010).

#### 4.3. Overview of animal diseases

The Croatia Veterinary Directorate, as part of its international obligations, has voluntarily submitted regular timely notification of animal diseases to the European Commission (ADNS), the World Organisation for Animal Health (WAHID-OIE) and the competent veterinary authorities of neighbouring countries. Six monthly and annual reports on the occurrence of animal diseases are also submitted to the OIE although none have yet been entered on the WAHID website for 2012.

An FVO inspection in 2010 (FVO, 2010) concluded that Croatia had a broadly effective animal health control system in place. The Croatian competent authorities for animal health issues are set out below:

**Table 2: Competent authorities for animal health**

Competent Authority	Division	Responsibility
Veterinary Directorate (VD) - Animal Health sector	Epidemiology Field veterinary services Animal welfare	Policy making
Directorate of Veterinary Inspection (DVI) Veterinary Inspection Sector Sector dealing with imports and international trade	Six regional offices supervising 65 branch offices	Conduct field work: State veterinary inspectors implement national legislation and disease control programmes Assisted by authorised veterinarians working in authorised veterinarian organisations.
Croatian Veterinary Institute		Expert advice and laboratory services

The 2010 report (FVO, 2010) also indicated that the competent authorities generally have sufficient powers regarding animal health, including the imposition of restrictive measures on farms and animals, to sample farms and/or animals in the event of a suspicious disease, to order killing and destruction, and to prepare and implement disease control, surveillance and eradication programmes. Collaboration between the VD and DVI appeared to work well although audits had not then taken place (FVO, 2010).

National contingency plans are in place in the case of zoonoses transmitted by vectors, BSE, Bluetongue, Newcastle Disease, Avian Influenza, Classical Swine Fever and Foot and Mouth Disease (Ministry of Agriculture).

Croatia is recognised by the World Organisation for Animal Health as “free from foot and mouth disease without vaccination” with the last reported case in 1978. Also the country is recognised as free from Rinderpest by the same organisation (FVO, 2009)

#### **4.3.1. Animal identification system**

The need for an animal identification and registration system to be developed was identified at the time of the initial screening study (2005). Subsequently the Veterinary Act 2007 required mandatory identification and registration of bovine, caprine and porcine animals in line with the EU *acquis*. Animal keepers are responsible for registering and identifying their animals and for notifying their movements. In implementing the system, problems were encountered, due to the large number of small enterprises and their lack of education, facilities and funds to establish and maintain the system. Information is entered onto a central database by the authorised veterinary in charge of the herd. Although the VD is the competent authority it has delegated practical implementation and upkeep of the database, known as the Central Veterinary Information System, to the Croatian Agricultural Agency (CAA). The CAA has 27 branches. The database holds information on the location of the holding, the keeper and owner of the animal, each holding’s production type, veterinarian, number of animals and maximum holding capacity. Work has been undertaken to verify and rationalise data held on the database.

Annual veterinary checks of live animals for internal trade and animal health certification are conducted on all farms by authorised veterinary officers.

#### **4.3.2. Particular animal diseases**

A number of animal diseases are reported to be present in Croatia (WAHID-OIE), some persistently (2005 to date) (Bovine tuberculosis, Rabies, Trichinellosis, Varoosis and American foulbrood of honeybees), whilst others have not been reported for a number of years (Foot and Mouth disease (1978), Bluetongue (2004), *Brucellosis abortus* (1965)). Comments on those subject to particular investigation or consideration are given below.

#### **Classical Swine Fever (CSF)**

CSF is a highly infectious viral infection of pigs resulting in devastating disease, and hence economic loss, and remains a challenge to the sustainability of pig production, especially in certain Balkan countries where the disease has not been eradicated. The European Union adopted a policy of eradication of the disease with a prohibition of prophylactic generalised vaccination of pigs as laid down in the Council Directive 2001/89/EC of 23 October 2001 on Community measures for the control of classical swine fever (European Commission, 2012a).

Pigs whose meat is intended for export to the EU are required to come from holdings which are subject to official controls (FVO, 2010).

Historically CSF has caused problems for the Croatian pig industry although, following efforts to control the disease, no outbreaks were reported between 2003 and July 2006. Until January 2005, CSF control in Croatia was based on vaccination coupled with the elimination of the outbreaks.

This policy kept the incidence low, with most cases being located in back-yard holdings, and some having been caused by the feeding of catering waste to pigs. Vaccination was subsequently prohibited and the control measures aligned with relevant EU legislation (Council Directive 2001/89/EC on Community measures for the control of classical swine fever) by relevant Croatian legislation (Official Gazette 187/2004) and the Ordinance on the diagnostic manual for CSF (Official Gazette 16/2005 as amended). Nevertheless a complete ban on the use of catering waste for feed, as required in EU law, was not put in place by the 2004 Ordinance and was permitted in certain circumstances, until membership of the EU was negotiated. Following another significant appearance in domestic pigs in 2006 (14 outbreaks in five different countries were reported in domestic pigs in 2006 and 108 in nine countries and the City of Zagreb in 2007), an action plan was published in 2007 following which the situation improved dramatically. The last outbreak in domestic pigs was eradicated in 2008.

The situation in wild boars is less clear. The CA has taken additional measures to reduce the risk of reintroduction of the CSF virus from the wild boar population to domestic pigs. However, this situation remains a possible threat particularly as there are no movement restrictions of domestic pigs from those regions with wild boar populations. As such the CA commented that the provisions of EC Decisions concerning CSF would be transposed into national legislation and any movement of pigs from Sisalmozlavina, Karlovac and Vukovar-srijem counties to the EU prohibited. The new order was to be applied to trade from 20 December 2010. In addition intensive sampling of wild boars was to be conducted to estimate the CSF serological prevalence and to understand the structure of the wild boar population.

A contingency plan for CSF is in place and the National Disease Control Centre for CSF established at the headquarters of the Veterinary Directorate. The Croatian Veterinary Institute is responsible for sample testing and is accredited accordingly.

Pig keepers and hunters have been provided with leaflets to raise their awareness of CSF although information is also available via the VD and CAA websites.

The European Commission is also funding projects on technical assistance for the Control and Eradication of Classical Swine Fever (CSF) in the Western Balkan countries through the Instrument Pre-accession programme. The prevention of CSF in the border region Croatia-Serbia was the subject of a project in the IPA Cross-Border Programme Croatia-Serbia 2007 – 2013.

### **Brucellosis**

There are 513,000 cattle in Croatia, kept on approximately 42,000 holdings, and the herd sizes are steadily increasing (21% 1 cattle; 16% 2 cattle; 11% 3 cattle; 29% 4-10 cattle; 12% 11-20 cattle; 2% 51-100 cattle; 1% more than 100 cattle). The density of cattle herds varies throughout the country, the most densely populated being in the north of the country (European Commission, DG Health and Consumers, 2011b). Planned control of Brucellosis began in 1946. The last case of *Brucellosis abortus* was identified in 1965 (WAHID). Testing to grant officially *Bovine brucellosis* free status was initiated in 2011.

There were two reports in 2010 of *Brucellosis melitus* (4 outbreaks of clinical and 2 of sub clinical disease) in sheep and goats. Control and preventative measures were undertaken. Testing to certify ovine and caprine herds officially brucellosis free is to start in September 2012.



## **Bovine Tuberculosis**

In 2011 the Croatian Veterinary Directorate requested that the Bovine Tuberculosis subgroup task force (European Commission, 2011b) meet in Croatia (the first time it had met in a non-member state country). The objective of the meeting with the Bovine Tuberculosis subgroup was for the VD to obtain advice on improving the effectiveness of the TB control programme. The Bovine Tuberculosis subgroup was reportedly impressed by the work of the Croatian veterinary authorities in this area, commenting that the surveillance programme adopted was well designed and showed good collaboration with the public health authorities. Accordingly a number of recommendations were put forward concerning, for example, test type, intervals and interpretation; slaughterhouse surveillance; the use of common pastures; compliance with movement restrictions and automatic signals from the database when illegal movements have occurred; and movements of livestock from fattening herds.

### **4.4. Zoonoses**

Salmonellosis and Campylobacteriosis are consistently the main zoonoses reported in humans. Salmonellosis resulted in two deaths in 2011 and Leptospirosis resulted in one death. The rate of Salmonellosis infection, however, has been decreasing with rates in 2010 being less than half those in 2008, although there was a slight increase in 2011 (WAHID). According to the latest published report, 447 cases of food poisoning had been reported (CNIPH, June 2012).

### **4.5. Other areas of official control**

#### **4.5.1. Phytosanitary policy**

Croatia has established a Phytosanitary register of producers, processors, importers and distributors of certain plants, plant products and regulated articles, which was due for completion in 2010. Phytosanitary inspectors carry out supervision in line with the *acquis*. Croatia has started registration procedures of plant protection products and pesticide residues in line with the *acquis*, continues re-registration of existing products according to the national re-registration programme, and implements the National Residues Control Programme.

The need to finalise the implementation of the Phytosanitary Information System has been identified as a priority for 2012, specifically those parts concerning Plant Health and Seeds and Planting Material; Plant Protection Products and Phytosanitary Inspection. The recruitment of staff, education and training and administrative support remain additional areas of priority (Government of the Republic of Croatia, 2012).

#### **4.5.2. Residue monitoring**

A state programme for monitoring residues is approved annually. Transposition of EU requirements related to veterinary medicinal products requires obligations with respect to the procedures for the approval of veterinary medicinal products.

## 5. STATUS OF ALIGNMENT AND IMPLEMENTATION OF THE ACQUIS COMMUNAUTAIRE AND FORTHCOMING CHALLENGES

### KEY FINDINGS

- Considerable progress has been made in transposing EU food safety, veterinary and phytosanitary legislation, although a number of areas are still outstanding
- Additional work is still required to construct, equip and ensure adequate staff levels of the BIPs
- Food business establishments have been reviewed and categorised according to EU standards. Additional efforts are required, however, to upgrade and monitor establishments
- Croatia has requested a transitional period in relation to a number of areas namely animal welfare (laying hens), hygiene controls (approval of establishments), phytosanitary control (Quality of seeds and propagating material) and veterinary control (movement of pigs along the Neum corridor)

This chapter considers the current status of alignment of the *acquis communautaire* and forthcoming challenges.

The principal pre-requisites for a Candidate Country in the area of Chapter 12 – Food safety, veterinary and phytosanitary policy are the transposition of EU legislation and its implementation by a properly structured and trained administration. The *acquis* in this chapter consists of a large number of Regulations, Directives and Decisions. In 2005, during the initial screening process Croatia did not expect difficulties in implementing the *acquis* by accession (European Commission, 2005).

Areas identified as requiring attention included:

- Adoption of a legislative framework which complies with the EU *acquis*
- Provision of adequate capacity to implement and enforce the *acquis* for food safety and veterinary and phytosanitary legislation
- Upgrading administrative, inspection and control bodies with respect to procedures, technical equipment and facilities as well as staff training and number (applies to competent authorities, laboratories and border inspection posts (BIPs);
- Classification of food establishments according to the current EU *acquis* and to develop a plan to upgrade;
- Resolution of the issue of overlapping competencies (veterinary and food inspectors)
- The control and eradication of CSF
- Provision of a bovine animal identification scheme and registration system
- Extension of such a system to porcine, caprine and ovine animals

The 2011 (European Commission, 2011) study reported good progress in the fields of food safety, veterinary and phytosanitary policy, in particular on transposition of EU legislation and adoption of implementing legislation, and that transposition of legislation is reaching completion in several sectors.

A subsequent European Commission communication (European Commission, 2012) indicated that particular attention must be paid to:

- Constructing and equipping border inspection posts
- Upgrading establishments for the handling and processing of milk, meat, fish and animal by-products.
- Strengthening of administrative capacity in this area.

These aspects are discussed below:

### 5.1. Border Inspection Posts (BIPs)

Following accession all BIPs with third countries must operate in accordance with the *acquis* in terms of both facilities and procedures. Officials at the BIPs will be authorised to apply EU conditions to imports from third countries.

**Figure 2: Map of Croatia**



Croatia borders with Slovenia (670km) and Hungary (360km) in the north, Serbia (300km) in the east, and Bosnia and Herzegovina (1000km) and Montenegro (20km) in the south. Croatia also shares a coastal border on the Adriatic sea with Italy. The eastern border crossings of Croatia will become future external borders of the EU to third countries and will therefore have the main role in the protection of the whole EU territory from the introduction and spreading of animal and plant diseases. The initial screening report (2005) indicated that there were too many BIPs and that mostly these did not meet EU requirements. It was recommended that the number of BIPs be reduced and the administrative capacity strengthened.

The upgrading of BIPs has been the subject of projects under the Instrument Pre-Accession Programme (IPA 2008a and 2009) and work is envisaged to continue in 2012. Of the existing 29 phytosanitary BIPs, nine were designated as long term phytosanitary BIPs after the accession of the Republic of Croatia to the EU. Of the existing 17 veterinary BIPs, eight will remain active after accession.

Border control of imported foodstuffs of non-animal origin, as well as food contact materials is performed by the Department of Border Sanitary Inspection of the Ministry of Health and Social Welfare (MHSW). MHSW decided to keep eight long term BIPs in the same locations as the veterinary BIPs. Those chosen to remain were based on a consideration of current facilities and the usage of current import / export routes and practices, geographical location and future requirements. The designated long term BIPs are to be based at: Road – Bajakovo, Stara Gradiška, Karasovići and Metković; Seaports Rijeka and Ploče; Airport – Zagreb and Post office – Zagreb (Phytosanitary only).

In the initial IPA project, upgrading was directed to three long-term BIPs - Zagreb-Airport, Rijeka port and Bajakovo road. The aim of the later (2009) project was to build and equip four veterinary and phytosanitary BIPs in order to improve border controls in respect of the import and transit of products of animal origin, live animals, plants and plant products. The status of the BIPs under this project is summarised in Table 3 below. The projects included connection to the integrated computerized EU veterinary (TRACES) and phytosanitary (EUROPHYT) system which would also ensure better information exchange about interceptions of animal and plant consignments. (Border Inspection Post based import controls of animals and food of animal origin are also to be the subject of an FVO audit during 2012 (FVO, 2012).

**Table 3: Status of inspection post projects**

Location	Type	Phytosanitary	Veterinary	Sanitary	Status
Zagreb	Airport	X	X	X	Due for completion second half of 2012
Rijeka	Port	X	X	X	Due for completion 4 <sup>th</sup> quarter 2012
Bajakovo	Road	X	X	X	Due for completion second half of 2012
Stara Gradiška	Road	X	X		Due for completion third quarter 2012
Karasovići and Metković	Road	X	X		Execution of works - Original contract cancelled. Construction VI & PI facilities due for completion fourth quarter 2012
Ploče	Port	X	X		Execution of works - Original contract cancelled. Construction VI & PI facilities due for completion fourth quarter 2012

Source: Government of the Republic of Croatia, 2012

## 5.2. Approval and upgrading of establishments

Food products of animal origin are allowed into the European Union only if they come from an approved establishment in a third country.

Croatia has a programme to upgrade establishments dealing with food of animal origin and animal by products. The relevant EU legislation has been transposed and comprehensive check lists developed. Initially the majority of food establishments (2,420) for the production of food of animal origin did not meet EU standards (767 out of 960).

Approval for food businesses processing food of animal origin is granted and veterinary approval numbers allocated by the Veterinary Directorate at a central level on the basis of reports from the Veterinary Inspection Directorate. The approval inspections are carried out on-the-spot by one or several officials appointed *ad-hoc*. The first approval is always conditional, for 3 months, and another on-the-spot visit is needed to grant a permanent approval. The approval of establishments for export of milk and milk-based products to the EU is also granted by the Veterinary Directorate at a central level. In practice, officials from the Veterinary Inspection Directorate at central and local levels and the authorised veterinarian responsible for the official controls at the establishment carry out a joint approval inspection. The inspection report is then forwarded to the Veterinary Directorate who grants the approval when appropriate.

Official controls are carried out by State Veterinary Inspectors, Official Veterinarians and Authorised Veterinarians in accordance with the Annual Official Control Plan. This plan describes the control methods and techniques, personnel responsible for implementing controls, the time required to implement controls and areas to be controlled. The frequency of official controls in food businesses producing food of animal origin is carried out in accordance with the risk assessment performed for each approved establishment by the Veterinary Inspection Directorate. This risk assessment is carried out in accordance with the Ordinance on fees for official controls of food and feed of animal origin (NN 79/09). Results of the risk assessment process for all establishments is kept in a database by the Directorate of Veterinary Inspection. Three different risk categories are assigned to establishments: low, medium and high. The criteria currently used for assessment of risks are: establishment's capacity, intended market and product characteristics. To date, the Food Business Operator's past records as regards compliance with relevant legislation are not taken into account. These records are planned to be included in the future, when this information is available in the database.

As part of the accession negotiations Croatia was to have submitted an approved national programme for the upgrading of establishments for products of animal origin, including establishments for animal by-products, and to have demonstrated sufficient progress in the implementation of this national programme and the devotion of sufficient human and financial resources for monitoring of the upgrading process. The recent monitoring report (European Commission, 2012) indicated that Croatia needs to maintain its efforts on upgrading and monitoring establishments for the handling and processing of milk, meat, fish and animal by-products.

Croatia has requested a transitional period until 31 December 2015 for establishments in the meat, milk, fish and animal by-products sectors regarding structural requirements (European Commission, Directorate for Enlargement, 2011).

### 5.3. Training and administrative capacity

Training of existing and recruitment of new staff has been undertaken although difficulties have been experienced in recruiting sufficient numbers of staff (Republic of Croatia, 2012).

### 5.4. Forthcoming challenges

Fulfilling the outstanding requirements in relation to BIPs, the provision of sufficient numbers of trained staff and the approval of establishments remain challenges to be met by Croatia to fulfil its obligations for membership of the EU.

In addition information on the results of the EU accession negotiations with Croatia (European Commission, Directorate General for Enlargement, 2011) indicates that Croatia requested additional transitional arrangements and that specific arrangements were agreed in the following areas in respect of Chapter 12 Food safety, veterinary and phytosanitary policy and restricted to products available on the Croatian domestic market:

- Laying hens

Cages which are not compliant with EU standards can be continued to be used for 12 months after accession. Eggs from such cages have to be identified with a special mark and can only be placed on the Croatian market.

- Establishments:

Croatia has been granted a transitional period until 31 December 2015 for establishments in the meat, milk, fish and animal by-products sectors in order to meet structural EU standards. Products from such noncompliant establishments have to be identified with a special health mark and can only be placed on the Croatian market and on the markets of third countries.

- Quality of seeds and propagating material

Until 31 December 2014 Croatia may mark certain varieties of beets, cereals, oil and fibre plants, fodder plants, vegetables and seed potatoes which have not yet passed the Distinctness, Uniformity and Stability (DUS) examinations. Such plants and seeds may not be marketed in the territories of other Member States.

- Special regime for the Neum corridor

Products of animal origin coming from Croatia and transiting through the territory of Bosnia and Herzegovina at Neum ('Neum corridor') before re-entering Croatia via Klek or Zaton Doli, may be exempted from the required veterinary checks. Croatia is required to have fully equipped and staffed points of entry to the north and south of the corridor in place as well as effective technical surveillance systems to ensure efficient controls. Consignments must not be transported in open vehicles via the Neum corridor and the vehicles have to be properly sealed. The transit of live animals with the exception of pet animals through the 'Neum corridor' is prohibited.

## 6. POSSIBLE ISSUES FOR DEBATE WITH THE CROATIAN AUTHORITIES

### Transitional arrangements

- Croatia has requested a transitional period in relation to a number of areas namely animal welfare (laying hens), hygiene controls (approval of establishments), phytosanitary control (quality of seeds and propagating material) and veterinary control (movement of pigs along the Neum corridor)
- What actions are being taken in these areas?
- Will these areas be resolved by the end of the transitional periods?
- Are any problems envisaged in ensuring that those products subject to these transitional arrangements do not enter the EU market? If so, how will these be addressed?

### Border Inspection Posts

- When will the Border Inspection Posts all be fully operational?
- What steps are being taken to ensure the recruitment and training of sufficient numbers of staff?

### Training and awareness

- What schemes are in place to assist SMEs (in particular) to be made aware of changes taking place in the legislation and assistance with complying and implementing appropriate systems?

### Hygiene controls

- What support and training is available in this area, particularly to SMEs?

### Changing food purchasing patterns

- What are considered to be the implications, if any, of the increase in food purchases from multiple retailers in relation to food safety?

### Funding and Resources

- What provision is made for the funding and provision of resources (staffing, equipment, facilities) to ensure completion of ongoing projects?

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All websites were accessed during August - 11<sup>th</sup> September 2012.

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## LIST OF ABBREVIATIONS

<b>EU</b>	European Union
<b>EU27</b>	The 27 Member States of the European Union
<b>CBS</b>	Central Bureau of Statistics of Croatia
<b>GNP</b>	Gross national product
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>CVD</b>	Cardiovascular disease
<b>HZJZ</b>	Croatian National Institute of Public Health
<b>HZZO</b>	Croatian Health Insurance Institute
<b>ECHI</b>	European Community Health Indicators
<b>WHO/EU</b>	World Health Organization - Regional Office for Europe
<b>WHO HFA database</b>	World Health Organization "Health for all" database
<b>CASH</b>	Croatian Adult Health Study
<b>CroHort</b>	Croatian Adult Health Cohort Study
<b>CroDiab registry</b>	Croatian National Diabetes Registry
<b>ENCR</b>	European Network of Cancer Registries
<b>HBSC</b>	Health Behaviour in School-aged Children 2005/06 survey
<b>EU-SILC</b>	The Survey of Health and Living Conditions

## EXECUTIVE SUMMARY

This briefing aims to provide Members of European Parliament with an overview of the public health situation in Croatia, in preparation for the visit of the ENVI delegation to Croatia foreseen for 29 to 31 October 2012.

The total population of Croatia is 4,290,612 inhabitants, with a relatively high proportion of the population aged 65 and over (17.2%). The consequences of the War of Independence from 1991 to 1995 included heavy loss of human life (approximately 20,000 people killed or missing) and more than 30,000 disabled people. From 2000 to 2010, life expectancy at birth in Croatia increased to reach an average of 76.48 years (73.5 years for men and 79.6 years for women), which is four years lower than in the EU-27.

With regards to communicable diseases, the epidemiological situation in Croatia equates with that of the EU-15 Member States. However, in the area of non-communicable diseases, Croatia remains worse off than the EU average. Urbanization and changes in lifestyle patterns have led to high prevalence of physical inactivity, with 37,7% of the total population being physically inactive. This has contributed to a high prevalence of obesity (25.3% in men and 34.1% of women), hypertension and diabetes mellitus in the adult population. There has also been an increase in the number of overweight and obese children. These factors contribute to high morbidity and mortality from circulatory diseases and malignant neoplasm, which are first and second on the list of Croatian burden of disease.

Regarding the provision of health care in the Republic of Croatia, citizens have the right to health care services throughout their lives. The network of health care providers is organized in a way that makes it accessible to all citizens. The Croatian health system is financed according to the social health insurance model, with the Croatian Institute for Health Insurance (HZZO) providing the main source of funding for health care services. Basic health insurance is compulsory and funds are collected from payroll taxes or, in the case of services for vulnerable groups, provided by the Government. Services receiving state funds include antenatal and maternity (primary) care services, school health services and care for the elderly. State funds are also used to subsidize the costs of health care in remote or lowly populated areas. HZZO also provides optional complementary health insurance, with users required to make additional co-payments. Finally, supplementary health insurance is available from private insurers, covering the costs of a higher standard of care in public hospitals.

The 1993 Law introduced the principles of patient choice and patient rights. Although vast majority of health care providers are still under public (state or counties) ownership, private providers have grown in number, especially in primary care (GP and paediatric services), dental services, specialized clinics and dispensaries. Since 2000 there were several rounds of the Government's health sector reforms. All of them intend to contain the costs and improve quality of the service but none of the measures manage to decrease costs and the Health Insurance Fund faced deficits. The problem was aggravated by unemployment generated during the economic recession which adversely affected the dependency ratio. In November 2008, the Minister of Health announced a new reform to be implemented until 2011, focusing on financial stabilization and increasing system efficiency.

Taking into account the age structure of the Croatian population (17.2% over 65 years of age) and the high percentage of persons with physical disability (12.1%), high demand for health services by the general population is not surprising (76% of insured used GP services in 2010 creating amount 26,626,050 visits to doctors' offices).

Croatia is already spending 7.8% of GDP on health. With expected changes in Croatian population structure over the next years and with the slowdown in the economy, the main challenge is to provide better health services and improve system efficiency without increasing public spending on health and without jeopardizing basic system values of solidarity, fairness, equity, quality and patient choice.

Negative trends have been recognized and there are significant policy efforts (strategies, plans and action programs developments) to address main causes of death and determinants of health in Croatian population. As the process of legislative harmonization with the EU is completed, implementation is now the challenge. It is expected that communication and cooperation with EU institutions and EU countries would contribute to the improvement of health and health care services in Croatia.

# 1. GENERAL INFORMATION

## Aim

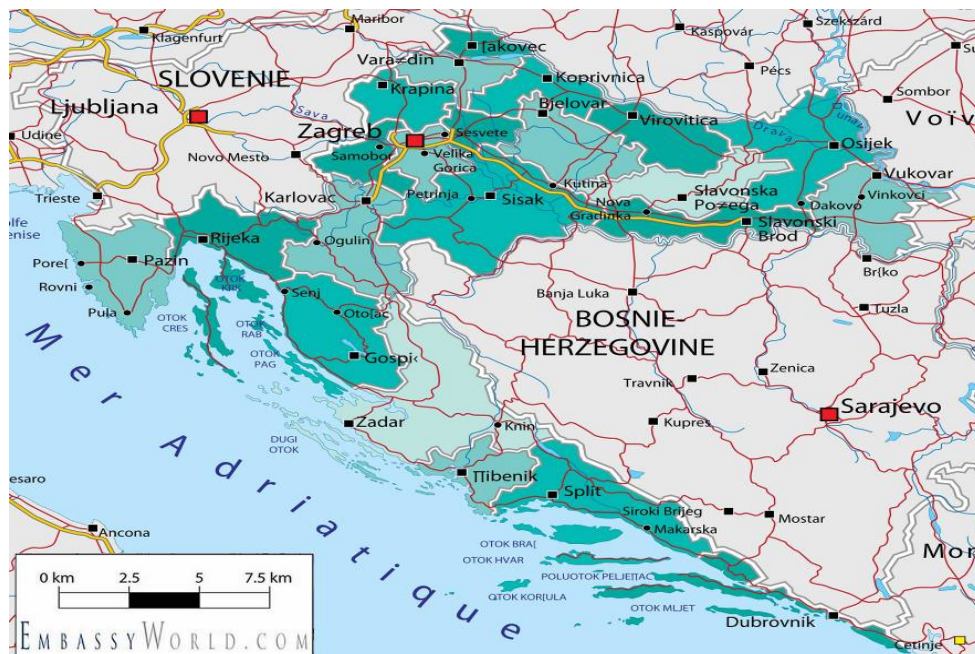
This briefing responds to a request from the Committee on Environment, Public Health and Food Safety (ENVI) of the European Parliament. It aims to provide Members of European Parliament with an overview of the public health situation in Croatia, in light of the ENVI delegation's visit to Croatia foreseen for 29 to 31 October 2012. It covers the following topics:

- Health status of the population
- Reform of the healthcare system
- Croatia's progress in the adoption and implementation of the EU *acquis* in the field of public health.

## General Information on Croatia

Croatia (Hrvatska) is an Adriatic and a central European country. It stretches in an arc from the Danube in the north-east to Istria in the west and Prevlaka in the south-east. Zagreb is the capital and the largest city in Croatia with 792,875 inhabitants in 2011 (Central Bureau of Statistics, 2011). Croatia is divided into 20 counties<sup>1</sup> and the capital city of Zagreb, which has the authority and legal status of both a county and a city. The counties of Croatia are the primary administrative subdivisions of the Republic of Croatia.

**Figure 1: Map of Croatia (20 counties and city of Zagreb)**



Source: Embassy World com, 2012

<sup>1</sup> Counties of Croatia: Bjelovar-Bilogora, Brod-Posavina, Dubrovnik-Neretva, Istria Karlovac, Koprivnica-Križevci, Krapina-Zagorje, Lika-Senj Međimurje, Osijek-Baranja, Požega-Slavonia, Primorje-Gorski, Kotar, Šibenik-Knin, Sisak-Moslavina, Split-Dalmatia, Varaždin, Virovitica-Podravina, Vukovar-Syrmia, Zadar, City of Zagreb, Zagreb County.



According to a census conducted in 2011, the total population of Croatia is 4,290,612. Demographic indicators for the past 30 years are presented in table 1 below. The registered decrease in the number of inhabitants since 1991 is due partially to high mortality amongst the younger age groups during the war from 1991-1996, and partially to the migration of young people in response to the war itself or to poor economic conditions. As a consequence, Croatia has experienced low birth rates (9.8 births per 1000 people in 2011), a decrease in the population aged 0 to 14 (to 15% in 2011), an increase in the population aged 65 and over (17.2% in 2011) and an overall decrease in population growth (Central Bureau of Statistics, 2011).

**Table 1: Trends in population/demographic indicators, selected years**

	1981	1991	2001	2011
Total population	4,601,469	4,784,265	4,437,469	4,290,612
Population, female (% of total)	51.6	51.5	51.9	/
Population ages 0-14 (% of total)	20.9	19.4	17.1	15.0
Population ages 65 and above (% of total)	12.2	13.1	15.7	17.2
Population growth (Average growth rate between two census)	0.39	0.39	-0.63	-2.0 <sup>a</sup>
Population density (people per sq km)	81.4	84.6	79.4	78.9
Fertility rate, total (birth per women)	/	1.55	1.38	1.46 <sup>b</sup>
Birth rate, crude (per 1000 people)	14.6	11.3	9.2	9.8 <sup>b</sup>
Death rate, crude (per 1000 people)	11.2	11.5	11.2	11.8 <sup>b</sup>
% population urban	50.5	54.2	55.8	57.8

Source: Central Bureau of Statistics, 2012; <sup>a</sup>Eurostat, <sup>b</sup>data for 2010

During the 1990s, Croatia was faced with the consequences of the war, including heavy loss of human life, a high number of refugees and displaced persons. In 1999, the Government of Croatia reported that 20,000 people had been killed or were missing and more than 30,000 people were disabled as a result of the war. Between 1992 and 1998, Croatia sheltered between 430,000 and 700,000 refugees and displaced persons.<sup>2</sup>

The war also caused significant damage to national infrastructure and this, combined with population loss and the disruption of economic activities, resulted in economic recession. Material damage on housing and public infrastructure was estimated at €32.6 billion.<sup>3</sup> Table 2 provides an overview of macroeconomic indicators from 1990 to 2010, showing the decline in GDP from 1990 to 2000 of €2.53 billion. The post-war government implemented structural and economic reforms and as a result the Croatian economy came out of recession by the year 2000.<sup>4</sup>

<sup>2</sup> Babic-Banaszak at all, 2002

<sup>3</sup> Stevenson and Stubbs, 2003

<sup>4</sup> Voncina L at all, [http://www.euro.who.int/\\_data/assets/pdf\\_file/0010/96445/E90328.pdf](http://www.euro.who.int/_data/assets/pdf_file/0010/96445/E90328.pdf)

**Table 2: Macroeconomic indicators, selected years**

	1990	1995	2000	2005	2010
GDP (current, billion €)	19.21	17.09	16.68	34.74	47.16
GDP per capita (current €)	7,419.57	6,196.70	8,467.79	11,885.29	14,984.27
GDP average annual growth rate (%)	/	6.8	3.8	4.3	-1.2
Cash surplus/ deficit (% of GDP)	/	-1.1	-5.3	-2.4	-4.3
Labour force (total)	2,169,752	2,103,772	1,968,863	1,998,233	1,972,036
Unemployment, total (% labour force)	/	/	16.1	12.6	11.8
People at risk of poverty rate (%) <sup>b</sup>					31.3
Income or wealth inequality (Gini coefficient) <sup>f</sup>	0.23 <sup>c</sup>	0.27 <sup>d</sup>	0.31	0.29 <sup>e</sup>	0.32

Sources: World Bank, 2012

<sup>a</sup> Conversion to EUROS using daily exchange rate of 1 USD = 0.775197 EUR on 12 September 2012

<sup>b</sup> Population at risk of poverty is defined by Eurostat (2012) as the number of people who have an equivalized disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalized disposable income (after social transfers)

Notes: 1988<sup>c</sup>, 1998<sup>d</sup>, 2004<sup>e</sup>

<sup>f</sup> The Gini coefficient is a measure of absolute income inequality. The coefficient is a number between 0 and 1, where 0 corresponds with perfect equality (where everyone has the same income) and 1 corresponds with perfect inequality (where one person has all the income, and everyone else has zero income); PPP: purchasing power parity.

Worldwide slowdown in the economy in 2008 has also left its marks on Croatia's economy. Many problems remain, including a high unemployment rate (16% in 2012), a growing trade deficit, uneven regional development and a challenging investment climate. GDP stagnated in 2011 after a negative growth trend observed in 2010<sup>5</sup> and state expenditure stagnated in 2011. While value added in industry is continuously decreasing, in services an opposite trend is observed. The private sector has been bearing the brunt of the crisis with around 115,000 jobs lost, mostly in manufacturing, construction and trade.<sup>6</sup> Since 2010, the crisis has increased the percentage of the population living in poverty from 10% to 14%. In addition, the profile of the poor has changed, with educated and younger people living in urban areas now affected and youth unemployment as high as 34%.<sup>7</sup> In May 2012, the Government announced that Croatia has entered recession again, as predicted by the World Bank.

<sup>5</sup> Croatian National Bank

<sup>6</sup> Croatian National Bank publications, 2011, Croatian Bureau of Statistics, 2011

<sup>7</sup> Croatian Bureau of Statistics: Croatia in figures 2011

## 2. HEALTH STATUS

### KEY FINDINGS

- Although life expectancy at birth in Croatia has increased over the last ten years, it remains four years lower than the EU-27 average. In men it is nearly 6 years lower.
- With the national program of mass immunization being one of the most important and most successful preventive projects in the country, Croatia's epidemiological situation with regard to communicable diseases now equates with that of the EU-15.
- Circulatory diseases and malignant neoplasm are the top two contributors to the burden of disease in Croatia. The proportion of people reporting long-standing chronic illness in Croatia is the third highest in the EU-27. This can be explained by the ageing population and the high proportion of people with physical disabilities.
- The proportion of people in Croatia who assessed their health status to be "very good" or "good" in 2010 was 46.4%, one of the lowest in the EU-27.

### 2.1. Life expectancy and healthy life years

Average life expectancy at birth has been increasing continuously from 2000 and was 76.48 years in 2010, 73.5 years for men and 79.6 years for women. However, it remains four years lower than the EU-27 average and for men the difference is more pronounced with male life expectancy at birth being 6 years lower. Table 3 below provides data on life expectancy and infant mortality from 1990 to 2010.

**Table 3: Life expectancy and infant mortality, selected years**

	1990	1995	2000	2005	2010
Life expectancy at birth, total	72.57	73.29	73.00	75.44	76.6
Life expectancy at birth, male	68.59	69.30	69.12	71.13	73.5
Life expectancy at birth, female	75.93	77.21	76.68	78.92	79.6
Infant mortality, rate per 1000 live births	11.1	8.9	7.4	5.7	4.4

**Source:** Croatian Central Bureau of Statistics, 2011; Health for all Database, WHO 2011

According to the preliminary results of the 2010 Survey of Health and Living Conditions<sup>8</sup>, Croatian men can expect to live 57.4 healthy years at birth, which is less than the EU-27 average (61.7) but better than in certain EU countries (such as Slovakia or Slovenia). The difference between Croatia and the EU-27 is smaller for women. Croatian women can expect to live 60.6 healthy years at birth while the EU-27 average is 62.6.<sup>9</sup>

<sup>8</sup> EU-SILC [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

<sup>9</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth\\_hlye&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_hlye&lang=en)

## 2.2. Burden of disease

Regarding the burden of disease in Croatia, table 4 below provides an overview of the main causes of death from 1990 to 2010. Circulatory diseases and malignant neoplasm accounted for three quarters of overall deaths in 2010. Circulatory diseases caused the death of 25,631 people and malignant neoplasm of 13,698 people. While age-standardized death rates are showing positive trends, notably a decrease in mortality from ischemic heart disease and cerebrovascular diseases in the age group 0-65, the same is not observed for malignant neoplasm. Diseases of the digestive system (55.66/100,000), diseases of the respiratory system (44.30/100,000) and other groups of diseases were less common causes of death.<sup>10</sup>

**Table 4: Main causes of death in Croatia, selected years, rate per 100,000**

Causes of death (ICD-10 classification)	1990	1995	2000	2005	2010
<b>Communicable diseases</b>					
All infectious and parasitic diseases	10.4	7.7	11.2	5.4	5.3
<b>Non-communicable diseases</b>					
Circulatory diseases	551.7	488.8	572.7	438.8	580.2
Malignant neoplasm	212.8	201.0	249.0	212.6	310.8
Ischemic heart diseases	78.0	183.6	201.1	167.9	164.2
Cerebrovascular diseases	171.6	159.4	176.4	131.8	106.8
Cancer of trachea, bronchus and lung	45.0	42.2	53.1	45.0	45.0
Colon cancer	21.9	24.6	34.0	39.4	42.1 <sup>a</sup>
Mental and behavioural disorders	14.7	18.1	23.8	22.9	27.6
Breast cancer	24.7	26.1	30.8	26.8	27.4
Diabetes	13.3	20.2	18.6	17.0	20.2
Cervical cancer	4.6	4.0	3.6	3.5	4.1
<b>External causes</b>					
Accidents	90.6	77.8	65.5	56.2	52.7
Suicide	23.2	18.6	20.8	17.0	14.7
Homicide	2.7	3.2	2.7	1.3	1.2

Source: Health for all Database, WHO (2012); Croatian National Institute of Public Health (2012)

<sup>a</sup> 2009

Over the past ten years, the rankings of the four leading causes of death, circulatory diseases, neoplasm, injuries and digestive diseases were the same in both sexes and across (most of) the Counties. The main gender difference is the occurrence of diabetes mellitus and hypertension among the ten leading causes of death for men. In the female population, chronic lower respiratory diseases ranked tenth and malignant breast neoplasm, the most common malignant disease in women, ranked fifth.<sup>11</sup>

The 2010 EU-SILC (Survey of Health and Living Conditions) found the proportion of people reporting any long-standing chronic illness or long-standing health problem in Croatia to be 38%, the third highest among EU countries (EU-27 average 31.4%).<sup>12</sup> However, taking into account the age structure of the Croatian population, whereby 17.2% of the total population is over 65 years of age, and the fact that 12.1% of the total population have a functional disability (Croatian Disability Registry, 2012), the results are not surprising.

<sup>10</sup> Croatian National Institute of Public Health, 2012

<sup>11</sup> Croatian National Institute of Public Health, 2012

<sup>12</sup> Ministry of Health, Health strategy 2012 – 2020 (draft version for public discussion), 2012: and Eurostat: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth\\_silc\\_04&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_silc_04&lang=en)

### 2.2.1. Communicable diseases and immunisation

In 2010, the situation in Croatia with regard to communicable diseases was positive (Croatian Health Service Yearbook 2010). Due to systematic vaccination, vaccine-preventable diseases have almost disappeared.<sup>13</sup> The incidence of tuberculosis reached its lowest point ever in 2010. In 2010, venereal diseases, such as syphilis, gonorrhoea and AIDS exhibited a low, sporadic incidence. Owing to the systematic application of all preventive measures since 1983, ranging from the surveillance of human blood preparations to health education, the prevalence of AIDS has been kept at a low level for 25 years (since the first appearance in 1986), with Croatia having one of the lowest incidence rates in Europe.<sup>14</sup>

The national program of mass immunization is one of the most important and most successful preventive projects in the country. In 1999, the hepatitis B vaccine for children aged 12 years was added to the program. In 2002, haemophilus influenzae type b vaccine for infants and tetanus vaccine for 60-year-olds were introduced. Finally, in 2007, hepatitis B vaccine was introduced for infants. The 2010 monitoring of vaccination coverage at national and at county and sub-county levels showed excellent results.<sup>15</sup> For all types of vaccinations, a legal minimum coverage was fulfilled, the one exception being tetanus (re)vaccination of 60-year-olds.

### 2.2.2. Cancer

The Croatian National Cancer Registry was established in 1959 with the aim of collecting, managing and analysing cancer incidence data. Since 1994, the Croatian National Cancer Registry has been a full member of the International Association of Cancer Registries (IACR). The registry is also a member of the European Network of Cancer Registries (ENCR).

In 2009, the Register reported 21,199 new cases of invasive cancers excluding skin cancer, including 11,483 in men and 9,716 in women. The incidence rate was 537.6 per 100,000 for men, and 422.1 per 100,000 for women.<sup>16</sup> It is expected that these numbers will grow over the next years due to the ageing of the population and high prevalence of unfavourable lifestyles.<sup>17</sup>

Table 5 below provides an overview of the ten most common sites in the body for cancer for men and women in Croatia in 2011. For men, the top three cancer sites are the pulmonary system (trachea, bronchi and lungs, the prostate and the colon. For women, the top three sites are the breasts, the pulmonary system and the colon.

<sup>13</sup> Diphtheria: 0 cases; tetanus: 4; pertussis: 45; measles: 7; rubella: 1; mumps: 40 and polio: 0 cases since 1989 (eradication declared in 2002)

<sup>14</sup> At the end of 2011 there were 724 registered HIV/AIDS patients in Croatia.

<sup>15</sup> Vaccination coverage is monitored not only at national but also at county and sub-county levels, so the gaps of low-vaccination areas can be discovered and corrected (and outbreaks of currently suppressed diseases prevented): [www.hzjz.hr](http://www.hzjz.hr)

<sup>16</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/Ljetopis\\_Yearbook\\_HR\\_2010.pdf](http://www.hzjz.hr/publikacije/hzs_ljetopis/Ljetopis_Yearbook_HR_2010.pdf)

<sup>17</sup> Croatian National Institute of Public Health, 2011; Ministry of Health, Health strategy 2012 – 2020 (draft version for public discussion), 2012

**Table 5: Ten most common cancer sites in men and women in Croatia, 2011**

	Men	Women
1	Trachea, bronchi and lungs (19%)	Breast (25%)
2	Prostate (16%)	Colon (8%)
3	Colon (8%)	Trachea, bronchi and lungs (7%)
4	Urinary bladder (6%)	Uterine body (6%)
5	Rectum and sigmoid (6%),	Rectum and sigmoid (5%)
6	Stomach (5%)	Ovary, fallopian tube and adnexa (5%)
7	Kidney (4%)	Thyroid gland (4%)
8	Pancreas (3%)	Stomach (4%)
9	Larynx (3%)	Uterine cervix (4%)
10	Melanoma (3%)	Pancreas (3%)

**Source:** Croatian National Institute of Public Health, 2011; Croatian Health Service Yearbook 2010:  
[http://www.hzjz.hr/publikacije/hzs\\_ljetopis/Ljetopis\\_Yearbook\\_HR\\_2010.pdf](http://www.hzjz.hr/publikacije/hzs_ljetopis/Ljetopis_Yearbook_HR_2010.pdf)

In terms of policy measures addressing cancer to date, two early detection programs have been implemented. The National Programme for the Early Detection of Breast Cancer, started in 2006, was the first. The programme includes a mammography examination every two years for all women aged 50 to 69. Women with a high risk of developing breast cancer are identified on the basis of parental case histories, the diagnosis of non-tumour breast disease and other risks.

The second policy measure was the National Programme for the Early Detection of Colorectal Cancer, started in 2007. It includes a blood test for all people over the age of 50. The Early Cervical Cancer Detection Programme is expected to be launched in the near future and will include a pap smear every three years for women aged 25 to 64.

### 2.2.3. Heart Disease and Stroke

Cardiovascular diseases (CVD) were the leading cause of death in 2010, as well as the leading disease group in inpatient care. CVDs were the lead cause of hospitalizations, with 14.3% share in total hospitalizations (47.1% of those hospitalized were women and 52.9% were men). Observed hospitalization rates for CVDs were higher in the older population, with a sharp increase from the age of 40 onwards, and were higher for men in all age groups.<sup>18</sup>

Among CVDs the most common cause of hospitalization were ischemic heart diseases, with angina pectoris and myocardial infarction representing 26.4% of the total share of CVDs hospitalizations, followed by other forms of heart disease at 26% and cerebrovascular diseases at 21.3%. There has been an increase in the number of CVDs hospitalizations over the past ten years, which can probably be explained by the continuous ageing of the population, as well as the implementation of more effective preventive and therapeutic procedures which lead to higher survival rates for patients with CVDs.

<sup>18</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/Ljetopis\\_Yearbook\\_HR\\_2010.pdf](http://www.hzjz.hr/publikacije/hzs_ljetopis/Ljetopis_Yearbook_HR_2010.pdf)

#### 2.2.4. Diabetes

With its prevalence continuing to increase, diabetes is one of the biggest public health problems in Croatia. The overall prevalence of diabetes in the population aged 20 to 80 in Croatia is estimated to be 9.2%. There has been a 9% increase in incidence over the past ten years. The total number of patients diagnosed with diabetes mellitus in 2010 was 214,000, but it is estimated that over 100,000 patients have undiagnosed diabetes.

The National Diabetes Registry (CroDiab Registry) was established in 2000. General practitioners and hospital physicians treating persons with diabetes mellitus have been obliged to register their patients since 2004. According to the CroDiab registry of diabetic patients, 6.17% of the patients registered in 2010 had type 1 diabetes, 91.93% had type 2 diabetes and 0.95% suffered from other specific types of diabetes mellitus. According to the same source, a great number of patients have unsatisfactory metabolic parameters, such as HbA1c (39% of patients), high blood pressure (60% of patients) and an abnormal lipid profile (only 2.4% of patients with values within normal range). Approximately 83% of patients were overweight or obese.<sup>19</sup>

As reported by the Central Bureau of Statistics, 631 men and 793 women died from diabetes mellitus in 2010.<sup>20</sup> However, the International Diabetes Federation suggests that the number of deaths attributable to diabetes worldwide is four times higher. Given the public health significance of diabetes in Croatia, in 2007 the National Diabetic Health Care Programme was established with the aim of improving early detection in primary care and reducing diabetes-related complications by 20%. Special attention has been given to pregnant women. All pregnant women must have glucose tolerance tests, while diabetic women and women with higher risk pregnancies (positive case histories, complications in previous pregnancies, etc.) are strictly monitor throughout the pregnancy and delivery.

#### 2.2.5. Mental health

The Croatian National Psychoses Registry was established in 1962 at the National Institute of Public Health and represents the only valuable source of information on mental diseases. The prevalence of schizophrenia among Croatians (15 years old and older) is 5.3 per 1000 inhabitants. Although the incidence is not high, mental diseases and disorders ranked first for hospital treatment days in 2010 (with a share of 23.6%) due to prolonged hospital treatment. In particular, schizophrenia ranked first, mental disorders caused by alcohol second, depression third and post-traumatic stress disorders fourth.

The Registry of Treated Psychoactive Drug Addicts was established in 1978 and collects information on individuals treated for psychoactive drug use. In 2010, Croatian health institutions registered 7,550 persons treated for psychoactive drug dependency. Most patients were between 30-34 years old (27%), whereas 6.7% were under 20 years old. 81.8% of patients treated in 2010 (i.e. 6,175) were opiate addicts, which is partly due to methadone maintenance and buprenorfin as a method of treatment (harm reduction approach). The system of outpatient treatment of drug addicts in Croatia is organized through services for addiction prevention and outpatient treatment based at county public health institutes.

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<sup>19</sup> Croatian National Institute of Public Health, 2011  
[http://www.hzjz.hr/publikacije/hzs\\_ljetopis/Ljetopis\\_Yearbook\\_HR\\_2010.pdf](http://www.hzjz.hr/publikacije/hzs_ljetopis/Ljetopis_Yearbook_HR_2010.pdf)

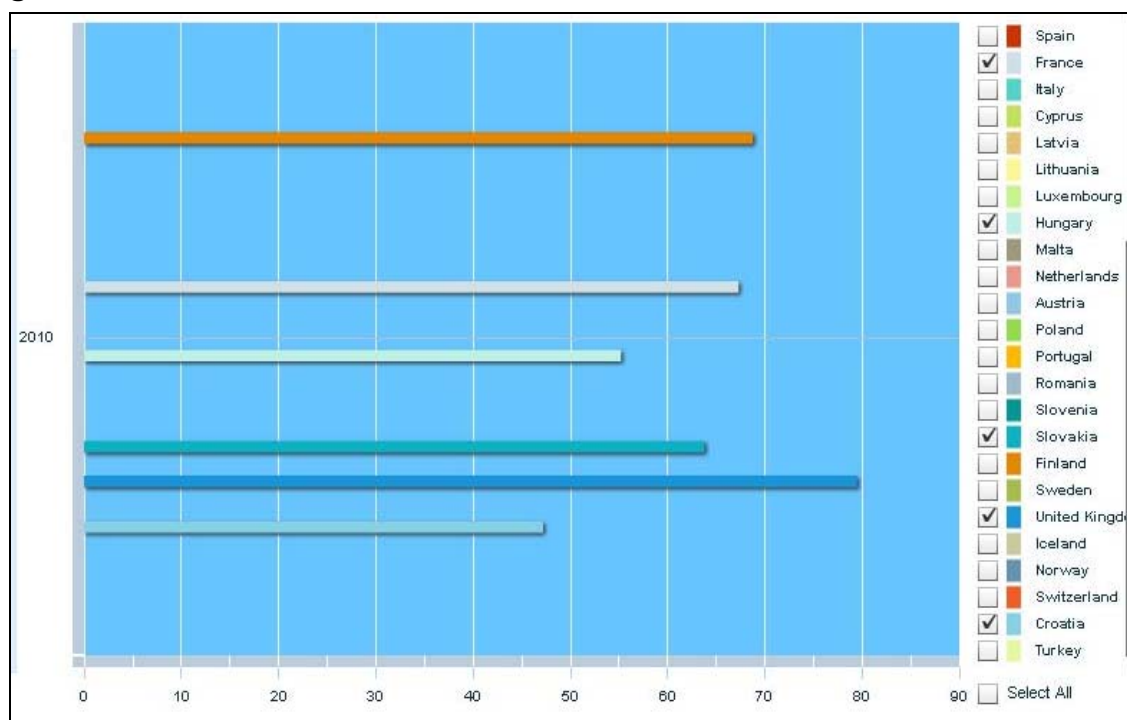
<sup>20</sup> Central Bureau of Statistics, 2011

### 2.3. Self-perceived health status

According to the 2010 Survey of Health and Living Conditions<sup>21</sup> the proportion of people in Croatia who assessed their health to be either “very good” or “good” was 46.4%, one of the lowest in EU-27 (the EU average was 68%). Figure 2 below compares the proportion of people assessing their health to be either “very good” or “good” in Croatia with selected other Member States and the EU-27 average.

In addition, the proportion of people in Croatia who assessed their health to be poor or very poor was 28% while the EU-27 average was 9%.

**Figure 2: Proportion of persons who assess their health to be very good or good, EU27, selected Member States and Croatia, 2010**



Source: ECHI, 2012 (EU-27 is represented by the orange bar at the top, Croatia is in blue at the bottom)

<sup>21</sup> EU-SILC, Eurostat, [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/en/hlth\\_status\\_silc\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/hlth_status_silc_esms.htm)



### 3. DETERMINANTS OF HEALTH

#### KEY FINDINGS

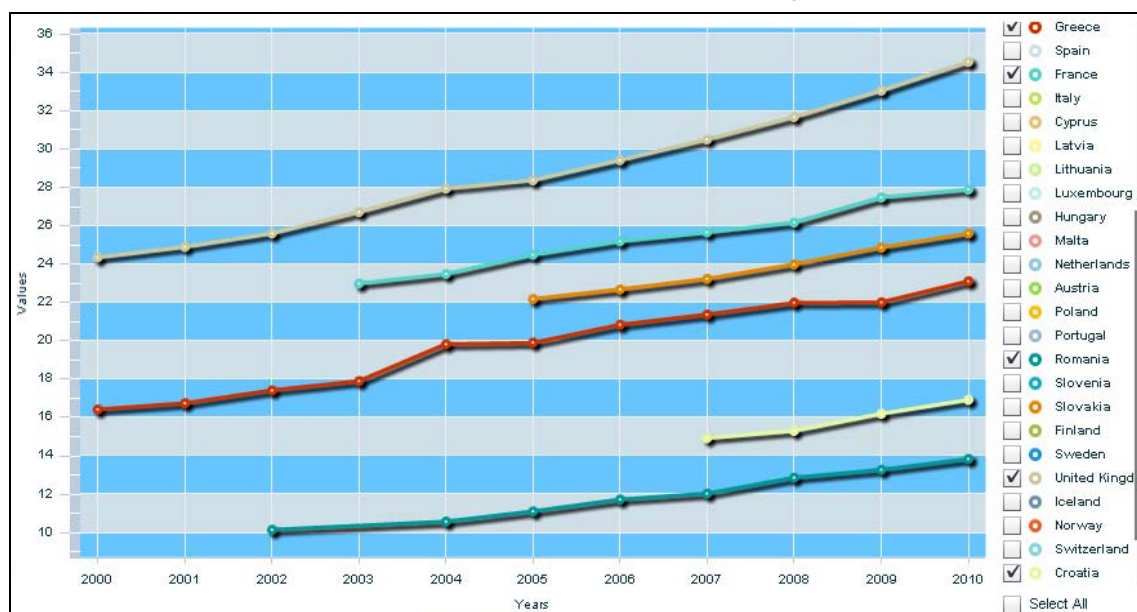
- In Croatia, as in other countries, people with a higher level of educational attainment live longer. School environment is a more common factor in the occurrence of unhealthy behaviour in 11 year olds than family income levels.
- At 54.1%, Croatia's employment rate is lower than the EU-27 average of 64.2%. In 2011, 77.4% of Croatian workers were employees with an average monthly net pay of 740 Euros.
- The smoking prevalence in men decreased from 33.8% in 2003 to 22.9% in 2008 and in women from 21.7% to 19.4% over the same period, so reducing the difference by gender. Recorded adult per capita pure alcohol consumption is approximately 12.6 litres and has remained stable in recent years. Increased excessive drinking and binge drinking among underage youngsters is a matter of concern.
- Urbanization and changes in lifestyle patterns have led to high prevalence of physical inactivity, contributing to a high prevalence of obesity, hypertension and diabetes mellitus in the adult population. There has also been an increase in the number of overweight and obese children.
- Negative trends have been acknowledged and there are significant policy efforts underway to address the main causes of death and determinants of health in the Croatian population.

#### 3.1. Education

Education in Croatia, at all levels, is under the competence of the Ministry of Science, Education and Sports. Substantial reforms and improvements have been made in the Croatian education sector but advances have been slow in improving the efficiency and the quality of higher education to better respond to the needs of the labour market. While more children and youth are enrolling in school programs (60% at the pre-school level, near universal enrolment at the primary level, and 88% at the secondary level), Croatia's university enrolment levels remain below OECD and EU levels.

Figure 3 provides an overview of trends from 2000 to 2010 in the proportion of the population aged 25 to 64 with tertiary (university) education in Croatia, in selected Member States and the average for the EU-27.

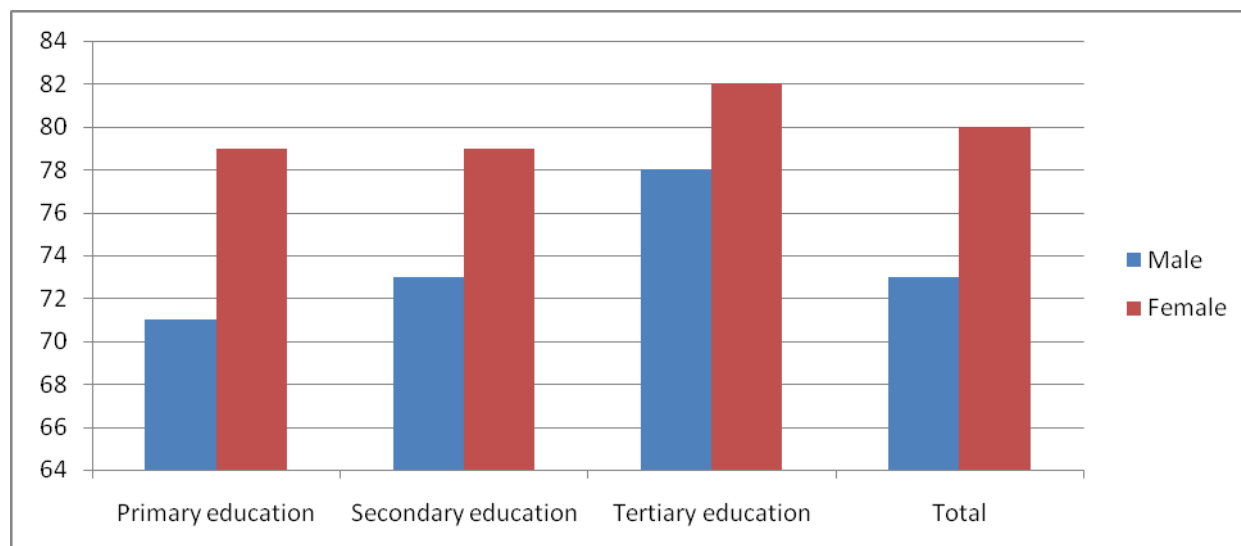
**Figure 3: Proportion of population aged 25-64 with tertiary education, EU-27, selected Member States and Croatia, time series 12 years**



Source: ECHI, 2012 (EU-27 is represented by the orange bar, Croatia is in yellow)

Improvement in population educational structure will improve health outcomes. In Croatia, as in other countries, people with better educational attainment live longer. Figure 4 below demonstrates the difference in life expectancy for men and women with increasing levels of education. The life expectancy of Croatian men with a tertiary education is seven years longer than that of Croatian men with primary education only. Life expectancy at birth for Croatian women increases with tertiary (university) education. Studies have also shown that lower levels of education are associated with poorer general health and higher levels of stress.<sup>22</sup>

**Figure 4: Life expectancy at birth due to educational attainment, Croatia 2010**



Source: Croatian Health Service Yearbook, 2012

<sup>22</sup> Musić Milanović et al., 2012

In addition, the 2005-2006 survey on Health Behaviour in School-aged Children (HBSC) which studied socioeconomic inequalities among 11 year old Croatian pupils demonstrated that a poor school environment was the most consistent and strongest predictor of poor health outcomes. It also showed that a poor school environment was a more common factor in the occurrence of unhealthy behaviour in 11 year olds than family affluence levels.<sup>23</sup>

### 3.2. Employment

At 54.1%, Croatia's employment rate is lower than the EU-27 average of 64.2%. In 2011, 77.4% of Croatian workers were employees, 15.1% were self-employed and 4.8% were self-employed persons with employees.<sup>24</sup>

In 2010, the most frequently reported professional diseases were: hearing loss from noise (22%); pneumoconiosis (19%); damages due to vibration (16%); infectious diseases (14%); and skin diseases (11%). About 20,000 work-related injuries are reported per year. In 2010, there were 38 fatal injuries: 39.5% of them in construction; 23.7% in agriculture, forestry and fishing; and 18.4% in manufacturing.<sup>25</sup>

### 3.3. Income

In 2011, the average monthly net income in Croatia was 5,441 kunas (740 Euros) while minimal pay was 2,814 kunas (370 Euros). The average pension in Croatia in 2011 was 2,341 kunas (300 Euros).<sup>26</sup>

The 2008 Croatian Adult Health Cohort Study (CroHort) revealed that lower income was associated with higher levels of stress, poor social functioning and poor mental health for both men and women. Higher levels of stress were associated with heart problems, low back pain and higher alcohol consumption.<sup>27</sup>

The previously mentioned Health Behaviour in School-aged Children survey also showed that, compared to wealthier families, 11 year olds in poorer families were more likely to rate their own health poorly and to feel dissatisfaction with their life.<sup>28</sup>

### 3.4. Addictions

#### 3.4.1. Tobacco

The Croatian Adult Health Study (CAHS) conducted in 2003 on a representative sample of the adult population (18 years and more) estimated that 27.4% of adults smoked daily. Men were more often classed as "heavy smokers" than women in all age groups, while most of the women smokers could be classified as "light smokers", meaning that they smoked up to 20 cigarettes per day.<sup>29</sup> The Croatian Adult Cohort Study (CAHS follow-up study) has shown that, in 2008, the smoking prevalence had decreased significantly in men, from 33.8% in 2003 to 22.9% in 2008, and only slightly in women from 21.7% to 19.4% over the same time period.<sup>30</sup>

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<sup>23</sup> Pavić Šimetin et al., 2011

<sup>24</sup> CBS. (2011): Croatia in figures 2011

<sup>25</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/index.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/index.htm)

<sup>26</sup> Croatian Bureau of Statistics. Croatia in figures 2011

<sup>27</sup> Musić Milanović et al., 2012

<sup>28</sup> Pavić Šimetin et al., 2011

<sup>29</sup> Samardžić et al., 2009

<sup>30</sup> Poljičanin et al., 2012

According to the WHO, the estimated prevalence of daily smokers in Croatia aged 15 years and above was 33% in 2009.<sup>31</sup> Research from 2007 led by the Croatian National Institute of Public Health reported that about 70% of 15 year olds had smoked and about 30% of the same population smoke on regular basis. The average share of students who smoke in secondary schools stands at about 15% of students in the first grade and increases to 40% of all school leavers.<sup>32</sup> The most recent results of the 2011 ESPAD survey on substance use among students in 36 European countries showed that Croatia belongs to the group of countries (together with Bulgaria, Czech Republic, France, Latvia, Monaco and Slovakia) with the highest prevalence of cigarette use among 15-16 year-old students over the past 30 days (around 40%). At the low end of the spectrum, countries such as Albania, Iceland, Montenegro and Norway showed the lowest prevalence of cigarette use among 15-16 year old students over the past 30 days (around 12%).<sup>33</sup>

A survey of patients hospitalized between October 1 2007 and January 7 2010 due to acute or chronic CVD in various hospitals in Croatia found 34.6% of these patients to be non-smokers, while 42.6% were smokers and 22.8% were ex-smokers. These results are particularly alarming considering the target population, namely coronary patients who already have increased risk of re-infarction and death compared to the healthy population, especially if they continue to smoke.<sup>34</sup> The WHO estimates that every sixth death in Croatia is tobacco-related.

The Act on the use of tobacco products,<sup>35</sup> adopted by the Croatian Parliament in 2008, bans smoking in public places with the intention of protecting the 68% of the population who are non-smokers from second-hand tobacco smoke. Implementation has been challenging due to considerable public opposition. The general public was divided and restaurant and coffee bar owners strongly opposed the Act, arguing that they already face income loss due to the financial crisis. The law was revised in 2009 and according to the new regulations smoking is now permitted in bars.

### 3.4.2. Alcohol

According to the 2003 Croatian Adult Health Survey, the prevalence of heavy alcohol consumption was 12.3% for men and 0.7% for women. According to the 2008 CroHort Study, prevalence significantly decreased to 5.2% in men and significantly increased to 5.6% in women.<sup>36</sup> Adult per capita consumption is estimated at 12.6 litres of pure alcohol and has remained stable in recent years. The results of the ESPAD survey conducted on Croatian pupils (15 and 16 year olds) in 2011 showed an increase in excessive drinking (defined as having drunk 40 times or more in a 15-year old life) and in binge drinking (drinking 5 or more drinks per occasion over the last month). Every other boy and every fourth girl have drunk alcohol 40 times or more in their lives by the age of 15 or 16. As a response to the question of whether they have been drinking 5 or more drinks per occasion over the last month, 59% of the boys and 48% of the girls answered affirmatively (unpublished data).

In 2011, Croatia developed the National Strategy against Disorders caused by Excessive Consumption of Alcohol 2011-2016, which targets alcohol-abuse prevention, treatment and the rehabilitation of persons with alcohol-related problems.

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<sup>31</sup> World Health Organization, 2011: <http://www.euro.who.int/en/what-we-do/data-and-evidence/databases>

<sup>32</sup> Croatian National Institute of Public Health, 2008, [http://www.hzjz.hr/publikacije/ESPAD\\_2007 Txt.pdf](http://www.hzjz.hr/publikacije/ESPAD_2007 Txt.pdf)

<sup>33</sup> 2011 ESPAD report, Substance use among students in 36 European countries, European Monitoring Centre for Drugs and Drug Addiction, Luxembourg: Publications Office of the European Union, 2012

<sup>34</sup> Vražić et al., 2012

<sup>35</sup> NN 125/08 - The Official Gazette

<sup>36</sup> Poljičanin et al., 2012

### 3.5. Obesity and physical activity

#### 3.5.1. Obesity

The results of the 2003 Croatian Adult Health Study on a representative sample of the adult Croatian population revealed that over 60% of men and 50% of women were overweight or obese. In 2003, obesity occurred in 23.9% of men and in 26.1% of women. The 2008 Croatian Adult Cohort Study found an increasing prevalence of obesity in the Croatian adult population. From 2003 to 2008, the prevalence of obesity in men increased insignificantly to 25.3%, but the increase in women was highly significant, with 34.1% of women being obese in 2008.<sup>37</sup>

According to the 2010 results of the survey carried out on a representative sample of Croatian children aged 6.5 to 18.5, children weigh more and are taller in comparison to their peers from the period 1980-1984. But beside this trend, there is also an increase in the number of overweight and obese children, with 15.2% of children found to be overweight and 11.2% obese in 2009.<sup>38</sup>

In response to the increasing prevalence of obesity and the fact that obesity is one of the main risk factors in the development of non-communicable diseases, such as cardiovascular disease, diabetes mellitus and other chronic diseases, Croatia has implemented several policies and programs to reduce the number of overweight and obese citizens. The most recent is the Overweight Prevention and Reduction Action Plan running from 2010 to 2012.

#### 3.5.2. Physical activity

Urbanisation, increased income, the excessive use of motor vehicles, shifts towards sedentary occupations and electronic entertainment have led to a sedentary life style and the physical inactivity of many Croats. According to the results of the Croatian Adult Health Survey, in 2003 30.5% of the Croatian population was considered to be physically inactive (28.9% of men and 31.9% of women). Overall, women tended to be less physically active than men in all regions of Croatia, except in Northern and Eastern Croatia. The City of Zagreb, as the capital and urban area, had the highest proportion of physical inactive inhabitants, almost 40% of women and over 43% of men.<sup>39</sup> According to the 2008 CroHort Study, the negative trend continued, with 37.7% of the total population being physically inactive (36.8% in men and 38.1% in women). As much as 60.7% of the reported population were physically less active in 2008 than in 2003, while at the same time only 4.5% became physically more active, either by walking or cycling to work.<sup>40</sup> However, the most concerning results are those ones reflecting the low physical activity of children and young people in Croatia. According to the HBSC results for the year 2010, boys were physically active 4.6 days per week and girls 3.8 days per week (unpublished data). Traditional cuisine is high fat diet and combined with physical inactivity has resulted in obesity and CVDs.

<sup>37</sup> Musić Milanović et al, 2009; Poljičanin et al., 2012

<sup>38</sup> Jureša et al., 2012

<sup>39</sup> Milošević et al., 2009

<sup>40</sup> Missoni et al., 2012

## 4. THE HEALTH CARE SYSTEM

### KEY FINDINGS

- Croatian citizens have the right to health care services throughout their lives. The network of health care providers is to be organized in a way that makes health services accessible to all its citizens.
- Good results have been achieved as a result of high investment in public health. Many policy reforms have been undertaken over the past 20 years. The most recent one dates back to 2008 and focuses on financial stabilization and increasing system efficiency. However, the Health Insurance Fund has faced growing deficits in recent years.
- In terms of infrastructure (hospital beds) and the number of practicing physicians per 100,000 people, Croatia ranks lower than the EU-27 average.

### 4.1. Overview of the Health Care System in Croatia

The Croatian constitution states that citizens of the Republic of Croatia have the right to health care services throughout their lives. The State is therefore obligated to organize the network of health care providers in such a way as to make health services accessible to all its citizens.

Like most other European countries, profound changes in the population structure are anticipated in Croatia in future years. As the elderly population grows, the need for health services and long-term care services will rise. A significant future challenge will be to provide better health services, improve system efficiency, but contain the already substantial public spending on public health.

### 4.2. Legislation and Policy Reforms

During the 1990's the Croatian health care system went through a series of reforms with the aim of transforming the fragmented and highly decentralized health system into a new, more functional system that respects the core principles of universality and solidarity.

#### 4.2.1. Legislation

In 1993, with the new Health Care Act, the Croatian Health Insurance Institute (HZZO) was established as the main source of health care services funding in Croatia, under the supervision of the Government. Funds are raised through a compulsory national health insurance programme, based on the principles of solidarity and reciprocity. Citizens contribute from their monthly income according to their ability to pay and receive services according to their needs. In addition, the 1993 Law introduced the principles of patient choice and patient rights, recognizing for the first time the contribution of private insurance and the role of private health care services providers.

#### 4.2.2. Patient protection

Patient protection and patient rights are regulated under numerous legislative acts (8 laws, 62 statutes and 22 other regulatory acts) and are harmonized with EU legislation. In 1993, the Health Care Act granted citizens a set of basic patient rights. In 1997 the Act on the Protection of Persons with Mental Disorders (APPMD) was adopted, followed by the Act on the Protection of Patients' Rights in 2004.

Although the legislative acts represent a significant step forward, they did not significantly influence the paternalistic attitude of health care providers in Croatia<sup>41</sup>. The healthcare system is not transparent and is rather detached from patient needs. Average citizens are unaware of their rights and are unskilled in using official complaint mechanisms. The Ministry of Health hot line for complaints, known as the White telephone, is more frequently used by citizens than the official route through the County Complaints Commissions. Patient NGOs and patient rights associations are active in monitoring the healthcare services, advocating and informing the public.

#### 4.2.3. Policy Reforms

Since 2000, there have been several rounds of health sector reforms. All of these reforms have aimed both at containing the costs of healthcare, by limiting benefits, reducing payroll contribution, and introducing cost sharing. At the same time, reforms have sought to improve the quality of the service, by enhancing efficiency, improving continuity and choice, and by devolving responsibilities to local level.

However, none of the measures intended to contain costs were successful in the face of rising demand for healthcare and, as such, the Health Insurance Fund has faced deficits. The problem was aggravated by high unemployment during the economic recession, with a subsequent decrease in the number of people contributing to the social welfare system and an increase in number receiving benefits. The most recent reform, started in 2008, attempted to stabilize the finances and increase the efficiency of the healthcare system with measures including: changes in the revenue collection mechanism; revision of hospital and primary care payment models; the introduction of a comprehensive primary health care IT system; improved control of sickness leave compensations; and advanced regulation of the pharmaceutical market.

The roadmap for future reforms is indicated in the National Strategy for the development of the health care system in Croatia 2012 – 2020 (the Strategy). The Strategy is a document by the Ministry of Health (White paper) defining the context, vision, priorities, targets and key measures to be taken until 2020, and which will guide Croatian health care system changes and development in the years to come on health policy formulation and decision making (financial resource allocation, human resources development, hospital master plan, etc.). It also incorporates the values of the Europe 2020 Strategy, the WHO Europe Health 2020 strategy<sup>42</sup> and the EU Common Strategic Framework 2014-2020. The Strategy represents an ex-ante conditionality for EU funding of health care projects and is a key programmatic document at national level, which was developed in partnership with health professionals and the general public.

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<sup>41</sup> Babić-Bosanac et al., 2008

<sup>42</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0007/147724/wd09E\\_Health2020\\_111332.pdf](http://www.euro.who.int/_data/assets/pdf_file/0007/147724/wd09E_Health2020_111332.pdf)

### 4.3. Key players in the Croatian health care system

The key players in the health care system are those with legislative or financial power. The Ministry of Health defines the health policy and is responsible for the planning and implementation of programmes and services. It supervises the overall health care system performance and manages public health activities.

The Ministry of Finance transfers money from the Treasury to HZZO and as such exercises control the overall level of public spending on health care. HZZO is a public body that manages the Health Insurance Fund. It defines the services provided under the “basic package” of healthcare, available to all citizens, set standards and prices, and contracts service providers that operate within the national health care network. HZZO also distributes sick leave compensation, maternity benefits and other allowances regulated under the Health Insurance Act.

The Croatian Counties and the city of Zagreb own and operate most of the public primary and secondary health care facilities, including health centres, general and special hospitals, county public health institutes and emergency care centres. The local authority is responsible for the maintenance of the infrastructure and capital investments, while the operating expenditure is covered by HZZO. Under the Government’s decentralization policy, local governments are expected to play an increasing role in the coordination and management of health services at the local level.<sup>43</sup>

Finally, there are eight professional chambers, including for medical doctors, dental medicine, pharmacist, nursing, midwifery, medical biochemistry, physical therapy and other medical professionals. These professional bodies are responsible for registration, licensing and compulsory re-licensing, as well as setting and maintaining professional standards.

### 4.4. Infrastructures

Health care facilities in Croatia are either owned by the federal state, the county, or privately-owned. State-owned facilities include four teaching hospitals, six clinical hospitals and clinics, and five national institutes. County-owned facilities include 49 health centres, 22 general and 33 special hospitals, six health resorts, four institutions for emergency medical aid and 21 county institutes of public health. In addition, 352 polyclinics, 181 pharmacies and 157 nursing care institutions are either private or county-owned.<sup>44</sup>

In terms of the services provided by these different infrastructures, health centres provide primary health care. Polyclinics are either self-standing or form part of an outpatient hospital service. Polyclinics and general and special hospitals provide secondary health care, whereby patients require referral from their General Practitioner. Teaching hospitals, clinical hospitals and clinics are tertiary level health care institutions and Institutes are quarterly level.

Based on individual reports on treated patients (excluding childbirth, abortions and rehabilitation), the number of patients treated in Croatian hospitals in 2010 was 571,894. The number of beds in all hospital-type institutions in 2010 was 5.66 per 1,000 people, with 4.05 beds per 1,000 people for acute patients (1.60 in general hospitals and 2.22 in teaching hospitals) and 1.62 per 1,000 people for chronic patients.<sup>45</sup>

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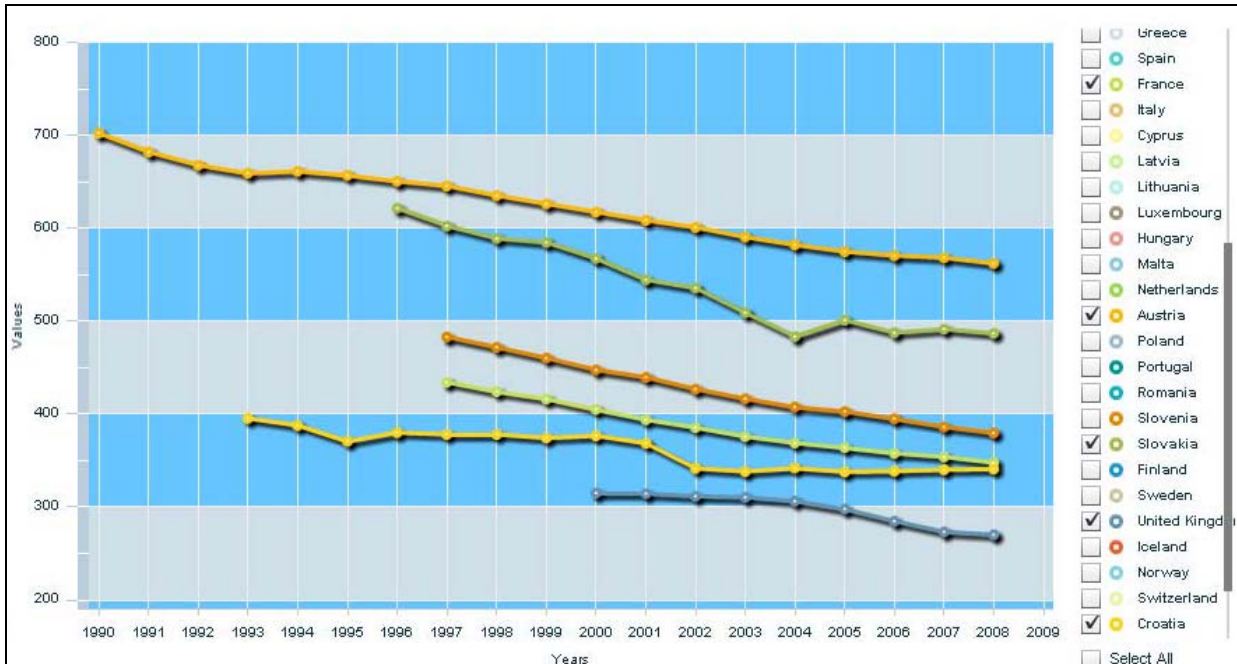
<sup>43</sup> Šogorić at all, 2005, 2009

<sup>44</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/index.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/index.htm)

<sup>45</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/index.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/index.htm)



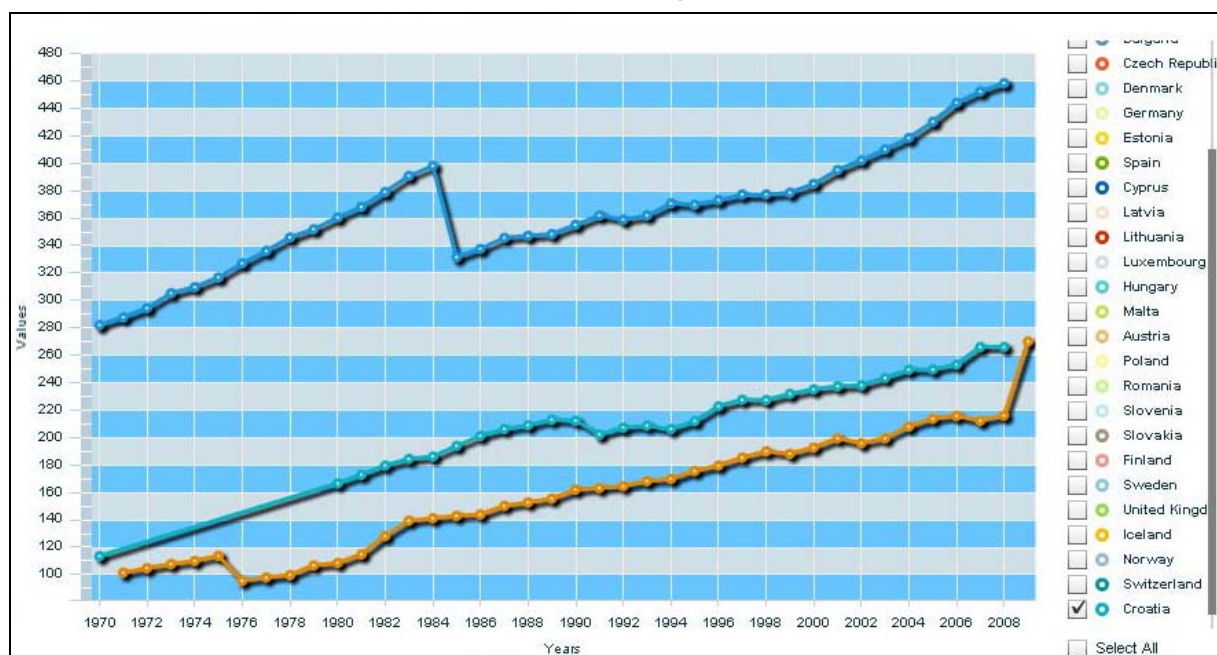
**Figure 5: Acute care hospital beds per 100 000 of population, EU-27, selected Member States and Croatia, time series of 19 years**



Source: ECHI, 2012 (EU-27 is represented by the orange bar in the middle, Croatia is in yellow)

Figure 5 above provides an overview of the number of acute care hospital beds per 100,000 people for Croatia, selected Member States and the EU-27, indicating that Croatia falls below the EU-27 average.

In terms of human resources, in 2010, Croatia had 72,207 people permanently employed in the health care system, half of which were health professionals who had completed high school or been awarded a college degree. Figure 6 shows the growth in the number of practising physicians per 100,000 people in Croatia against the EU maximum and minimum. In 2008, there were 266.1 practicing physicians per 100,000 people in Croatia, while the EU maximum was Austria with 458.5 practicing physicians per 100,000 people and the minimum was Poland with 216.1.

**Figure 6: Practicing physicians per 100 000 of population, European maximum and minimum and Croatia, time series of 38 years**

**Source:** ECHI, 2012, Croatia is represented by the turquoise line in the centre, lying between the EU maximum (dark blue) and minimum (orange).

In 2010, 9,178 out of the 12,341 permanently employed physicians worked in state health care institutions, 606 in private health care institutions, and 2,557 in private practices. Sixty per cent of the permanently employed medical doctors were women, and 67% were specialists. The average age of a healthcare specialist in Croatia is 54 years. The majority of physicians (57.5%) worked in hospitals, with 10% working in health centres, 15.3% in rented doctors' offices, 5.4% in private practices, and 4.6% in state health institutes. Regarding dentistry, 2,408 (out of 3,121) dentists work in private dentists' practices. The same trend towards the private sector is seen with pharmacists, with more than 60% of a total of 2,851 pharmacists working in private institutions or pharmacies.

#### 4.5. Public provision of healthcare

HZZO is the main source of funding for health care services. Funds for the compulsory basic health insurance are collected from payroll taxes or, for certain vulnerable groups in the population including the unemployed, disabled, elderly, children, students, war veterans, they are provided by the Government. These state funds are provided for services that target vulnerable groups, such as antenatal and maternity (primary) care services, school health services, elderly care and subsidizes costs of health care in remote or low density populated areas.<sup>46</sup> Complementary health insurance is optional and involves additional co-payments managed by HZZO.<sup>47</sup> Finally, supplementary health insurance is provided by private insurers and covers the costs of a higher standard of care in public hospitals.

The Paediatric Service and the General Family Medicine Service form the backbone of the Croatian Primary Health Care Service. In the year 2010, Primary Health Care was provided by 2,540 teams (1,072 specialists in general family medicine, 255 specialists in paediatrics, 88 specialists in occupational health, 71 school medicine specialists, and 19 specialists in other disciplines). In 2010, there were 26,626,050 visits to doctors' offices and 332,369

<sup>46</sup> <http://www.miz.hr/ministarstvo/zakonodavstvo>

<sup>47</sup> [http://www.hzzo.hr/download/publikacije/Izvjescje\\_hz\\_1\\_12\\_2010\\_god.pdf](http://www.hzzo.hr/download/publikacije/Izvjescje_hz_1_12_2010_god.pdf)

home visits. In 2010, the Infant and Young Child Care Service recorded 386,143 visits seeking preventive care.<sup>48</sup>

School doctors provide preventive and specific medical care for school children and youth under the activities of the public health institutes'. In the school year 2010 to 2011, 94% of fifth and eighth graders and 71% of secondary school first year students were subject to medical examinations. All children were covered by screening for visual and colour vision disorders in the third grade of primary school and for developmental and structural deformities of the musculoskeletal system in the sixth grade. In the school year 2010 to 2011, there were 393,701 vaccinations executed in primary and 41,591 in secondary schools. The preventive school healthcare programme includes health education and health counselling for children, adolescents, their parents and teachers.

Other health care services include services for occupational health, women's health, emergency medical services, dental care, visiting nurses and outpatient and inpatient services.<sup>49</sup> The Occupational Health Service had 173 full-time teams employed in 2010, the majority of them being occupational health specialists. Teams had on average 7,980 workers in care. In 2010, 79% of the examinations undertaken were preventive.

Women's Health Care is provided through primary healthcare facilities by gynaecologists. Women's Health Care service is especially important in pregnancy monitoring. In 2010, every pregnant woman was examined on average 8.5 times.

In 2010, the Emergency Medical Service had 456 permanently employed physicians and reported 1,025,980 interventions.

Dental Care was conducted in 2010 by 1,748 teams (1,617 dental medicine teams, 52 preventive and paediatric dentistry specialists' teams and 79 other specialists' teams).

The Visiting Nurse Service falls under primary care and in 2010, this service was provided by 946 nurses. One nurse had an average of 4,693 insured people in care, and a total of 1,414,578 visits were recorded.

In 2012, outpatient services performed 7,747,116 specialist examinations. Compared with 2000, when there was one specialist examination per 2.7 general medical examinations, in 2010 the ratio fell to one specialist examination per 1.9 general medical examinations.

Finally, inpatient care is provided by hospitals. In 2010, there were 7,053,292 days of hospital treatment with an average stay of 9.46 days, against an average stay of 15.37 days in 1990. Croatian hospitals generally admit more women than men, with a ratio of 1.04:1.

The need to introduce palliative care as a part of the health care system was recognised 25 years ago when some of the Croatian physicians received training at the St. Christopher Hospital, an expert palliative care centre in the UK. Since then, good practices have been developed in some parts of Croatia (Pula, Karlovac, Zagreb) and the need for palliative care has been acknowledged at local and national level. However, palliative care services currently remain uncoordinated initiatives within the health care system, civil society or educational institutions. Recently (in September 2011), the Ministry of Health ordered that 608 hospital beds should be used for long-term treatment and 185 for palliative care. In addition, ambulatory care and mobile home care are also provided for pain relief in several cities. NGO groups have developed local palliative care programmes with medical or non-medical staff providing voluntary support for patients and their families. According to the Croatian National Strategy 2012-2020, a strategic plan for palliative care has to be developed by the end of 2012.

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<sup>48</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/index.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/index.htm)

<sup>49</sup> [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/index.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/index.htm)

#### 4.6. Private healthcare

The private health care practice was allowed to operate at a limited level of around 5-7% of total practice in the former Yugoslavia. Following the formation of the Republic of Croatia, the 1993 Health Care Act encouraged the development of private practice, especially in primary health care. Private providers may enter into contract with HZZO and become integrated into the publicly funded health care system. If not, they can operate independently and either charge patients for service, or draw on private insurance.

#### 4.7. Key challenges in relation to the health care system

An analysis of the structure of the insured population by socioeconomic categories reveals that the share of those who actively financially contribute to the HZZO fund (employees) out of the total number of beneficiaries is low.<sup>50</sup> Considering the ageing of the Croatian population and the on-going increase in demand for all kinds of health services, the feasibility of the current social health insurance funding model is thrown into question. Even with the current substantial spending of 7.8% of GDP on health, HZZO is facing growing deficits and public dissatisfaction. Although access to an extensive amount of health services is almost free of charge, people are dissatisfied since benefits are perceived as having been of higher quality under the former Yugoslavia. Providers are dissatisfied with the pressure from state and patients, poor working conditions, limited supplies, low salaries and unpaid bills. The efforts to contain costs through the health care reforms during the 1990s and the 2000s did not provide the expected results.

However, significant improvements have been made in a number of areas. Revenue sources have been diversified and, since 2008, the State has transferred part of its income from cigarette taxation and car insurance taxes to HZZO. In 2003, the Agency for Medicinal Products and Medical Devices was established to monitor and control medicinal products, medical devices and homeopathic products.<sup>51</sup> In addition, changes in drugs pricing policy were introduced in 2004, resulting in decreasing retail prices for branded drugs. In 2006 the use of less expensive generic drugs was recommended and drug list A and B were defined for drugs partially covered by the national health insurance.

The National Agency for Quality and Accreditation in Health was established in 2011<sup>52</sup> to regulate the quality supervision, control and accreditation of healthcare providers. In 2009, the Diagnosis-related Group (DRG) payment model was introduced for acute hospital services, and this has decreased the length of patient stay in both university and general hospitals. Finally, the CEZIH (Central health information system of the Republic of Croatia) became operational in 2011. CEZIH is an integrated information system that connects and controls all peripheral information systems in primary health care offices, pharmacies, biochemical laboratories, as well as systems used in hospitals for centralized scheduling of specialist consultations and diagnostics.

Improving the efficiency of the Croatian healthcare system presents challenges. The system is rigid and fragmented and has a low capacity to collaborate or change. General practitioners are paid per insured person in their care and this generates a perverse incentive for them to retain patients rather than to control spending. The frequency of referrals to specialist outpatient services is growing. Although inpatient care has improved, there is still room for new improvements namely in hospital management and in the introduction of client-friendly concepts, such as the health promoting hospitals concept.

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<sup>50</sup> [http://www.hzzo.hr/download/publikacije/Izvjesce\\_hz\\_1\\_12\\_2010\\_god.pdf](http://www.hzzo.hr/download/publikacije/Izvjesce_hz_1_12_2010_god.pdf)

<sup>51</sup> <http://www.halmed.hr/?ln=en>

<sup>52</sup> <http://www.aaz.hr/index.php>

The Ministry of Health recognized, and is currently addressing, the “problem” areas in its 2012-2020 Health Strategy, in line with the EU2020 Strategy<sup>53</sup> and the future 2014-2020 EU Health for Growth Programme.<sup>54</sup> The professional medical community is hoping that health and health policy will be prioritised by the Croatian Government and by society as a whole.

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<sup>53</sup> Communication from the Commission, *Europe 2020 – A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020 final, Brussels, 3 March 2011.

<sup>54</sup> Proposal for a Regulation of the European Parliament and of the Council on establishing a *Health for Growth Programme, the third multi-annual programme of EU action in the field of health for the period 2014-2020*, COM(2011) 709 final, Brussels, 9 November 2011.

## 5. ADOPTION AND IMPLEMENTATION OF THE EU ACQUIS

### KEY FINDINGS

- The process of harmonizing Croatian legislation with the EU acquis is almost complete, implementation is now the main challenge.
- It is expected that communication and cooperation with EU institutions and other EU Member States will contribute to health and health care services improvement in Croatia.
- With expected changes in its population structure, the challenge is to reduce public spending on health without jeopardizing the objectives of the Croatian health care system of universality, fairness and equity, quality, patient choice and satisfaction.

### 5.1. Current status of the implementation of the Acquis

The Republic of Croatia signed the Stabilization and Association Agreement with the European Union in 2001, thus committing to harmonizing its legislation with the EU acquis. This required close co-operation between the different institutions and levels of government. Croatia applied for EU membership in 2003 and was granted candidate country status in 2004. In October 2005, Croatia started negotiations towards joining the EU and closed them on 30 June 2011. On 9 December 2011, the [Treaty of Accession](#) was signed. The ratification process, by the Parliaments of all 27 EU Member States, is expected to be concluded by the end of June 2013. Therefore, entry into force and the accession of Croatia to the EU is expected to take place on 1 July 2013.

Besides the Ministry of Health, several Ministries are working on harmonization in the wider area of health (Ministry of Agriculture, Environmental Protection, Education, etc.). The Ministry of Health harmonized regulations in many other health areas such as the drug pricing system, the regulation of medical products, legislation on blood, organs, and tissues and cells, specialist medical training etc.

The European Commission 2011 Progress Report on Croatia<sup>55</sup> acknowledged some progress in the area of public health, namely measures taken to promote smoke-free environments and prevention of smoking, prevention of communicable diseases (adoption of a Plan for Coordination Action in Public Health Emergencies and Program of Prevention of HIV/AIDS 2011–2015) and cancer screening.

Therefore, in the area of **surveillance of infectious diseases** Croatia is fully aligned with the EU acquis. Monitoring, prevention and control of infectious diseases are regulated through the Health Care Act, the Act on the Protection of the Population from Infectious Diseases and the Ordinances on the Reporting of Communicable Diseases, on Mandatory Immunization, on Seroprophylaxis and Chemoprophylaxis.<sup>56</sup> The legal body that acts as the Croatian CDC (central information system for the reporting and monitoring of infectious diseases) is the Department for Epidemiology of Communicable Diseases (part of the Croatian National Institute of Public Health). The Department is responsible for execution of

<sup>55</sup> Commission Staff Working Paper, *Croatia 2011 Progress Report*, accompanying the Communication from the Commission "Enlargement Strategy and Main Challenges 2011-2012", SEC(2011) 1200 final, Brussels, 12 October 2011. Available at:

[http://ec.europa.eu/enlargement/pdf/key\\_documents/2011/package/hr\\_rapport\\_2011\\_en.pdf](http://ec.europa.eu/enlargement/pdf/key_documents/2011/package/hr_rapport_2011_en.pdf)

<sup>56</sup> Croatian Health Service Yearbook, 2010, [http://www.hzjz.hr/publikacije/hzs\\_ljetopis/introduction.htm](http://www.hzjz.hr/publikacije/hzs_ljetopis/introduction.htm)

preventive and anti-epidemic measures, except for monitoring. The measures are coordinated by the network of 20 County Institutes of Public Health.

With regard to **organ donation**, Croatia has been adjusting its laws on organ donation to conform to the EU *acquis*, and has implemented organizational procedures that have led to a significant increase in the donor rate.<sup>57</sup>

In the areas of **blood, tissues and cells**, the Institute for Biomedicine and Transplantation has been established inside the Ministry of Health as the Competent Authority for blood, organs, tissues and cells. Licensing of tissue banks has advanced, and a Plan for Tissue Banking Development has been published. However, additional efforts (legislative and organisational) are needed to align Croatian law and practice with the EU *acquis* concerning the standards of quality and safety of human organs intended for transplantation (Directive 2010/45/EU of the European Parliament and of the Council of 7 July 2010 on standards of quality and safety of human organs intended for transplantation). For this purpose, the existing Act on Explantation and Transplantation of Parts of the Human Body for Therapeutic Purposes (OG 177/04, 45/09) is to be revised and divided into two new legislative proposals concerning organs on the one hand, and tissues and cells on the other: the Act on Explantation and Transplantation of Human Organs for Therapeutic Purposes, and the Act on Explantation and Transplantation of Human Tissues and Cells for Therapeutic Purposes. Further activities planned for the fourth quarter of 2012 in the field of blood and tissues include the adoption of the Strategy on Blood and Blood Components (including plasma for production) and several action plans: the Action Plan for plasma collection and use; the Action Plan for the homogenisation of quality and safety of blood and blood components for transfusion therapy; the Action Plan for the supply of blood and blood components in the Republic of Croatia in emergencies; the Action Plan for tissue banking and the Action Plan for standardisation and optimisation of transfusion therapy.<sup>58</sup>

The implementation of obligations from the Services Act and the Act on Regulated Professions and Recognition of Foreign Professional Qualifications depends on strengthening the administrative capacity for the **recognition of foreign diploma and professional qualifications**. Concerning regulated professions, activities in 2012 include the continuation of work on the alignment of study programs in the academic fields of biomedicine and health (nursing, midwifery, doctors of medicine, doctors of dental medicine, pharmacy) with Directive 2005/36/EC, the establishment and coordination of activities of the Internal Working Group of the Ministry of Science, Education and Sports on regulated professions in preschool, elementary, secondary and higher education, as well as participation in the preparation and implementation of the EC peer mission.<sup>59</sup>

The legal framework for **health professionals** is set by 6 main laws: the Health care Act is the umbrella law and the Medical Profession Act, Act on Dental Medicine Activities, Act on Pharmacy, the Nursing Act and the Midwifery Act are the acts regulating each of the five concerned professions. As part of the accession process these acts were amended. The Health Care Act was updated in order to stipulate that the provisions concerning traineeship and state exam shall not apply to nationals of EU Member States (Article 133). This removed the obstacle to EU mobility and facilitates the freedom of movement for EU nationals. The same solution has been consistently applied to all acts concerning medical or health professions.

<sup>57</sup> [http://www.eurotransplant.org/cms/index.php?page=et\\_region](http://www.eurotransplant.org/cms/index.php?page=et_region)

<sup>58</sup> Programme of the Government of the Republic of Croatia for the adoption and implementation of the *acquis* for 2012:

[http://www.mfa.hr/custompages/static/hrv/files/Programme\\_of\\_the\\_Government\\_of\\_the\\_Republic\\_of\\_Croatia\\_for\\_the\\_adoption\\_and\\_implementation\\_of\\_the\\_acquis\\_for\\_2012.pdf](http://www.mfa.hr/custompages/static/hrv/files/Programme_of_the_Government_of_the_Republic_of_Croatia_for_the_adoption_and_implementation_of_the_acquis_for_2012.pdf)

<sup>59</sup> [http://www.mfa.hr/custompages/static/hrv/files/Programme\\_of\\_the\\_Government\\_of\\_the\\_Republic\\_of\\_Croatia\\_for\\_the\\_adoption\\_and\\_implementation\\_of\\_the\\_acquis\\_for\\_2012.pdf](http://www.mfa.hr/custompages/static/hrv/files/Programme_of_the_Government_of_the_Republic_of_Croatia_for_the_adoption_and_implementation_of_the_acquis_for_2012.pdf)

Regarding the knowledge of Croatian language, Directive 2005/36/EC (Article 53) stipulates that persons benefiting from the recognition of professional qualifications shall have the necessary language knowledge for practising the profession. Pursuant to the Directive, the Medical Profession Act, the Act on Dental Medicine Activities, the Act on Pharmacy and the Nursing Act therefore stipulate that EU nationals shall know Croatian language at least at the sufficient level for easy and necessary communication with patients. Following the amendments of the above-mentioned Acts, all legislation dealing with the health professionals took the same approach concerning language requirements and the state exam in line with the EU *acquis*.

With regards to **cross-border healthcare**, Directive 2011/24/EU on patient rights in cross-border healthcare clarifies the rights of patients in the EU with regard to accessing cross-border healthcare provision and guarantees the safety, quality and efficiency of care that they will receive in another EU Member State. Member States have until October 2013 to implement this disposition. As regards the introduction of the European Health Insurance Card (EHIC), Croatia has adopted the Ordinance on the European Health Insurance Card (OG 153/11). The modes of usage and the scope differ according to the person's country of origin - respectively depending on whether the Republic of Croatia has made an agreement on social security with the person's country of residence or such agreement has not been made. Slovenian, Czech, Hungarian and German insured may use health care services upon presentation of the European Health Insurance Card (EHIC).<sup>60</sup>

In the area of surveillance of infectious diseases Croatia is fully aligned with the EU legal acts. Monitoring, prevention and control of infectious diseases are regulated through the Health Care Act, Act on the Protection of the Population from Infectious Diseases and Ordinance on the Reporting of Communicable Diseases, Mandatory Immunization, Seroprophylaxis and Chemoprophylaxis Ordinance.<sup>61</sup> The legal body that acts as the Croatian CDC (central information system for the reporting and monitoring of infectious diseases) is the Department for Epidemiology of Communicable Diseases (part of the Croatian National Institute of Public Health). The Department is, except for monitoring, responsible for execution of preventive and anti-epidemic measures that went through the network of 20 County Institutes of Public Health that coordinate activities of the health care system (from primary to tertiary level).

## **5.2. Challenges for public health in relation to the accession of Croatia to the EU**

During 2012, the Ministry of Health has continuously worked on the transposition of the *acquis* in the field of health protection. In the last Monitoring report on Croatia's accession preparations, the European Commission mentioned that continued efforts are needed in order to upgrade, restructure and license facilities for handling blood, tissues and cells in accordance with the EU technical requirements.<sup>62</sup> These issues have now been addressed.

Regarding mental health, the National Strategy for mental health protection 2011 – 2016 was adopted in 2010 and priority areas were selected (mental health promotion in general population and in specific and vulnerable groups, mental health promotion at the work place and in community setting, prevention, treatment and rehabilitation of mental illness, intersectoral cooperation, information and knowledge exchange and research). With the amendments to the Health Act of 2010, the mental health services provision was regulated at primary, secondary and tertiary level.

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<sup>60</sup> [http://www.hzzo-net.hr/03\\_03\\_05\\_eng.php](http://www.hzzo-net.hr/03_03_05_eng.php)

<sup>61</sup> Croatian Health Service Yearbook, 2010, [http://www.hzjz.hr/publikacije/hzs\\_lijetopis/introduction.htm](http://www.hzjz.hr/publikacije/hzs_lijetopis/introduction.htm)

<sup>62</sup> European Commission, *Croatia Progress Report*, see above. Available at:

[http://ec.europa.eu/enlargement/pdf/key\\_documents/2011/package/hr\\_rapport\\_2011\\_en.pdf](http://ec.europa.eu/enlargement/pdf/key_documents/2011/package/hr_rapport_2011_en.pdf)



The Croatian National Institute of Public Health was appointed as coordinating body to support the development of Departments for mental health at the County Institutes of Public. However, although the legal framework is in place, community-based services remain insufficient (with few exemption developed through the Healthy City project in Zagreb and Healthy County project in Primorje-Gorski Kotar: [www.zdravi-gradovi.com.hr](http://www.zdravi-gradovi.com.hr)), and financial resources allocated to mental health care are still scarce.

Further alignment with the *acquis* of the regulations in the field of medicinal products will continue in 2012. The Ordinance on good laboratory practice is planned for adoption and will transpose Directive 2004/10/EC on the harmonisation of laws, regulations and administrative provisions relating to the application of the principles of good laboratory practice and the verification of their applications for tests on chemical substances, as well as Directive 2004/9/EC on the inspection and verification of good laboratory practice (GLP). In 2012, the preparation of the new Medicinal Products Act will start and new legislation should be adopted in the first quarter of 2013. The Act will enter into force on the date of accession of the Republic of Croatia to the European Union when the Medicinal Products Act currently in force will cease to have effect. The Act will be fully aligned with Directive 2001/83/EC on medicinal products for human use.<sup>63</sup>

The accession of Croatia to the EU will impact all segments of the economy and society, including its healthcare system. Croatia will be challenged with newly introduced regulations and priorities, but also with new opportunities, including for cooperation and the use of additional financial resources. As already mentioned, transposition is a first step, to be followed by the more challenging step of implementing legislation. The Croatian Government has recently taken steps to introduce a much broader stakeholder participation in the development of new strategies, as well as improving public relations and communication activities that bring better transparency to the policy making process.

It is expected that health and health policy will be of higher priority to the Croatian Government and society following accession. Communication and cooperation with the EU institutions and EU Member States will contribute to the improvement of health and healthcare services in Croatia. An analytical study will be prepared on the impact of freedom of movement for workers on the Croatian administrative system as well as an assessment of the financial impact on the Croatian health care system. Because of low workforce mobility, Croatia does not expect significant migration of health professionals, but expects to benefit from patient mobility (over the border health care) due to tourism.

As already mentioned, the fundamental challenge for the Croatian government will be similar to what is faced by other EU countries, namely how to expand the health care system's funding base while preventing health care costs from outgrowing the funding.

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<sup>63</sup> Programme of the Government of the Republic of Croatia for the adoption and implementation of the *acquis* for 2012  
[http://www.mfa.hr/custompages/static/hrv/files/Programme\\_of\\_the\\_Government\\_of\\_the\\_Republic\\_of\\_Croatia\\_for\\_the\\_adoption\\_and\\_implementation\\_of\\_the\\_acquis\\_for\\_2012.pdf](http://www.mfa.hr/custompages/static/hrv/files/Programme_of_the_Government_of_the_Republic_of_Croatia_for_the_adoption_and_implementation_of_the_acquis_for_2012.pdf)

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**NOTES**



DIRECTORATE-GENERAL FOR INTERNAL POLICIES

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