Palliative Care Needs Assessment For the Republic of Macedonia

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Special thanks go to Mary Callaway for conceptualizing this assessment, and to Dr. Frank D. Ferris for his mentorship and his organization of the results within the Public Health Model for Palliative Care.

Executive Summary

Macedonia is in the early stages of implementing palliative care, and is in an excellent position to begin a comprehensive, nation-wide interdisciplinary palliative care program. A basic healthcare infrastructure was inherited from the country's previous existence as part of Yugoslavia, with a well-educated population, trained medical staff, local production of medications, and existing health care facilities. There is a spirit of change as Macedonia prepares to enter the European Union, and this may be an ideal time to plan a national palliative care program.

Policy: Other than legislation mandating free care for the terminally ill, very little Macedonian government policy refers to palliative care. Pain relief and palliative care need to be given a prominent position in appropriate government plans. The development of enhanced funding and service delivery models will help to ensure that palliative care is delivered effectively wherever it is needed.

Drug Availability: Nearly all of the WHO and IAHPC essential medications for palliative care are on the list of medications covered by Macedonia's Health Insurance Fund. Sublingual and injectable morphine are produced in Macedonia, as well as tramadol, methadone, and codeine, but there were no locally-produced slow-release opioids by the end of 2006. Availability of opioids is limited by several prescribing restrictions.

An adequate supply of cost-effective opioids is essential for every patient to have access to the quantity they actually need, where and when they need it, to control their pain and breathlessness. Prescribing and dispensing regulations should allow any doctor caring for a patient with pain or shortness of breath due to any diagnosis to prescribe the dose and quantity of opioid medication the patient needs. The INCB morphine importation quota must be increased each year to keep pace with increasing need.

Education: Of the clinical disciplines, only the college-level nursing courses have included palliative care training in their curricula. Several trainings in pain management and palliative care concepts have been organized for existing staff.

Curricula for medical, nursing, pharmacy and social work trainees need to be developed in collaboration with international experts, with practical work in the existing hospices or new palliative care services. Questions related to palliative care should be included on professional licensing examinations. The Medical Chamber can be encouraged to make palliative medicine a specialty in Macedonia. Training in pain assessment and management, and the prescribing, dispensing and control of opioids need to be provided for the doctors, nurses and pharmacists already in the workforce.

Palliative care awareness courses can be developed for policy-makers, regulators and drug enforcement officials, along with strategies to increase public, patient and family awareness of palliative care. Volunteer and bereavement education programs can be developed, as well as programs to support family caregivers and train them in the specific skills they will need.

Implementation: While a small number of local champions have made significant contributions to the development of palliative care in Macedonia, considerable changes are needed to fully integrate palliative care into the country's public and private healthcare systems.

Macedonia has two hospices with a total of 150 beds. Many patients die in secondary and tertiary level inpatient facilities. There are also nine private and public nursing homes and an inpatient gerontology hospital, but these have no palliative care units or consult services aside from individual champions of palliative care. Existing medical social workers are primarily involved in obtaining benefits for patients and families.

Palliative care at home is provided by two Sue Ryder Care "domiciliary" services in Skopje and Bitola, and by a few of the Patronage visiting nurses. Muslim Imams and Christian Orthodox priests do visit and counsel the sick and bereaved, but there are none specifically trained in palliative care chaplaincy.

Palliative care units and consultation services need to be developed in both acute and long-term care facilities, in ambulatory outpatient clinics, and in homecare and daycare services. Targeted diseases can include cancer, cardiovascular disease, the elderly, and AIDS.

Homecare services need to be expanded to cover a greater geographical area and to include other disciplines. Palliative care support services can be provided in the community through nongovernmental organizations and disease-specific and religious support groups.

Next Steps

Step 1: Engage existing and potential palliative care opinion leaders, including policy-makers, drug and financial regulators, doctors, nurses, pharmacists, social workers, spiritual leaders, community organizations, patients and families.

Step 2: Situational Analysis --- get additional data missing from this situation analysis/needs assessment, finish the health mapping exercise to match existing facilities and staffing with the need in each geographical area, and talk with the population in each region to see what mix of palliative care services they prefer.

Step 3: Develop an Action Plan in a workshop with identified key governmental and nongovernmental opinion leaders and international expert facilitators

Step 4: Establish a national steering committee of key opinion leaders

Step 5: Develop the components of the detailed WHO public health model in sequence, as per the action plan.

Introduction

The Republic of Macedonia is a relatively small country in the Balkan region. In 1990, Macedonia became an independent republic after the breakup of the Yugoslav federation. Since 1990, Macedonia has experienced many changes, including changes to its healthcare system. In the face of all this change, there is both a need and an opportunity to integrate palliative care into the healthcare system.

Aims of This Needs Assessment

Recognizing this need and opportunity, the Foundation Open Society Institute – Macedonia (FOSIM) requested a needs assessment to describe:

1. The overall situation in Macedonia, including:
    - the people
    - their overall health/illness status
    - their healthcare system
2. The situation specific to palliative care, including:
    - historical developmental steps
    - policy
    - drug availability
    - education
    - palliative care programs and services already implemented

FOSIM also asked that the authors propose next steps for integrating palliative care into the healthcare system in Macedonia.

Target Audience

There were two target audiences for this report:

1. The Macedonians who are interested in integrating palliative care into their healthcare system
2. The foreign advisors who may help facilitate this process in collaboration with the Macedonians

Methods

From November 27th through December 15th, 2006, Ann Sturley, DrPH, RN, and Blasko Kasapinov, MD conducted a needs assessment related to palliative care in Macedonia.

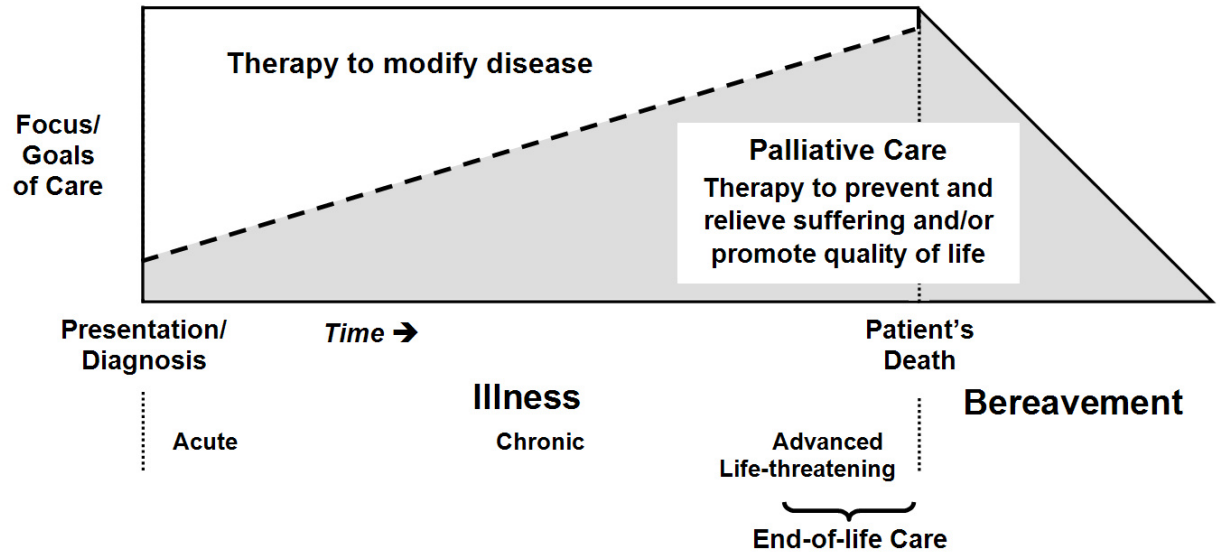
Definition of Palliative Care

The assessment was based on the World Health Organization's (WHO) definitions of *palliative care* and *pediatric palliative care* (for the full definitions see Appendix A).

> Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.
>
> Palliative care for children represents a special, albeit closely related field to adult palliative care. Palliative care for children is the active total care of the child's body, mind and spirit, and also involves giving support to the family.[1]

Palliative care is an approach to preventing and relieving suffering, and promoting quality of life for patients and families living with potentially life-threatening illnesses. The authors view palliative care as not just end-of-life care, but as care given throughout the illness experience (see Figure 1).

Figure 1: The Role of Palliative Care during Illness and Bereavement



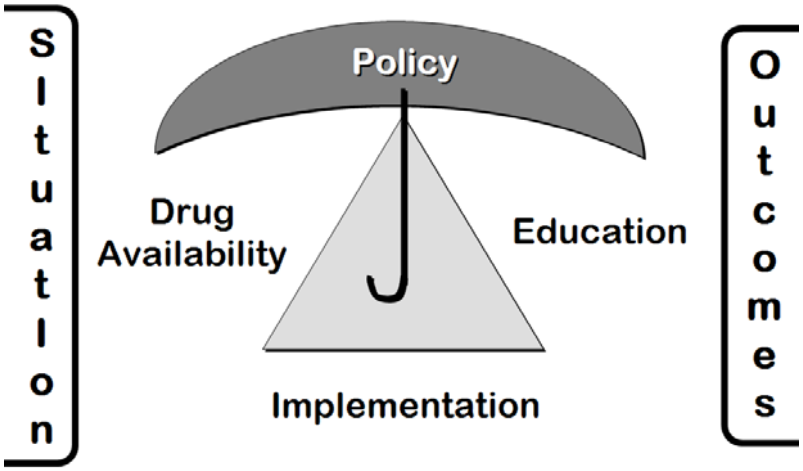
Callaway and Ferris 2007 [2]

WHO Public Health Model

Believing that palliative care should be accessible to all patients, the authors took a public health perspective to assess the situation in Macedonia. The modified WHO Public Health Model (Figure 2) was used to provide a framework for the study and for this report.

> A public health approach aims to protect and improve the health and quality of life of a community by translating new knowledge and skills into evidence-based, cost-effective interventions that will be available to everyone in the population who needs them. As palliative care is an integral part of care for all patients, and the most beneficial approach to care for patients with advanced disease, it is important that all countries integrate palliative care into their healthcare systems at all levels. [3]

Figure 2: WHO Public Health Model for Palliative Care



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Palliative Care Services

To assess the existing palliative care services, the authors approached representatives of both the healthcare system and the community, including:

Within the healthcare system:

- inpatient units and consult services in acute and long-term care facilities
- ambulatory outpatient clinics
- homecare and daycare services

Within the community:

- nongovernmental organizations
- religious groups

Data Sources

Internet and Published Resources

To prepare for the on-site assessment, information was collected from many different Internet and published resources. Data sources were added during and after the assessment.

Principal data sources included:

Cancer Registry, Republic of Macedonia

CIA Factbook

Health Map of the Republic of Macedonia

HFA -- WHO Health For All European Database

Health Systems in Transition Vol. 8, No. 2 – Republic of Macedonia

Highlights on health in the former Yugoslav Republic of Macedonia

National HIV/AIDS Coordinator and National UNAIDS Adviser

Statistical Yearbook for 2005, Republic of Macedonia

UNDP – United Nations Development Programme; National Human Development Report 2004 - FYR Macedonia: Decentralization for Human Development

World Bank development indicators database

Other material is cited in the text from journal articles, websites, books, and online news. Full references are found in the Bibliography.

Interviews

Interviewees: During the in-country assessment, interviews were conducted with a wide range of informants. (See appendix B for the schedule of interviews)

The FOSIM Public Health Program Coordinator, Vera Dimitrievska, and Blasko Kasapinov, MD, set up interviews in advance, in accord with suggestions from Mary Callaway of the Open Society Institute (OSI), New York. Ms. Dimitrievska and Dr. Kasapinov were superbly well-connected, and were able to connect Dr. Sturley with those best positioned to discuss healthcare and palliative care in Macedonia. The rewarding depth of the interview responses was in great part due to the interviewees' comfort and connection with the ones who set up the interviews.

Dr. Sturley requested interviews with religious leaders, and this request was more than adequately met. Unfortunately, time constraints did not allow the authors to visit rural areas, and so the rural view of health services and palliative care needs is not included in this report.

Interview Questions: To guide the interview process, a number of tools were prepared in advance. A separate set of interview questions was created for each of four types of interviews: inpatient settings, academic settings, non-governmental organizations, and religious leaders. Questions were modified as needed for other situations. (See Appendix C for the interview questions).

Interview Process: Most interviews were conducted in the interviewee's place of work.

The authors each had a copy of the questions at the interviews. For interviewees who spoke English there was no need for a translator, and Dr. Kasapinov capably translated when necessary. A professional translator was hired for two interviews with representatives from religious groups.

During the interviews, Dr. Sturley noted the answers verbatim as the interview proceeded. Some interviews were tape recorded (with permission). All interviews were entered into computer on the day of the interview as a collaborative effort between the authors, to immediately correct any errors in understanding. To honor the interviewees' privacy, and because it would be too lengthy, the interview transcripts were not included in this report; only relevant quotes have been included. If two or more of the interviewees agreed on an issue and no others disagreed, this is considered to be fact and is included in the text as such.

Medication Data Collection Forms: To document what palliative care medications are available, forms were developed by Marie Coughlan and provided to the authors by Mary Callaway. While the authors initially used these, they found that facility staff entered too little detail on specific medications, and were not familiar with many of the medications. New forms were developed using the IAHPC list of recommended palliative care medications, and two pharmacists successfully completed these (See Appendix D).

Results - The Current Situation in Macedonia

Overall Results

General overview:

The authors interviewed a broad spectrum of health professionals, religious leaders, and NGOs. Many are likely to be involved in planning a palliative care program in Macedonia, and a few are true pioneers in the palliative care field. We were able to interview nearly everyone we requested to meet, with the exception of pharmacists. The two pharmacists who filled out the forms about medication availability and cost did this only on our agreement to not include their names.

A broad view of the positive and negative aspects of living, working, and dying in Macedonia was elicited from the interviewees. There were varying levels of understanding and knowledge about the healthcare system, most likely due to the rapid changes occurring in the system. There was also varying understanding regarding palliative care. Cultural and religious differences in preferences for end of life care were emphasized by some.

Statistical data are plentiful in Macedonia and are becoming more and more reliable. The authors found a number of discrepancies between the various sources, however, and decided to utilize the source closest to the original data.

> The Cancer Registry is the oldest of the 10 registries here, and the best. Still, their data quality is poor. – Doncho M. Donev, MD, PhD, Professor, Medical Faculty and Director, Institute for Social Medicine

Interestingly, decentralization efforts may be providing local clinicians with greater access to the detailed regional data they need to manage their own budgets.

History

Macedonia is a new country with an ancient name. The best-known Macedonian was Alexander the Great, who ruled from 336 to 323 BC and expanded his empire as far as Egypt and India. In 148 BC Macedonia was conquered by the Romans, who built roads and promoted the exchange of goods and ideas throughout the region. The Roman Empire was divided into Eastern and Western parts in 395 AD, and Macedonia became part of the Eastern Roman Empire.

During the 7th Century, Slavic tribes moved in and created a feudal society. Brothers St. Cyril and St. Methodius were Christian scholars of this time, known for creating the first alphabet for writing Slavic languages. St. Cyril developed an alphabet called Glagolitic, however the Cyrillic alphabet was named for him and was likely a product of his students. The Slavic tribes united in the 10th Century to establish a Macedonian nation with its own government and army. [4-8]

From 1000 AD Macedonia was successively under the rule of the Byzantines, the Bulgarians, and finally the Ottoman Turks in the 14th century. The Macedonian language and culture, and the Eastern Orthodox religion survived intact through five centuries of Islamic Turkish rule. The Macedonian language became a medium of instruction in

schools from the 19th Century, when books were first printed locally. In the Balkan Wars of 1912 and 1913, an alliance of Balkan states succeeded in expelling the Turks, but Macedonian lands were partitioned, and ethnic Macedonian lands remain to this day as parts of Albania, Greece, and Bulgaria. The Kingdom of Serbs, Croats and Slovenes, or Yugoslavia, was formed in 1918, and Macedonia became a republic within the Yugoslav federation in 1943. [9] In 1990 the people voted to create an independent Republic of Macedonia, elected a government and wrote their constitution. [10]

Since 1990, Macedonia has been an independent republic. The Greeks strongly opposed both the country being named Macedonia, and the naming of Skopje's airport "Alexander the Great" in 2006.

Figure 3: Macedonia within Europe



http://www.lib.utexas.edu/maps/europe.html.

Geography

Macedonia covers 25,713 km^2 of what was the southernmost region of the former Yugoslav Republic. About one half of Macedonia is agricultural land, and one third is forest (9,060 km^2).

Figure 4: Macedonia Map



Source: United Nations Cartographic Section, from Health Systems in Transition 2006.

The People

Population

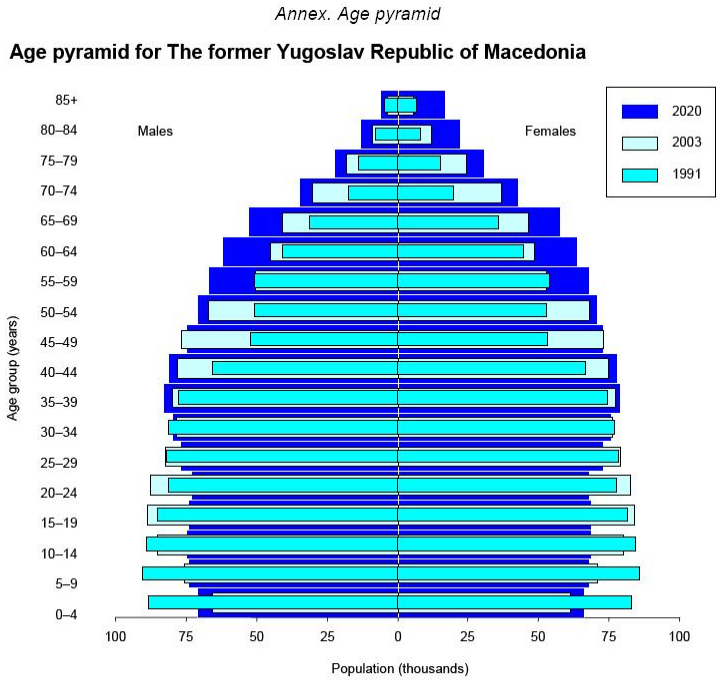
In 2002, at the time of the last national census, there were 2,022,547 people in Macedonia; 59% of the population lived in urban areas.

As of 2005, the population was estimated to be 2,036,855.

Population Distribution:

Macedonia does not have as elderly a population as the European average. However, the proportion of elderly is increasing steadily (see Figures 5, 6, and 7).

Figure 5: Population Distribution by Age



Sources: WHO Regional Office for Europe (2005) and United Nations (2005).

Figure 6: The Aging Population of Europe and Macedonia

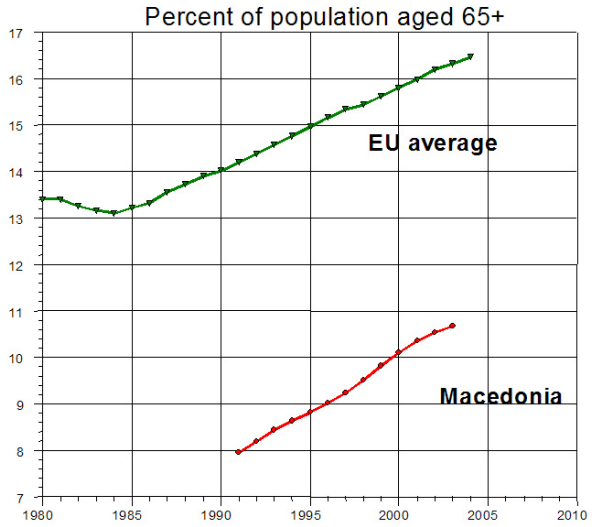
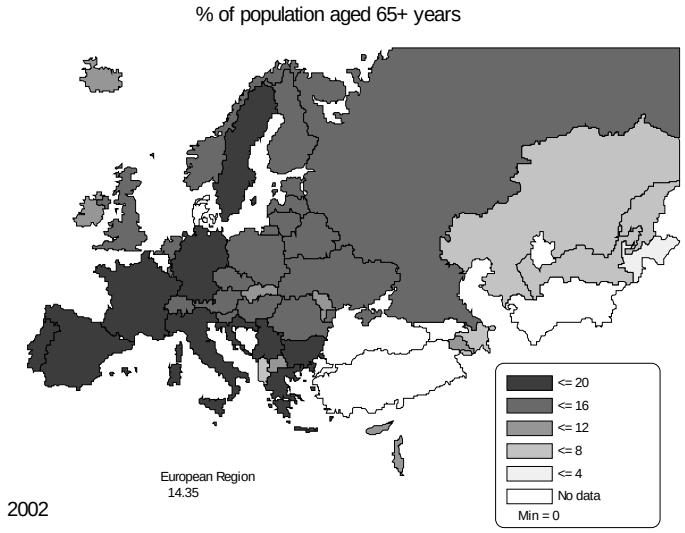


Figure 7: Proportion of Population in Europe Aged 65+ in 2002

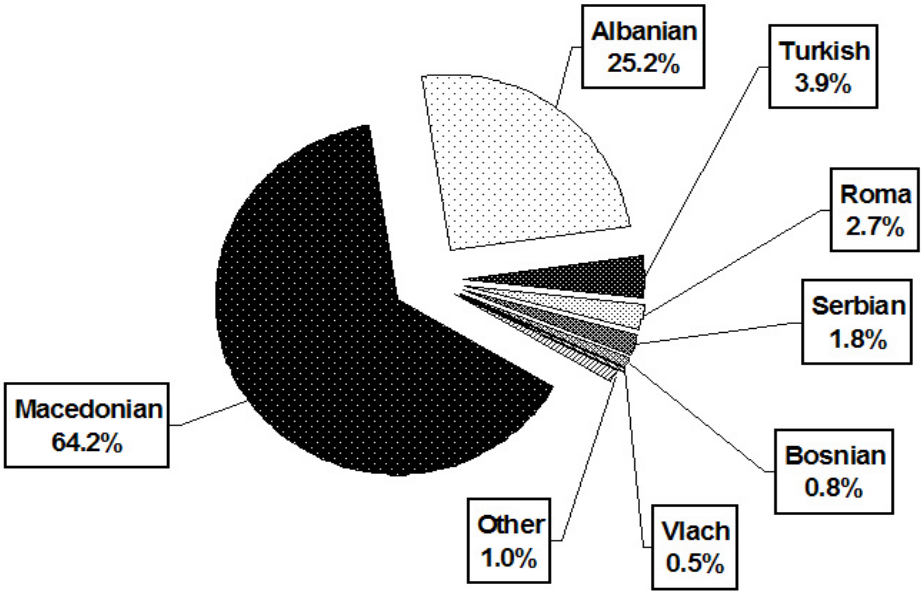


HFA Database 2006

Ethnic Groups

Over two-thirds of the population self-identifies as ethnic Macedonian, with one quarter ethnic Albanian, followed by other ethnic groups as shown in Figure 8.

Figure 8: Major Ethnic Groups



Data from *Statistical Yearbook of the Republic of Macedonia, 2005; p. 53.*

Ethnic Albanians: Muslim Kosovar refugees who were ethnic Albanians temporarily fled to Macedonia during the Serb-Kosovar conflict. When the world's attention focused on the civil rights abuses of Albanians, the ethnic Albanian population of Macedonia started to fight for their own rights, resulting in much violence. This conflict was considered settled in 2001 by the Ohrid Peace Framework Agreement, which provides for "equitable representation of communities in all central and local public bodies and at all levels of employment within such bodies….." [11] In accord with this ruling, an ethnic Albanian became the Minister of Health in 2006. The Ohrid agreement also stipulates that a language spoken by at least 20% of the population of a given municipality must be used as a language of instruction for primary and secondary schools in these municipalities. There must be government officials in these municipalities who can communicate with the people in these languages as well. [11]

> **Michael Leigh: Macedonia Makes Progress, Should Work More**
> On its road to the European Union, Macedonia should pay special attention to the Framework Agreement implementation, positive policy for employing ethnic communities, resuming of the power decentralization process, judicial reforms, combat against corruption and organized crime for improving the business climate in the country, Michael Leigh, Director General of the European Commission's Enlargement Directorate-General, said Monday in Skopje after his meetings with Prime Minister Nikola Gruevski and Vice-Premier Gabriela Konevska-Trajkovska. – Macedonia has been making progress in many areas, but it should work more, Leigh said, adding that the date for EU entry talks depend on the country's readiness. – Turkish Weekly, Tuesday, 27 March 2007[12]

Roma: The Roma people, although comprising less than 3% of the population of Macedonia, have distinct needs:

> Roma, who form the most vulnerable social group in all three countries [Romania, Bulgaria, and Macedonia], are over-represented in all categories in need of social protection: the very poor, the long-term unemployed, the unskilled, the uneducated, families with more than five children, individuals without residence permits, identity documents, or citizenship papers. Roma are severely affected by discriminatory provisions and administrative practices and subject to increased risk of exclusion from social welfare safety nets.[13]

> The Roma don't like hospitals, they prefer to stay at home when they are sick. ---Mihajlo Kostovski, Assistant Manager, Health Insurance Fund

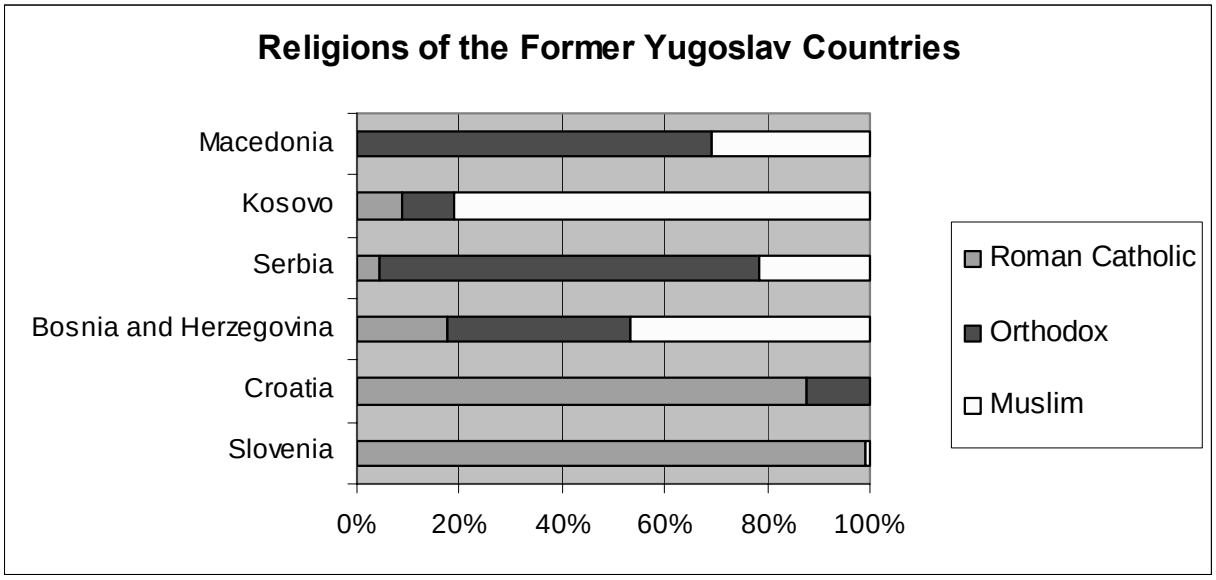
One Muslim interviewee stressed that Roma are not like other Muslims, in that they are not financially able to care for their neighbors:

> As an MD, I have Roma patients. There are many homeless. They don't take care of each other. They have such a low standard of living that they are not in any position to help others. – Miratija Ajeb-Zainu, MD (ethnic Albanian Muslim)

Religious Affiliations

As of the 2002 census, the principal religious groups were Macedonian Orthodox Christians (64.7%), Muslims (33.3%), other Christians (primarily Roman Catholics, 0.37%), and other and unspecified religions (1.63%). This mix is different from that of the other countries that once were part of the Yugoslavia Republic (Figure 9).

Figure 9: Religions of the Former Yugoslav Countries



Although Macedonians are free to practice a religion, there is only one registered religious community for each religious denomination. Today there are a total of 3 registered groups – the Macedonian Orthodox Church, the Islamic Religious Community, and the Roman Catholic Church. Another Orthodox church, the controversial Ohrid Archbishopric, has filed for inclusion, as well as another Islamic group. [14]

Current Political Situation

Since its independence from the former Yugoslavia, Macedonia has held general elections every four years, in 1990, 1994, 1998, 2002, and 2006. Although there are a total of 40 registered parties, each election's results have alternated between the two major parties, one more right of center and the other more left-leaning. While the parties form coalitions for each election, the alliances are sure to shift during the months and years after an election.

July 2006's election brought in the slightly more right-wing VMRO-DPMNE party. VMRO translates as "Internal Macedonian Revolutionary Organization," and dates from the Balkan Wars. [9, 10] DPMNE is the Democratic Party for Macedonian National Unity. The other major party, the SDSM, Social Democratic Union of Macedonians, is the left-leaning party that was in power for the previous four years.

Most government officials were either promoted or demoted after the 2006 election, according to their party affiliation or personal connections. People say they voted less because of belief in a particular party's platform than to effect a change. The main issues were the last government's inability to solve the country's economic problems and reduce unemployment, and corruption incidents involving the past government.

Often, during a party's four-year term, several ministers are replaced; this is termed "reconstruction." If more than 1/3 of the ministers are replaced, it is called a "new government," even though the new ministers are again chosen from within the coalition of parties that won the most recent election. There have been 11 Ministers of Health since 1990, though there have only been 5 general elections.

> **PRNewswire-USNewswire/ WASHINGTON, Jan. 17, 2007**
> Macedonia is a survivor and one of the success stories of the Balkans. While it entered independence in 1991 as one of the least developed countries to come out of Yugoslavia, and has faced significant challenges in its transition to democracy, its progress in that respect has been as impressive as its commitment to economic growth. Macedonia also had to weather an economic embargo after independence, a multitude of refugees from Kosovo in 1999, and its own internal conflict in 2001. . . . Macedonia's main challenges are to continue to reduce poverty, revive the economy and create jobs, and ease inter-ethnic tensions.[15]

Admission to the EU: In 2004, Macedonia requested inclusion in the European Union (EU), and became a candidate in 2005. The EU has made acceptance contingent upon Macedonia's successful enactment of reforms involving the police, judiciary system, elections, and the business and investment climate.[16] A major barrier to EU acceptance is the history of corruption in Macedonia. Transparency International published their Corruption Perception Index (CPI) on December 4th, 2006, showing Macedonia as ranking 105th out of 163 countries, with a CPI of 2.7 on a scale from 0 for the greatest perception of corruption, to 10, the least perception of corruption. [17]

Local Governance/Municipalities

Yugoslavia had a greatly decentralized system, with all government services controlled locally. After independence from Yugoslavia, central planning became necessary in

Macedonia. Now the country is again moving toward a greater degree of decentralization.

Macedonia's basic unit of local governance is the municipality. On separation from the other Yugoslav republics in 1991, Macedonia had only 34 municipalities. These were subdivided into 123 in 1996, and reorganized into 84 municipalities in 2004 in response to the Ohrid Peace Framework Agreement of 2001, Point 3: Development of Decentralized Government, that mandated the revision of municipal boundaries in accord with the results of the 2002 census. [11] Today, the capital city Skopje, with a population of 506,926, has 10 municipalities. [18]

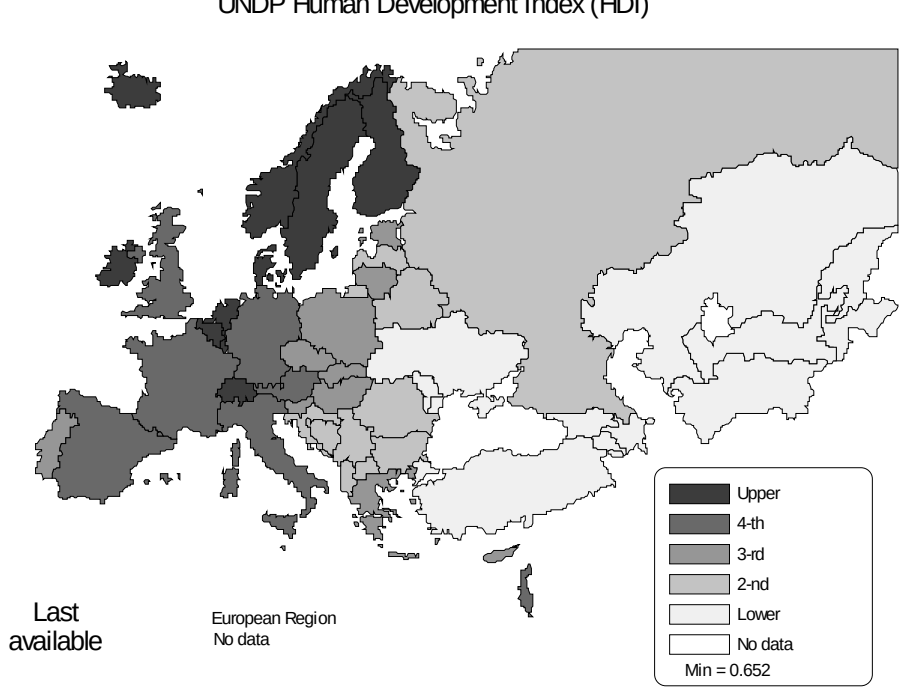
The municipalities appoint primary school directors and local police chiefs, but the central government still decides on nationally relevant issues. In the health sector, only the responsibility for primary care and prevention of contagious diseases have been transferred to the municipalities, and recently local hospitals have started to manage their own budgets.

Economics

Human Development Index

Since Macedonia separated from the Yugoslav republics in 1991, many people talk about the decline in quality of life. In contrast, Macedonia's status is improving each year according to the UNDP Human Development Index (HDI), an indicator of the level of development of a country that ranges from 0 to 1, based on based on life expectancy, literacy, educational enrollment at all levels, and GDP per capita. In 2002, Macedonia's overall HDI was 0.793. Compared to the rest of Europe, Macedonia is still on the lower end of the countries in the continent (Figure 10). Skopje had the highest HDI at 0.822, in contrast to rural areas where educational attainment is less, averaging 0.765. [19]

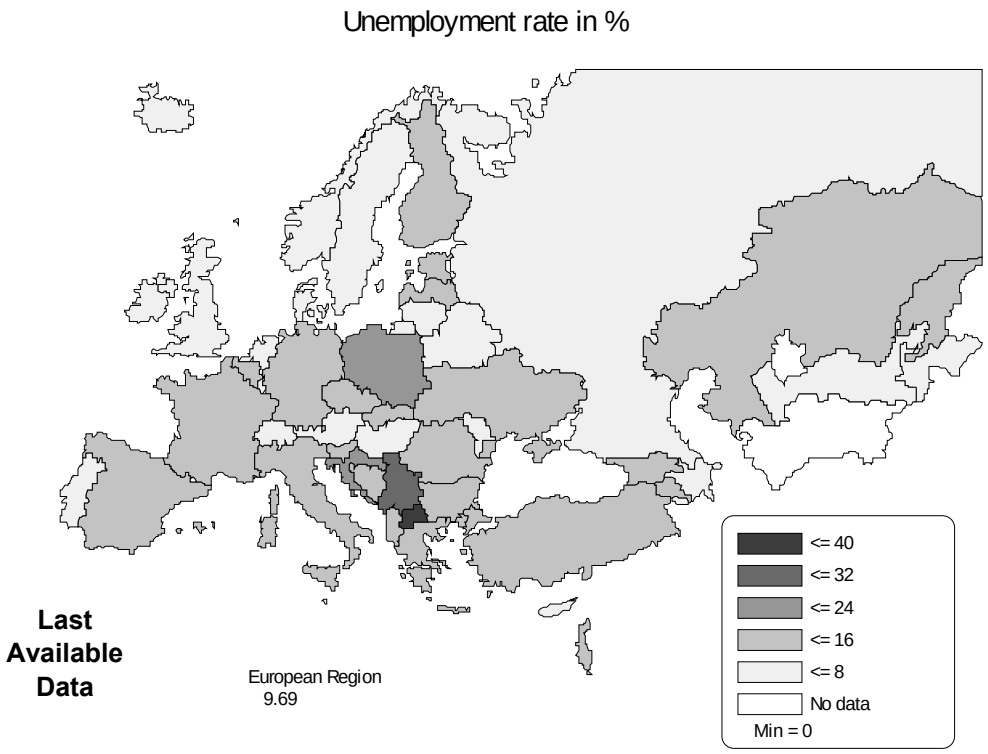
Figure 10: Human Development Indices in Europe



Unemployment

Macedonia has the highest unemployment rate in Europe (see Figure 11). In 2003, the unemployment rate was 36.7% [19] and by the end of 2006 it was 37.2%. [20] However, these rates are probably inflated. The numerator includes all individuals who register at the employment office, including those with unofficial employment, or any work that does not come with health benefits (a main reason for registering as unemployed is to receive “blue vouchers” to pay for health care). Excluded from both numerator and denominator are those who are neither registered as employed nor as seeking employment, including students, pensioners, women on maternity leave, and those who have ceased to try to find work.

Figure 11: Unemployment in Europe



From WHO HFA database, 2006, comparing the data from the last year for which data is available in each country.

By municipality, unemployment in 2003 varied between 27% in Skopje and 76% in one of the mountainous rural areas.[19] Thirty municipalities had unemployment rates over 50%. Unemployment rates also vary by ethnicity; Macedonians and Vlachs had the lowest rates, and Romas the highest.

Household Resources

Household income/resources and the poverty rate have been difficult to measure accurately in Macedonia due to the large number of unofficial employees and considerable unreported income.

For the general population, salaries average around 12,000 Macedonian Denar (MKD) or $265 US Dollars (USD) per month (based on the May 2007 exchange rates shown in table 1). A studio apartment rents for between MKD 3,000 denar ($66) and 12,000 denar ($265) per month; housing for a family is considerably more.

Table 1: Exchange rates as of May 24, 2007

Macedonian Denar (MKD)	Euro	US Dollars (USD)
1	0.02	0.02
60. 91	1	1.35
45.35	0.74	1

Poverty Rate: In an attempt to estimate the poverty rate, UNDP reports that only 22% of households had expenditures below 70% of the median. This was 1/3 less than the 33.5% poverty rate calculated by reported income. [19] Subjectively, while the Household Budget Survey of 2002 found that only 2.7% of Macedonians felt their monthly income was able to meet all their needs, a good deal remains from the relative prosperity of the former Yugoslavia: about 90% of households owned an electric stove, refrigerator, TV and telephone[19]. About 50% of households owned a car.

Pensioners: Pensioners are a growing demographic group that pose a major economic challenge for Macedonia. Most pensioners receive approximately MKD 6,000 denar per month (USD $132), too little to cover expenses. Those who receive a pension of MKD 3,000 denar or less per month are entitled to receive benefits from social services.

To make matters worse, the pension fund is running at a deficit due to the low proportion of currently employed who contribute to the fund. This is a result of the high unemployment rate, and the rising dependency ratio (the ratio of children and elderly to working-aged citizens). In 1990, the ratio of the insured to pensioners was 3.6 to 1. By 2002 it was 1.3 to 1. A new pension system that will have compulsory salary deductions for pension insurance has been designed, but was not yet implemented by the end of 2006.[19]

Health/Illness

Life Expectancy

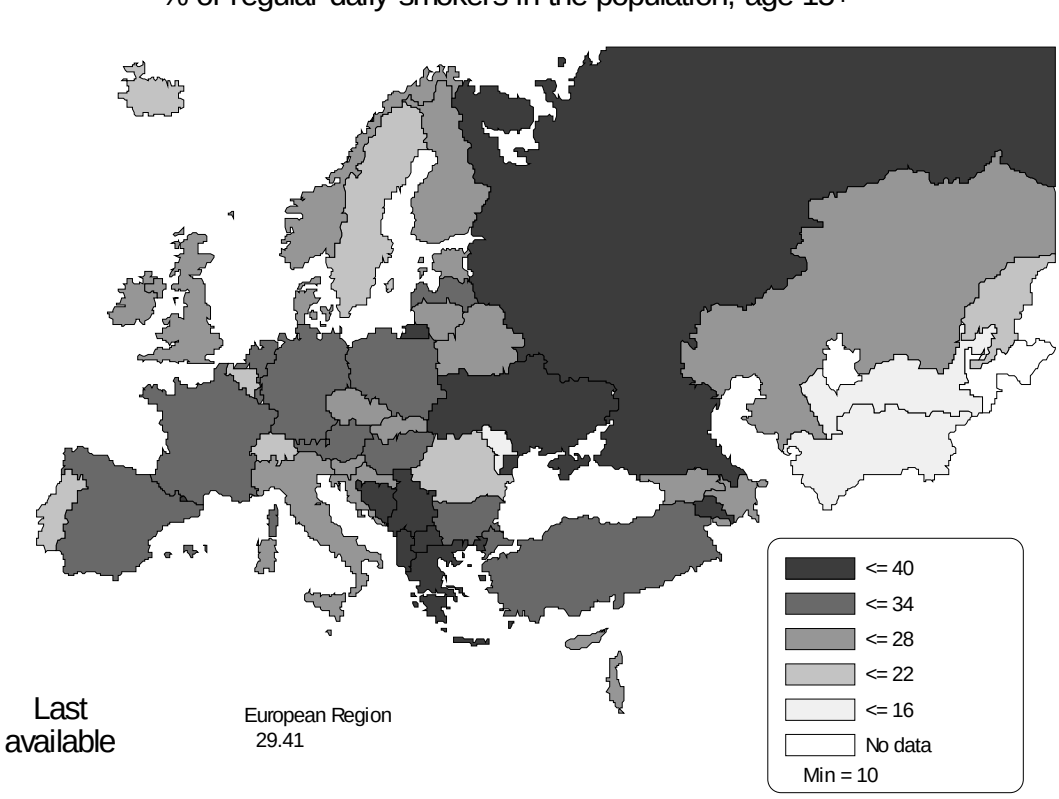
Life expectancy at birth in Macedonia has been rising slowly. It was last estimated to be 71.2 years for men and 75.7 years for women born in 2002. [12] This compares with the EU average of 75.5 years for men and 81.7 years for women. [20]

Smoking

Macedonia has one of the highest proportions of smokers in Europe; 36% of the population smokes regularly: 40% of the men, and 32% of the women (see Figure 12). They smoke an average 5.4 cigarettes per day.

Macedonia has enacted a tobacco policy, promoting “no smoking as a norm, and right for all citizens to health, clean air, and healthy living and working environment.” In practice, this is not taken very seriously. In restaurants, non-smoking tables are usually adjacent to smoking tables. Our interviewees had not heard of smoking cessation programs.

Figure 12: Smokers in Europe

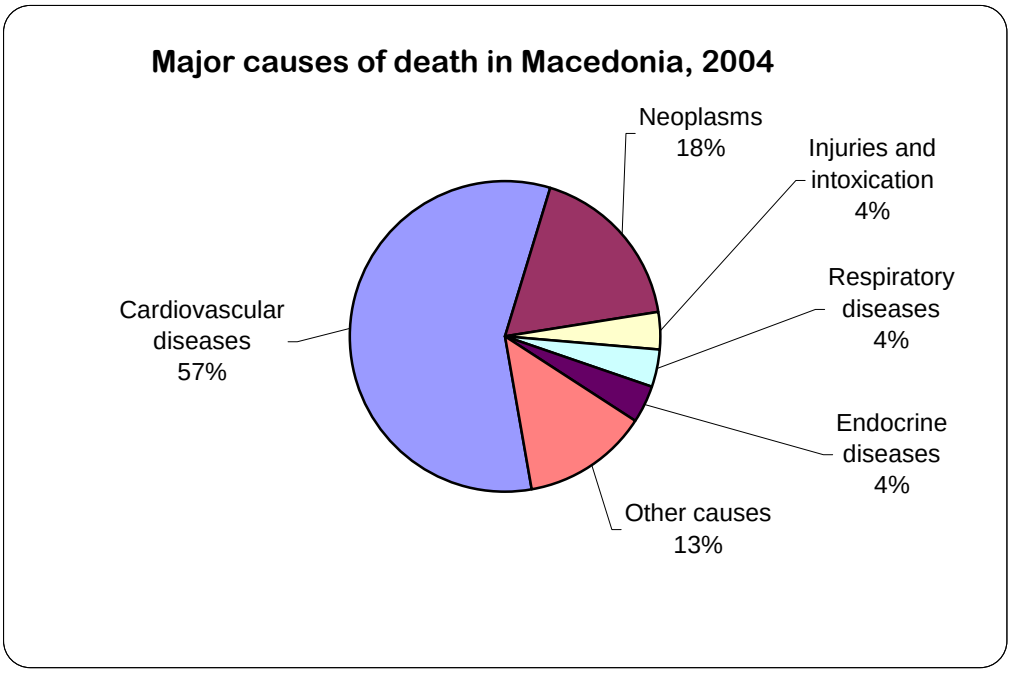


HFA database

Major Causes of Death

In 2004, Macedonia had 17,944 deaths, with a mortality rate of 8.8 deaths per 1,000 population. Most deaths were attributed to chronic, non-communicable diseases; cardiovascular diseases caused 57% of all deaths, and cancer caused 17.8% of deaths (see Figure 13). These causes have remained relatively stable for the last 10 years (see Figure 14). Interviewees suggested that mortality data due to dementia may be hidden in the cardiovascular category.

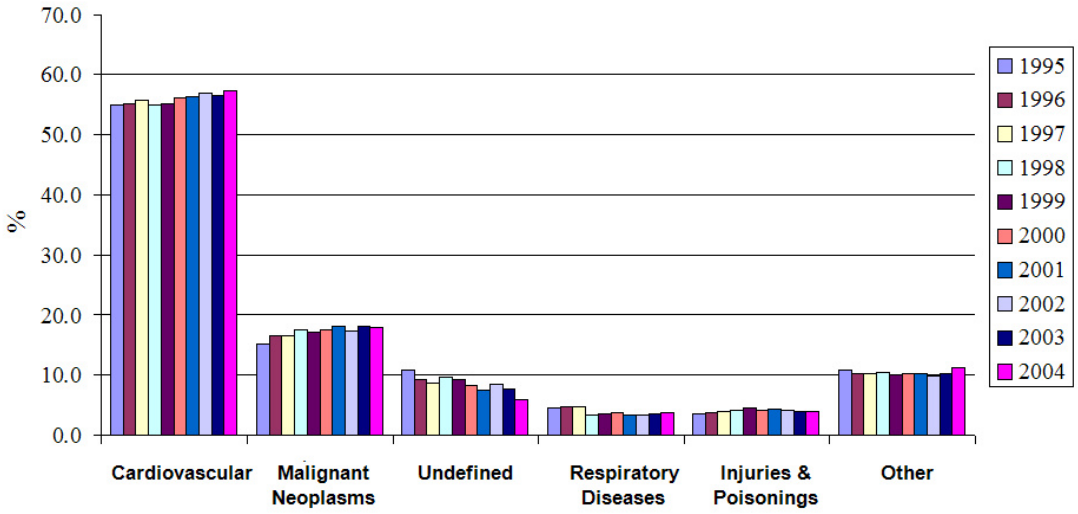
Figure 13: Causes of Death, 2004



Cardiovascular diseases	10,307	57.4%
Neoplasms	3,194	17.8%
Insufficiently defined conditions	1,042	5.8%
Injuries and intoxication	708	4.0%
Endocrine diseases	701	3.9%
Respiratory diseases	683	3.8%
Digestive diseases	401	2.2%
Genito-urinary diseases	317	1.8%
Perinatal conditions	179	1.0%
Communicable diseases	125	0.7%
Neurological diseases	166	0.9%
Congenital malformations	59	0.3%
Other causes	62	0.4%
Total deaths	17,944	100.0%

Data from *Statistical Yearbook 2005*

Figure 14: Causes of Death, 1995-2004.

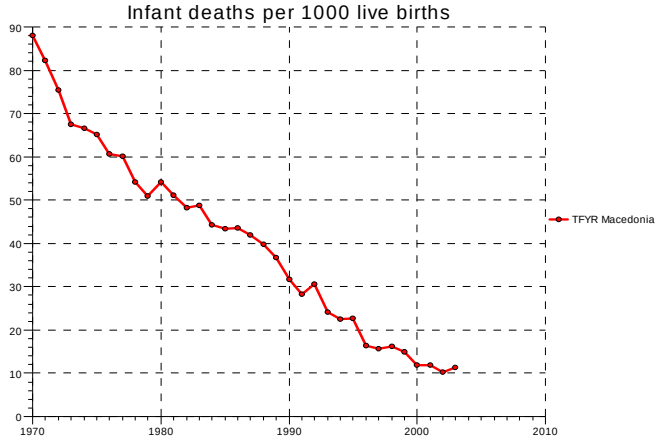


Infant Mortality

Since the 1970s, Macedonia has made a dramatic improvement in infant mortality (see Figure 15). However, infant mortality still remains higher throughout Eastern Europe than Western Europe – Figure 16 shows the distinct east-west divide.

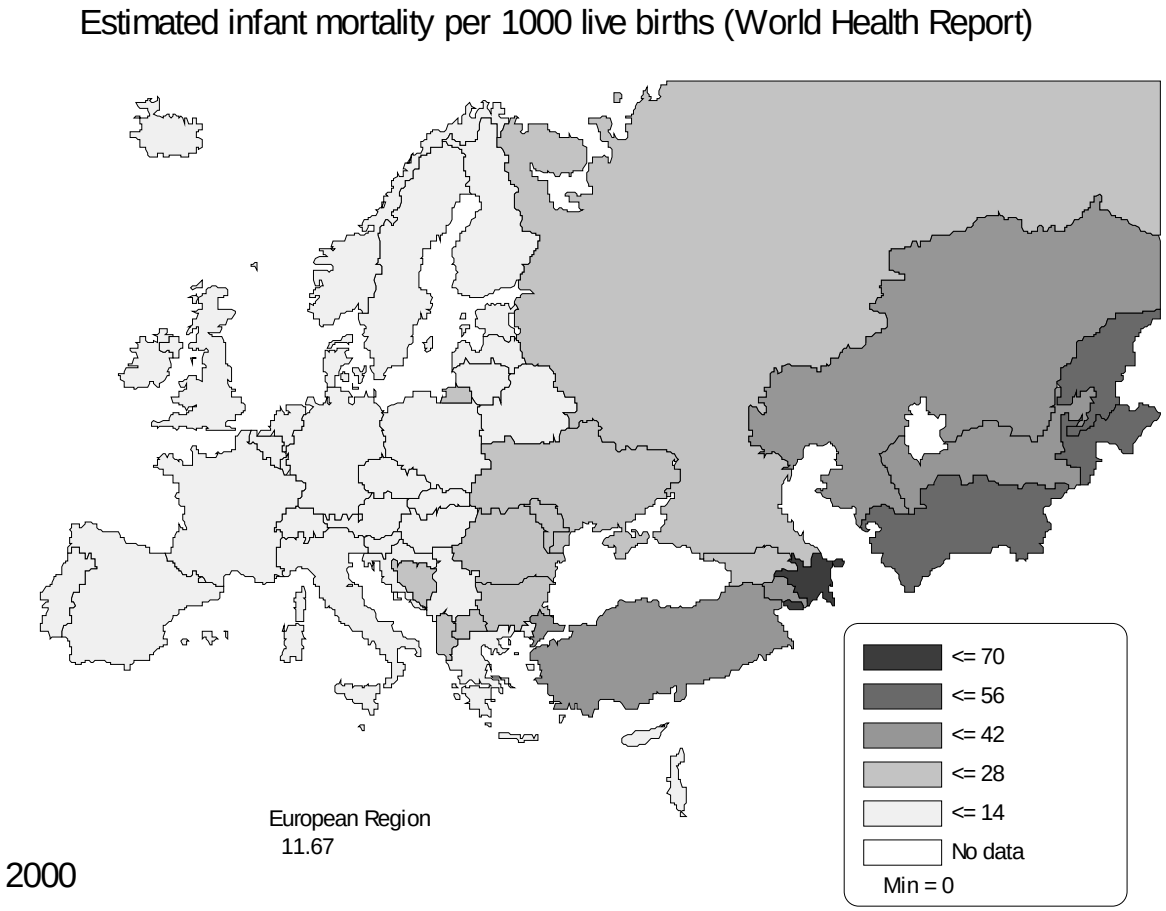
In 2000, Macedonia had 11.3 infant deaths per 1,000 live births compared with the European average of 8.5 (varying from a low of 3 in the Scandinavian countries to a high of 33 in Turkey and Turkmenistan, see Figure 16).

Figure 15: Infant Mortality, 1970-2004



HFA database June 2006

Figure 16: Infant Mortality Rates across Europe



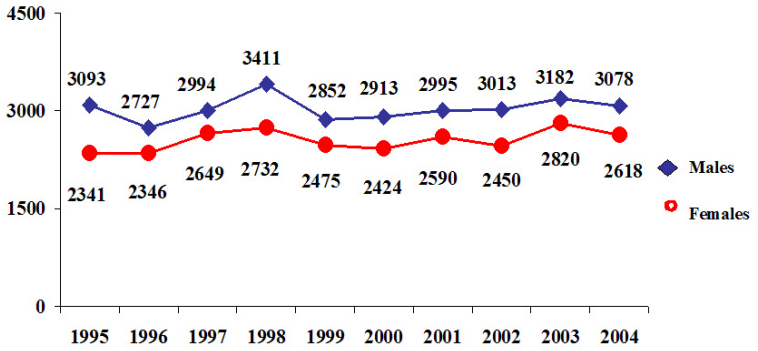
HFA database June 2006

Cancer

Incidence

Cancer is one of the most common illnesses in Macedonia, and the second most common cause of death. Each year, there are 5,500 to 6,000 new cases, with more new cases in males than females (see Figure 17).

Figure 17: Cancer Incidence, 1995-2004



Cancer Registry

Types of Cancer

The cancers most frequently found in Macedonia in 2004 were those of the bronchi and lung, breast, stomach, skin, cervix and larynx.

Men have high rates of lung cancer, likely related to the great prevalence of male smokers (Figure 18).

Women have high rates of breast and cervical cancer (Figure 19).

Figure 18: Common Cancers in Males, 1995-2004

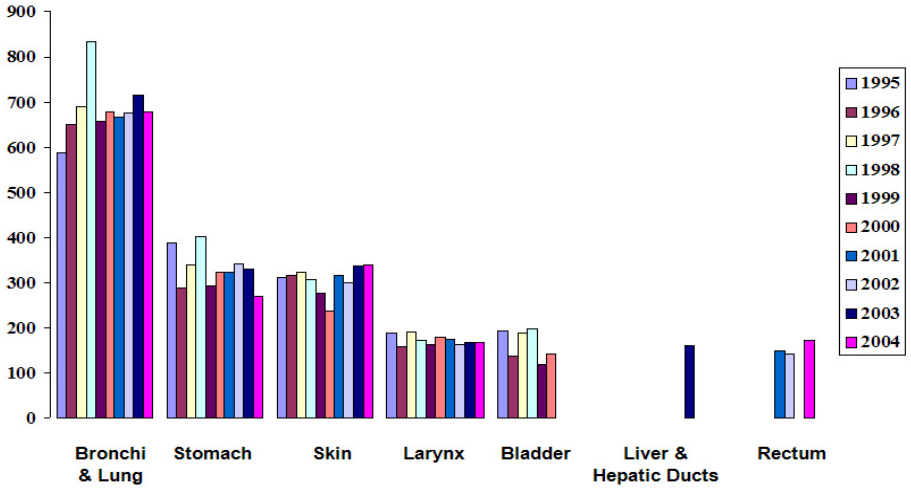
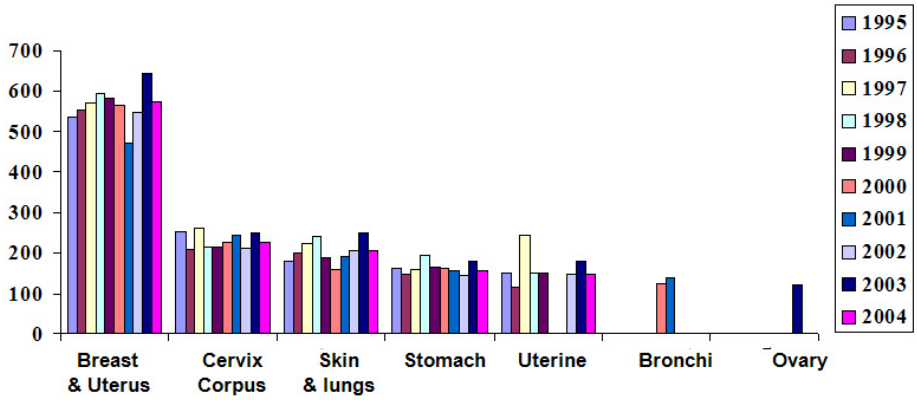


Figure 19: Common Cancers in Females, 1995-2004



Cancer Registry

Stage at Presentation

Many of the new cases present with late-stage disease. The authors were not able to establish the actual proportion of patients presenting with advanced cancer.

> Cancer is mostly diagnosed late, there's not enough early detection when the patient could actually be cured. – Doncho M. Donev, MD, PhD, Professor, Medical Faculty and Director, Institute for Social Medicine

Pediatric Cancers

In 2005, there were 772 registered cases of benign and malignant neoplasms in children. [21] The authors could not find detailed statistics on pediatric cancers.

HIV/AIDS

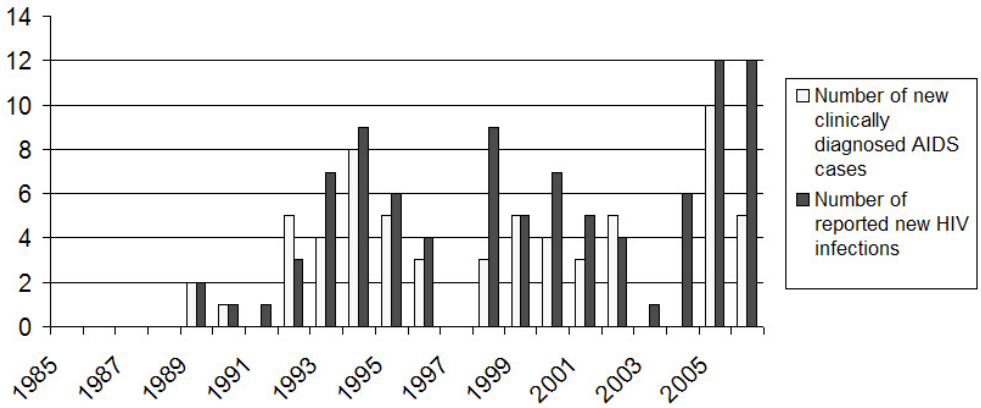
Incidence/Prevalence

Currently, Macedonia appears to be a low-prevalence country for HIV/AIDS, based on surveillance statistics. Of the 96 patients who tested positive for HIV infection since 1989, 54 had died by late 2006. In 2005 there were 12 new cases, 10 presented with AIDS. In 2006 there were 17 new cases, 5 presented with AIDS (Figure 20).

At the end of 2006, about 20 people with known HIV infection were still alive; 4 were living with AIDS.

> There is far improved diagnosis now, but many in the past may have been missed. In this clinic we get everyone with fever, hepatitis, and have a good relationship with the TB clinic. So we are likely to catch far more of the HIV cases now. – Dr. Milena Stevanovik, HIV/AIDS Unit of the Infectious Disease Clinic, Skopje

Figure 20: New HIV and AIDS Cases, 1985-2006



Data from the *National HIV-AIDS Coordinator and UNAIDS*

Route of Transmission

Most HIV patients reported only heterosexual transmission, perhaps because of the stigma attached to other routes of transmission. It is estimated that there are 12,000-13,000 injecting drug users (IDUs) in Macedonia, however only 6 patients with HIV infection admitted to injection drug use. A steady increase in IDUs and rising hepatitis C rates in this population suggest that the HIV infection rates may actually be higher. There is concern that infection rates may escalate once the virus enters the needle-sharing population.

Marginalization

Another major problem is that those living with HIV become marginalized and are often abandoned by society. Nongovernmental organizations (NGOs) are trying to help with this situation, but with minimal success.

> Fifty four of them are dead, most of these died here, before my time. Most arrived here as terminally-ill patients. Some were discharged early, just before death as it costs less to have the corpse disposed of at home than in the hospital, the family can't afford this, most of these people are very poor. ---Dr. Milena Stevanovik, HIV/AIDS Unit of the Infectious Disease Clinic, Skopje

Anti-retroviral Medications

HIV/AIDS patients are currently provided with antiretroviral medications, but there is some difficulty getting medications for opportunistic infections. If the medication is not registered and it is not on the Positive List of Drugs, it can be very expensive. There are currently ten patients on antiviral regimens. Currently the Global Fund pays $1100 per month for medications for each of these patients. The availability of antiretroviral medications has been problematic as the pharmaceutical companies won't register a medication used by so few.

> As far as I know, pain management is not a problem with our patients. We are very stubborn. For example, when we had our first patient with Kaposi's sarcoma, we didn't know how to treat it but persisted until we were successful. – Dr. Milena Stevanovik, HIV/AIDS Unit of Infectious Disease Clinic

Healthcare System

System Overview

The Republic of Macedonia's constitution guarantees the population access to health care, including preventive health services.[10] However, in 2002, the total health expenditure was only 6.8% of the gross domestic product (GDP), the lowest proportion of GDP spent on health by any of the former Yugoslav republics. [10]

Today, there are both public and private healthcare services in Macedonia. The public healthcare system is divided into tertiary, secondary and primary level services. Inpatient care is provided principally through tertiary and secondary level services. Homecare is provided through primary level health care services.

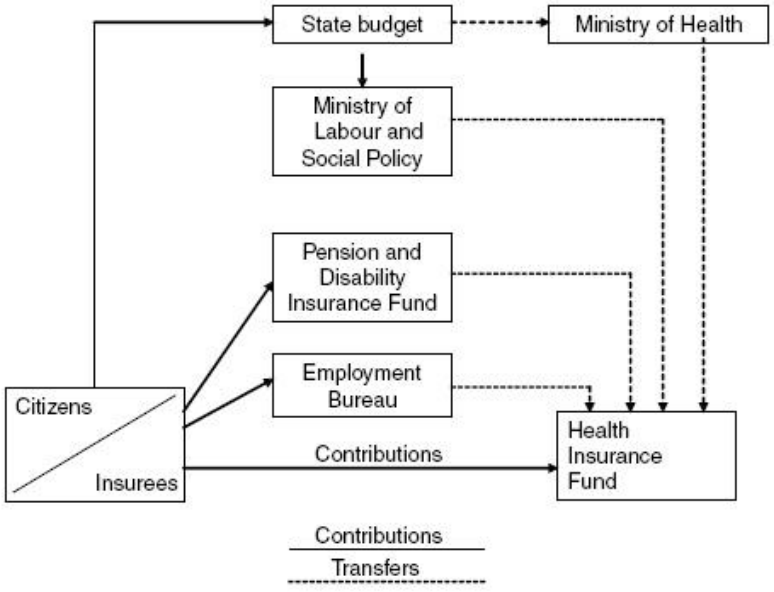
A detailed review of the Macedonian health system is contained in the 2006 report *Health Systems in Transition*. [10] This report lists the healthcare reforms required by the EU in order for Macedonia to be considered for EU status, including:

- Strengthening human resources, planning and training
- Strengthening continuing medical education
- Imposing quotas on training facilities and reducing staff oversupply
- Regulating the pharmaceutical sector [10]

Healthcare Insurance – The Health Insurance Fund

Macedonia is said to have one of the most generous benefit packages in Europe. While the Health Insurance Fund (HIF) was formally within the Ministry of Health (MOH), it became a separate entity in 2002. The chair of the HIF Management Board now alternates between the Ministry of Finance (MOF) and the Ministry of Health. Today, the HIF can be said to wield more power than the MOH. Its funding comes from income and other taxes (see Fig. 21).

Figure 21: Funding for the Health Insurance Fund



Health Systems in Transition 2006

Current discussions focus on how to best reduce benefits so as to remain within budget.

> If we can't treat a disease here, we send the patient abroad for treatment, if that fails they go on palliative care. ---Mihajlo Kostovski, Assistant Manager, Health Insurance Fund

The HIF covers 30 days of "prolonged care" in one period of illness. The only place for patients to receive this type of care is in the Gerontology Institute in Skopje, for the private nursing homes are not eligible to receive public funds. The co-pay for prolonged care is MKD 100 denars (USD $2) per day, after which the patient pays the full amount. If the patient has a new illness or a recurrence of the same illness, s/he can be admitted again.

"Blue vouchers" for health insurance are available for all employed Macedonians. They are also available for people who are not employed if they report to the government employment office regularly, comply with the regulations, and take a position if one should be offered (which rarely happens). The Ministry of Labour and Social Affairs provides for health insurance coverage for those who are unemployed and their families, pensioners, and the impoverished. [9]

Tertiary Level Care

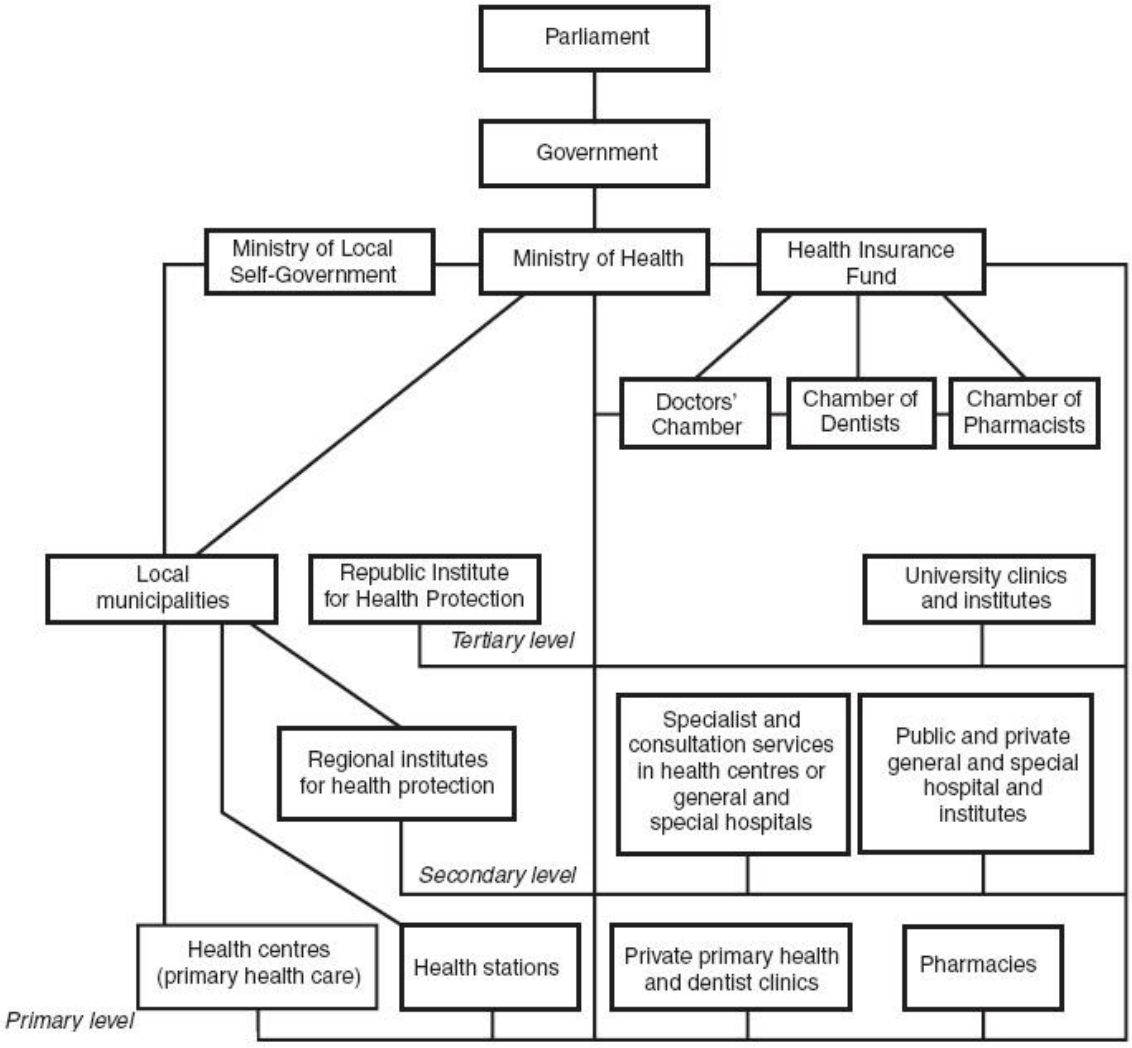
Tertiary level care is specialty care provided primarily in tertiary healthcare institutions. It includes inpatient and outpatient care and consulting services. In addition, some of the tertiary level specialist and consulting services are provided in secondary level healthcare institutions.

Within the tertiary level health care system in Macedonia, there are:

- 19 Clinics and Institutes within the Skopje Clinical Center that provide a mix of inpatient and outpatient services
- 1 Maxillo-facial surgery clinic
- 7 Dental clinics
- 1 Rehabilitation institute
- 12 Institutes within the Medical Faculty in Skopje that are research and teaching institutions, not inpatient institutions. These institutes are for: Anatomy, Histology, Biochemistry, Physiology, Immunology, Social Medicine, Pathology, Microbiology, Pathophysiology, Epidemiology, Pharmacology, and Forensic Medicine
- 4 Specialist hospitals – psychiatric, pulmonary, surgery, and gynecology
- The National Health Protection Institute

Cancer is most often treated at the Institute of Oncology at the Clinical Center in Skopje. HIV/AIDS patients are cared for at the HIV/AIDS Unit of the Infectious Disease Clinic in Skopje. Geriatric patients are treated at the Gerontology Institute in Skopje.

Figure 22: Structure of the Healthcare System



Health Systems in Transition 2006

Secondary Level Care

Secondary level care, i.e. regional care, is provided in secondary healthcare facilities across Macedonia, including:

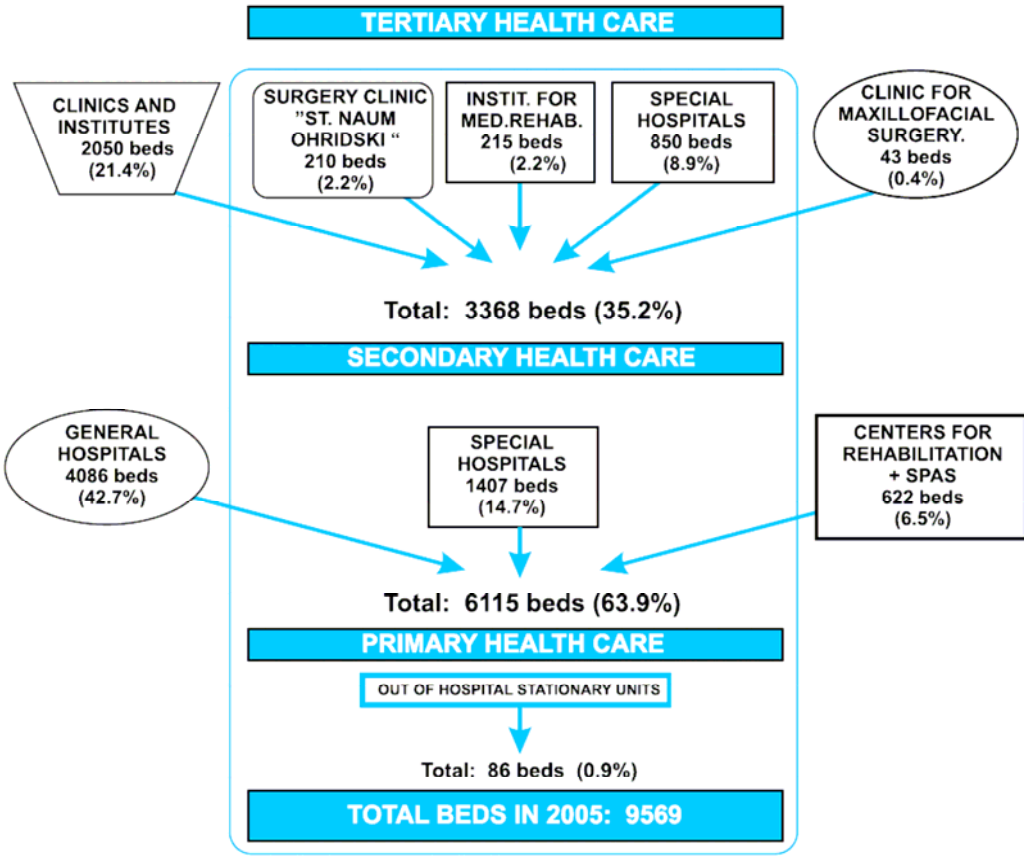
- 16 general hospitals
- 10 regional Institutes for health protection, providing:
  - adult immunizations
  - diagnostic and environmental public health services
  - health-related statistics
- 7 treatment and rehabilitation centers
- 6 specialist hospitals, including:
  - 2 hospitals for pulmonary diseases and tuberculosis
  - 2 mental hospitals – one for adults, one for adults and children
  - 2 other specialist hospitals

Inpatient Care

Inpatient care is provided through the tertiary and secondary levels of the healthcare system (see figure 23). In 2004, there were a total of 9,699 inpatient beds. Nearly two thirds of the inpatient beds were in tertiary level institutions, primarily in Skopje.

> Specialist outpatient and inpatient care should be well distributed over the country. At the moment this is not the case. Although Macedonia is a small country and distances between hospitals are not excessive, a network of general hospitals should give access to at least a standard package of inpatient services in less than 60 minutes travel time for nearly all citizens. A well-functioning regional general hospital with an operation theatre, laboratory and imaging services would require at least approximately 150 beds and 50,000 attached population. More precise norms will be established in due course as part of the "medical mapping" exercise. Each regional secondary hospital will have at least the four basic specialities of internal medicine, surgery, anaesthesiology, gynaecology and obstetrics and paediatrics, plus a number of beds for acute psychiatric patients. Healthcare Strategy of the Republic of Macedonia [22]

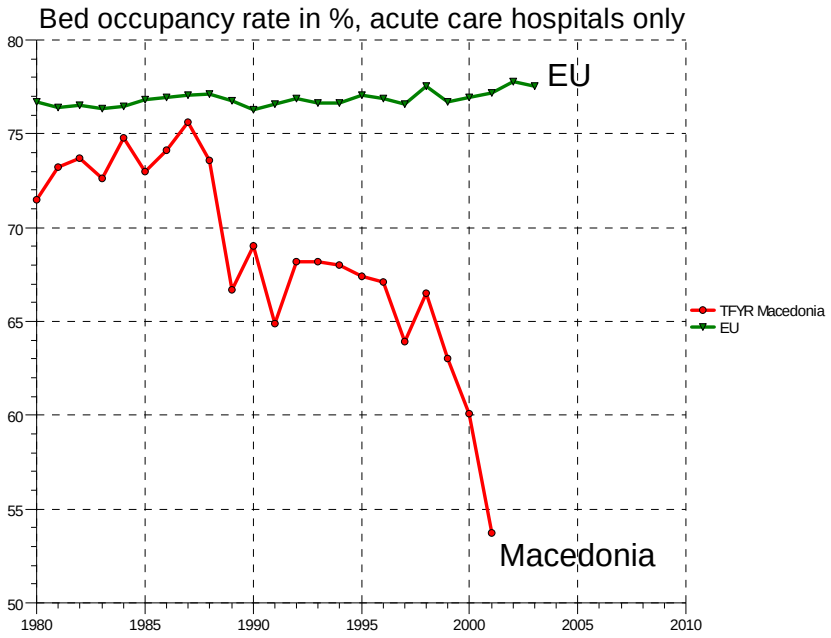
Figure 23: Inpatient Institutions & Number of Beds by Level of Healthcare, 2005



Health Map of the Republic of Macedonia 2003, 2004, 2005 [23]

Occupancy Rate: In 2004, the average occupancy rate across all acute care hospitals in Macedonia was 53%. This excludes the Institute for Gerontology, where stays are longer and the beds are usually full. (See Figure 24).

Figure 24: Hospital Occupancy Rates in Macedonia and the Europe Union (EU)



HFA database 2006

Some hospitals are full to overflowing with patients in the hallways; others are nearly empty. One reason for the uneven utilization of inpatient beds during the winter is the lack of heating in some hospitals:

> Patients now stay at home because they would freeze in the hospital, there's often no heating in the hospital. Hospitals that do have heating have a problem getting the patients to go home as it's a nice place to stay, especially in the smaller towns, it's a place where they can receive care and socialize with others. ---Vladimir Lazarevik, MD, MPH, Deputy Minister of Health

Facilities and Equipment: Most inpatient facilities that have not had international donors' funding for renovation are in a more or less dilapidated condition. Medical equipment is outdated and in need of repair. [10] Those facilities that have received foreign aid have been faulted for not coordinating spending so as to make best use of the funds. [10] A registry of all medical equipment was started in 2002 so future planning can be done in a more organized way.

> A hospital rationalization plan will be made in 2006 that analyses the need for hospital beds and high tech equipment in various types of hospitals. This plan will make recommendations for the total number of hospitals needed, for the reduction of the number of general hospital beds in over-served regions and possibly an expansion in underserved regions, and for the concentration of high tech services and equipment, and other specialists than the four or five basic types. For all capital investment in public and private hospital services and expensive medical equipment, a license from the Ministry of Health is needed, which will only be given when existing services are insufficient. The hospital rationalization plan will also define the

difference in the services provided by secondary and tertiary (or specialized) hospitals, and analyse the need for beds in the Clinical Centre and in specialized hospitals, and the possibility for the reduction of the number of independent specialized hospitals. --- Healthcare Strategy of the Republic of Macedonia 2006-2015.[22]

Primary Level Care

Primary level care includes Health Stations, Health Centres with Clinics, Emergency Services and "Patronage" Visiting Nursing. Acute/emergency homecare is provided by the Emergency Services available at each Health Centre. Ongoing homecare is provided by Patronage Visiting Nursing services. [9] If there is an emergency, even for terminally-ill patients, the Emergency mobile team is called, not a Patronage team.

The interviewees said that in rural areas, patients often enter at the secondary level of care, because the primary care facilities are undersupplied and run down. [10] The authors did not have time to visit any rural clinics.

Health Stations: There are six health stations in Macedonia. Five are located in Skopje and one in Tetovo. Health stations are located in factories and provide healthcare services for workers.

Health Centres with clinics: These centres are located in each main town of Macedonia. Each Centre includes general practice and specialty ambulatory outpatient offices, and an Emergency Mobile Team.

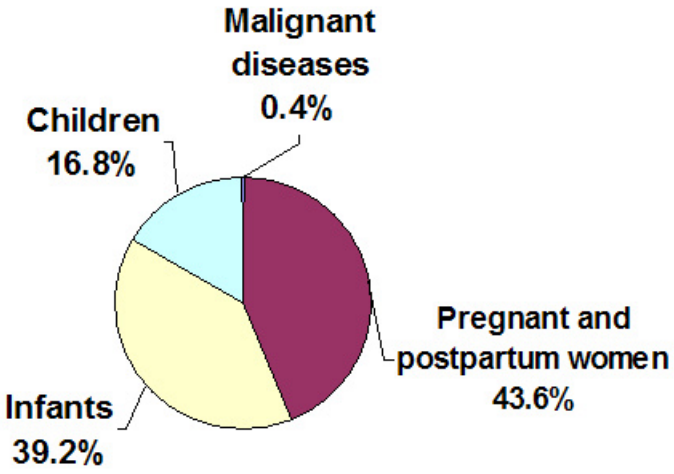
Emergency Services are provided by a mobile team (a doctor and nurse) at each Health Centre. Emergency calls are received by phone, and the mobile team is directed to the patient's home or the site of an accident. Emergency teams provide only acute treatment. The patient is either advised to stay home or is referred to the hospital. If the emergency involves a chronic medical condition, such as a stroke, the mobile team will visit up to twice a day for the first three days. After that, if continuing care is needed, the patient is referred to a Patronage Visiting Nursing service.

Patronage visiting nursing units were formed during the former Socialist Federal Republic of Yugoslavia. They are based on Florence Nightingale's British model of nurses visiting patients' homes in the community. In 2005, there were 226 Patronage teams made up of nurses working either in pairs or alone. A major constraint was the availability of cars to transport them.

Originally, these Patronage nurses provided "polyvalent," or multiple-service coverage, to address all the homecare needs for the population they served. Now, Patronage services vary considerably across the country. Most regions have "monovalent" or "bivalent" coverage, providing limited services that target one or two segments of the population. Most now focus on new mothers and children, and offer advice rather than treatments (see Figure 25).

A small number of Patronage teams provide more comprehensive care to the whole family. During home visits these nurses may do wound care, bathing, injections, etc. A physician assigns their tasks. They can not prescribe opioids, but they can administer them as prescribed.

Figure 25: Patronage Nursing Visits, 2004



Data from *Patronage Report* 2005

> The strong point of Macedonian primary care nursing has always been the Patronage service. Originally the Patronage service provided preventive care to mothers and children, whereas another service provided homecare and home nursing to older patients, often with chronic diseases. A regional project has expanded the services of the Patronage nurses, including some cure and care services, but this new form of Patronage is threatened by a lack of legal basis and proper financing. --- Health Strategy Report 2007

Patronage nurses are paid through the Health Centers. Patients pay a co-pay of 20% of the actual cost.

Long-term Care and Elder Care

Geriatric medicine is not a specialty in Macedonia, and there is little focus on specific problems of the elderly. Most elderly Macedonians live at home, many with their extended family.

Long-term care services come under the jurisdiction of the Ministry of Health as well as the Ministry of Labor and Social Welfare. In the health system, the Institute for Gerontology is a tertiary level facility in Skopje providing outpatient services as well as a long-term care facility for a limited number of patients.

Formerly, each municipality of Macedonia had “homes for the elderly and debilitated.” Today, most of these facilities have closed. Only four such public “homes” remain open. They continue to be the responsibility of their respective municipalities with funding from the Ministry of Labor and Social Welfare.

At the end of 2006, these four homes had a total of 512 occupants and a total capacity of 563 beds.[24] Patients included 276 “socially and financially jeopardized elderly” (the indigent elderly) whose costs were financed by the Ministry of Labor and Social Welfare.

There are five private nursing homes: 4 in Skopje, and one in Negotno. They are relatively expensive at 400 to 500 Euro per month.

> Nursing homes --- the attitude is that they are bad. The talk is that if a parent and child fight, the child will put the parent in a nursing home. The fact that there are private nursing homes shows that the public ones aren't working well. ---Vladimir Lazarevik, MD, MPH, Deputy Minister of Health

> There need to be more nursing homes. There are not enough beds to serve the whole country. Now families are busy so they take the patient to the nursing home. The whole country's mentality has changed, now there are longer work hours so they can't even see their children, let alone their parents. ---Meri Terzieva, owner of Meri Terzieva Nursing Home (private)

Staffing in long-term care facilities ranged from 1.2 clients per employee in one of the private homes to 5.8 clients per employee in one of the public homes.[18]

Private Healthcare

The private healthcare sector has grown year by year since 1990. In 2001 there were 1,458 private sector health facilities, employing 1,386 people. [19] Data from 2005 show a 30% increase since 2001 to 1,937 private sector health facilities, including 423 GP offices, 215 MD specialist offices, 745 dental offices, 498 pharmacies, 54 laboratories, and 2 hospitals [22]

Some integrative medicine such as acupuncture and massage also exist in the private sector.

There are no faith-based hospitals.

Non-governmental Organizations

There are a number of non-governmental organizations (NGOs) providing preventive, supportive and advocacy services in collaboration with the healthcare community. The authors met with three NGOs:

- Two provide support for breast cancer and other cancer patients, and teach about cancer prevention
- One is an organization of parents of children with cancer. In addition to supporting other parents emotionally, the NGO is a strong advocate for improving the treatment of pediatric oncology patients and their families. One project hoped for by this group is a "parent house," a place for parents from other towns to stay while their child is receiving treatment. The NGO president stayed in such a house in Germany when her son was a cancer patient there.

> We need to persuade the MDs to change the pediatric oncology unit to have a focus on living, on education. We need music therapy, art therapy, physical therapy, massage, etc. Volunteers such as students in psychology and social work can support the family, especially when a child dies. Natasha Kotlar, president of NGO for parents of children with cancer "Peperutka" (Butterfly)

Healthcare Personnel

Doctors: In Macedonia, there are about 226 doctors per 100,000 people. [19] There are about ½ as many doctors per population in rural areas compared with the country as a whole.

Each Macedonian is assigned a general practitioner under the Health Insurance Fund. The general practitioner is the gatekeeper to other healthcare services.

Salaries for doctors range from MKD 16,000 to 29,000 denar per month (USD $353 to $640). Because of the low salaries, some government employees choose to work in the private sector as well. For example, doctors working in public hospitals who have over 7 years of specialist experience are allowed to work an additional 8 hours per week in the same institution where they are employed and see private patients. They receive direct compensation from patients who are happy to bypass the long wait for examinations and procedures. This can be a problem if the practitioner neglects her/his governmental duties.

Nurses: In Macedonia, there are about 303 nurses per 100,000 people [19], which is about 1.3 nurses for every doctor. The authors were unable to obtain nurses' salary information.

Social Workers in health care settings are occupied primarily in obtaining benefits for the patients. They do have training in counseling, but there is little time for them to provide counseling.

Chaplains are not considered to be part of the healthcare system in Macedonia. Instead, part of the role of Orthodox priests and Muslim imams is to visit the sick, the poor, and the elderly, and to help bereaved families. There is some training in these skills in their seminaries.

Healthcare Education

One of the many benefits inherited from the former Yugoslav system is the high level of educational attainment in most fields. A major step towards standardization of education throughout Europe will be the implementation of the Bologna educational reforms, targeted for the year 2010. All Europe will refer to their undergraduate and graduate degrees as Bachelors and Masters degrees. These reforms are also an attempt to assure continuing competitive edge of European educational institutions in the international arena.

In the existing system in Macedonia, "school" refers to the primary (8 years, this is mandatory) and secondary (4 years) school system, attended from ages 7 through 19. "Faculty" refers to higher or college education. Undergraduate degrees take from 3 to 6 years to complete, depending on degree and the Faculty.

The Medical Chamber, Dental Chamber, and Pharmacy Chamber are the boards that monitor licensing and professional standards. There is no Nursing Chamber to match these in function.

Doctors: An undergraduate medical degree is only offered through Saints Cyril and Methodius University in Skopje. The medical degree requires six years of coursework.

The graduate receives the title “Medical Doctor” (MD), but cannot practice medicine until a 6-month residency is completed.

After completing the six-month residency training, the resident is eligible to write the state medical exams that are conducted by the Medical Chamber of Macedonia. When the exam is passed, a basic license is issued, which permits the doctor to work under supervision of a specialist until finishing specialty training, lasting 3 or 4 years, depending on the specialty. Once specialty training is completed, a license to practice independently is issued. In the near future, a change in this system will recognize all doctors as specialists, including general practitioners who will be specialists of family medicine.

After obtaining the full license, each doctor needs to be re-certified every 7 years, by collecting a certain number of continuing education credits per year. If the minimum number of credits is not obtained, the doctor must take the state exam again.

Advanced degrees in medicine are obtained by those wishing to teach in the Medical Faculty. A PhD is a mandatory prerequisite for obtaining the title of “professor”.

The quotas for medical school admissions are routinely more than doubled with extra students, including those who pay for the education themselves rather than using the government scholarship. There are also those who obtain medical degrees outside the country and return to compete for available jobs. As a result, there is an excess of doctors and not enough medical jobs for them; a number of doctors are working in other professions.

Nurses in Macedonia have been under-utilized, in part because until recently there were only secondary school-prepared nurses and they were considered incapable of working independently.

At the college level, there are now three geographically-dispersed nursing campuses. The nursing curriculum at college level is 3 years, plus a 9-month nursing residency. If a nurse wishes to get a masters degree s/he must first get a four-year degree in another subject in order to qualify for graduate school. Because there is no advanced degree in nursing, all but the practical nursing courses are taught by doctors.

> Their (nurses’ and midwives’) competencies are not well defined by law, and generally they are seen as auxiliary staff rather than professionals with specific roles to play in the health care system. The educational system for nursing is deficient and not EU compatible. Nurses are not involved in decision-making concerning the health care reform. They suffer from mass unemployment. There is no specialization within their 4 years curriculum, for example in family nursing or psychiatry. Only limited use is being made of the two post-secondary nursing courses in Bitola and Skopje, of which the curricula are also not EU compatible. --- Healthcare Strategy of the Republic of Macedonia 2006-2015

Most of the Patronage nurses and the nurses who staff long-term care facilities were secondary school graduates, for undergraduate nursing programs have only been in existence for several years.

Social Workers: A degree in social work takes 4 years of undergraduate work. Unlike nursing, there is no secondary school certification for social work.

Medications

Positive List of Drugs

The Ministry of Health's Bureau for Drugs registers and licenses all medications and medical devices.

The Director of the HIF and the Director of the Bureau for Drugs jointly create the Positive List of Drugs (PLD) that the HIF will pay for (see Appendix D for the full PLD). Not all needed medications are on the PLD. The next list will include more medications not on the present list, especially cancer chemotherapy and pain medications.

Patients pay 20% for medications on the PLD. All medications are supposed to be provided free of charge to terminally-ill patients. In practice, if the medication is on the PLD but out of stock and needing to be imported by the pharmacy, or if it is not on the PLD but prescribed and certified as being needed by that patient, the patient's family must pay for it and wait for reimbursement, which can take a long time. If the family doesn't have extra funds to buy the medication, the patient will not receive it.

Drugs that are not on the PLD may be reimbursed, but only if three MDs certify that the patient has tried other medications that weren't effective and that the unlisted medication is needed (See Appendix C for the full PLD).

> Last year Macedonia's drug expenditures equaled those of Serbia, whereas Serbia has five times the population of Macedonia. Slovenia spent 1/3 as much as Macedonia, where both populations are about equal. – Mihajlo Kostovski, Health Insurance Fund

> Because of a lack of information about drugs, there are many "irrational" prescriptions of medications that are not the best ones for the patient. – Mihajlo Kostovski, Assistant Manager, Health Insurance Fund

Medication Sources

For a medication to be registered in Macedonia, lab analyses are done, and results of clinical trials are checked. Then the wholesaler makes an application to the Minister of Health. When a medication goes on the market, it is licensed for 5 years. The import license needs to be renewed every 3 months.

There are 4 local manufacturers of pharmaceuticals. They provide 60% of Macedonia's medications, and the remaining 40% are imported. All "biological" medications are imported, including hormones, insulin, vaccines, chemotherapy, all infusions, even glucose and normal saline for intravenous use.

The pharmacies that import medications from outside Macedonia control which products are available, and at what price. They will not import medications which they are unlikely to sell at a considerable profit. To counter the artificial or exaggerated fixing of prices by the importers and pharmacies, the World Bank has mandated that the HIF does the bidding for the PLD. This has resulted in a reduction of 35-40% in the amount paid for medications. [9]

> Main problems with drug provision are lack of funds to provide for all the medications needed, lack of availability due to some pharmaceutical companies not wanting to sell drugs in Macedonia. – Ministry of Health Bureau for Drugs

The value added tax (VAT) for drugs is 18% -- it was 19%, we should decrease it in the future. – Mihajlo Kostovski, Assistant Manager, Health Insurance Fund

Situation Related to Palliative Care

Stjernswärd et al have outlined the developmental steps in the framework for effectively integrating palliative care into an existing healthcare system. [25] To facilitate an understanding of what already exists, this model is used as a framework to present the current situation related to palliative care in Macedonia, and the discussion of next steps.

Developmental Steps

Step 1: Engage Opinion Leaders

To date, there has not been significant engagement of key governmental and nongovernmental opinion leaders related to palliative care. A handful of individuals have developed varying degrees of clinical expertise in palliative care. There is some awareness of the need for palliative care among policy-makers and regulators. There is an absence of awareness of the need for palliative care amongst leading educators.

In 2000, Dr. Adzic founded a Palliative Care Association within the Macedonian Doctors Association. To date, there are no palliative care associations in nursing, social work, or chaplaincy, and there is also no association bridging these professions and the lay community with the purpose of furthering palliative care.

Step 2: Situational Analysis

This report presents the first comprehensive situational analysis of the healthcare system in Macedonia as requested by the Foundation Open Society Institute – Macedonia (FOSIM).

Step 3: Develop an Action Plan

To date, there is no national action plan.

Step 4: Establish a National Steering Committee

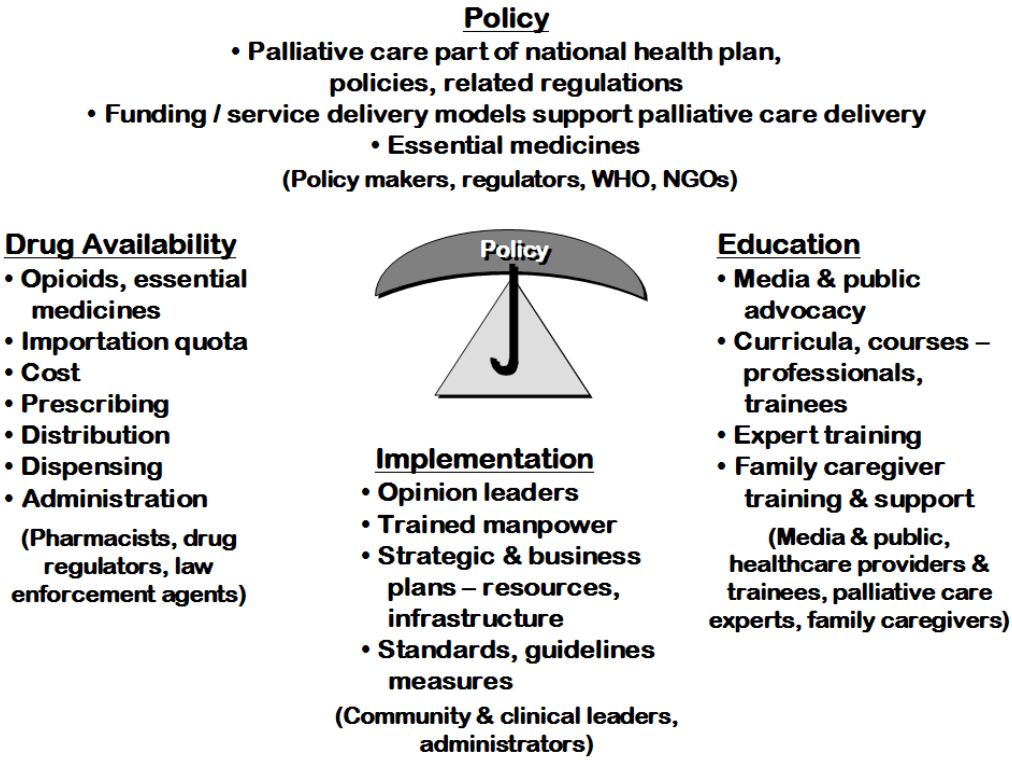
To date, there is no national steering committee.

Step 5: Develop the Components of the Detailed WHO Public Health Model

In order to effectively integrate palliative care into the healthcare system in Macedonia, it will be important to develop each of the components of the WHO Palliative Care Public Health Model (the model). See Figure 26 for the details of the model.

The developmental highlights are summarized first, followed by a more detailed discussion of each component of the Model.

Figure 26: Detailed WHO Public Health Model



Stjernswärd et al [25]

Developmental Highlights

Accomplishments include, in chronological order:

1993 – First oral morphine solution made by oncologist Dr. Petar Stefanovski, of ingredients provided by Alkaloid AD Skopje

1993 – Sparkle of Life (Zhivoyna Iskra) NGO formed to support cancer patients and spread word about cancer prevention

1997 – Alkaloid AD Skopje produced the first sublingual morphine tablets

1998 – Sue Ryder Care Hospice in Skopje was established by Dr. Adzic with funding from Sue Ryder Foundation in the United Kingdom (UK).

2000 – The Palliative Care Association was founded by Dr. Adzic within the Macedonian Doctors Association

2001 – Sue Ryder Care Hospice in Bitola was established by Dr. Adzic with funding from Sue Ryder Foundation in the UK.

2001 – Palliative care materials on cancer pain management were translated into Macedonian language by Prof. Dr. Sofijanka Glamocanin, and made available to students of nursing schools and the medical faculty (not sure if any were translated into Albanian)

2003 – Health legislation mandated that care of terminally-ill patients be totally financed by the National Health Insurance Fund.

2004 – Sue Ryder Care organized the first training in palliative care, including pain control and communication skills for 60 health care professionals

2005 – Sue Ryder Care established a Domiciliary (homecare) palliative care service in Skopje

2006 – Symposium palliative care for 100 family doctors, most from countries neighboring Macedonia, organized by Dr. Adzic.

2007 – Evidence-based medicine 5-volume set available on CD, including Geriatric care, homecare, and pain management based on the Cochrane database.

Policy

Very little official Macedonian government policy refers to palliative care. It appears in superficially in only three national policies:

1) Health Strategy for 2006-2015
2) HIV/AIDS Strategy for 2007-2011
3) National Health Insurance Fund

Health Strategy for 2006-2015

The ***Health Strategy of the Republic of Macedonia 2006-2015*** includes one paragraph on the care of the chronically and terminally-ill in nursing homes:

> A new form of institutional care will gradually develop in the coming decade: nursing homes for chronically bed-ridden or terminally-ill patients for whom homecare is not an option. The emphasis of nursing homes will be not on cure but on care, and they will provide more adequate services to this specific category of patients at a lower cost than for hospital care. The need for such nursing homes and for the specific professional staff needed there will be determined in the coming years. First nursing homes may be established in (parts of) hospitals that are no longer needed according to the medical map. Two hospices for terminal care have already been established in parts of hospitals in Skopje and Bitola.[22]

National Cancer Control Plan

The authors were not provided with any national cancer control plan.

HIV/AIDS Strategy

As of December 2006, the new HIV/AIDS strategy for 2007-2011 was in draft format. Much of the strategy focuses on prevention activities in the various high-risk groups. There was no specific mention of palliative care. The focus for those living with HIV/AIDS was:

- Availability of medications, including anti-retrovirals and medications for opportunistic infections
- Intensive care treatment and supplies for HIV positive patients
- Support services for patients and families, including individual counseling and support groups

Financing Palliative Care

National Health Insurance Fund

In 2003, legislation mandated that care for the terminally ill would be totally financed by the national Health Insurance Fund. While this benefit should be very helpful for terminally-ill patients and their families, interviewees noted that reimbursements for medications do not always come through.

> The hospital conducts specialist-consultancy (outpatient) and hospital (inpatient) services. The hospital outpatient health protection service conducts examinations and confirming of diseases, injuries and health conditions of users, conducts specialized diagnostic, therapeutical and rehabilitation measures and suggestions. Inpatient health care includes diagnosis, treatment, nutrition advice, and constant specialist surveillance, acceptance and care of emergency cases, provides conciliary medical assistance, **palliative care,** and takes part in conducting special programs for prevention, eradication and early detection of diseases and injuries, recommendations about homecare, health education for clients, professional assistance to other health organizations and professional growth of staff.
> -- Article 101 of the Health Law of 2003

Co-payment for the terminally ill is paid by insurance if they are insured; if they are not, the government pays for all. The Ministry of Labour and Social Affairs provides health insurance coverage for those who are unemployed and their families, pensioners, and the impoverished. [9]

> The Health Protection Law does not cover enough of end-of-life care. We aren't allowed to charge for preventing bedsores or pneumonia. It covers injections but not occupational therapy or psychiatry. --- Dr. Mira Adzic, Sue Ryder Hospice, Skopje

Caregiver Compensation

Caregivers are given some compensation to care for a chronically-ill family member. To receive this, the family applies for social services and a staff member comes to their home to assess the situation. If they qualify, they receive approximately MKD 3,000 denars per month until the death of the ill family member.

Funding Service Delivery

The authors did not find any specific policies covering the funding of palliative care service implementation or delivery.

Drug Availability

Essential Medicines

Being on a crossroads between Greece to the south, Western Europe to the northwest, and Bulgaria to the east, just about any medication is available in Macedonia if one is willing to pay the cost.

The Director of the HIF and the Director of the Bureau for Drugs jointly create the Positive List of Drugs (PLD) that the HIF will pay for (see Appendix D for the full PLD). All of the medications considered by WHO and IAHPC to be essential for palliative care are included in the PLD except hyoscine and bisacodyl. The next version of the PLD is expected to include more chemotherapy drugs and more analgesics.

In an effort to ascertain what medications were actually available, as Dr. Sturley did not have formal access to any pharmacists, she arranged for 4 clinicians and 2 pharmacists to informally complete two medication availability forms (Appendix E).

1. Two pharmacists documented the palliative care medications that were in stock in their respective pharmacies, including the available dosage formats and associated routes of administration (Appendix E, Table 1). One pharmacist worked in a private pharmacy that was *not* licensed to stock opioids. The other pharmacist worked in a public pharmacy that stocked opioids. Opioid information was, therefore, only provided by the second pharmacist.
2. Clinical staff at four different patient care institutions documented the palliative care medications usually available to them, not just the medications on hand the day they completed the survey as was intended (Appendix E, Table 2). Most noted only whether at least one medication in each category was available.

Narcotic Control

At the end of 2006, a new **Law on Narcotics**, covering both legal and illegal narcotics, had been written but not ratified. The section of the law on legal opioids controls their importing, dispensing, and prescribing. Unfortunately, the authors were not able to see this draft law.

Opioids

Opioids, particularly morphine, have been available in Macedonia for some time. In 1993, Dr. Petar Stefanovski, an oncologist, produced the first oral morphine solution from ingredients provided by Macedonia's largest pharmaceutical company, Alkaloid AD Skopje. In 1997, Alkaloid produced the first sublingual morphine tablets. As of 2006, Alkaloid was manufacturing 10 and 20 mg sublingual lozenges and 4 and 20 mg ampules of injectable morphine (primarily for inpatient use). Slow-release opioids were not available in Macedonia by the end of 2006.

> Slow-release morphine is needed here. – Dr. Slavica Kraleva – Oncologist, Oncology Institute, Skopje

Local pharmaceutical companies also produce tramadol, methadone, and codeine 30 mg tablets, registered under the category "opioid antitussives". Pentazocin is imported.

Fentanyl was being imported in both ampules for injection and transdermal patches.

Cost

Dr. Sturley was unable to interview pharmacists in person, and therefore could not obtain details of the cost of medications. In the forms filled out by the two pharmacists (Appendix E), the public pharmacy reported the tender price, the price at which the supplier agreed to sell the medication. The pharmacists explained that if the medication is not available from that supplier, the pharmacy may obtain the same medication from another company, likely at a higher price. They would need to sell it at a higher price as well.

The cost of the Fentanyl patch is far higher than the other opioid formulations. A month's worth of Fentanyl 50 mcg patches costs 6,000 denar (USD $132).As fentanyl transdermal patches are not on the PLD, terminally-ill patients must pay for them and hope that they will be reimbursed by the HIF.

> Patients can buy Fentanyl and the government is supposed to reimburse them, but they don't. – Dr. Slavica Kraleva – Oncologist, Oncology Institute, Skopje

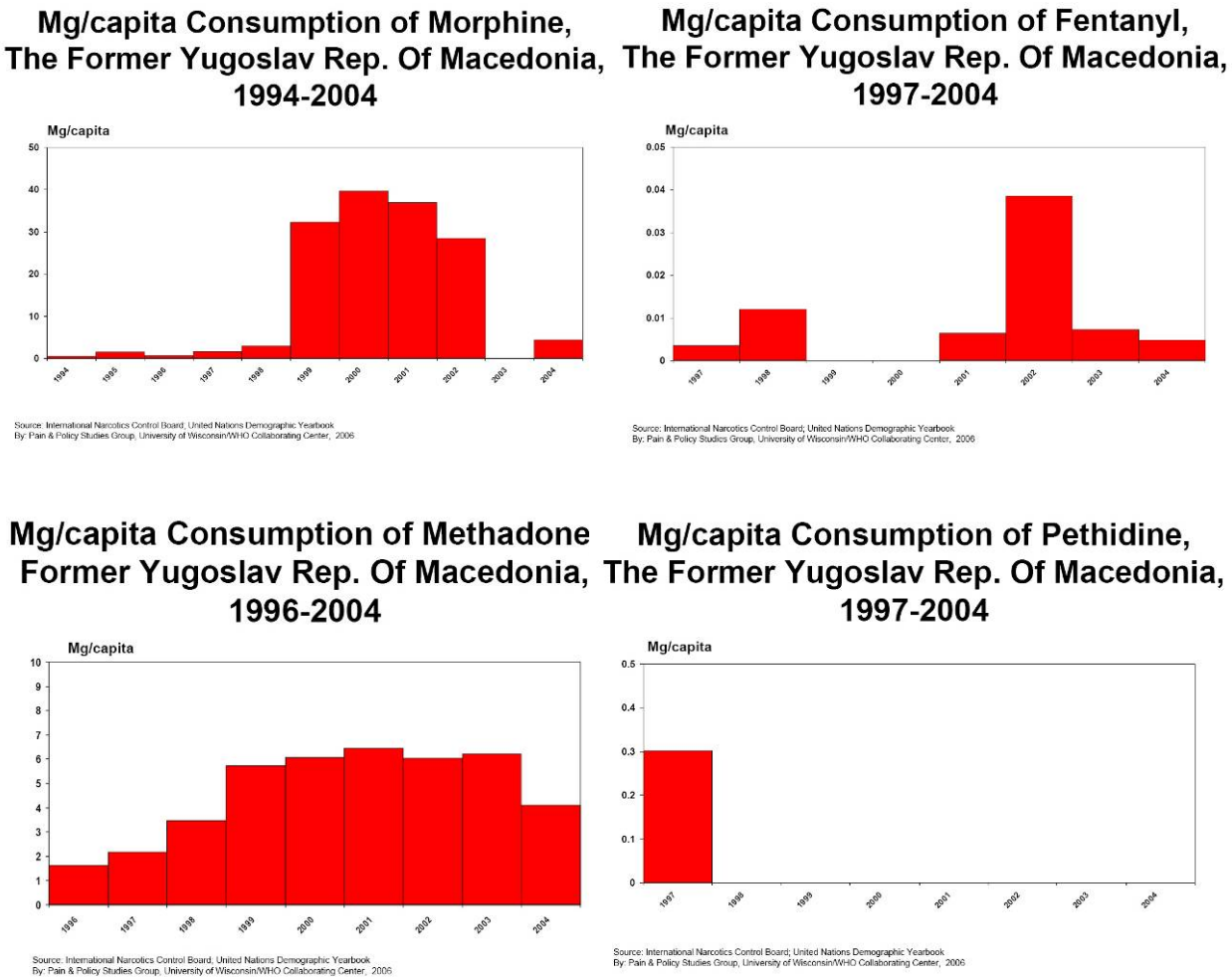
Importation quota

In 2004, the International Narcotic Control Board, Vienna (INCB) reported that the quantity of morphine consumed in Macedonia for medical purposes was 4.358 mg/capita. [26] The quantity of morphine, methadone, codeine and pethidine used in Macedonia over the last several years is shown in Figure 27.

When multiplied by the 2004 population of 2,032,544, this implies that Macedonia consumed approximately 8.9 kg of morphine that year. However, staff of the Pharmaceutical Bureau in Macedonia indicated that this was not the quantity consumed but instead the amount of morphine that was produced in the country for both internal use and exportation.

Neither opioids other than morphine nor imported opioids was included in this figure. Also not included was Tramadol, an analgesic with 1/10 the potency of morphine, which is widely used across Macedonia.

Figure 27: Opioid Consumption



INCB Annual report, 2004 [26]

Prescribing/Dispensing

Indications: For non-terminal patients in pain, doctors most often use non-opioids and tramadol. Fentanyl is often used perioperatively.

Opioids are most often used for cancer patients in the terminal phase of their illness, when a doctor declares that curative therapy has failed to help the patient. Intravenous morphine is rarely given at home; it is mostly used in inpatient settings. Sometimes morphine is administered intramuscularly or subcutaneously. The pediatric unit at the Oncology Institute in Skopje report that they occasionally have Fentanyl patches, but only when a donor provides them.

Prescribing: For outpatients, while opioids must be recommended by a specialist, they can only be prescribed by the patient's general practitioner. The specialist cannot prescribe the medications (Articles 85 and 101 of the Law on Medicaments).[27]

Each outpatient opioid prescription for morphine, codeine or methadone must be written on a duplicate prescription form. Other opioid analgesics, including tramadol, are prescribed on standard prescription forms.

Dispensing: About 70% of the 650 pharmacies in Macedonia are registered to stock and dispense opioids. The dispensing pharmacy records each prescription in an opioid tracking ledger, including the name of the prescribing doctor, the nurse who will administer the medication, and the pharmacist who dispensed the drug. To pick up the medication, the patient must show personal identification, which is also recorded in the prescription record.

Only one vial or package of medication can be included per prescription (based on the way the manufacturer packages the medication), e.g., 10 lozenges of 20 mg sublingual morphine (total 200 mg morphine) or 10 lozenges of 10 mg sublingual morphine (total 100 mg morphine).

Illegal Drug Use

Macedonia is on several transit routes for illegal drugs, including heroin from Turkey, hashish from Afghanistan, marijuana from Albania, and synthetic drugs from Serbia, Bulgaria, and Romania. Within Macedonia, heroin and marijuana are the most-used substances; there is also some cocaine use. The MOH and Ministry of Internal Affairs collaborate to control the Illegal trading of legal drugs.

Education

Curricula, Courses, Professionals, Trainees

At present there is very little training in palliative care in Macedonia. The only formal training in palliative care by the end of 2006 was in the college-level nursing courses at the three campuses.

> In Macedonia, there are no specific education and training opportunities in end of life care. – Prof. Dr. Sofijanka Glamocanin, Director, Oncology Institute, Skopje

> We need to have education in palliative care. We need guidelines from abroad on how to treat patients, and special literature to educate nurses in palliative care. – Velka Gavrovska Lukic, President of the Macedonian Assoc. of Nurses and Midwives

In 2007, a 5-volume CD-ROM collection on evidence-based medicine translated into Macedonian, was published and disseminated. It includes sections from the Cochrane Database on geriatric care, homecare, and pain management.

> The Cochrane guidelines are hard for us to implement as we don't have the basics, like extended-release morphine. – Dr. Adzic, Sue Ryder Hospice, Skopje

Educational Resources

In 2001, palliative care materials on cancer pain management were translated into Macedonian by Prof. Dr. Sofijanka Glamocanin. These were distributed to students of nursing schools and the medical faculty. It was not clear whether these were also translated into Albanian.

Continuing Education Courses for Practicing Professionals

The first training in palliative care was organized by Sue Ryder Care in 2004. Pain control and communication skills were presented to 60 health care professionals. A subsequent symposium on palliative care was presented to family doctors in 2006, most of whom came from countries neighboring Macedonia.

Expert Training

There is no medical specialization in either gerontology or palliative care. Anesthesiology is a separate specialization in medicine, and many anesthesiologists work specifically on pain control, rather than exclusively in operating theaters.

> Palliative care is not recognized as a medical specialty and there are no chairs in palliative care in any university. – Prof. Dr. Sofijanka Glamocanin, Director, Oncology Institute, Skopje

Nursing has no specializations as yet, but palliative care could be a candidate for inclusion when this happens.

> I've pushed for 15 years for nursing schools to have a gerontology specialization. A nurse can diagnose something like constipation and treat it. But nurses need better training. – Dr. Adzic, Sue Ryder Hospice, Skopje

Courses for Trainees

The nursing schools have a minimal amount of palliative care training, but the medical students and social work students do not. Theology students in the Orthodox and Muslim traditions are taught to provide support to their ill and bereaved parishioners, but could benefit from specific palliative care training.

> There is an urgent need to work out a minimum obligatory program of skill-training in pain management and palliative medicine for implementation in the curricula of all medical and nursing schools, followed by postgraduate education of clinicians. – Prof. Dr. Sofijanka Glamocanin, Director, Oncology Institute, Skopje

> We need more practical work in palliative care for nursing students. And the ethical dimensions of palliative care need to be taught. – Dr. Mirchevska, Nursing instructor, Bitola

In the social work curriculum, two courses called "Social Gerontology" and "The Elderly and Social Policy" teach about support of the elderly, but there is no specific palliative care course work. These courses are presented in the last two semesters of the four-year social work curriculum.

Family Caregiver Training and Support

The authors did not find any programs for family caregiver training or support.

Media & Public Advocacy

The NGOs have utilized the media to raise funds for their projects, and televisions and radios are widely available. Palliative care has not been a focus of media attention, however.

Implementation

Opinion leaders

Individual Macedonian clinicians have developed expertise in palliative care because of personal interest in the subject. There has been no formal process to identify or acknowledge national or local opinion leaders.

Existing Palliative Care Programs / Services

Inpatient Palliative Care

Many patients die in secondary and tertiary level inpatient facilities. While there were a number of doctors and nurses who had received some pain management and other palliative care training, there were no specific palliative care consult teams, nor dedicated wards for palliative care.

> Palliative care is lacking here, we have no place for the patients and no staff. Our patients now are put in the “coma center” (for stroke, etc.) for 1-3 weeks, then there’s nowhere to send them so they stay there if no-one can take care of them at home. There’s no place for cancer patients in the terminal stages. ---Violeta Eftimova, President of NGO New Life

The existing social workers were primarily involved in obtaining benefits for patients and families.

Ambulatory Outpatient Clinics

The authors did not find any ambulatory outpatient clinics in Macedonia.

Inpatient Hospices

There are two hospices with a total of 150 beds in Macedonia. Both were founded by Dr. Mira Adzic with assistance from Sue Ryder Foundation in the United Kingdom, and others. The first hospice was opened in Skopje in 1998; the second in Bitola in 2001.

> Institutions like Sue Ryder should be only for the terminally ill. It’s hard for the family to have the patient at home. – Dr. Dimche Kuzmanovski, Surgeon and Director, Bitola General Hospital

> There aren’t enough beds to go around; it’s hard to get in (to the hospices). People prefer inpatient stay rather than homecare. ---Dr. Adzic, Sue Ryder Hospice, Skopje

> We can have a hospice in each city. – Dr. Peter Stefanovski, Oncologist, Oncology and Palliative Care, Bitola Hospital

Recognizing the need for hospice care for patients with advanced cardiovascular and other diseases, Sue Ryder Hospice in Bitola opened its doors to patients of all diagnoses. Currently, they estimate that about 50% of their patients are terminally-ill cancer patients. Both hospices have Orthodox Christian chapels. Neither has a designated place for Muslim prayer, although they accept patients of all ethnicities and religious affiliations.

In spite of Sue Ryder Hospice’s willingness to accept patients of any diagnosis in their Bitola facility, clinicians working with HIV patients are worried that their patients will not be welcome there:

> There's nothing now for HIV patients. We don't know if they are going to be accepted if we send them to Sue Ryder, so now they stay here till they die. The director of the Infectious Disease Clinic is very interested in supporting HIV patients. We are not familiar with what is necessary for palliative care here, we need help! One possibility is that we can use a facility owned by the infectious disease clinic. Now it's used by others, we aren't even sure who they are – in the southeast near Greece, on Dojran Lake. We would like to transform this into a place for people living with HIV/AIDS. We will need to renovate the building, hire and train staff, pay their salaries. Now the family takes care of patients but what happens if there's no family or if it's difficult for them to take care of the patient? ---Dr. Milena Stevanovik. HIV/AIDS Unit, Infectious Disease Clinic, Skopje

Long-term Care/Nursing Homes

Currently, the nine "homes for the elderly" and the tertiary-level Gerontology Institute do not fill the country's need for nursing home beds. There were no true multidisciplinary palliative care units, nor specific palliative care consult teams in any of the long-term care facilities.

Muslims do not like to utilize these long-term care facilities.

> None of our (Muslim) families go to a nursing home. We say it's bad for a person to go to a nursing home. This father or mother is the reason we are alive, they should be comfortable. We don't believe they can be treated better there. Old people don't want space, only their family's warmth and care. ---Bekir Halimi, Imam

Homecare

Only a few of the Patronage Visiting Nursing services provide palliative care at home.

In 2005, in Skopje, Sue Ryder Care established the first "domiciliary" (homecare) palliative care service. A second service started in Bitola in 2006. Each service has teams consisting of a doctor and a nurse with a car, who provide homecare patients living in an area surrounding the hospice facilities. The Skopje service had 158 patients in one year, about half of whom were cancer patients. There are no social workers or chaplains on these homecare teams.

The Muslims who were interviewed were confident that their community was caring for their own population at home more than adequately.

> Care within the Muslim community is at a very high level. The whole family takes care of the sick person. There are really no problems with people facing death. Muslims are rarely left alone when death is near. This is all addressed in the family. Besides serving and caring, they pray for God to make death easy for him. Everyone believes that if a person is a loyal believer he will only change place and continue at the same level in the new life. Muslims say nursing homes are degrading. In our communities here there are no nursing homes. If a person is alone, the neighbors are there to care for them. In the Gerontology Institute, there may be Muslim people there because their family has migrated to other countries for work. – Miratija Ajeb-Zainu, MD

Daycare

There are no palliative care daycare programs in Macedonia. Some patients may be admitted to the Sue Ryder hospices for day care, but this seems to be more an accommodation for particular patients rather than an actual daycare program.

Pediatric Palliative Care

The director of the pediatric ward at the Oncology Institute in Skopje, Dr. Glamocanin, is one of the pioneers championing the need for palliative care in Macedonia. While some of the children stay at the Oncology Institute until they die, most return home to die without access to palliative homecare. There was no specific palliative care service for children in any setting in Macedonia.

Bereavement Care

The authors did not find any bereavement counseling programs in Macedonia.

Trained Personnel

Although there have been several trainings in pain management, and many staff were familiar with the WHO 3-step pain ladder, the authors found no staff who were aware of the difference between neuropathic and nociceptive pain. Most doctors and nurses who were interviewed were uncomfortable using a numeric pain scale, with or without the accompanying happy and sad faces. In fact, the faces were viewed as comical and inappropriate given the serious nature of terminal illness. Most staff just ask if the patient is in a little or a lot of pain, without asking about the quality of the pain.

> MDs think patients should be in some pain. There need to be guidelines for treatment of pain. I treat many patients with pain, but in Macedonia we don't treat pain sufficiently. There's a view that patients can manage, can bear it, so we give them one level below what they should have to relieve their pain. – Dr. Dimche Kuzmanovski, Surgeon and Director, Bitola General Hospital;

> I prescribe an accurate dose, as it should be. Patients are satisfied. – Dr. Peter Stefanovski, Oncologist, Oncology and Palliative Care Department, Bitola Hospital

Strategic & Business Plans – Resources, Infrastructure

The authors did not find any strategic or business plans related to the future development of palliative care in Macedonia.

Standards, guidelines, measures

There are no widely accepted palliative care standards, guidelines or outcome measures in Macedonia.

> No palliative care curriculum, guidelines, or standards are published. – Prof. Dr. Sofijanka Glamocanin, Director, Oncology Institute, Skopje

> We need to make our own standards, following the Council of Europe guidelines. – Dr. Adzic, Sue Ryder Hospice, Skopje

Discussion/Next Steps

General Situation

Macedonia is a small country with a population of only 2 million. The majority (59%) of the population resides in urban areas; the remainder lives in relatively accessible rural areas (41%).

Macedonia is made up of several distinct ethnic groups, each with its own cultural and religious perspectives. Ethnic Macedonians are in the majority and most of them are Macedonian Orthodox Christians, followed by ethnic Albanians who are primarily Muslims, as well as ethnic Turkish, Roma, and others. Each ethnic and religious group has its own perspective that must be considered when developing any aspect of the healthcare system.

Approximately 11% of the people are over 65 years of age. This proportion is increasing steadily. With an average life expectancy between 71 and 75 years, this group is at high risk for developing chronic life-threatening illnesses, and dying. At present geriatric medicine is not a recognized specialty, and the prevalence of frailty and dementia are unknown. These conditions may be reported as cardiovascular deaths.

Each year, approximately 18,500 Macedonians die and at least twice as many (37,000) family members are affected by their illnesses. The top causes of illness/death may be driven by the high prevalence of smoking; 36% of the population smokes regularly. Cardiovascular diseases and cancer cause 57.4% and 17.8% of the deaths, respectively.

Of the 5,500-6,000 new cases of cancer each year, most originate in the bronchi & lung, breast, stomach, cervix or larynx. While exact data was not available, interviewees suggested that many of the new cancer cases present to the health-care system with late stage disease. Table 2 lists the therapies most effective for these cancers. Palliative care is the only effective therapy for all advanced-stage cancers and for virtually all lung and stomach cancers, even when they present at an early stage.

Table 2: Common Cancers and their Treatment

Primary site	Primary prevention	Early diagnosis	Curative therapy	Palliative care
Lung	++	-	-	++
Breast	-	++	+	++
Stomach	+	-	+/-	++
Skin	++	++	++	++
Cervix	++	++	++	++
Larynx	++	++	++	+
Legend: ++ effective; +/- partially effective; - not effective				

Courtesy Frank D. Ferris, MD

HIV/AIDS is not currently a significant problem or cause of death. It could become one if injection drug use continues and HIV enters the needle-sharing population.

With the current economics and unemployment in Macedonia, guaranteeing the constitutional right to access to healthcare is a great challenge, particularly when the country is already not able to pay for what has been promised. The integration of

palliative care into the healthcare system today can ensure that patients and families living with advanced illness get the best quality and most cost-effective care to:

- Improve their capacity to live life to the fullest
- Decrease their risk of financial devastation and impoverishment of the surviving family members
- Improve family members' bereavement experiences and help them reintegrate into society

Palliative care can also reduce the total costs of healthcare per patient with advanced illness by ensuring that patients get the most effective therapy. This will leave the Macedonian government with more healthcare resources to facilitate the development of effective preventive, early detection and treatment systems.

Current Situation Related to Palliative Care

As of the end of 2006, Macedonia appears to be well positioned to make the changes to ensure that all palliative care patients receive excellent care. The authors' review of the current situation in Macedonia has demonstrated that palliative care is in the early stages of development. While a small number of local champions have made significant contributions, considerable changes are needed to fully integrate palliative care into the country's public and private healthcare systems.

While in principle the government supports care for the terminally ill, and funds the care through the HIF, no resources have been allocated to develop a strategy to build effective palliative care programs with skilled professionals and volunteers. Similarly, there have been only a few non-governmental efforts to build palliative care capacity.

To fully integrate palliative care into the healthcare system and community following the WHO Public Health Model, the authors recommend that:

- Macedonian leaders develop and implement a strategic and business "action plan". This will require the participation of the Ministry of Health, the Health Insurance Fund, the Ministry of Labor and Social Services, the Ministry of Education, the Medical and Pharmacy Chambers, existing NGOs, private pharmaceutical companies, private clinics, private nursing homes, the media, and the general populace. Throughout Macedonia, much education, awareness-raising and cooperation will be needed.
- Macedonia invite external international experts to facilitate the process using the developmental steps below.

> I am looking for international consultants to help us decide what we can do here. We really don't have expertise in palliative care. ---Vladimir Lazarevik, MD, MPH, Deputy Minister of Health

Developmental Steps

Step 1: Engage Opinion Leaders

In addition to the self-identified local champions, identify key governmental and nongovernmental opinion leaders from across the country who could become champions for palliative care. Include policy-makers, drug and financial regulators, clinicians (including doctors, nurses, pharmacists, and social workers) and spiritual leaders, administrators from the healthcare system, community organizations, patients and families, etc. Collaborate with the involved governmental ministries. Consider involving local/regional WHO representatives.

Step 2: Situational Analysis

Fill in the missing data that could not be gathered during this situation analysis/needs assessment, such as the proportion of cancer patients who present with late stage disease, and the cost of medications.

Survey the population in each area to see what mix of palliative care services they prefer in their area --- homecare, inpatient care, or day care.

Finish the health mapping exercise, so that existing facilities and staffing can be matched with the numbers and types of patients in each geographical area.

> We need information about patients from the Health Protection Institute. We need to follow each patient through the course of their disease and then only can we design a palliative care system for the country. We need this information to determine how palliative care will look. We need to see what the statistics are, compare with the situation in other countries, and see what equipment and staff are needed. – Dr. Mirchevska, Nursing instructor, Bitola

> Palliative care is new in our environment. 5-10 years ago we first started to think about it. Previously even MDs didn't know about it, whereas in the US you've been practicing palliative care for years. There's definitely a problem, with the elderly population growing and chronic diseases increasing. We need to get precise information on the types of patients and their needs. – Doncho M. Donev, MD, PhD, Professor, Medical Faculty and Director, Institute for Social Medicine

Step 3: Develop an Action Plan

Host a workshop with the identified key governmental and nongovernmental opinion leaders and international expert facilitators to produce a consensus-based report and action plan, with a timeline for addressing each of the four components of the WHO Public Health Model and outcome indicators for each component.

Step 4: Establish a National Steering Committee

Once an action plan is in place, establish a national steering committee of key opinion leaders to coordinate the overall process in collaboration with the international expert facilitators. Establish workgroups to oversee each of the four components of the plan.

Step 5: Develop the Components of the Detailed WHO Public Health Model

Based on the action plan, develop each component of the model and measure the outcomes in sequence, as per the action plan. Before embarking on extensive

education and implementation strategies, ensure that policies and drug availability issues are addressed and in place. These components are all inextricably linked, i.e., it is not realistic to import opioids unless appropriate prescription rules are in place and bedside-training courses can be guaranteed; similarly, to minimize clinician, patient and family frustration, do not embark on training without having the appropriate policies and drug availability.

Policy

Palliative Care Part of National Health Plan, Policies, Related Regulations

Give pain relief and palliative care a prominent position as a priority in the Macedonian Health Strategy. Incorporate them into related disease management plans, as they develop e.g., the national cancer control plan, the HIV/AIDS and cardiovascular disease strategies, etc.

Funding/service Delivery Models Support Palliative Care Delivery

The development of enhanced funding and service delivery models will help to ensure that palliative care is delivered effectively wherever it is needed.

Give palliative care a prominent position as a priority in the various mechanisms for funding healthcare in Macedonia, e.g., the Health Insurance Fund, the Pensioners' Fund, etc.

> We need to put palliative care in the pensioners' fund, otherwise we can't continue to pay for it. Need to make sure that private contributions from salaries are collected (income tax). Have a private and public partnership, through local government, it'll be more effective this way. For example, you could arrange for 20 beds in an existing building, or offer free water or utilities, etc.. – Mihajlo Kostovski, Assistant Manager, Health Insurance Fund

Caregiver compensation is already available in Macedonia. Consider enhancing caregiver compensation by providing income tax relief. Create legislation to ensure that caregivers will not lose their jobs because they are absent from work while providing care to a terminally-ill family member.

Drug Availability

Essential Medicines

Almost all of the “essential medicines” recommended by WHO and the IAHPC are available in Macedonia and included on Macedonia's Positive List of Drugs. To ensure that all medications for terminally-ill patients are paid for through the HIF, expand the Positive List of Drugs to include all of the essential medicines recommended by WHO and the IAHPC.

Opioids

The current obstacles to good pain management include:

- the two-tier system for prescribing an opioid, whereby a specialist needs to recommend its use before the patient's general practitioner can prescribe it
- the limitation of only 1 package of an opioid formulation per prescription, which in turn limits the maximum dose that can be prescribed any one time based on available medication formulations
- importers not registering unprofitable medications
- unavailability of slow-release morphine in Macedonia

While a number of opioid formulations are already available in Macedonia, ensure that additional strengths of oral immediate-release morphine tablets and liquids, and 30, 60 and 100 mg slow-release morphine tablets are always available in the country.

Cost

Manufacture or import low-cost, generic formulations of the opioid and non-opioid analgesics on the WHO Essential Medicines list through a tendering process that minimizes the cost of these medications to the HIF, and to patients and families who are not terminally ill and must pay for them privately.

Importation Quota

Ensure an adequate supply of cost-effective opioids in Macedonia so that everyone has access to the quantity they actually need, where and when they need it, to control their pain and breathlessness.

Experience suggests that approximately 60% of patients dying from cancer will experience moderate to severe pain during the course of their illness. An average of 100 mg of oral morphine per day for the last 100 days of each patient’s life (total 10 gm) will likely be sufficient to control most cancer patients’ pain. A few patients will require an alternate route of administration to control their pain. Other opioids may be required for a few patients who experience undesirable side effects from morphine.

As an example, during 2004, when 3,194 people died of cancer, approximately 1,916 patients would have experienced moderate pain during their illness. A total of 19.16 kg of morphine would have been needed to control their pain. This estimate was more than

twice the actual amount of morphine produced in Macedonia in 2004, without including the needs for surgery patients and other indications.

Increase the INCB morphine importation quota each year to keep pace with the increasing need. To ensure that there is an appropriate mix of morphine formulations available in the country, the recommended proportions of opioids are:

- 30% immediate release oral morphine (oral morphine is generally the least expensive to produce)
- 60% slow-release oral morphine (not available in Macedonia)
- 5% injectable morphine (preferably delivered subcutaneously or intravenously)
- 5% other opioids [25]

Prescribing and dispensing

Change the prescribing and dispensing laws and regulations. The laws and regulations must permit any doctor caring for a patient with pain or shortness of breath due to any diagnosis to prescribe the dose and quantity of opioid medication by whatever route of administration the patient needs to control her/his symptoms for a reasonable period of time, e.g., 30-90 days. Don't restrict the use of opioids to patients who are terminally ill.

Don’t restrict dispensing based on available formulations and packaging.

Continue to account for opioid prescriptions using the appropriate INCB guidelines.

Education

Curricula, Courses, Professionals, Trainees

All practicing healthcare professionals and trainees will need education in the core competencies of palliative care tailored to their scope of practice.

Educational Resources

Develop educational resources and curricula for doctors, nurses, pharmacists and social workers in collaboration with international experts. Where possible, adapt existing curricula such as The Education in Palliative and End-of-life Care (EPEC) curriculum, [28] the EPEC-Oncology curriculum [28], the End-of-life Nursing Education Consortium (ELNEC) curriculum[29], and others.

> We need to teach courses in palliative care in the higher (college level) nursing courses. I am on the faculty for higher nursing in Bitola, and will teach palliative care next year. They will receive one hour of lecture and 2 hours of practice. We need materials to teach these nurses, and people to come as visiting professors from abroad. We would like to have an exchange program. ---Dr. Petar Stefanovski, Oncologist, Oncology and Palliative Care, Bitola Hospital

> We need good managers, and nurse managers especially for palliative care. Now MDs teach the nurses, we need to have more nurses in nursing education. Nurses only have 3 years of college so can’t go on to get a Master’s degree, this is what is preventing nurses from being professors. ---Polonca Nikokujka, Nursing chief, Oncology Unit at Bitola Hospital

> Good will from the US and UK can help in educating, etc, but we can't be a copy of these countries. We need to do what works for Macedonia, our situation, right now. – Dr. Adzic, Sue Ryder Hospice, Skopje

Continuing Education for Practicing Professionals

Develop a special educational program on pain assessment and management, and the prescribing, dispensing and control of opioids appropriate to the practices of doctors, nurses and pharmacists.

To meet doctors' continuing education credit requirements, offer credits to participants who complete each palliative care course.

Provide palliative care awareness courses for policy-makers, regulators and drug enforcement officials.

Expert training

To increase palliative medicine's recognition as an important part of medical care, encourage the Medical Chamber to make palliative medicine a specialty in Macedonia.

> The problem is that there's no recognition of palliative care as important, there are no specialists in palliative care. Only recently we've gotten the two Sue Ryder Care hospices and trainings through Sue Ryder in the UK. – Peter Stefanovski, MD, Oncologist, Oncology and Palliative Care, Bitola Hospital

Define expert competencies for all doctors, nurses and pharmacists who will be working as palliative care experts.

Select a few doctors, nurses, pharmacists and social workers who will be working as palliative care experts and provide them with expert training outside of Macedonia.

Develop volunteer and bereavement education programs.

Courses for Trainees

Include palliative care in the curricula for medical, nursing, pharmacy and social work trainees, with practical experiences in the existing hospices or new palliative care services.

Include questions related to palliative care in professional licensing examinations.

Family Caregiver Training and Support

Develop programs to train family caregivers in the specific skills they will need, and support them.

Media & Public Advocacy

Develop strategies to increase public, patient and family awareness of palliative care, and increase their expectations related to their healthcare.

Engage public and healthcare media to disseminate these messages.

Implementation

Opinion Leaders

Identify new existing and potential national and local clinical and administrative opinion leaders who will champion the development of palliative care in Macedonia.

Palliative Care Programs/Services

Develop detailed strategic and business plans to integrate specialized palliative care services in a stepwise manner into the Macedonian healthcare system based on the national action plan and locations of patients with target illnesses, e.g., cancer, cardiovascular diseases, the debilitated elderly, AIDS.

Include palliative care services provided by both the healthcare system and the community, including:

Within the healthcare system:

- inpatient units and consult services in both acute and long-term care facilities
- ambulatory outpatient clinics
- homecare and daycare services

Within the community:

- nongovernmental organizations
- disease-specific and religious support groups

Inpatient Palliative Care

Develop inpatient specialized palliative care consultation services and/or inpatient units in secondary and tertiary level inpatient facilities with a considerable number of patients with targeted diseases, e.g. cancer, cardiovascular disease, the elderly, AIDS, and/or a large number of people dying each year.

The low occupancy rate in secondary and tertiary level inpatient facilities may provide an opportunity for shifting hospital usage to include inpatient hospice, palliative care and skilled nursing beds. The new Deputy Minister of Health suggests that nursing homes or palliative care units may be established in hospitals and parts of hospitals that are no longer needed. The Medical Map project, conducted by the Ministry of Health and the Republic Institute for Health Protection, is progressing and will be used as a planning tool to match needs with resources.

> I would like to downsize hospitals and convert some of them to hospices. Now they are running part empty and at a loss. I am looking for international consultants to help us decide what we can do here. We really don't have expertise in palliative care. ---Vladimir Lazarevik, MD, MPH, Deputy Minister of Health

Ambulatory Outpatient Clinics

Develop outpatient clinics in selected settings with a significant concentration of ambulatory patients needing palliative care.

Domiciliary Palliative Care and Patronage Home Nursing Visits

As noted earlier, the Patronage system is well developed, but unevenly spread in function and staffing throughout the country.

Expand and train the Patronage Visiting Nursing and/or the Sue Ryder Hospice domiciliary services to provide much more palliative homecare.

> Homecare should have a bright future here, not enough has been done as yet. It's much less expensive, and more appropriate for patients and families. Homecare providers give infusions, oxygen, feeding. Patients and families don't understand the purpose of homecare. More care can be done at home, it costs less and keeps the connection with the family alive. – Dr. Dimche Kuzmanovski, Surgeon and Director of Bitola General Hospital
>
> For homecare, we first must improve the vehicles they use, and then check to see if the number of visits is adequate. – Vladimir Lazarevik, MD, MPH, Deputy Minister of Health
>
> In 1989 on World Health Day, I presented a paper on how Patronage (visiting nurses) should be expanded to protect the whole family when the patient is in the final phases of a disease. At that time I advocated for 1 Patronage sister per 3000-5000 urban population and 1 per 2000-4000 rural population. I think the same would hold today. –Doncho M. Donev, MD, PhD, Professor, Medical Faculty and Director, Institute for Social Medicine
>
> We need to spread more domiciliary care, it (Sue Ryder Care's homecare in Skopje) has only been in place one year, with Soros funding. They have funded it for 2 years. There is as yet no evaluation, but I think it's going in the right direction. But money comes from abroad and then it stops. We will have to find a way to continue, and to transplant it to smaller towns. – Prof. Gjorgji Zografski, Pathology laboratory head, also Chairman of the Board for Sue Ryder Hospice
>
> When I was in Patronage, we identified cases on our own, and some came from the emergency services. We trained the families how to care for patients. If the patient had bedsores, the nurses came each day to help them. Our patients were pain free. At night the emergency service took over. We cooperated and helped each other, the patients had 24 hour coverage. I would like this to continue as it was very beneficial for patients. The families got to know the teams well. We collaborated with social services to help the patients. But the new health system has the nurses' role changing to become assistants to family doctors. The family nurse is supposed to work with the family doctor in the office, and she won't be able to go out to homes. I advocate for keeping Patronage nurses as visiting nurses, not just maternal-child nurses. Births are decreasing here so this is not the solution. There should be a Patronage service using nurses to visit palliative care patients, especially in rural areas ---Velka Gavrovska Lukic, President of the Macedonian Association of Nurses and Midwives
>
> We need to examine the homecare departments in Skopje, Bitola, Ohrid, Prilep, and other cities, to see which of the Health Centres actually have homecare departments. Some homecare services are part of the emergency services. Choose some of the homecare teams to just do palliative care. Educate the MDs and nurses on these teams. Palliative care at home is close to our culture, both patient and family want the patient to stay at home. --- Dr. Petar Stefanovski, Oncologist, Oncology and Palliative Care, Bitola Hospital
>
> Patronage is important. Very often we (the Muslim community) have problems with Patronage – there are insufficient vehicles, or they are not prepared to go to homes when they are needed. It's a big problem in the cities, the population is growing so fast. It would be good to work with NGOs. Our people want to die at home, not in hospital. The main

problem is that we don't like to see the corpse being cut up, and there has been a practice of doing autopsy on any patients. People are still afraid of this. –Miratija Ajeb-Zainu, MD

For homecare, specialized care is needed, otherwise the Islam community is very well organized. We thought how to fundraise for a homecare center, but those who would volunteer have other jobs. It's hard to find a team, beginnings are difficult. Also, for a day care center, it's difficult to find a building. We Muslims do have a lot of fundraising, we can just go on the radio and ask people to call in with 100 denar. But to start up we need major donations. And once it's set up, there are operating costs. There are at least 10 empty buildings in Tetovo, but we'd need money to renovate and maintain them. If the state can donate a building without excessive terms, it would be good. Politicians and officials are more interested in fighting over these things. In Tetovo there's an abandoned tobacco factory. Best would be a brand new building but that's probably not possible. ---Miratija Ajeb-Zainu, MD

Long-term Care

Incorporate palliative care services into the "homes for the elderly."

Dementia is another diagnosis for which inpatient nursing facility beds are needed. Provide more long-term beds that include palliative care services in each major geographical area of the country.

Empty government buildings and monasteries are possible locations for palliative care programs/services.

There are some monasteries, such as one monastery turned into a restaurant in Skopje, now it's empty. We could use this for older monks, and for palliative care for others. This would be church-based care, not for those of other religions. And near Kochani where I live, the NGOs and government and others are joining together to establish a home for the elderly. There is none in the whole eastern region. The local government will give land for a building, but we'll need support. We will serve people in a 50 km. radius. This project is for all cultures and religions. – Father Petar Jordanov, professor of pastoral theology and priest

Day Care

Consider establishing daycare programs if the number of patients in need in a geographic area is sufficient.

For the terminally-ill, we should establish centers where people with similar conditions can meet and talk. So they can compare, understand each other's condition, socialize, not be isolated. We have so much care but they can feel isolated. This is problematic. We try to address this now within the family, taking them to meet others with their same diagnosis. But if this could be institutionalized it would be much better, with same-age groups, say for children. Maybe it's too much to ask but it could be very good. – Miratija Ajeb-Zainu, MD

Trained Personnel

Ensure that there is an adequate supply of trained personnel to staff all the palliative care services and long-term care facilities.

It's best to employ young people as they have progressive ideas, even people just out of high school, we train them. If they have worked some years in the public sector their attitude is spoiled. – Meri Terzieva, owner of Meri Terzieva Nursing Home (private)

Community Support

A number of interviewees suggested partnerships between the government and NGOs and the local people in the communities.

Encourage community participation through the development of more NGOs and volunteer support organizations and services interested in specific disease sites, e.g., breast cancer, diabetes, the elderly, AIDS, church and other volunteer support groups.

Standards, guidelines, measures

As the palliative care organizations develop and the community grows, facilitate both national and organizational strategies to develop common language, values and principles guiding palliative care practice, consensus and evidence-based standards of practice, clinical practice and specific treatment guidelines and outcome measures and indicators.Implement an ongoing quality improvement program in each palliative care service.

Summary

Macedonia is in the early stages of implementing palliative care through a number of self-identified opinion leaders. Many more palliative care services are needed to care for the patients in need in the country.

Through expert facilitation and a national action plan that includes the resources needed to effectively reduce suffering and improve the quality of life of patients with advanced life-threatening illnesses, palliative care will be successfully integrated into healthcare in Macedonia.

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Appendix A: WHO Definition of Palliative Care

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care:

- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;
- offers a support system to help the family cope during the patients illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
- will enhance quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

WHO Definition of Palliative Care for Children
Palliative care for children represents a special, albeit closely related field to adult palliative care. WHO's definition of palliative care appropriate for children and their families is as follows; the principles apply to other paediatric chronic disorders (WHO; 1998a):

- Palliative care for children is the active total care of the child's body, mind and spirit, and also involves giving support to the family.
- It begins when illness is diagnosed, and continues regardless of whether or not a child receives treatment directed at the disease.
- Health providers must evaluate and alleviate a child's physical, psychological, and social distress.
- Effective palliative care requires a broad multidisciplinary approach that includes the family and makes use of available community resources; it can be successfully implemented even if resources are limited.
- It can be provided in tertiary care facilities, in community health centres and even in children's homes. [1]

Appendix B: Interview Schedule for Macedonia Palliative Care Situation Analysis/Needs Assessment

November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
27 November	The Pharmacy Bureau, Ministry of Health	Mr. Ilcho Zahariev, Director of the Pharmacy Bureau, Ministry of Health		The Pharmacy Bureau, Ministry of Health; 50 Divizija 6, 1000 Skopje
		Mz. Vesna Nasteska, Head of Dept for registration of medications		
		Mz. Tatajana Petrushevska, Head of Dept for meidcal supplying of narcotic drugs and precursors	tel: +389-2-3112-500 ext.127; e-mail: farmac@mol.com.mk	
28 November	Sue Ryder Care Hospice, Skopje	Dr. Mirjana Adzic, Director of Sue Ryder hospice-Skopje	tel: +389-2-2039-315; +389-2-2032-615 web: www.suerydercare.org.mk e-mail: skopje@suerydercare.org.mk	Sue Ryder hospice-Skopje 4 Juli 129 1000 Skopije Macedonia
		Dr. Lidija Pavleska		
		Dr. Liljana Veselinovska		
		Dr. Miroslav Bojadzievski		
		Dr. Borjan Pavlovski		
		Prof. Kiro Velkov, oncologist-conusltant/ retired		

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November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
28 November	Medical Faculty-Skopje	Prof. Mome Spasovski, Vice- Dean for international cooperation and Assoc. Prof. Gligor Dimitrov, Vice-Dean for health care	tel: +389-2-3165-155	Medical Faculty-Skopje, 50 Divizija 6, 1000 Skopje
29 November	Health Insurance Fund	Mr. Mihajlo Kostovski, Assistant manager	tel: +389-2-3289-000 mobile: +389-70-272-230 e-mail: k_mihajlo@yahoo.com web: fzo.org.mk	Health Insurance Fund, Makeddonija b.b. 1000 Skopje
30 November	"Meri Terzieva" nursing home	Mrs. Meri Pavlovska, owner Mr. Dime Pavlovski, owner	tel: +389-2-2401-712	Vladimir Komarov b.b., 1000 Skopje
30 November	Institute of Oncology web: oncology.org.mk	Prof. Snezana Smickoska, oncologist (former director)	mobile: +389-70-246-943	Institute of Oncology, Vodnjanska 17, 1000 Skopje
		Prof. Gjorgji Zografski, pathologist, Chief of the pathological laboratory	mobile: +389-70-233-708	
		Dr. Slavica Kraleva, oncologist		
30 November	NGO "Zivotna Iskra"	Mrs. Violeta Tomovska, president	mobile: +389-75-676-167	

Appendix B: Interview Schedule for Macedonia Palliative Care Situation Analysis/Needs Assessment

November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
	(life spark)	Mrs. Teuta Krasnica-Cuckova, Vice-president	mobile: +389-71-210-577	
1 December	Sue Ryder Care Hospice-Bitola	Dr. Evangelos Papadimitriu, chief		
		Polonca Nikokujka, chief nurse		
1 December	Bitola General Hospital	Dr. Dimche Kuzmanovski, surgeon, Director of Bitola Hospital	tel: +389-47-251-211 ext. 200 mobile: +389-70-339-459	Bitola General Hospital, Partizanska b.b. 7000 Bitola
	Bitola General Hospital, Oncology & palliative treatment unit	Dr. Petar Stefanovski, oncologist, chief of oncologu and palliative treatment unit		
	High Nursing School-Bitola	Dr. Snezana Stoilova, Director,		
	High Nursing School-Bitola	Dr. Lenche Mirchevska		
4 December	Ministry of Health	Dr. Vladimir Lazarevik, deputy-minister	tel: +389-2-3216-206 fax: +389-2-3113-014 e-mail: vlazarevik@gmail.com web:	Ministry of Health, 50 Divizija 6, 1000 Skopje

Appendix B: Interview Schedule for Macedonia Palliative Care Situation Analysis/Needs Assessment

November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
			zdravstvo.gov.mk	
4 December	UNAIDS	Dr. Vladanka Andreeva, National HIV/AIDS adviser	tel: +389-2-3249-575 fax: +389-2-3249-500 e-mail: vladanka.andreeva@undp.org	8 Udarna Brigada 2, 1000 Skopje
5 December	NGO "Nov Zivot"	Mrs. Violeta Eftimova, president of NGO "Nov Zivot" and Dr. Biljana Eftimova		NGO "Stip"-Stip
6 December	Macedonian Orthodox Church	Father Petar Jordanov, priest, professor of pastoral theology	tel: +389-33-371-353	Macedonian Orthodox Church, bul. Partizanski Odredi 12, 1000 Skopje
		Don Dejan Strackovski, charity branch of Macedonian Orthodx Church	Telephone: 389-2-3215-670 Home: 389-2-3067-701 Mobile: 389-70-221-228 Email: crkva2002@yahoo.com	

Appendix B: Interview Schedule for Macedonia Palliative Care Situation Analysis/Needs Assessment

November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
6 December	National HIV/AIDS coordinator	Dr. Milena Stevanovik, National HIV/AIDS coordinator		Clinic for infectious diseases, Vodnjanska 17, 1000 Skopje
7 December	President of the Nursing Association of Macedonia	Nurse Velka Lukic-Gavrovska	Phone: +389-70-252-905 Email: lukicvelka@yahoo.com	Clinic for Psychiatry, Vodnjanska 17, 1000 Skopje
7 December	NGO Peperutka ("Butterfly")	Natasha Kotlar, president and founder	Phone: +389-2-3231-384; +389-70-217-431	Naroden Front 5-3/63, 1000 Skopje
8 December	Pediatric Oncology Unit, Clinic for pediatrics	Prof. Sofijanka Glamocanin, pediatritian; head of the pediatric oncology unit	Phone: +389-2-314-7711; +389-2-314-7473	Clinic for Pediatrics, Vodnjanska 17, 1000 Skopje
		Kata Martinova, MD, Dr. Sci, Pediatrician	Email Kata_martinova@yahoo.com	
		Asst. Dr. Zorica Trajrova-Antevska	Email zoricata@yahoo.com	
		Dr. Biljana Conesua-Jovanova	Email conesua@yahoo.com	
		Ass. Dr. Svetnana Voceva		

Appendix B: Interview Schedule for Macedonia Palliative Care Situation Analysis/Needs Assessment

November 27 to December 13 2006

Date	Meeting with	Present at the meeting	Contact information	Location&Address
11 December	National coordinator for prevention of chronic diseases	Prof. Doncho Donev, National coordinator for prevention of chronic diseases; Director of the Institute for Social medicine	Phone: +389-2-3147-056 Fax: +389-2-3298-581 Email:donev@freemail.org.mk	Institute for Social medicine, 50 Divizia Str. No. 6, 1000 Skopje
12 December	Muslim community (NGOs "Bamisa" and "Islam and Science"	Miratija Ajeb-Zainu, MD		
		Nesrin Saini, theologist		
		Bekir Halimi, theologist (Imam)		
13 december		Dr. Mira Adzic, Director of Sue Ryder Hospice-Skopje		

Appendix C: Questionnaires Developed for the Macedonia Palliative Care Needs Assessment

Note that these have been compressed. For the actual interviews the questions were printed to allow ample space for writing in the answers.

Educational Institution questionnaire

We are conducting a preliminary survey to find out the needs of patients who are terminally ill. Another team will be coming to develop a palliative care program, but they need to know what already exists. So we need to know what is actually done, not the ideal or how you think it should be done. Your opinions on what works and what does not work are valuable to us. We will combine the views of all those we interview in order to make recommendations for a future palliative care program.

Name of institution:

Address:

Phone:

Name of President/Chief Executive Officer:

Number and type of faculty:

Who is at the interview? Name: Position:

_____ _____

_____ _____

Who are your students?
Total numbers: _____

In this discipline (medicine, nursing) _____

Age range: _____ Most are aged: _____

Gender breakdown: _____ % men _____% women

Ethnicities: _____

Religions: _____

Geographical areas covered: _____

Years to finish: _____

What specialties do you offer?

What is your goal or primary aim?

Do you offer any course content in palliative care? (show WHO definition) What do you teach?

Do you have written guidelines or standard operating procedures for any aspects of the care of terminally ill patients?

What do you teach about assessing pain?

Are there guidelines for the prescription of pain medications? What are they?

Are there any restrictions on prescribing opioids? What is the procedure? Who can prescribe? Does anyone need to co-sign?

What is the highest dose of morphine you've seen prescribed?

What is your most successful achievement in the care of the terminally ill?

What are your greatest challenges in the care of the terminally ill?

What trends have you seen in mortality for specific causes over the past years? What do you see for future projections?

What would you like to see in place to manage the future trends?

If you could design a palliative care system for the Republic of Macedonia, how would it look? What works best here, inpatient, homecare, day care?

Would you recommend any policy changes?

Would you recommend any operational changes?

Do you foresee any obstacles to meeting the needs of all segments of the population?

Patient Care Institutions --- Inpatient, Outpatient, Hospices

We are conducting a preliminary survey to find out the needs of patients who are terminally ill. Another team will be coming to develop a palliative care program, but they need to know what already exists. So we need to know what is actually done, not the ideal or how you think it should be done. Your opinions on what works and what does not work are valuable to us. We will combine the views of all those we interview in order to make recommendations for a future palliative care program.

Name of institution:

Address:

Phone:

Name of President/Chief Executive Officer:

Total staff: MDs: _____ Specialties: _____

Nurses: _____ full-time, _____ part-time

Social workers: _____ Chaplains: _____

Others: _____

Who is at the interview? Name: Position:

_____ _____

_____ _____

Who are your patients?
Main diagnoses: _____

Age range: _____ Gender breakdown: _____

Ethnicities: _____

Religions: _____

Average length of stay: _____

Are there any restrictions on the type of patients admitted to your service?

(Inpatient only) Number of beds _____ Usual % occupancy: _____

(Outpatient) Number of patients seen per day _____ Total on service _____

How long do your patients usually live after they are diagnosed?

Do most patients want to know their diagnosis? Which sorts of patients do and which do not?

Who is usually the family spokesperson to talk with the doctor? (oldest son, etc.)

Do you have a drug formulary? _____ May we have a copy?

How are you reimbursed for your care of patients? What does insurance pay for?

Hospitalization? _____

Are some drugs excluded? _____

Other treatments? _____

Do any patients ***not*** get treatment because of lack of funds? _____

Do you have guidelines or standard operating procedures for any aspects of the care of terminally ill patients?

Do you have any forms for assessment of your patients' symptoms?
How do you assess your patients' pain?

Are there guidelines for the prescription of pain medications? What are they?

Are there any restrictions on prescribing opioids?

What is the highest dose of morphine you've seen prescribed here?

Who trains your staff in caring for the terminally ill? Do you have any of the materials from the trainings? (may we copy them?)

Are there staff who deal specifically with the emotional aspects of terminal illness?

Are there staff who deal specifically with the needs of the family of the patients?

Do you have social workers working here? What is their role?

Do you have spiritual guides or chaplains working here? What is their role?

What do you consider your most successful achievement in the care of the terminally ill? What do you consider your greatest challenges in the care of the terminally ill?

If you could design a palliative care system for the Republic of Macedonia, how would it look?

What works best here, inpatient, homecare, or day care?

What special needs do the different ethnic and religious groups have at the end of life?

NGO questionnaire

We are conducting a preliminary survey to find out the needs of patients who are terminally ill. Another team will be coming to develop a palliative care program, but they need to know what already exists. So we need to know what is actually done, not the ideal or how you think it should be done. Your opinions on what works and what does not work are valuable to us. We will combine the views of all those we interview in order to make recommendations for a future palliative care program.

Name of NGO:

Address:

Phone:

Name of President/Chief Executive Officer:

What staff do you have and what are their positions?

Who is at the interview? Name: Position:

_____ _____

_____ _____

What is the main mission of your NGO?

What geographical area do you cover?

What population?

Age range: _____ Gender breakdown: _____

Ethnicities: _____

Religions: _____

Is there anything unusual or challenging about the population you cover?

How many years have you been in operation?

How did you start?

What are your main successes?

What are your main challenges?

Do you have guidelines or standard operating procedures for any aspects of the care of terminally ill patients?

Do you have assessment forms? May we have a copy?

How do you assess patients' pain?

Are there guidelines for the prescription of pain medications? What are they?

Are there staff who deal specifically with the emotional aspects of end-of-life care?

Are there staff who deal specifically with the families of the patients?

Do you have social workers on staff? What is their role?

Do you have chaplains on staff? What is their role?

If you could design a palliative care system for the Republic of Macedonia, how would it look? What works best here, inpatient, homecare, day care?

Health Insurance Fund

We are conducting a preliminary survey to find out the needs of patients who are terminally ill. Another team will be coming to develop a palliative care program, but they need to know what already exists. So we need to know what is actually done, not the ideal or how you think it should be done. Your opinions on what works and what does not work are valuable to us. We will combine the views of all those we interview in order to make recommendations for a future palliative care program.

Name of institution:

Address:

Phone:

Name of President/Chief Executive Officer:

Total staff: _____

Who is at the interview? Name: Position:

_____ _____

_____ _____

Could you please explain to me the situation of health insurance in Macedonia?

What does it cover?

What does it NOT cover?

Who has health insurance, and who doesn't?

What sorts of medications are covered?

What sorts of medications are not covered?

Do some people not get the medications they need because of lack of insurance or because insurance does not cover the medication?

Do you have guidelines for what is and is not covered? (please may we copy it?)

What do you generally cover for terminally ill patients? (hospitalization, hospice, homecare, hospital bed at home, homecare nurses or aides, etc.)

What sort of advice would you have for a palliative care program, to better care for the terminally ill patients?

What trends in morbidity and mortality have you seen lately?

Interview with religious person – priest, Imam, etc.

We are conducting a preliminary survey to find out the needs of patients who are terminally ill. Another team will be coming to develop a palliative care program, but they need to know what already exists. So we need to know what is actually done, not the ideal or how you think it should be done. Your opinions on what works and what does not work are valuable to us. We will combine the views of all those we interview in order to make recommendations for a future palliative care program.

Name of institution:

Address:

Phone:

Name of President/Chief Executive Officer:

Total staff: _____

Who is at the interview? Name: Position:

_____ _____

_____ _____

1. Could you please explain your view of what happens at death?

2. What is important to do or not do before, during and after the death?

3. How are the terminally ill best guided at death? Is it important to stay clear-minded uo to death , or is that not necessary?

4. How are the terminally ill best guided right at the time of death?

5. How do you help the family when they are preparing for the death of their family member?

6. How do you help the family when they are grieving after the death of their family member?

7. Are there religion-based nursing homes or social services for the terminally ill?

8. What are young priests taught about supporting patients at the end of life?

9. What are young priests taught about supporting families of people who have died?

10. What would you tell medical workers to do to support patients at the end of life?

11. Do you think it's better for patients to die at home or in an institution?

12. How can we better meet the needs of people of all religions here?

13. What do you advise on creating a palliative care system for the whole country? What would it look like? How could we involve your priests/Imams?

Appendix D: Positive List of Drugs

ПОЗИТИВНА ЛИСТА НА ЛЕКОВИ

Во примарната здравствена заштита на осигурените лица, врз основа на рецепт од избраниот лекар, може да им се издаваат следните лекови:

АТС код	Генеричко име	Фармацевтска дозажна форма	Јачина
ЛЕКОВИ ЗА ТРЕТМАН НА ПЕПТИЧЕН УЛКУС			
A02B A02	RANITIDINE	Таблети Филм Таблети	150mg, 300mg 150mg, 300mg
A02B C01	OMEPRAZOLE[S]	Капсули	20mg
АНТИСПАЗМОДИЧНИ И АНТИХОЛИНЕРГИЧНИ ЛЕКОВИ			
A03A B20	TROSPIUM	Таблети	5mg
ПРОПУЛЗИВИ			
A03F A01	METOCLOPRAMIDE	Таблети Раствор	10mg, 5mg/5ml;
ИНТЕСТИНАЛНИ АНТИИНФЕКТИВНИ И АНТИИФЛАМАТОРНИ ЛЕКОВИ			
A07A A02	NYSTATIN [P,D]	Суспензија	100.000 IE/ml
A07E C02	MESALAZINE[S]	Таблети Супозитории Клизми	250mg; 500mg 500mg; 4g/60g
A07E C02	SULFASALAZINE[S, X)]	Таблети	500 mg
ЕЛЕКТРОЛИТИ СО ЈАГЛЕНИ ХИДРАТИ			
A07C A	ORAL REHYDRATION SALT FOR FORMULATIONS	Прашак	4,66g;

	FORMULATIONS ФОРМУЛАЦИЈА НА СОЛИ ЗА ОРАЛНА РЕХИДРАТАЦИЈА		
ЕНЗИМСКИ ПРЕПАРАТИ			
A09A A02	AMILASE+LIPASE+PROTEASE / PANKREATIN[S]	Капсули	Во сите регистрирани јачини
ЛЕКОВИ КОИ СЕ КОРИСТАТ ЗА ДИЈАБЕТЕС ИНСУЛИНИ И АНАЛОЗИ			
A10A B	ИНСУЛИНИ И АНАЛОЗИ СО БРЗО ДЕЈСТВО	Пенкало со патрон Наполнет медицински инјекционен шприц;	1,5 ml, 3 ml, 100 IE/ml, 40 IE/ml
A10A C	ИНСУЛИНИ И АНАЛОЗИ СО СРЕДНО ДЕЈСТВО	Пенкало со патрон Наполнет медицински инјекционен шприц;	1,5 ml, 3 ml, 100 IE/ml, 40 IE/ml мешавини 10/90, 20/80,40/60,30/70
A10A E	ИНСУЛИНИ И АНАЛОЗИ СО ДОЛГО ДЕЈСТВО	Пенкало со патрон Наполнет медицински инјекционен шприц;	1,5 ml, 3 ml, 100 IE.mi, 40 IE/mL,
ОРАЛНИ АНТИТИЈАБЕТСКИ ЛЕКОВИ			
A10B A02	METFORMIN	Филм Таблети	500mg; 850 mg; 1000mg
A10B B01	GLIBENCLAMIDE	Таблети	5 mg
A10B B02	CHLORPROPAMIDE[SS]	Таблети	250mg
A10B XO2	REPAGLINIDE	Таблети	500 mcg, 1 mg, 2 mg
ВИТАМИН Д И НЕГОВИ АНАЛОЗИ			
A11C C04	CALCITRIOL[S]	Капсули	0,25 mcg, 0,5 mcg
A11C C05	COLECALCIFEROL	Маслен раствор Воден раствор	20000I.E/ml 4000 IE/ml
МИНЕРАЛНИ ДОДАТОЦИ			
A12A A04	CALCIUM CARBONATE	Таблети	1g
A12B A01	POTASSIUM CHLORIDE[S]	Таблети	0,5 g
A12C D01 A01AA01	SODIUM FLUORIDE[P,D]	Таблети	0,25 mg, 1mg
АНТИТРОМБОТИЧНИ ЛЕКОВИ			
B01A A08	ETHYL BISCOUMACETATE[S]	Таблети	300 mg
B01A A07	ACENOCOUMAROL	Таблети	4mg
АНТИАНЕМИЧНИ ПРЕПАРАТИ			
B03A A07	FERROUS SULPHATE	Филм Таблети	40 mg, 100 mg
B03A B09	FERRIC PROTEINSUCCINYLATE	Раствор за орална употреба	800mg/15ml
B03A C06	FERRIC(III) HYDROXIDE POLYMALTOSE COMPLEX	Таблети за џвакање Сируп Раствор за орална употреба	100 mg 50 mg/5 ml 100mg/5 ml

B03A A02	FERRO FUMARATE	Капсули	350 mg
КАРДИОТОНИЧНИ ГЛИКОЗИДИ			
C01A A08	METILDIGOXIN	Таблети	0,1mg
C01A A05	DIGOXIN	Таблети Раствор	250 mcg 0.75mg/1ml
АНТИАРИТМИЦИ			
C01B C03	PROPAFENONE[S]	Филм Таблети Таблети	150mg, 300mg 150 mg
C01B D01	AMIODARONE[S]	Таблети	200mg
ВАЗОДИЛАТАТОРИ КОИ СЕ КОРИСТАТ ПРИ СРЦЕВИ ЗАБОЛУВАЊА			
C01D A08	ISOSORBIDE DINITRATE	Таблети Капсули Лингвалети	20mg 20mg 5mg
C01D A14	ISOSORBIDE MONONITRATE	Таблети Капсули	20mg, 40mg 40mg
C01D A02	GLYCERYLTRINITRAT	Лингвалети[x)] Капсули Маст	300 mcg, 500 mcg 2.5mg 2%
АНТИХИПЕРТЕНЗИВИ			
C02C A01	PRAZOSIN	Таблети	1mg, 2mg, 5mg
C02C A04	DOXAZOSIN	Таблети	1 mg, 2 mg, 4 mg
ДИУРЕТИЦИ			
C03C A01	FUROSEMIDE	Таблети	40mg; 500mg
C03D A01	SPIRONOLACTONE[S, x)]	Таблети	25 mg 100mg
C03A A03	HYDROCHLOROTHIAZIDE	Таблети	25mg, 50mg
БЕТА БЛОКАТОРИ			
C07A A05	PROPRANOLOL	Таблети	40mg
C07C B03	ATENOLOL	Таблети Филм таблети	50mg; 100mg 50 mg
БЛОКАТОРИ НА КАЛЦИУМОВИТЕ КАНАЛИ			
C08C A01	AMLODIPINE	Таблети	5mg, 10mg
C08C A05	NIFEDIPINE[S]	Капсули Таблети Филм таблети	10mg 40mg;10mg, 20 mg, 20mg,10mg
C08D A01	VERAPAMIL	Таблети Дражеи Филм таблети	120mg, 240mg 40mg, 80mg, 120mg 40mg,
C08D B01	DILTIAZEM	Таблети	60mg, 90mg
ЛЕКОВИ КОИ ДЕЛУВААТ НА РЕНИН-АНГИОТЕНЗИН СИСТЕМОТ (АКЕ ИНХИБИТОРИ)			
C09A A03	LISINOPRIL	Таблети	5mg,10mg;20mg

C09A A02	ENALAPRIL	Таблети	2,5mg, 5mg, 10mg, 20mg
ЛЕКОВИ КОИ ГИ РЕДУЦИРААТ СЕРУМСКИТЕ ЛИПИДИ (ТРИГЛИЦЕРИДИ И ХОЛЕСТЕРОЛ)			
C10A A01	SIMVASTATIN[SS]	Таблети Филм таблети	10mg, 20 mg 10mg, 20 mg,40mg
АНТИФУНГАЛНИ ЛЕКОВИ ЗА ЛОКАЛНА УПОТРЕБА			
D01A C03 G01AF05	ECONAZOLE	Крем Вагитории	1% 150 mg
D01A C01	CLOTRIMAZOLE	Раствор Крем	1% 1%
ХЕМОТЕРАПЕВТИЦИ ЗА ЛОКАЛНА УПОТРЕБА			
D06B B03 S01AD03 J05AB01	ACICLOVIR[S]	Крем Маст Маст Таблети	5% 5% 3 % 200 mg
КОРТИКОСТЕРОИДИ ЗА ЛОКАЛНА УПОТРЕБА			
D07A C01	BETAMETHASONE[S]	Крем Маст	0,5mg/g 0,5mg/g
D07A C06	DIFLUCORTOLONE[S]	Крем Маст	1mg/g 1mg/g
D07X C00	BETAMETHASONE + ACETYLSALICILIC ACID[S]	Маст Лосион	(0,5mg +30mg/g), (0,5mg +20mg/g),
ГИНЕКОЛОШКИ АНТИИНФЕКТИВНИ И АНТИСЕПТИЧНИ ЛЕКОВИ			
G01A A01	NYSTATIN ,[X)]	Вагиналети	100.000IE
G01A F02	METRONIDAZOLE	Вагиналети	500mg
G01A F05	ECONAZOLE	Вагиналети	150mg
G01AF02	CLOTRIMAZOLE	Вагиналети Вагинален крем	200mg, 500 mg 20g + 3 пластични апликатори 2%
УТЕРОАКТИВНИ ЛЕКОВИ			
G02A B01	METHYLERGOMETRINE[S]	Раствор	0,25mg/ml
ПОЛОВИ ХОРМОНИ И МОДУЛАТОРИ НА ГЕНИТАЛНИОТ СИСТЕМ ХОРМОНАЛНИ КОНТРАЦЕПТИВИ ЗА СИСТЕМСКА УПОТРЕБА			
G03A A07	LEVONORGESTREL + ETHYNILESTRADIOL	Драже	(0,15mg+0,03mg), (0,5mg+0,05mg), (0,25 mg+0,05mg)
АНДРОГЕНИ			
G03B B01	MESTEROLONE[S]	Таблети	25 mg
АНТИАНДРОГЕНИ И ЕСТРОГЕНИ			
G03H B01	CYPROTERONE+ESTROGEN[SS]	Драже	2mg+0,035mg
ЕСТРОГЕНИ			
G03C A03	ESTRADIOL[S]	Таблети Вагиналети	1 mg, 0.025mg
ПРОГЕСТОГЕНИ			

G03D C02	NORETHISTERONE[S]	Таблети	5 mg
СИНТЕТСКИ СТИМУЛАТОРИ НА ОВУЛАЦИЈАТА			
G03G B02	CLOMIFENE[S]	Таблети	50 mg
УРИНАРНИ АНТИИНФЕКТИВНИ И АНТИСЕПТИЧНИ ЛЕКОВИ			
G04A B03	PIPEMIDIC ACID	Филм Таблети Капсули	400mg 200mg;
J01MA06	NORFLOXSACIN	Филм Таблети	400mg
ЛЕКОВИ ЗА ТРЕТМАН НА БЕНИГНА ХИПЕРТРОФИЈА НА ПРОСТАТА			
G04C A03	TERAZOSIN[SS]	Таблети	2mg,
ХОРМОНИ НА ЗАДНИОТ РЕЗЕН НА ХИПОФИЗАТА			
H01B A01	VASOPRESSIN[S, X)]	Спреј	5ml
КОРТИКОСТЕРОИДИ			
H02A B02	DEXAMETHASONE[S]	Таблети Маст Капки за очи	0.5mg 0,1% 0,1%
H02A B04	METHYLPREDNISOLONE[S]	Таблети Крем Маст	4 mg, 0,1 % 0,1 %
H02A B06	PREDNISOLONE[S]	Таблети	5 mg, 20 mg, 50 mg
H02A B09	HYDROCORTISONE[S]	Таблети Маст	20 mg 1%, 2,5 %
ТИРОИДНИ ПРЕПАРАТИ			
H03A A01	LEVOTHYROXINE[S]	Таблети	25 mcg, 50 mcg, 75 mcg,100 mcg
АНТИТИРОИДНИ ПРЕПАРАТИ			
H03B A02	PROPYLTHIOURACIL[S]	Таблети	50 mg, 100 mg
H03B B02	THIAMAZOLE[S]	Таблети Филм таблети	20mg,10 mg 5 mg, 20 mg
АНТИПАРАТИРОИДНИ ХОРМОНИ			
H05B A01	CALCITONIN[S]	Назален спреј	100 IE, 200 IE
АНТИИНФЕКТИВНИ ЛЕКОВИ ЗА СИСТЕМСКА УПОТРЕБА ТЕТРАЦИКЛИНИ			
J01A A02	DOXYCYCLINE[P,D]	Капсули,	100mg
ПЕНИЦИЛИНИ			
J01C A04	AMOXICILLIN[P,D]	Капсули, Суспензија Филм таблети	250mg; 500mg; 250mg/5ml; 125 mg/5ml 500 mg
J01C E10	BENZATHINE PHENOXYMETHYL PENICILLIN[P,D]	Филм Таблети	1,5 MIE; 1MIE;
J01C F02	CLOXACILLIN	Капсули, Суспензија	250mg, 125mg/5ml
J01C R02	AMOXICILLIN+CLAVULANIC ACID[S]	Таблети,	(250+125) mg 375 mg (500+125)mg

		Суспензија	(500+125)mg 625 mg (875+125)mg; 1g (400+57)mg/5ml (125+31,5mg)/5ml (250mg+62,5mg)/5ml 312,5 mg / 5 ml
ЦЕФАЛОСПОРИНИ			
J01D A01	CEFALEXIN[P,D]	Капсули, Суспензија	250mg, 500 mg 100mg/ml; 250mg/5ml
J01D A23	CEFIXIME[SS]	Таблети Суспензија	(250 IE+3 500 IE/g.), (250 IE + 3.500 IE/ml.).
СУЛФОНАМИДИ И ТИМЕТРОПРИМ			
J01E E	TRIMETHOPRIM+SULFONAMIDE (SULFAMETROLE/ SULFAMETHOXAZOLE)	Таблети Суспензија	(100+20) mg, (400+80) mg (200+40)mg/5ml
МАКРОЛИДИ			
J01F A01	ERYTHROMYCIN	Капсули Прашок за сируп	250mg 200 mg / 5 ml
J01F A10	AZITHROMYCIN[S,]	Капсули Сируп Таблети	250 mg, 200mg/5ml; 100 mg/5ml 125mg; 500mg
J01F A09	CLARITHROMYCIN[S]	Таблети Филм таблети Суспензија	250mg, 500mg 250 mg, 500 mg 125mg/5ml;
ЛИНКОСАМИДИ			
J01F F01	CLINDAMYCIN[P,D]	Капсули	150 mg, 300 mg
ХИНОЛОНИ			
J01M A02 S03AA07	CIPROFLOXACIN[S]	Таблети Филм таблети Микрокапсули за орална суспензија Раствор	250mg; 500mg; 250mg, 500mg 10 g/ 100 ml 0,3 %
АНТИМИКОТИЦИ ЗА СИТЕМСКА УПОТРЕБА			
J02A C01	FLUCONASOLE[S]	Капсули	50mg, 100mg, 150mg,200mg
ЛЕКОВИ КОИ СЕ КОРИСТАТ ЗА ТРЕТМАН НА ТУБЕРКОЛОЗА			
J04A B02	RIFAMPICIN[S]	Капсули	300 mg
J04A C51	ISONIAZID+PYRIDOXINE[S]	Капсули	(400+25) mg
J04A K01	PYRAZINAMIDE[S]	Таблети	500 mg
J04A K02	ETHAMBUTOL[S]	Таблети	100 mg, 400 mg
J04A C01	ISONIAZID	Таблети	50mg, 100mg
АНТИВИРУСНИ ЛЕКОВИ ЗА СИСТЕМСКА УПОТРЕБА			
J05A B01	ACICLOVIR[S]	Таблети	200mg
J05A B04	RIBAVIRIN[X)]	Во сите регистрирани форми	Во сите регистрирани јачини

JO5A B10	LAMIVUDINE[X)]	Таблети	150mg
АНТИНЕОПЛАСТИЧНИ ЛЕКОВИ ХОРМОНСКИ АНТАГОНИСТИ			
L02B A01	TAMOXIFEN[S]	Таблети Филм таблети	10 mg, 10mg
ИМУНОСУПРЕСИВНИ ЛЕКОВИ			
L04A A01	CICLOSPORIN[SS]	Капсули, Раствор	25mg,50mg;100mg; 100mg/ml
L04A X01	AZATHIOPRINE[SS, X)]	Таблети	50mg
L04A A06	MYCOPHENOLIC ACID[SS]	Капсули Филм таблети	250mg 500mg
НЕСТЕРОИДНИ АНТИНФЛАМАТОРНИ И АНТИРЕВМАТСКИ ЛЕКОВИ			
M01A B01	INDOMETACIN[SS]	Капсули Супозитории	25mg 100mg
M01A E01 M02A A13	IBUPROFEN	Филм Таблети Дражеи Гел Крем Сируп	200mg,400 mg 200mg, 400mg; 5% 10% 100 mg/5ml
За ribavirin е наведено да биде со економско ограничување и за определен број на пациенти.			
M01A B05	DICLOFENAC	Филм таблети Таблети Дражеи Капсули Супозитории Гел	50mg, 100 mg 50mg, 100mg 50mg 75mg 12,5mg, 25mg, 50mg, 100 mg 1%
M01A E03 M02A A10	KETOPROFEN	Капсули Таблети Супозитории Крем	50mg 100mg, 150mg, 200mg 100mg 5%
АНТИГИХТ ПРЕПАРАТИ			
M04A A01	ALLOPURINOL	Таблети	100mg, 300mg [X)]
ОПИДНИ АНАЛГЕТИЦИ			
N02A A01	MORPHINE[S]	Таблети Подјазични таблети Супозитории Гранули Капсули	30mg; 60mg;100mg, 10 mg 10 mg , 20 mg 30 mg , 60 mg , 100 mg 30 mg 30 mg, 60 mg , 120 mg
N02A C02	METHADONE[S]	Таблети Раствор	5mg 10 mg/ml
N02A D01	PENTAZOCIN[S]	Таблети	50 mg
N02A X02	TRAMADOL[S]	Капсули Капки Супозитории Таблети Филм таблети	50 mg 100 mg/ml 100 mg 100mg 100 mg
АНАЛГЕТИЧНИ И АНТИПИРЕТИЧНИ ЛЕКОВИ			
N02B A01	ACETYLSALICILIC ACID	Таблети	300mg, 500mg
N02B E01	PARACETAMOL	Сируп Супозитории	120mg/5 ml 300mg, 600 mg, 150 mg, 80 mg ,120 mg 500 mg

		Филм таблети Таблети	500 mg 500 mg
АНТИЕПИЛЕПТИЧНИ ЛЕКОВИ			
N03A A02	PHENOBARBITAL[S]	Таблети	15 mg, 100 mg
N03A A03	PRIMIDONE[S]	Таблети	250 mg
N03A B02	PHENYTOIN[S]	Таблети	100 mg
N03A F01	CARBAMAZEPINE[S]	Таблети	200 mg, 400 mg
N03A G01	VALPROAT NATRIUM[S] VALPROIC ACID	Дражеи Раствор Филм таблети	150 mg, 300 mg 300 mg/ml 300 mg, 500 mg
N03AX09	LAMOTRIGINE*	Таблети	25mg,50mg, 100mg,
N03A X11	TOPIRAMATE*	Таблети	25mg, 50mg, 100mg, 200mg,
*** - за рефрактерни облици на епилепсија**			
АНТИПАРКИНСОНОВИ ЛЕКОВИ			
N04A A02	BIPERIDEN[S]	Таблети	2 mg
N04B A00	LEVODOPA+CARBIDOPA[S]	Таблети	250+25 mg,
N04B C01	BROMOCRIPTINE[SS]	Таблети	2,5mg
АНТИПСИХОТИЧНИ ЛЕКОВИ			
N05A A01	CHLOROPROMAZINE[S X)]	Таблети	25 mg, 100 mg
N05A B02	FLUPHENAZINE[S]	Дражеи	1mg, 2,5mg, 5mg,
N05A C02	THIORIDAZINE[S]	Филм таблети Дражеи	25 mg, 100 mg, 10 mg 10mg, 25 mg
N05A D01	HALOPERIDOL[S]	Таблети Раствор	2 mg, 10 mg 2 mg/ml
N05A H02	CLOZAPINE[S]	Таблети	25 mg, 100 mg
N05A N01	LITHIUM CARBONATE[S]	Таблети	300 mg
АНКСИОЛИТИЧНИ ЛЕКОВИ			
N05B A01	DIAZEPAM	Дражеи Таблети Супозитории	2 mg, 5 mg, 2 mg, 5 mg, 10 mg 5 mg , 10 mg
N05B A08	BROMAZEPAM	Таблети	1,5 mg, 3 mg, 6 mg
N05B A12	ALPRAZOLAM	Таблети	0,25 mg, 0,5 mg, 1 mg
ХИПНОТИЦИ И СЕДАТИВИ			
N05C D01	FLURAZEPAM	Капсули	15mg, 30mg
N05C F02	ZOLPIDEM	Таблети	5mg, 10mg
АНТИДЕПРЕСАНТИ			
N06A A04	CLOMIPRAMINE[S]	Дражеи	25 mg
N06A A09	AMITRIPTYLINE[S]	Таблети	10 mg, 25 mg,

N06A B03	FLUOXETINE[S]	Капсули Раствор	20 mg 20 mg/5 ml
N06A B05	PAROXETINE	Филм таблети	20mg, 30mg
ПАРАСИМПАТОМИМЕТИЦИ АНТИПРОТОЗОИЦИ			
P01A B01	METRONIDAZOLE	Таблети	250 mg, 400 mg
P01B A01	CHLOROQUINE[S X)]	Таблети	250 mg
P01B D01	PYRIMETHAMINE[S X)]	Таблети	25mg
АНТИХЕЛМИНТИЦИ			
P02C A03	ALBENDAZOLE	Таблети	200 mg
P02C C01	PYRANTEL[X)]	Таблети Суспензија	125mg 250 mg/5 ml
PO2D A01	NICLOSAMIDE[X)]	Таблети	500mg
АНТИАСМАТИЦИ			
R03B A01	BECLOMETHASONE[SS]	Назален спреј Аеросол	50mcg 50mcg,
R03B C03	NEDOCROMIL[S, X)]	Спреј	2mg
R03C C02	SALBUTAMOL	Аеросол Раствор Таблети	0,1mg 2 mg/5 ml 2mg
R03D A05	AMINOPHYLLINE	Таблети Таблети со продложено ослободување	100mg,350mg 350 mg
R03B A05	FLUTICASONE[SS]	Аеросол	50 mcg, 125 mcg
R03B A02	BUDESONIDE[S]	Суспензија	50 mcg, 200 mcg
АНТИХИСТАМНИЦИ ЗА СИСТЕМСКА УПОТРЕБА			
R06A E07	CETIRIZINE	Филм таблети Раствор	10 mg 1 mg/ml
R06A X13	LORATADINE	Таблети Суспензија	10 mg 5 mg/5 ml;
СУПРЕСАНТИ НА КАШЛИЦА			
R05D A04	CODEIN	Таблети	30mg
R05DA09	DEXTROMETHORPHAN[X)]	Дражеи Сируп Супозитории	15mg, 30mg 5mg/5ml (100ml) 5mg
АНТИВИРУСНИ ЛЕКОВИ ЗА ОФТАЛМОЛОШКА УПОТРЕБА			
S01A D03	ACICLOVIR[S]	Маст за очи	3%
АНТИГЛАУКОМА ПРЕПАРАТИ И МИОТИЦИ			
S01E B01	PILOCARPINE	Капки за очи	1%, 2%
S01E D01	TIMOLOL	Капки за очи Гел	0,25%, 0,5% 1mg / 5g
S01E C01	ACETAZOLAMIDE[X)]	Капки за очи	Во сите регистрирани јачини

МИДРИЈАТИЦИ И ЦИКЛОПЛЕГИЦИ			
S01F A01	ATROPINE[X)]	Капки за очи	0,5%, 1%
S01F A05	HOMATROPINE[X)]	Капки за очи	2%
ЛОКАЛНИ АНЕСТЕТИЦИ			
S01H A03	TETRACAINE[X)]	Капки за очи	0,5%
ОФТАЛМОЛОШКИ И ОТОЛОШКИ ПРЕПАРАТИ АНТИИНФЕКТИВНИ			
S03A A01 D06AX04	BACITRACIN+NEOMYCIN	Маст за очи Капки за уво и око Прашок Маст	(250IE+3500 IE/g) (250IE+3500 IE/ml) 16500 IE+ 1250 IE/ 15 ml 62,5 IE + 825 IE / g 500 IE+3300 IE/g
D06AX02 S03AA08	CHLORAMPHENICOL	Маст Маст за очи Капки за уво	5% 1%, 10 %
S01C A01	DEXAMETHAZON + CHLORAMPHENICOL	Капки за очи	0,1% + 0,5%
ЛЕКОВИ ЗА ТРЕТМАН НА ХРОНИЧЕН АЛКОХОЛИЗАМ			
V03A A01	DISULFIRAM[S, X)]	Таблети	500 mg
ТЕРАПИЈА НА БИЛИЈАРЕН СИСТЕМ			
A05A A02	URSODEOXYCHOLIC ACID	Капсули	250mg
ПЕРИФЕРНИ ДИЛАТАТОРИ			
C04A D03	PENTOXYPHILLIN	Таблети Филм таблети Дражеи	400mg 400 mg 400 mg
АНТИ СИДА ПРЕПАРАТИ			
J05A B05	ZIDOVUDINE[S, X)]	Таблети	300mg
J05A B07	DIDANOSINE[S, X)]	Таблети	25mg, 100mg, 150mg
J05A E02	INDINAVIR[S, X)]	Капсули	200mg, 400mg

Горенаведените лекови се користат и во болничката здравствена заштита.

кон почеток

Во болничката здравствена заштита на осигурените лица на товар на Фондот за здравствено осигурување на Македонија, може да се издаваат следните лекови:

АТС код	Генеричко име	Фармацевтска дозажна форма	Јачина
ЛЕКОВИ ЗА ТРЕТМАН НА ПЕПТИЧЕН УЛКУС			
A02B A02	RANITIDINE	Инјекции	50mg/2ml
A02B C02	PANTOPRAZOLE	Инјекции	40 mg
СПАЗМОЛИТИЦИ И АНТИХОЛИНЕРГИЧНИ ЛЕКОВИ			
A03A B20	TROSPIUM	Инјекции	0,2mg/5ml
A03B A01	ATROPINE	Инјекции	0.5mg/ml; 1mg/ml

A03F A01	METOCLOPRAMIDE	Инјекции	10mg/2ml
АНТИЕМЕТИЧНИ ЛЕКОВИ			
A04A A01	ONDANSETRON*	Инјекции Таблети	2mg/ml; 4mg;
A04A A03	TROPISETRON*	Инјекции	5mg/5ml
*** - Избор само на еден антиеметик според понудена најниска цена**			
ТЕРАПИЈА НА ХЕПАР			
A05B A06	ORNITHINE	Инјекции	5g
ВИТАМИНИ			
A11 C A 01	RETINOL (A)	Инјекции	300.000 IE/ ml
A11 C C05	COLECALCIFEROL (D3)[X)]	Инјекции	1.25mg/ml /50 000 IE
A11D A01	THIAMINE (B1)	Инјекции	250mg/2ml; 100mg/ml
A11G A01	ASCORBIC ACID (C)	Инјекции	500mg/5ml
A11H A02	PYRIDOXINE (B6)	Инјекции	50mg/2 ml; 250mg/5ml
B03B A01	CYANOCOBALAMIN	Инјекции	500 mcg/ml; 100mcg/1ml
B02B A01	PHYTOMENADION (K1)	Инјекции	10mg/ml
МИНЕРАЛНИ ДОДАТОЦИ			
A12A A06	CALCIUM LACTOGLUCONAT[X)]	Инјекции	1g/10ml
АНТИТРОМБОЦИТНИ ЛЕКОВИ			
B01A B01	HEPARIN	Инјекции	5000 IU/0.25ml; 5000IU/1ml; 25000IU/5ml;
B01A B00	CERTOPARIN (Niskomolekularen heparin)	Инјекции	3000IU/0.3ml 3000IU/0.5ml
B01A B05	ENOXAPARIN (Niskomolekularen heparin)	Инјекции	20mg/0,2 ml , 40 mg/0,4 ml , 60 mg/ 0,6 ml , 80 mg / 0,8 ml , 100 ml/ ml
B01A C05	TICLOPIDIN[S, X)]	Таблети	10 mg
B01A D01	STREPTOKINASE	Инјекции	1.5MIE
BO1A C13	ABCIXIMAB[X)]	Инјекции	10mg
	r-PA - Ткивен плазманогенски активатор /[X)]	Инјекции	50mg, 100mg
*** - само во интервентни процедури - PTA (стенд)**			
V03A B14	PROTAMIN (антаг.на хепарин)	Инјекции	50mg/5ml (1 %)
ЛАКСАТИВИ			
A06A B06	SENNA GLUCOSIDES	Сируп	2 mg/ml
АНТИХЕМОРАГИЧНИ ЛЕКОВИ			
B02A B01	APROTININ*	Инјекции	500 000 KIE
*** - Само за хируршки индикации**			

ФАКТОРИ НА КОАГУЛАЦИЈА			
B02B D02	KOAGULACIONEN FAKTOR VIII	Инјекции	500 IE
B02B D04	KOAGULACIONEN FAKTOR IX	Инјекции	500 IE
B02B D05	KOAGULACIONEN FAKTOR VII[X)]	Инјекции	Во сите регистрирани јачини
АНТИАНЕМИЧНИ ЛЕКОВИ			
B03A B00	Fe-MALTOZAT	Инјекции	100mg /2ml,
B03AC00	Fe-SAHARAT	Инјекции	100 mg Fe/ 5 ml
B03X A01	*ERYTHROPOETIN[S*]	Инјекции	Во сите регистрирани јачини
*** - хронична бубрежна инсуфициенција**			
КРВНИ СУПСТИТУЕНТИ И ПЕРФУЗИОНИ РАСТВОРИ			
B05A A01	*ALBUMINUM HUMANUM	Раствор	5 %, 20 %
B05A A05	DEXTRAN 40	Инфузија	500ml (10%)
B05A A05	DEXTRAN 70	Инфузија	500ml (6%)
B05A A06	POLYGELATIN	Инфузија	500ml (4%)
B05B A03	FRUCTOSE+GLUCOSE+XYLITOL	Инфузија	500ml (24%; 40%)
B05B B01	РАСТВОР НА ЕЛЕКТРОЛИТИ NaCl	Инфузија	500ml 0,9 %
B05B B01	РАСТВОР НА ЕЛЕКТРОЛИТИ NaCl,KCl,CaCl	Инфузија	500ml
B05B B01	РАСТВОР НА ЕЛЕКТРОЛИТИ NaCl,KCl,CaCL;Na-laktat	Инфузија	500ml
B05B B02	GLUCOSE+NATRIUM CHLORIDE[X)]	Инфузија	500ml
B05B C01	MANNITOL	Инфузија	10%; 20% 500 ml
B05C X01	GLUCOSE	Инфузија Инјекција	500ml (5%; 10%) 10ml (25%; 37%; 50%)
B05C X10	SORBITOL+MANITOL	Инфузија	27 g + 5,4 g/ l
B05X A06	KALIUM CHLORID[X)]	Инјекција	20 ml
B05X A02	NATRIUM BIKARBONAT	Инфузија	8,4%
КАРДИОТИНИЧНИ ГЛИКОЗИДИ			
C01A A05	DIGOXIN	Инјекции	0.25mg/ml; 0.25mg/2ml
C01A A08	METILDIGOXIN	Инјекции	0,2 mg / 2 ml
АНТИАРИТМИЦИ			
C01B C03	PROPAFENON	Инјекции	70mg/20ml / 35mg/10 ml
C01B D01	AMIODARONE	Инјекции Таблети	150mg/3ml 200 mg
C01B B01	LIDOCAIN	Инјекции	40 mg/2ml; 35mg/3,5 ml
СРЦЕВИ СТИМУЛАНСИ			
C01C A00	ADRENALIN HYDROCHLORID	Инјекции	1mg/ml

C01C A00	NORADRENALIN[X)]	Инјекции	2mg/1ml; 200 ug
C01C A01	ETILEFRINE	Инјекции	10mg/1ml
C01C A04	DOPAMIN HCl[X)]	Инјекции	200mg/5ml
C01C A07	DOBUTAMIN HIDROHLORID	Инјекции	250mg/20ml
АНТИХИПЕРТЕНЗИВНИ ЛЕКОВИ			
C02C A06	URAPIDIL[X)]	Инјекции	25mg/5ml / 50mg/10ml;
C02D D01	NITROPRUSID NATRIUM[X)]	Инјекции	50mg
*** САМО ЗА ХИРУРШКИ ИНДИКАЦИИ**			
ДИУРЕТИЦИ			
C03C A01	FUROSEMIDE	Инјекции	20mg/2ml; 250mg/10ml
ПЕРИФЕРНИ ДИЛАТАТОРИ			
C04A D03	PENTOXIFYLLINE	Инјекции Таблети Филм таблети	100mg/5ml 400mg 400 mg
БЕТА БЛОКАТОРИ			
C07A B02	METOPROLOL	Инјекции Таблети Филм таблети	5mg/5ml 100mg 100 mg
C07A G02	CARVEDILOL[*]	Таблети	6.25mg 12.5 mg
*** - Срцева слабост**			
БЛОКАТОРИ НА КАЛЦИУМОВИТЕ КАНАЛИ			
C08C A06	NIMODIPINE	Раствор за инфузија Таблети Филм обложени таблети	Во сите регистрирани јачини
C08D A01	VERAPAMIL	Инјекции	5mg/2ml
ЛЕКОВИ КОИ ДЕЛУВААТ НА РЕНИН АНГИОТЕНЗИН СИСТЕМОТ (АКЕ ИНХИБИТОРИ)			
C09A A02	ENALAPRIL	Инјекции	1,25mg/ml
ХЕМОТЕРАПЕВТИЦИ ЗА ЛОКАЛНА УПОТРЕБА			
D06B A01	SREBRO SULFADIAZINE	Крем	1%
УТЕРОАКТИВНИ СРЕДСТВА			
G02A D02	DINOPROSTONE[X)]	Инјекции	0,75 mg/0,75 ml
G02A D04	CARBOPROST[X)]	Инјекции	2,5mg/10ml
ПОЛОВИ ХОРМОНИ И МОДУЛАТОРИ НА ГЕНИТАЛНИОТ СИСТЕМ			
G03B A03	TESTOSTERONE	Инјекции	250mg/ml
G03C A03	ESTRADIOL	Инјекции	10 mg/ml
G03D A01	GESTONORONE[X)]	Инјекции	200 mg/ml
G03D A02	MEDROXIPROGESTERON	Инјекции	500mg/ 3,3 ml , 150 mg/ml

G03F A04	PROGESTERONE+ESTRADIOL	Инјекции	20+2 mg/1ml
G03GA05	FOLITROPIN ALFA	Инјекции	75IE
G03G A01	CHORIONIC GONADOTROPIN	Инјекции	1500 IE, 5000 IE
G03GA06	FOLITROPIN BETA	Инјекции	50 IE, 100 IE
G03H A01	CYPROTERONE	Таблети	50mg
G03X A01	DANAZOL	Капсули	100mg
УРОЛОШКИ ПРЕПАРАТИ			
G04B E01	ALPROSTADIL*,[X)]	Инјекции	0,5mg/ml
*** Уролошки и периферни опструктивни болести**			
ХОРМОНИ НА ХИПОФИЗАТА И ХИПОТАЛАМУСОТ			
H01A A01	CORTIKOTROPIN[X)]	Инјекции	25 IU
H01A C01	SOMATOTROPIN HUMAN	Инјекции	4 IE 16 IE, 5mg/1,5ml; 15mg/1,5ml; 10mg/1,5ml
H01B B02	OXYTOCIN	Инјекции Назален спреј	5IE/ml; 10IE/ml 40 IE/ml
H01C B01	SOMATOSTATIN[X)]	Инјекции	3mg
H01CB02	OCTREOTIDE	Инјекции	0,05mg/ml; 0,1mg/ml; 0,5 mg/ ml
КОРТИКОСТЕРОИДИ ЗА СИСТЕМСКА УПОТРЕБА			
H02A B02	DEXAMETHASONE	Инјекции	4mg/ml
H02A B04	METHYLPREDNISOLONE ACETATE	Инјекции	40mg/ml, 20 mg/ml
H02A B06	PREDNISOLON	Инјекции	25mg; 250mg
H02A B08	TRIAMCINOLONE	Инјекции	40mg/ml
H02A B09	HIDROCORTISON	Инјекции	250mg/10ml
H02B X01	METHYLPREDNISOLONE SUCCINATA NATRIUM	Инјекции	40mg; 20mg 500mg
ХОРМОНИ НА ПАНКРЕАС			
H04A A01	GLUCAGON	Лио-шишенца	1mg
АНТИПАРАТИРОИДНИ ХОРМОНИ			
H05B A03	CALCITONIN	Инјекции	100IE/ml, 200 IE/ml
АНТИИНФЕКТИВНИ ЛЕКОВИ ЗА СИСТЕМСКА УПОТРЕБА ПЕНИЦИЛИНИ			
J01C A01	AMPICILLIN	Инјекции	500mg;1g
J01C A51	AMPICILLIN+SULBACTAM (2:1)	Инјекции	500mg+250mg 1000mg+500mg
J01C A12	PIPERACILLIN	Инјекции	2gr, 4 gr
J01C E01	BENZYLPENICILLIN	Инјекции	0,5 MEGA I.E.; 1 MEGA I.E.; 5 MEGA IE;

J01C E30	BENZYLPENICILLINE+PROCAINE BENZYLPENICILLINE	Инјекции	4 MEGA I.E.; 0,4 MEGA I.E.; 800.000 I.E.
	BENZATHINE BENZYLPENICILIN	Инјекции	1.2 MEGA I.E.;
ЦЕФАЛОСПОРИНИ			
J01D A06	CEFUROXIME	Инјекции	250mg, 750mg, 1,5g
J01D A10	CEFOTAXIME	Инјекции	0.5gr; 1gr;.2gr
J01D A11	CEFTAZIDIME	Инјекции	1g ; 500 mg
J01D A13	CEFTRIAXONE	Инјекции	250mg;1gr, 2 g
J01D H51	IMIPENEM+CILASTATIN[X)]	Инјекции	500/500mg
ЛИНКОЗАМИДИ			
J01F F01	CLINDAMYCIN	Инјекции	2ml/300mg 4ml/600mg
J01 F F02	LINKOMYCIN	Раствор за инј.	300mg/1ml; 600mg/2ml
АНТИМИКОТИЦИ			
J02A A01	AMPHOTERICIN[X)]	Инјекции	50mg
J02A C01	FLUCONAZOLE	Раствор за инф.	2mg/1ml
АМИНОГЛИКОЗИДИ			
J01G B03 S01A A11	GENTAMICIN	Инјекции Капки за очи Маст	20mg; 40mg; 80mg; 120mg 3 mg/ml (5ml); 3mg/g
J01G B06	AMIKACIN	Инјекции	Во сите регистрирани јачини
ХИНОЛОНИ			
J01M A02	CIPROFLOXACINE	Инј. за инф. Раствор за инф.	100mg/10ml; 200mg/100ml 100mg/50ml; 200mg/100ml
J01M A03	PERFLOXACIN	Таблети Инјекции	400mg 400mg/5ml
ДРУГИ АНТИБАКТЕРИСКИ ЛЕКОВИ			
J01G A01	STREPTOMYCIN	Инјекции	1gr
J01X A01	VANCOMYCIN*	Инјекции	500mg, 1 g
J01X D01	METRONIDAZOLE	Раствор за инф.	0.5% a 100ml
АНТИВИРОТИЦИ			
J05A B01	ACICLOVIR	Прашак за припрема на инф.	250mg
ИМУНОСЕРУМИ И ИМУНОГЛОБУЛИНИ			
J06AA03	SER. ANTIVIPERINUM[X)]	Инјекции	5ml
J06BA	*IMUNOGLOBULIN HUMAN	Инјекции	2,5 g/50 ml , 5 g/ 100 ml , 2500 mg/50ml; 5000 mg/100 ml

J06B B01	IgG-anti RHO	Инјекции	250mcg/ml
J06B B05	RABIES IMMUNOGLOBULIN[X)]	Инјекции	Во сите регистрирани јачини
J06B B02	ANTITETANUSEN[X)] IMUNOGLOBULIN	Инјекции	Во сите регистрирани јачини
JO6B B04	HEPATITIS B IgG[X)]	Инјекции	Во сите регистрирани јачини
Вакцините се според програмата за имунизација на Министерство за здравство			
АНТИНЕОПЛАСТИЧНИ ЛЕКОВИ АЛКАЛИРАЧКИ АГЕНСИ			
L01A A02	CHLORAMBUCIL[X)]	Таблети	2mg; 5mg
L01AA03	*MELPHALAN[X)]	Таблети Инјекции	2mg; 5mg 50mg
L01AA01	*CYCLOPHOSPHAMIDE	Таблети Инјекции	Во сите регистрирани јачини
L01AA06	*IFOSFAMIDE[X)]	Инјекции	Во сите регистрирани јачини
L01AC01	*THIOTEPA	Инјекции	15 mg
*** - Само во онкологија**			
L01A D01	*CARMUSTINE[X)]	Инјекции Капсули	100mg 100mg
L01A B01	*BUSULFAN[X)]	Таблети	2mg
L01A X04	*DECARBAZINE[X)]	Инјекции	100mg, 200mg
L01X B01	*PROCARBASINE[X)]	Капсули	50mg; 100mg
АНТИМЕТАБОЛИТИ			
L01B B02	*6- MERCAPTOPURINE[X)]	Таблети	50mg
L01B A01	*METHOTREXATE	Инјекции Таблети	50mg/2ml; 20mg/2ml, 100mg/ml, 50mg/5ml 25mg/ml 2,5 mg, 10 mg ,
L01B C06	CAPECITABINE	Таблети	150 mg, 500mg
L01B C02	*5-FLUOROURACIL	Инјекции	250mg/5ml,500mg/10ml
L01B C01	*CYTARABINE[X)]	Инјекции	40mg; 100mg; 500mg; 1g; 2g
L01B B05	*FLUDARABINE **	Инјекции	50mg
**** - ВТОРА ЛИНИЈА НА ТЕРАПИЈА**			
L01X X05	*HYDROXYUREA	Капсули	500mg
L01B C05	* GEMCITABINE***	Инјекции	200mg, 1 g
***** - ТРЕТА ЛИНИЈА НА ТЕРАПИЈА**			
АЛКАЛОИДИ			
L01C A02	*VINCRISTINE[X)]	Инјекции	1mg
L01C A01	*VINBLASTIN[X)]	Инјекции	10mg
L01C D01	*PACLITAXEL	Инјекции	30mg/5ml
L01C D02	*DOCETACEL	Инјекции	20mg/0,5ml, 80 mg/2ml

L01C B01	*ETOPOSIDE	Инјекции	200mg/10ml, 20mg/ml,50mg/2,5ml
АНТИТУМУРСКИ АНТИБИОТИЦИ			
L01D B03	*EPIRUBICIN	Инјекции	10mg/5ml, 100mg/50ml, 50mg/25ml,
L01D B01	*DOXORUBICIN	Инјекции	10mg; 50mg, 2mg
L01D B02	*DAUNORUBICIN[X)]	Инјекции	20 mg
L01D B06	*IDARUBICIN	Инјекции	5mg; 10mg
L01D C01	*BLEOMYCIN[X)]	Инјекции	15mg
L01D C03	*MITOMYCIN C[X)]	Инјекции	20 mg
ПЛАТИНИУМСКИ АНАЛОЗИ			
L01X A01	*CISPLATIN	Инјекции	0.5mg/ml;10 mg/20ml; 50 mg/100ml
L01X A02	*CARBOPLATIN	Инјекции	150mg/15ml; 10mg/ml
TOPOISOMERASE I - *ИНХИБИТОРИ*			
L01X X19	*IRINOTECAN	Инјекции	40 mg/2ml; 100mg/5ml
L01X X17	*TOPOTECAN[X)]	Инјекции	4mg
ДРУГИ АНТИНЕОПЛАСТИЧНИ ЛЕКОВИ			
L01X X02	ASPARAGINASE	Лиофилизат	10000KU
L01X X21	*RITUXIMAB[*]	Инјекции	100 mg/10ml; 500 mg/50ml
*** - Б - клеточен лимфом**			
ЕНДОКРИНА ТЕРАПИЈА			
L02A E04	TRIPTORELIN	Инјекции	3,75mg; 0,1mg
L02B B03	BICALUTAMIDE[X)]	Таблети	50mg
L02B G03	*ANASTROZOLE[X)]	Таблети	1mg
ИМУНОСТИМУЛАТОРИ			
L03A A02	*FILGRASTIM	Инјекции	48 MIE;
L03A B02	*INTERFERON BETA 1a ; 1b	Инјекции	6MIE/0,5 ml ; 0,25 mg/ml
L03A B04	*INTERFERON ALFA 2a (reccomb)	Инјекции	3 MIE/0,5ml, 9 MIE/0,5ml
L03A B11	PEG INTERFERON 2a	Инјекции	135mcg/0,5ml, 180mcg/0,5ml
За интерферониte е наведено да бидат со економско ограничување и за определен број на пациенти			
ИМУНОСУПРЕСИВНИ ЛЕКОВИ			
L04A A01	*CICLOSPORINE	Инјекции[X)] Капсули Раствор за орална уп.	100mg/ml;250mg 25mg; 50mg, 100 mg 100 mg/ml
L04A X01	*AZATHIOPRIN[X)]	Таблети	50mg, 100mg
L04A A02	*MURONOMAB CD-3[X)]	Инјекции	5mg/5ml

МУСКУЛНИ РЕЛАКСАНСИ			
M03A B01	SUXAMETHONIUM CHLORIDE	Инјекции	500mg, 200mg
M03A C01	PANCURONIUM BROMID	Инјекции	4mg/2ml
M03A C03	VEKURONIUM BROMID[X)]	Инјекции	Amp.Inf.4mg + растворувач
M03A C04	ATRAKURIUM BESILAT[X)]	Инјекции	Amp.Inf. 25mg/2.5ml 50mg/5ml; 250mg/25ml
M03A C09	ROKURONIUM BROMID	Инјекции	50mg/5ml; 100mg/10ml
M03A C11	CISATRAKURONIUM BESILAT[X)]	Инјекции	5mg/2,5ml; 10mg/5ml; 20mg/5ml; 150mg/30ml
M03A X01	BOTULINUM TOKSIN[X)]	Инјекции	10IU/10ml
ЛЕКОВИ ЗА ТЕРАПИЈА НА КОСКЕНИ ЗАБОЛУВАЊА			
M05B A	BISPHOSPHONATES*	Во сите регистрирани форми	Во сите регистрирани јачини
*** - Избор само на еден бифосфонат според понудена најниска цена**			
ОПШТИ АНЕСТЕТИЦИ			
N01A B01	HALOTHANE[X)]	Инјекции	250ml
N01A B06	ISOFLURANE[X)]	Инјекции	100ml
N01A B08	SEVOFLURANE[X)]	Инјекции	250ml
N01A F03	THIOPENTAL[X)]	Инјекции	0,5gr; 1gr
N01A H01	FENTANYL	Инјекции	Во сите регистрирани јачини
N01A H02	ALFENTANIL	Инјекции	0.5mg/ml
N01A H03	SUFENTANIL	Инјекции	5mcg/ml; 50mcg/ml
N01A H06	REMIFENTANIL[X)]	Инјекции	1g; 2mg; 5mg
N01A H00	FENTANYL+DROPERIDOL	Инјекции	(0.05mg+2.5mg)/ ml
N01A X01	DROPERIDOL[X)]	Инјекции	Inf. 0.25%
N01A X07	ETOMIDAT[X)]	Инјекции	Inf. 125mg/ml 20mg/10ml
N01A X10	PROPOFOL	Инјекции	10mg/ml
N01A X14	KETAMIN[X)]	Инјекции	50mg/2ml
N01B B01	BUPIVACAINE[X)]	Инјекции	0.5%
N01B B52	LIDOCAINE+ADRENALINE	Инјекции	40mg+0,025mg 40mg + 50 mcg
ОПОИДНИ АНЕСТЕТИЦИ			
N02A A01	MORPHINE	Инјекции	4mg/ml; 20mg/ml
N02A C02	METHADONE	Инјекции	10mg/1ml
N02A D01	PENTAZOCIN	Инјекции[X)] Таблети	30mg/1ml 50mg
N02A X02	TRAMADOL	Инјекции	50mg/1ml; 100mg/2ml
МИОТОНОЛИТИЦИ			

R03A C06	HEXOPRENALINE	Инјекции	0.01mg/2ml
АНТИАНГИНИЦИ			
C01D A02	GLICERIL TRINITRAT	Раствор за Инјекции Раствор за инфузија	1mg/ 1,6 ml 5 mg / 1,6 ml
БРОНХОСПАЗМОЛИТИЦИ			
R03D A05	AMINOPHYLLINE	Инјекции	250mg/10ml 500mg/2ml
АНТИХИСТАМИНИЦИ			
R06A C03	CHLOROPYRAMINE	Инјекции	20mg/2ml
СУРФАКТАНТИ			
R07A A 01	BOVINE SURFACTANT[X)]	Суспензија	108mg/8ml; 67,5mg/5ml
НЕУРОЛЕПТИЦИ			
N05A B02	FLUPHENAZINE	Инјекции	25mg/ml; 2.5mg/ml
N05A D01	HALOPERIDOL	Инјекции	50mg/ml; . 5mg/ml,
N05A A03	PROMAZINE	Инјекции	50mg/ml; 100mg/2ml
АНКСИОЛИТИЦИ			
N05B A01	DIAZEPAM	Инјекции	10mg/2ml
N05C D08	MIDAZOLAM	Инјекции	5mg/5ml, 50mg/10ml
АНТИДЕПРЕСИВИ			
N06AA09	AMITRIPTYLINE[X)]	Инјекции	20mg/2ml
N06AA04	CLOMIPRAMINE	Инјекции	25mg/2ml
N06A A21	MAPROTILINE	Инјекции	25mg/2ml
АНТИКОНВУЛЗИВИ И АНТИЕПИЛЕПТИЦИ			
N03A B02	PHENYTOIN[X)]	Инјекции	50mg/ml 2ml, 5ml
N03A A02	PHENOBARBITAL	Инјекции	220mg
ХИПНОТИЦИ			
N05C D03	FLUNITRAZEPAM[X)]	Инјекции	2mg/ml
АНТИПАРКИНСОНИЦИ			
N04A A02	BIPERIDEN[X)]	Инјекции	5mg/ml
ХОЛИНЕРГИЦИ			
N07AA02	PYRIDOSTIGMINE BROMID[X)]	Таблети	20x60mg
N07A A01	NEOSTIGMINE	Инјекции	0.5mg/ml
ПАРЕНТЕРАЛНИ НУТРИТИВИ			
	Amino acids + carbohidrats + vitamins+electrolites 10 %[X)]	Инфузија	500ml
	Amino acids + carbohidrats + vitamins+electrolites 5 %[X)]	Инфузија	500ml

	Enteral nutrition[X)]	Раствор	500ml
	Fructose+glucose+xylitol	Инфузија	500ml (24%),(40%)
	Glucose	Инфузии Инјекции	Во сите регистрирани јачини
	Parenteralen nutritiv[X)]		Inf. 500ml
	Sorbitol+Manitol	Инфузии	25g+5,4g/1000 ml, 5,4g+27g/1000 ml
РАСТВОРУВАЧИ			
V07AB	Aqua ad ineiectabila	Раствор	2ml, 5ml, 10ml
АНТИДОТИ			
A07BA01	Carbo Medicinalis	Таблети Гранули	0,15g, 250 mg, 19,25g/50g
R05C A04 V03A B01	Ipecacuana[X)]	Во сите регистрирани форми	Во сите регистрирани форми
A06A D13 A12C A02	Natrium sulphate[X)]	Прашок	Во сите регистрирани јачини
V03AB25	Flumazenil[X)]	Инјекции	1mg/10ml, 0.5mg/5ml
V03AB15	Naloxon HCl[X)]	Инјекции	0.4mg/ml
V03AF03	Folinatcalcium	Инјекции	10 mg/ml
03A B04	Pralydoxim mesylate (PAM)[X)]	Инјекции	200mg/ml
V03AC01	Desferroixamine[X)]	Инјекции Капки за очи	500 mg 1%, 2%
ДЕКОНГЕСТИВИ ЗА ОЧИ			
S01E B09	ACETYLCHOLINE[X)]	Капки за очи	2ml
S01G A05 S01F B01	PHENYLEPHRINE[X)]	Капки за очи	10 ml
АНТИМУСКАРИНИЦИ			
S01FA06	TROPIKAMID[X)]	Капки за очи	15ml (0.5%), (1%)
РЕНТГЕН -КОНТРАСТНИ СРЕДСТВА			
	Amidotrizoate -meglumine amidotrizoate natrium	Раствор	Ампули од 20 мл со шприц
S01J A01	Fluorescein[X)]	Во сите регистрирани форми	Во сите регистрирани јачини
V08BA02	Barium sulphate[X)]	Суспензија	(60%) (100%)
V08A B05	Iopromide	Инфузија	240 50 ml 300 100 ml 300 50 ml. 370 50 ml. 370 100 ml.
V08AB02	Ioheksol[X)]	Инјекции	240 mg (1 X 50 ml) 300 mg (1 X 20 ml) 300 mg (1 X 100 ml) 300 mg (1 X 50 ml) 350 mg (1 X 100 ml) 350 mg (1 X 200 ml) 350 mg (1 X 50 ml) 240 mg (1 X 20 ml)

			300 mg (1 X 20 ml) 180 mg (1 X 15 ml)
V08AC02	Iotroxic acid-meglumine	Инфузија	50 ml

- Лековите покрај чие име нема знак, избраниот лекар ги препишува на рецепт самостојно.
- "S" Лековите покрај чие име стои знакот "S", ги препишува избраниот лекар по предлог на лекар специјалист.
- "SS" Лековите покрај чие име стои знакот "SS", ги препишува избраниот лекар по предлог на лекар субспецијалист.
- "P,D" Лековите покрај чие име стои знакот "P,D", покрај избраниот лекар ги препишува и избран стоматолог.
- "X" Лековите покрај чие име стои знакот "X", да се поведе постапка за регистрација во Република Македонија, а во меѓувреме да се увезуваат со интервентен увоз.

кон почеток

почетна / **за Фондот** / **законска регулатива** / **начин на работа на ФЗО** / **процедури** / **web e-mail**

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Appendix E, Table 1: Palliative Care medications registered and reimbursable in Macedonia;

Their availability in one private and one public pharmacy --- note that the private pharmacy interviewed is not licensed to stock opioids

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
Amitryptiline	10 and 25 mg tabs	Yes	Yes	Yes	Yes	25 denar	130 denar 75 denar	
	100 mg tabs		No					
	150 mg tabs		No					
Bisacodyl	5 mg tabs	-			Yes	27-52 denar	25 denar 75 denar	
	10 mg rectal supp	No			Yes	27-52 den	40 denar	
Carbamazepine	200 mg tabs	Yes	Yes	Yes	Yes	50 denar		-
	400 mg tabs	Yes	Yes	Yes	Yes	300 denar	170 denar	
Citalopram		No			No	-		
Other SSRI	Paroxetin 20, 30 mg tabs	Yes	Yes	Yes			665 denar 1110 denar	

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
Other SSRI	Sertalin 50, 100 mg tabs	Yes	Yes	Yes			380 denar	
Codeine (also Pholcodin and Noscapin)	30 mg tabs	Yes	Yes	No	Yes	20/125		
	60 mg tabs	No	No	No				
	15mg/5ml elixir	No	No	No				
	15mg/ml inject.	No	No	No	No			
	30 mg/ml inject.	No	No	No	No			
Dexamethasone	0.5 mg tabs	Yes	Yes	Yes	Yes	5/20	45 denar	
	1 mg tabs	No						
	2 mg tabs	No						
	4 mg tabs	No						

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
	4 mg/ml injectable	Yes	Yes	Yes (?)			11 denar	On positive list for institutions, cannot be sold in pharmacies
Diazepam	2 mg tabs	Yes	Yes	Yes	Yes	0/9	20 denar	2 mg not 2.5 mg
	5 mg tabs	Yes	Yes	Yes	Yes	0/10	25 denar	
	10 mg tabs	Yes	Yes	Yes	Yes	0/15	45 denar	
	5 mg/ml injectable	Yes	Yes	Yes (?)	No		10 denar	No injectables in these pharmacies
	10 mg rectal suppos	No	Yes	Yes	No		195 denar	
Dicoflenac	50, 100 mg tabs	Yes	Yes	Yes	Yes	5	50 denar for 50 mg tab	100 mg is extended release
	50 mg/3ml injectable	No	No	No	No			
	75 mg/3ml injectable	Yes	Yes	Yes			16 denar, 23 denar	
Diphenhydramine	25 mg tabs	No	No	No	No			

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
	50 mg/ml injectable	No	No	No	No			
Fentanyl	25 mcg/hr patch	No	?		No	~ 4000 denar		
	50 mcg/hr patch	No	?		No	~ 6000 denar		
(and Alfentanil, sufentanil, remifentanil)	Injectable	Yes	Yes	No	No			For surgery
Gabapentin	300 mg tabs	No	No		No			
	400 mg tabs	No	No		No			
Haloperidol	2, 10 mg tabs	Yes	Yes	Yes	Yes			
	0.5 -5mg drops	Yes	Yes	No	No			
	0.5 –5 mg/ml inject.	Yes	Yes	No	No			
Hyoscine butylbromide	20 mg/ml oral sol.	No		No	No			

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
	10 mg tabs	No			No			
	10 mg/ml injectable	No			No			
Ibuprofen	200 mg tabs	Yes	Yes		Yes	5/32	55 denar	
	400 mg tabs	Yes	Yes		Yes	5/48	75 denar	
Levomepromazine	5 –50 mg tabs	Yes	Yes	Yes	Yes			
	25 mg/ml injectable			No				
Loperamide	2 mg tabs	No		No	Yes	185		
Lorazepam	1 mg tabs	No		Yes	No	No		
	2 mg tabs	No		Yes	Yes	80		
	2 mg/ml liquid/drops	No		No				
	2-4 mg/ml injectable	No		No				
Megestrol acetate	160 mg tabs	No			No			

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
	40 mg/ml solution	No			No			
Methadone	5 mg tabs	Yes	Yes	No	No			
	10 mg/ml oral solution	Yes	Yes	No	Yes	15/80		
Metaclopramide	10 mg tablets	Yes	Yes	Yes	Yes	5/54	90 denar	
	5 mg/ml inject	Yes	Yes	No	No			
Midazolam	1-5 mg/ml inject.							
Mirtazapine or any generic NaSSA or SNRI	15-30 mg tablets	No		No	No	No		
Morphine Immediate Release	10, 30, 60, 100 mg oral tablets	Yes	Yes	No	No			
	10 & 20 mg sublingual tablets	Yes	Yes	No	Yes	160/1120		Private pharmacy doesn't have narcotic license

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
	___ mg elixir	No		No				
	___mg suppository	No						
	4 mg/ml, 20 mg/ml injectable	Yes	Yes	No	No			Injectables are for institutional use only
Morphine Sustained Release	____mg tabs	No		No	No			
Octreotide	0.05, 0.1, 0.5 mg/ml inject.							Injectables are for institutional use only
Oral rehydration salts		Yes	Yes	Yes	No		30 denar	
Oxycodone	____ mg tab	No			No	No		
Paracetamol	500 mg tabs	Yes	Yes	Yes	Yes	8	10 denar	
	80, 150, 300mg rectal supp.	No			Yes	70		
Prednisalone	5 mg tab	Yes	Yes	Yes	Yes	25/190	215 denar	

Med name	Formulation	On positive list?	Registered in Macedonia?	Does private pharmacy have it in stock now?	Does public pharmacy have it in stock now?	Public pharmacy's cost estimate of Market price / tender price	Private pharmacy's estimate of cost to patient	COMMENTS
Senna	2 mg/ml elixir	Yes	Yes		No	No		
Tramadol	50, 100mg caps	Yes	Yes	No	Yes	25/120	90 denar, 510 denar	Private pharmacy not licensed to sell narcotics
	___oral sol.	No			No		140 denar (?)	
	___ injectable							
Trazodone	25-75 mg tabs	No			No	No		
	50 mg injectable	No			No			
Zolpidem	5mg tabs	Yes	Yes		Yes	40/250		
	10mg tabs	Yes	Yes		Yes	50/390		

Appendix E, Table 2: Sampling of Macedonian health institutions' staff impression of medications they usually have in stock (form developed by Marie Coughlan)

Appendix E, Table 2: Sampling of Macedonian health institutions' staff impression of medications they usually have in stock (form developed by Marie Coughlan)

Analgesics	Basic Drugs	Alternatives	Sue Ryder Hospice, Bitola	Meri Terzieva Nursing Home (private)	Anesthesiology Dept, Stip General Hospital	Oncology Institute, Skopje
Nonopioid analgesics (mild pain)	-paracetamol -ibuprofen -indomethacin	-choline magnesium trisalicylate -diflunisal -naproxen -diclofenac - aspirin	Yes	Yes	Have: Paracetamol Ibuprofen Diclofenac Aspirin	Have: Paracetamol Ibuprofen Indomethacin Aspirin
Opioid analgesics (mild-to-moderate pain)	-codeine	-dihydrocodeine -	Yes	Yes	Have: codeine & dihydrocodeine	Have: Codeine
Opioid analgesics (moderate-to-severe pain)	-morphine	-hydromorphone -oxycodone -hydrocodone -fentanyl -methadone -buprenorphine -pethidine	Yes	No – they are not allowed to have opioids as it is a private nursing home; oncology patients are transferred if they are in great pain	Have: Morphine, Fentanyl, Methadone	Have: Morphine
Opioid antagonists	-naloxone	-nalorphine	No	No	No	No

Adjuvant Drugs for Analgesia and Symptom Control	Basic Drugs	Alternatives	Sue Ryder Hospice, Bitola	Meri Terzieva Nursing Home (private)	Anesthesiology Dept, Stip General Hospital	Oncology Institute, Skopje
Neuropathic pain	-Amitryptilline -gabapentin	-Valproic acid -Phenytoin -carbamazepine	Yes	Yes	No (not answered)	Have Carbamazepine
Antidepressants (adjuvant analgesics)	-amitriptyline -	-imipramine -paroxetine	Yes	Yes	No (not answered)	No, (not answered)
Anticonvulsants (adjuvant analgesics)	-gabapentin -diazepam -carbamazepine	-valproic acid -Lorazepam -clonazepam	Yes	Yes	Have: diazepam, lorazepam	Have diazepam Carbamazepine, lorazepam
Antiemetics	-prochlorperazine (as suppository) -haloperidol Metoclopramide Diphenhydramine	-scopalamine chlorpromazine -Ondansetron – use ONLY for chemotherapy or radiation –induced	Yes	Yes	Have: Metoclopramide produced here Ondansetron for patients coming out of surgery	Have prochlorperazine, metoclopramide, scopolamine, ondansetron
Laxatives	-bran -senna -sodium docusate -mineral oil (liquid paraffin) -oral naloxone	-bisacodyl Epsom salts	Yes	Yes	Senna	Have bran, senna, docusate, mineral oil, naloxone, bisacodyl

Adjuvant Drugs for Symptom Control	Basic Drugs	Alternatives	Sue Ryder Hospice, Bitola	Meri Terzieva Nursing Home (private)	Anesthesiology Dept, Stip General Hospital	Oncology Institute, Skopje
Antidiarrheal agents	-loperamide	-paregoric (tincture of opium) (0.4 mg/mL of morphine) -diphenoxylate HCl/atropine sulfate -Subcut morphine in intractable and profuse diarrhoea	Yes			Not answered
Antihistamines	-diphenhydramine	-hydroxyzine	Yes	Yes	Not answered	Not answered
Antipsychotics	-haloperidol	chlorpromazine	Yes	Yes	Not answered	Not answered
Psychostimulants	-methylphenidate		No	No	Not answered	Not answered
Anxiolytics	-diazepam -lorazepam	-clonazepam -buspirone -midazolam	Yes	Yes	Have diazepam	Not answered
Corticosteroids	-dexamethasone -prednisolone	-	Yes	Yes	Yes, both	Not answered
Hypnotics	-lorazepam - diazepam		Yes	Yes		Not answered
H2 Blocker	- ranitidine	- cimetidine	Yes	Yes	Yes, ranitidine	Not answered
Anticholinergic	Hyoscine **Butylbromide**	- Hyosicne **Hydrobromide** - Atropine sulphate	Yes	Yes	Atropine only	Not answered