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**“Policies for Enhancing Access to
Health Services in Deprived Areas”**

The Healthy Municipality
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Deliverable 3.5.4
**«Synthesis Report for the Municipalities of Greece
(Arriana & Iasmos)»**

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Introduction

This report has been prepared by the Agency for Transnational Training and Development TRANSCOOP within the project **“Policies for Enhancing Access to Health Services in Deprived Areas” - “The Healthy Municipality”** implemented under INTERREG V-A Cooperation Program Greece - Bulgaria 2014 - 2020, with MIS Project Code 5011021.

It is a Synthesis Report of the study "Population socio-economic characteristics and operating health infrastructure" - desk analysis in the Municipalities of Arriana and Iasmos - (Deliverable 3.2.1 - 3.5.1.) and the research "Access to and degree of needs' coverage of health services in partners' areas" - (Deliverable 3.5 .2), for the 2 Municipalities of the project area for Greece, i.e. the Municipalities of Arriana and Iasmos.

This Synthesis report will be completed later with the activity "Sampling on identifying local morbidity in project areas" - (deliverables 3.3.3 & 3.4.3) which is being preparing by the Municipalities of Arriana and Iasmos. This activity concerns the conduct of diagnostic medical examinations in five hundred (500) people in each of the 2 Municipalities and has not been completed to date.

Municipality of Arriana

General Characteristics

Data for this section, of "General Characteristics", have been derived from the study 3.2.1 - 3.5.1. These data concern secondary sources (ELSTAT, Municipal Business Plans, Studies for the area, etc.).

The Municipality of Arriana is located in the northeastern part of the prefecture of Rodopi in the Region of Eastern Macedonia and Thrace. In the north, the Municipality borders with Bulgaria, in the east, with the Municipality of Soufli, in the south, with the Municipality of Maronia - Sapes and in the west, with the Municipality of Komotini.

The Municipality has an area of 771.2sq.km. and a population of 16,577 inhabitants, with a population density of 21.56 persons/sq.km, according to the 2011 census.

The inhabitants of the Municipality are Muslims by 95% and Christian Orthodox by 5%.

The Municipal Units (M.U.) of the Municipality of Arriana are 4: the M.U. of Arriana, the M.U. of Fillyra, the M.U. of Organi, the M.U. of Kehros.

The Municipality includes both lowland areas (in the central and the southern area, (Municipal Units of Arriana and Fillyra) and mountainous areas (in the north and east, Municipal Units of Organi and Kehros), with extensive and medium-altitude mountains. It is relatively sparsely populated, although there are several settlements with a significant number of inhabitants.

There are important differences within the Municipality. The lowland Municipal Units are more densely populated with the main employment of the inhabitants being the in the agricultural sector. On the contrary, in the mountainous Municipal Units, the residents are fewer and are mainly engaged in farming (livestock).

There is a decrease in the population in the Municipality of Arriana (-9.21%), between the 2001 and 2011 censuses.

A large percentage of the population belongs to the older age groups and specifically to the group 60-79 years, almost 1/4 of the local population.

The level of education of the population is low, with a percentage of 18.6% to be in the category "not knowing how to read and write" and a percentage of 67.56% to be in the category "not having completed secondary education".

The living conditions of the population are not good. 96% of the houses in the Municipality of Arriana use wood burning for cooking. The use of central heating is extremely limited, the

"other source of heating", most likely wood, prevails much as a heating source. There is a lack of basic comforts with a very high percentage of 80% of the population to be in the category "not having a toilet inside the house".

In the Municipality of Arriana, the vast majority of the inhabitants are farmers - breeders - foresters, etc. (81.95%), followed by a second group of those working in the sector of services and the sales, but with a percentage (4.69%) much lower than the first group (of farmers).

In agriculture, the cultivation of tobacco is significant, in particular the cultivation of the "basma" variety. Most of the residents of the area of Fillyra, as well as of the mountainous areas of Organi and Kehros are engaged in tobacco production. Livestock farming is also a traditional activity in the area.

The secondary sector in the Municipality of Arriana is limited, only with small craft enterprises (carpentry, etc.).

In the area of Kehros, significant investments have been made in renewable energy (wind energy).

There are several commercial enterprises both in Arriana and Filyra.

Mortality

Data on mortality have been obtained only by ELSTAT for the years 2001 and 2011 as included in study 3.2.1 - 3.5.1.

According to the study 3.2.1 - 3.5.1, in the Municipality of Arriana, the mortality in 2011 is at about the same rate as that of the Region of Macedonia and Thrace (REMTH Region) and somewhat higher than the corresponding rates of the whole country and the Regional Unit of Rodopi. However, there is an increase in the mortality rate by 35.18%, for the Municipality of Arriana, during the period 2001 – 2011 which is important, with the larger increase to concern the Municipal Unit of Organi (102.83%).

The main cause of death in the Municipality of Arriana, concerns the Circulatory Diseases, followed by the Neoplasms, the Un-Defined Causes and the Respiratory Diseases.

Concerning the Municipal Units, although with different intensity for each Unit, the mortality concerns the diseases of the Circulatory System with a very high rate for the Municipal Units of Fillyra and Arriana, while the same rate is very low in the Municipal Unit of Organi. Mortality caused by Neoplasm Diseases is more common in the Municipal Units of Arriana, Kehros and Fillyra, while much lower in the Municipal Unit of Organi, where,

however, the category of Un-Defined Causes is the most common cause of death. The mortality from Respiratory Diseases presents relatively high frequency in the Municipal Units of Kehros and Arriana and lower frequency in the Municipal Unit of Fillyra.

In the Municipality of Arriana the rate of traffic accidents is low. Regarding the rate of fatal traffic accidents, the Municipality of Arriana presents slightly lower rate than the average of the Regional Unit of Rodopi, the REMTH Region and the country.

Perception of Health Status

The perception of health status, i.e. how residents view (consider) their state of health, has been investigated only by the field research (in the context of the research 3.5.2), in a sample of a population of 1000 people.

According to the results of this research:

A percentage of 68% of the sample in the Municipality of Arriana considers its health from excellent to good.

30.1% of the sample in the Municipality of Arriana considers its health either very good or excellent (21.3% very good, 8.8% excellent). 37.9% believes that its health is good. A significant percentage of 26.3% considers its health moderate and 5.7% bad. At Municipal Unit level, the highest percentage (75.5%) that considers its health from excellent to good is found in Fillyra, followed by Kehros with 71.1%, Organi with 69.7% and Arriana with the lowest 57.3%.

Although, as mentioned above, 68% of the sample in the Municipality of Arriana, considers its health excellent or good, 58.3% of the sample reported some health problems in the last year (worries, new problems, chronic problems).

Thus, 51.2% of the sample (just over the half) of the sample in the Municipality of Arriana worried last year about health problems (the remaining 48.8% did not worry). Per Municipal Unit (M.U.), a higher percentage worried about its health in the Municipal Units of Arriana (72.4%) and Kehros (60%).

48.1% of the sample in the Municipality of Arriana stated that they had new health problems during the last year. Larger percentages were reported, again in the Municipal Units of Arriana (58.6%) and Kehros (57.3%).

A high percentage of 75.6% of the sample in the Municipality of Arriana stated some chronic health problems (24.4% have no chronic health problem). The highest percentage, 84.3%, was reported in the Municipal Unit of Organi.

Morbidity

Data on morbidity have been obtained from 3 different sources. From ELSTAT –patients discharged from hospitals in 2012 per disease category (study 3.2.1-3.5.1) -, from the local Regional Medical Offices - main diagnosis from medical visits to the local Regional Medical Offices in 2017 (study 3.2.1-3.5.1) -, from the field research in the context of the research 3.5.2.

According to the data of ELSTAT (patients discharged from hospitals in 2012 per disease category), (study 3.2.1-3.5.1), the data were available only at Regional Unit level (from patients discharged in 2012), in this case for the Regional Unit of Rodopi and show that the most common cause of hospitalization for the **Regional Unit of Rodopi** were the **diseases of the circulatory system (16.74%)**, with a higher frequency than in the country and the region. A second cause of hospitalization were the diseases **of the nervous system and the sensory organs (12.45%)**, also with higher frequency than in the country and the region, third cause, **the neoplasms (11.06)**, followed by the **diseases of the urogenital system (9.53%)**, **the digestive system (9.06%)**, **the pregnancy complications (7.32%)**, **the injuries and poisonings**, **the respiratory diseases** and **"symptoms, signs and un-defined conditions"**.

According to the same source:

A large increase in discharged patients from Hospitals in the Regional Unit of Rodopi, from 2008-2012, concerned diseases related to:

- Diseases of the skin and the subcutaneous tissue (+ 29.63%) (significant increase but lower in REMTH, decrease in Greece)
- Mental disorders (+ 18.81%) (while in REMTH there was a small decrease and in Greece a small increase)
- Symptoms, signs and un-defined conditions (+ 17.38%) (very small decrease in REMTH, significant decrease in Greece)
- Congenital malformations (+ 11.76%) (very significant decrease in REMTH, sufficient decrease in Greece)
- Complications of pregnancy, childbirth (+ 11.66%)
- Neoplasms (+ 11.34%) (approximately the same increase in Greece, much smaller increase in REMTH)
- Diseases of the urogenital system (+ 7.24%), (small decrease in REMTH, approximately the same increase in Greece)
- Diseases of the blood and hematopoietic organs (+ 6.45%), (decrease in REMTH, approximately the same increase in Greece)

A great reduction of discharged patients from hospitals in the Regional Unit of Rodopi, from 2008-2012 concerned diseases related to:

- Infectious and parasitic diseases (-39.51%) (there were no corresponding reductions in REMTH and Greece)
- Endocrine and metabolic diseases and disorders of nutritional deficiencies (-27.45%) (decrease in AMTH and Greece, but much smaller decreases)
- Injuries and poisonings (-26.03%) (significant decrease in REMTH, less significant decrease in Greece)
- Diseases of the musculoskeletal system and the connective tissue (-24.47%) (significant but smaller reduction in both REMTH and Greece)
- Certain conditions originating from the perinatal period (-24%) (more significant decrease in REMTH, but increase in Greece)
- Respiratory diseases (-15.01%) (slight decrease in REMTH, significant increase in Greece)

According to the study 3.2.1-3.5.1, it is also estimated that since **most employed** in the Municipality of Arriana are found **in the sector of agriculture - livestock** (83.9% of employees) should also show **musculoskeletal diseases**. It is also pointed out that the agricultural sector in the REMTH Region presents twice the frequency of work accidents than in the country. The workers in the agricultural sector report more musculoskeletal problems and infections, also greater exposure to manual weight management, inappropriate physical postures, chemicals and dust, as well as accidents risks.

In addition, it is estimated that **due to the employment of the inhabitants of the area with farming (livestock)**, as well as to their living conditions (existence of livestock farms within the settlements, uncontrolled disposal of livestock waste, etc.), there is the presence, although not in a large scale, of diseases that are transmitted from the animals to the humans (brucellosis, echinococcosis, etc.), which necessitates drastic protection measures (vaccinations, killing of animals, etc.), as well as measures against **infectious diseases**.

Data on morbidity for the Municipality of Arriana, (in the study 3.2.1-3.5.1) have been obtained by all the four (4) Regional Medical Offices of the Municipality. Specifically, the data from the Regional Medical Offices concerned the main diagnosis of the patients examined in 2017. According to these data, **hypertension, diabetes, dyslipidemia (cholesterol), circulatory diseases, and depression** are the main diagnoses in all four Regional Medical Offices. In addition infections of the respiratory, urinary and gastrointestinal systems are also recorded at the Regional Medical Offices of Arriana, Kehros and Organi.

It is important to note that **depression** has been identified as a problem by all the Regional Medical Offices of the Municipality of Arriana and is attributed to the "closed" way of life of the inhabitants resulting from the cultural peculiarities of the local population.

According to the field research (3.5.2) conducted on a sample of the population of the Municipality of Arriana, in a larger percentage, **32.6%, the diseases of the circulatory system** appear, followed by **the endocrinological diseases** (12.4%) and **the musculoskeletal disorders** (10.3%). **Psychiatric-psychological problems** occur with a frequency of 9.0%, followed by the respiratory and gastrointestinal diseases with 7.0% and 6.5% respectively.

Regarding the sub-categories of diseases of the above categories of diseases, according to the research 3.5.2, the following were found:

- **Diseases of the Circulatory System.** **Increased blood pressure** (35.3%) and **hypertension** – non complicated (31.9%), were found as the most common causes of the circulatory diseases in the Municipality, while coronary heart disease occurs in 5.7% of the sample.
- **Diseases of the Endocrinological System.** Non-insulin-dependent **diabetes mellitus** (46.3%), fat metabolism disorder (16.5%) and hypothyroidism / myxoids (14.0%) are the most prevalent causes of the Endocrinological System diseases, while a percentage of 9,9% develops insulin-dependent diabetes mellitus.
- **Diseases of the Musculoskeletal System.** There are no causes that stand out in high percentages for these diseases. Foot / ankle symptoms (12.0%) and knee osteoarthritis (11.0%) appear more frequently.
- **Psychiatric - Psychological Diseases.** The depressive feeling (21.6%) and the depressive disorder (21.6%) show the higher percentages. The feeling of anxiety / nervousness (10.2%) and the schizophrenia (10.2) come up in lower percentages

According to all the above data, which, as already mentioned, have been obtained from different sources and concerned a different population (e.g. main diagnoses from visits of patients to the Regional Medical Offices, diseases of patients discharged from hospitals, research on a population sample) **a common result** emerged:

- **that circulatory diseases are the main cause of morbidity in the population of the Municipality of Arriana.**

The data of the sub-categories of diseases declared by the 4 Regional Medical Offices of the Municipality of Arriana and those found by the field research (research in the context of 3.5.2) are matching in the following sub-categories of diseases, as causes of morbidity:

- **high blood pressure,**
- **diabetes,**
- **circulatory diseases, and**
- **depression.**

Diseases of the nervous system and the sensory organs, neoplasms (resulting from the research of ELSTAT – Discharged patients from hospitals per disease category) were not found in the field research and have not been mentioned in the main diagnoses of the Regional Medical Offices of the Municipality of Arriana.

Public Health Structures and Access

Data for this section have been drawn from the study 3.2.1-3.5.1 regarding the existing primary health care structures and their shortages and from the research 3.5.2 regarding the problems of access in these structures.

In the Municipality of Arriana, the primary health services existing are the Regional and Local Medical Offices, (without the existence of a Health Center). The residences of the Municipality should contact the Health Center of Sapes for their need to visit a Health Center. However, the Health Center of Sapes is facing problems in its staffing and equipment, and for these reasons it cannot provide its services effectively.

At this Health Center (of Sapes) the 4 Regional Medical Offices (as well as the 3 Local ones) belong, which serve the area of the Municipality of Arriana.

In particular, per Municipal Unit (M.U.), the Regional Medical Offices are distributed as follows:

- M.U. of Arriana:
 - 1 Regional Medical Office in Arriana
- M.U. of Fillyra:
 - 1 Regional Medical Office in Fillyra
- M.U. of Organi:
 - 1 Regional Medical Office in Organi
- M.U. of Kehros:
 - 1 Regional Medical Office in Kehros

The Regional Medical Office of Arriana operates daily from morning until noon with 1 general physician. According to the data provided by the 4th Health Regional Authority, an additional staff position of a general physician ' - in a position of a doctor in rural service – is also foreseen for the Regional Medical Office of Arriana, but today it is not covered.

The Regional Medical Office of Fillyra operates daily from morning until noon with 2 general physicians. According to the data provided by the 4th Health Regional Authority, 2 additional

staff positions are foreseen, of general physicians - in positions of doctors in rural service – which, have not been covered until today. However, the Regional Medical Office of Fillyra has been characterized (by the Government Gazette) as “multifunctional”, with the establishment of the following staff positions, which today do not exist:

General Physician or Pathologist: two (2) staff positions

Nurse: one (1) staff position

Nurse Assistant: one (1) staff position.

The Regional Medical Offices of Kehros and Organi are operating once or twice a week with 1 general physician. According to the data of the 4th Health Regional Authority, for the Regional Medical Offices of Kehros and Organi, 1 staff position of Attending Doctor B’ is foreseen for each Office, currently not covered. In addition, the Regional Medical Offices of Kehros and Organi have also been designated as “multifunctional”, meaning that they must be staffed by 1 general physician and 1 specialist (pediatrician or surgeon). However, this is not the case here.

As for the equipment, the needs of all the above Regional Medical Offices are many, even for the simplest medical examinations.

The above shortages in personnel and equipment are also reflected in the field research (in the context of 3.5.2), where, precisely because of these shortages, a large percentage of people with health problems do not prefer to ask medical help to the nearest to their home public health structures.

According to the results of this field research:

In the Municipality of Arriana (89.1%) of the sample with health problems, sought for medical help. Out of those who reported on seeking help for their problem, slightly more than half, a percentage of (52.7%) in the Municipality of Arriana visited the nearest Public Health Service. The main reason for not going to the nearest Public Health Structure was that "There was no proper medical specialization - equipment" with 82.6%.

Instead of going to the nearest Public Health Structure, 37.4% of the sample in the Municipality of Arriana visited a private doctor and 31% visited a Hospital. A percentage of 20.3% in the Municipality of Arriana had laboratory examinations at a Private Laboratory and 10.2% at a Hospital.

In addition, as derived from the data of the 4th Health Regional Authority (study 3.2.1-3.5.1), **the particularly large number of patient visits per year (12,431 for 2017) especially to the Regional Medical Offices of Fillyra and Arriana**, should be noted. Thus, given the limited staffing capacity of these structures, the workload is greatly increased, making it particularly difficult to treat more severe cases as well as to provide more quality services.

Another important issue is the large number of patients visiting the Regional Medical Offices of the Municipality **for medical prescriptions, mainly those of the M.U. of Fillyra & Arriana**, than of those who visit Regional Medical Offices for medical examinations, which highlights, to a large extent, the shortcomings and weaknesses of the Regional Medical Offices in providing essential primary health care services, reducing them in providing mainly routine services. On the contrary, in the mountainous M.U. of Organi and Kehros, despite the non-continuous operation of the Regional Medical Offices, the number of patients visiting the Offices for medical examinations is significantly increased compared to the number of patients visiting these structures only for medical prescriptions. This is probably related to the difficulty of access for the residents of these settlements to the larger and more specialized primary health structures and therefore with the need to appeal to the local ones in the absence of another alternative.

The above are confirmed to some extent (to some extent because the relevant question in the field research did not only concern the Public Health Structures but the whole of Health Structures) **and by the on-site research** (in the context of 3.5.2), according to the results of which:

For medical prescription, in the Municipality of Arriana, the highest percentage of visits (33.9%) was in the category "**more than 5 times in the last year**".

For medical examination, in the Municipality of Arriana, the highest percentage of visits (43.4%) was stated in the category of "**2-3 times in the last year**".

Finally, according to the field research (3.5.2), **27.0% of the sample in the Municipality of Arriana stated problems - barriers relating to the use of health services. The most frequent issue was the problem of communication with the doctor**. In the Municipality of Arriana, per Municipal Unit, the highest percentages of problems were observed in the M.U. of Kehros (40%) and Arriana (37.7%).

Public Health, Prevention

Data for this section have been drawn from the study 3.2.1 - 3.5.1 regarding the existing health prevention policies in the area and from the research 3.5.2 regarding the behavior of the local population towards health prevention.

According to the study (in the context of 3.2.1 - 3.5.1), **health prevention policies are implemented in the area, but not in a systematic way**.

The Regional Authority of REMTH, through its Directorate of Public Health, intervenes regulatory and supervisory to the service providers of different sectors (licensing, health

checks, etc.), but also directly, with initiatives in the field of information on health issues, the offering of free medical examinations, the blood donation, etc. The Directorate conducts health prevention policies in cooperation with the health agencies, the Municipalities, the voluntary organizations of the area, **however, these health prevention policies are not carried out in a systematic way**. A good practice, which was first implemented in 2018, concerned the Public Health Week throughout the Region.

At the level of interventions in the field of health **by the Local Authorities**, a series of initiatives are being implemented. The most important and fully acclaimed initiative with tangible results is the **"Help at Home" Program** addressed mainly to the elderly. The Municipality of Arriana has an **"Independent Department of Social Protection, Education and Culture"** which undertakes mainly supportive actions of health and regulatory content, either independently or in cooperation with the competent central structures (Ministries). At the same time, the Municipality undertakes initiatives of a **mainly fragmentary character** in the framework of various programs at the level of health prevention, information, medical examinations, etc.

A **successful health prevention policy initiative** was implemented **in the area of Lykeio**, in the Municipality of Arriana, in 2016. It was an initiative of the Public Health Directorate of REMTH, in collaboration with the Directorates of Public Health and Social Welfare of the Regional Units, the "Help at Home" structures of the Municipalities and the Scientific Company "WE", **for the prevention of breast cancer**.

The non-systematic health prevention policy is also reflected in the behavior of the local population, where, according to the field research (in the context of 3.5.2), it was resulted that in the Municipality of Arriana:

- **the vaccinations concerned a very small percentage of the sample 18.6%,**
- **the test pap/ mammography (women) / prostate control (PSA, men), also a very small percentage of the sample 11,2%,**
- **the intestinal examination (e.g. colonoscopy etc.) only a percentage of 2,1%**

Municipality of Iasmos

General Characteristics

Data for this section of "General Characteristics" have been derived from the study 3.2.1 - 3.5.1. These data concern secondary sources (ELSTAT, Municipal Business Plans, Studies for the area, etc.).

The Municipality of Iasmos is located in the western part of the prefecture of Rodopi and borders in the north with Bulgaria, in the east with the Municipality of Komotini, in the south with the Municipality of Komotini and the Municipality of Avdira and in the west with the Municipality of Avdira, the Municipality of Xanthi and the Municipality of Myki.

The Municipality has an area of 485.3sq.km and a population of 13,810 inhabitants, with a population density of 28.46 persons/sq.km according to the 2011 census.

Christians and Muslims coexist in the area. Some settlements of the Municipality are purely Muslim settlements. In other settlements different cultural and religious groups are living.

The Municipal Units (M.U.) of the Municipality of Iasmos are the following 3: Iasmos, Sostis and Amaxades.

The Municipality is covered by 3/5 of mountainous and semi-mountainous areas and by 2/5 of lowland. Most of the Municipality of Iasmos belongs to the northwestern mountainous area of Rodopi, it is very sparsely populated, with many uninhabited or very small villages with little population. Some of them are inhabited periodically by farmers (breeders) and only during the summer months. In the Municipality, settlements with a relatively high population concentration are located in its lowland southern part.

There is a 7% decrease in the population in the Municipality of Iasmos, between the 2001 and 2011 censuses. A large percentage of the population belongs to the oldest age groups and specifically to the age group 60-79 years, with almost the 1/4 of the local population.

The Municipality of Iasmos presents high aging rate and a low birth rate.

The level of education is low with 18.88% being in the category of "not knowing how to read and write" and 60.75% being in the category of "having not completed secondary education".

The living conditions are not good, with 67% of the houses in the Municipality of Iasmos using wood burning for cooking, while the percentages are the same for the heating (with the same way). Also, 38% of the houses in the Municipality of Iasmos do not have a toilet inside the house.

The inhabitants are working in their large majority, 58.71%, in the primary sector. There are also specialized craftsmen (11.45%), followed by employees in the services and sales (11.43%).

The main agricultural products of the area are cotton, corn, wheat, tobacco, sugar beets. Livestock farming (mainly sheep, goats and cattle) is complementary to the agriculture.

Employment in the secondary sector is low, with a few craft enterprises.

There are several businesses in the tertiary sector: commercial businesses with chemicals - gases - paints, as well as many with food items and several leisure shops.

Mortality

Data on mortality have been obtained only by the ELSTAT for the years 2001 and 2011 as included in the study 3.2.1 - 3.5.1.

According to the study 3.2.1 - 3.5.1, in the **Municipality of Iasmos**, the mortality rate in 2011 is at about the same rate as that of the REMTH Region (2011) and somewhat higher than the corresponding rates of the whole country and of the Regional Unit of Rodopi. The Municipality of Iasmos presented a slight decrease in the mortality rate (-3.88%) for the period 2001-2011. At the level of Municipal Units, the reduction is important in the Municipal Unit of Amaxades (-29.95%).

The main cause of death in the Municipality of Iasmos, concerns the Circulatory Diseases, followed by the Neoplasms, the Un- Defined Causes and the Respiratory Diseases.

At the level of Municipal Units, Circulatory Diseases show approximately the same frequency, while there is a difference in the frequency of Neoplasms, showing a high frequency in the Municipal Unit of Iasmos and a very low frequency in the Municipal Unit of Amaxades. On the contrary, Respiratory Diseases show a high frequency in the Municipal Unit of Amaxades, followed by the Municipal Unit of Iasmos and the Municipal Unit of Sostis with lower frequency.

In the Municipality of Iasmos **the rate of traffic accidents is high**, probably related to the passage of highways from the territory of the Municipality.

Regarding **the rate of fatal traffic accidents, the Municipality of Iasmos is at a much higher level** than the relative average of the Regional Unit of Rodopi, the REMTH Region and the country.

Perception of Health Status

The perception of the health status, i.e. how residents view (consider) their state of health, has been investigated only by the field research (in the context of the research 3.5.2), in a sample of a population of 1000 people.

According to the results of this research:

A percentage of 79.6% of the sample (a very high percentage), in the Municipality of Iasmos, considers its health from excellent to good.

29.6% in the Municipality of Iasmos considers its health either very good or excellent and from them, 26.7% consider its health as very good and 2.9% as excellent. 17.5% believes that its health is modest and 2.9% believes that its health is bad. Per Municipal Unit, the higher percentage, that considers its health from excellent to good, is recorded in the Municipal Unit of Sostis (84.6%), followed by the Municipal Unit of Iasmos with 78.7%.

Although, as mentioned above, a percentage of 79.6% considers its health from excellent to good, 37.6% of the sample reported some health problem in the last year (worries, new problems, chronic problems).

Thus, a percentage of 25.0% of the sample in Iasmos worried last year about health problems (the remaining 75.0% did not worry). By Municipal Unit the bigger percentage that worried about its health was reported in the Municipal Unit of Amaxades (58.6%).

29.1% of the sample in the Municipality of Iasmos, had new health problems. The higher percentages were recorded in the Municipal Unit of Amaxades (56.3%).

A significant percentage 58.8% of the sample in the Municipality of Iasmos, reported some chronic health problem (41.2% had no chronic health problem). Larger percentages occur in the Municipal Unit of Amaxades (73.4%).

Morbidity

Data on morbidity have been obtained from 3 different sources. From ELSTAT - patients discharged from hospitals in 2012 per disease category (study 3.2.1-3.5.1) -, from the Regional Medical Offices - main diagnosis from medical visits to the Regional Medical Offices in 2017 (study 3.2.1-3.5.1) -, from the field research in the context of the research 3.5.2.

According to the data of ELSTAT (patients discharged from hospitals in 2012 per disease category), (study 3.2.1-3.5.1), the data were available only at Regional Unit level (from patients discharged in 2012), in this case for the Regional Unit of Rodopi and showed that the most common cause of hospitalization for the **Regional Unit of Rodopi** were the **diseases of the circulatory system (16.74%)**, with a higher frequency than in the country and the region. A second cause of hospitalization were the diseases **of the nervous system and the sensory organs (12.45%)**, also with higher frequency than in the country and the region, third cause, **the neoplasms (11.06)**, followed by the **diseases of the urogenital system (9.53%)**, **of the digestive system (9.06%)**, **the pregnancy complications (7.32%)**, **the injuries and poisonings**, **the respiratory diseases** and **"symptoms, signs and un-defined conditions"**.

According to the same source:

A large increase in discharged patients from Hospitals in the Regional Unit of Rodopi, from 2008-2012, concerned diseases related to:

- Diseases of the skin and the subcutaneous tissue (+ 29.63%) (significant increase but lower in REMTH, decrease in Greece)
- Mental disorders (+ 18.81%) (while in REMTH there was a small decrease and in Greece a small increase)
- Symptoms, signs and un-defined conditions (+ 17.38%) (very small decrease in REMTH, significant decrease in Greece)
- Congenital malformations (+ 11.76%) (very significant decrease in REMTH, sufficient decrease in Greece)
- Complications of pregnancy, childbirth (+ 11.66%)
- Neoplasms (+ 11.34%) (approximately the same increase in Greece, much smaller increase in REMTH)
- Diseases of the urogenital system (+ 7.24%), (small decrease in REMTH, approximately the same increase in Greece)
- Diseases of the blood and hematopoietic organs (+ 6.45%), (decrease in REMTH, approximately the same increase in Greece)

A great reduction of discharged patients from hospitals in the Regional Unit of Rodopi, from 2008-2012 concerned diseases related to:

- Infectious and parasitic diseases (-39.51%) (there were no corresponding reductions in REMTH and Greece)
- Endocrine and metabolic diseases and disorders of nutritional deficiencies (-27.45%) (decrease in AMTH and Greece, but much smaller decreases)
- Injuries and poisonings (-26.03%) (significant decrease in REMTH, less significant decrease in Greece)

- Diseases of the musculoskeletal system and the connective tissue (-24,47%) (significant but smaller reduction appears in both REMTH and Greece)
- Certain conditions originating from the perinatal period (-24%) (more significant decrease in REMTH, but increase in Greece)
- Respiratory diseases (-15.01%) (slight decrease in REMTH, significant increase in Greece)

According to the study 3.2.1-3.5.1, it is also estimated that since **most employed** in the Municipality of Iasmos are found **in the sector of agriculture - livestock** (59.82% of employees) should also show **musculoskeletal diseases**. It is also pointed out that the agricultural sector in the REMTH Region presents twice the frequency of work accidents than in the country. The workers in the agricultural sector report more musculoskeletal problems and infections, also greater exposure to manual weight management, inappropriate physical postures, chemicals and dust, as well as accidents risks.

In addition, it is estimated that due to the employment of the inhabitants of the area with **farming (livestock)**, as well as to their living conditions (existence of livestock farms within the settlements, uncontrolled disposal of livestock waste, etc.), there is the presence, although not in a large scale, of diseases that are transmitted from the animals to the humans (brucellosis, echinococcosis, etc.), which necessitates drastic protection measures (vaccinations, killing of animals, etc.), as well as measures **against infectious diseases**.

Data on morbidity in the study 3.2.1 - 3.5.1 for the Municipality of Iasmos have been obtained also from the **Health Center of Iasmos**. Specifically, the data concerned the main diagnosis for those examined in 2017. According to these, **the high blood pressure, the cardiovascular problems, the diabetes** are the main diagnoses of morbidity. In addition, other diagnoses concern the dietary anemia, the respiratory problems and the osteoporosis due to vitamin D deficiency.

It has to be noted that **depression** was also pointed out by the Health Center, as a problem for the Municipality of Iasmos and is attributed to the "closed" way of life of the residents resulting from the cultural peculiarities of the local population.

According to the field research (3.5.2) conducted on a sample of the population of the Municipality of Iasmos, a larger percentage, **38.8% of the cases state diseases of the circulatory system, followed by the psychiatric-psychological problems (12.6%) and the endocrinological diseases** with 9.0%. The gastrointestinal disorders appear with a frequency of 5.5%, followed by the respiratory diseases with 5.3% and the musculoskeletal problems with 4.9%.

As to the **sub-categories** of the above disease categories, according to the field research, the following have been resulted:

- **Diseases of the Circulatory System.** Hypertension complicated was found in a greater percentage (33.3%), the hypertension non complicated (28.2%), while increased blood pressure was found in a percentage of 16.8%.
- **Psychiatric - Psychological Problems.** The most prevalent disease was the depression (19.0%).
- **Diseases of the Endocrinological System.** The non-insulin-dependent diabetes mellitus (33.3%) and the hyperthyroidism / thyrotoxicosis (31.9%) are the most prevalent diseases, while the insulin-related diabetes occurs with 23.6%.

According to all the above data which have been obtained from different sources and concern a different population (e.g. main diagnoses from patients' visits to the Health Center, diseases of discharged patients from hospitals, research on a population sample), it is resulted in principle:

- that circulatory diseases are the main cause of morbidity in the population of the Municipality of Iasmos.

The data of the sub-categories of diseases declared by the Health Center of Iasmos and those found by the field research (research in the context of 3.5.2) are matching to the following diseases:

- high blood pressure,
- cardiovascular problems,
- diabetes mellitus,
- depression.

Diseases of the nervous system and the sensory organs, neoplasms (resulting from the research of ELSTAT – Diseases of discharged patients from hospitals) were not found in the field research and have not been mentioned in the main diagnoses of the Health Center of Iasmos.

Public Health Structures and Access

Data for this section have been drawn from the study 3.2.1-3.5.1 regarding the existing primary health care structures and their shortages and from the research 3.5.2 regarding the problems of access in these structures.

In the Municipality of Iasmos both the **Health Center of Iasmos** and **Regional & Local Medical Offices** are operating.

The Regional Medical Offices in the Municipality of Iasmos are **4: the Regional Medical Office of Ambrosia, Sostis, Asomati, Polyanthos**. There is also the Local Medical Office of Amaxades for the residents of this Municipal Unit.

The foreseen medical services of the Health Center are presented in the table below.

Table: HEALTH CENTER OF IASMOS – CLINICS – MEDICAL LABORATORIES	
CLINICS	GENERAL MEDICINE
	PEDIATRIC
	DIABETES
MEDICAL LABORATORIES	MICROBIOLOGICAL
	RADIOLOGICAL
HOURS	7.00 – 15.00 / 24 hours

Source: 4th Regional Health Authority

Also, for the Health Center of Iasmos, according to the following table, for 2017, 19 staff positions of physicians were foreseen, as follows:

Table: Staff Positions of Medical Personnel foreseen at the Health Center of Iasmos (2017)	
Employee Category	Number
DIRECTORS OF CLINICS	2
ATTENDING DOCTORS	5
ATTENDING PHYSICIANS OF GENERAL MEDICINE ON RURAL SERVICES	12
PHYSICIANS OF GENERAL MEDICINE ON	

RURAL SERVICES	
TOTAL	19

However **the physicians currently employed (2018) in the Health Center are just 12.**

Also, after the retirement of some radiologists and microbiologists, the relative staff positions remain vacant, resulting to a rather occasional operation of the radiology laboratory.

As for the **nursing and other staff**, again for 2017, according to the data of the 4th Regional Health Authority, it was foreseen: 14 nursing staff (6 Assistant Nurses, 7 Nurses of Technical Education and 1 Auxiliary Personnel of Compulsory Education), 4 paramedical staff (2 Assistant staff and 2 of Technical Education), 1 person non-medical staff (1 of University Education), 1 person administrative staff (1 Assistant) and 3 other staff (3 Assistants).

However, there are also shortages of nursing and paramedical staff.

In addition to staff shortages (physicians, nursing and paramedical staff), there are also **shortages of equipment.**

The Health Center of Iasmos has its own ambulance however this is currently used by the National Emergency Center.

According to the data of the 4th Regional Health Authority 1 staff position of a general physician / Attending Doctor B' - in the position of Rural Service, is foreseen for each of **the Regional Medical Offices** of Ambrosia, Sostis, Assomati and Polyanthos. **However, today there are no such staff positions. The physicians of the Health Center of Iasmos visit only twice a month the above Regional Medical Offices.**

In conclusion, the shortages of the medical and the nursing staff, as well as of the equipment both at the Health Center of Iasmos and the Regional Medical Offices, make difficult their effective work.

The above shortages in personnel and equipment are also reflected in the field research (in the context of 3.5.2), where, precisely because of these shortages, a large percentage of people with health problems do not prefer to ask medical help to the nearest to their home public health structures.

According to the results of this field research: **In the Municipality of Iasmos, a percentage of 76.0% of the sample asked for medical help. Out of those who reported on seeking help for their problem, only 34,7% visited the nearest Public Health Service. The main reason for not going to the nearest Public Health Structure was that "There was no proper medical specialization - equipment", with 63.4% in Iasmos.** At a much lower rate of 11.0%

the answer was "Due to lack of confidence" and with 7,9% "It was an emergency and I didn't have time to go".

Another interesting issue is related to the medical visits to the Health Center and the Regional Medical Offices and the reasons for these visits.

The **Health Center of Iasmos** counts about 25,000 medical visits per year (24,217 for 2017). Of these, about 4,865 concern regular cases, 9,003 concern only medical prescriptions and 10,349 are emergencies.

In other words, the number of medical visits for emergencies is more than double than those for regular cases. The same applies for medical visits only for medical prescription (twice as many as in regular cases).

The above data first of all show the accessibility of the Health Center from its residents who, when there is an emergency, they have the possibility of access to a local public health structure.

The data show also that residents do not use the Health Center for regular medical examinations, either because they consider that there is a lack of proper infrastructure (laboratories, equipment, etc.) and staffing (specialized staff) or because they consider other structures outside the area (the hospital, the private doctors) as better.

In the **Regional Medical Offices** of the Municipality of Iasmos, **the visits only for medical prescription** are the main reason for a visit.

In general, in all the public structures, the medical visits for examination are much less than the visits only for medical prescription, a fact that confirms that the residents of the Municipality address to other structures for their medical examinations and make use of the Regional Medical Offices mainly to prescribe their medications. **In other words, residents are making more use of the local health facilities to meet their routine needs.**

The combination of, on the one hand the many emergencies and the many visits for medical prescription and on the other hand the staff shortages, seems to contribute to the inability of the population to use the local public health structures for medical examinations.

The above are reflected in the answer given by the respondents to the question of whether there were problems in their access to the local public health services (in the field research in the context of 3.5.2) where 47.3% in the Municipality of Iasmos stated problems - barriers relating to the use of health services. The greater frequency occurred in the problem of "the delay in fixing an appointment with the doctors of the National Health System".

Public Health, Prevention

Data for this section have been drawn from the study 3.2.1 - 3.5.1 regarding the existing health prevention policies in the area and from the research 3.5.2 regarding the behavior of the local population towards health prevention.

According to the study (in the context of 3.2.1 - 3.5.1), **health prevention policies are implemented in the area, but not in a systematic way.**

The Regional Authority of REMTH, through its Directorate of Public Health, intervenes regulatory and supervisory to the service providers of different sectors (licensing, health checks, etc.), but also directly, with initiatives in the field of information on health issues, the offering of free medical examinations, the blood donation, etc. The Directorate conducts health prevention policies in cooperation with the health agencies, the Municipalities, the voluntary organizations of the area, **however, these health prevention policies are not carried out in a systematic way.** A good practice, first implemented in 2018, concerned the Public Health Week throughout the Region.

At the level of interventions in the field of health **by the Local Authorities**, a series of initiatives are being implemented. The most important and fully acclaimed initiative with tangible results is the **"Help at Home" Program** addressed mainly to the elderly. In the Municipality of Iasmos there is an **"Independent Department of Social Protection, Education and Culture"** which undertakes mainly supportive actions of health and regulatory content, either independently or in cooperation with the competent central structures (Ministries). At the same time, the Municipality undertakes initiatives of a **mainly fragmentary character** in the framework of various programs at the level of health prevention, information, medical examinations, etc.

The non-systematic health prevention policy is also reflected in the behavior of the local population, where according to the field research (in the context of 3.5.2), it was resulted that in the Municipality of Iasmos:

- **the vaccinations concerned a small percentage of the sample 29,7%,**
- **the test pap/ mammography (women) / prostate control (PSA, men), also a very small percentage of the sample 12,0%,**
- **the intestinal examination (e.g. colonoscopy etc.), only a percentage of 0,1%**
- **the cardiac tests, a fairly small percentage of 8.3%.**

Findings for Both Municipalities (Arriana & Iasmos)

Correlations of the Diseases with the Socio-economic Characteristics of the Sample in both Municipalities

The data in this section were drawn from the research "Access to and degree of needs' coverage of health services in partners' areas" - (Deliverable 3.5 .2), for the 2 Municipalities of the project area.

Age and Diseases

In general, in both Municipalities, there is a linear increase of most diseases (Circulatory Diseases, Endocrinological Diseases, Musculoskeletal Diseases, Respiratory Diseases) with the age. Differentiation is observed in Psychiatric / Psychological Diseases where the age group of "41-60 years" shows the highest rates. The same differentiation is observed in Gastrointestinal Diseases.

More in Detail:

The age groups "over 60" and "41-60 years" have the highest rates of circulatory diseases, 77.8% and 21.0%, respectively. An increase in the problems of the circulatory system with the age is recorded.

The age groups "over 60 years" and "41-60 years" have the highest rates of endocrinological diseases, 51.3% and 36.3% respectively. There is also a linear increase of endocrinological diseases with the age recorded.

The age groups "over 60" and "41-60 years" have the highest rates of musculoskeletal disorders, 47.5% and 36.7%, respectively. There is also a linear increase of the musculoskeletal problems with the age.

The age groups "over 60" and "41-60 years" have the highest rates of respiratory diseases, 34.5% and 29.1% respectively. There is also a linear increase in respiratory diseases with age.

The age group "41-60 years" has the highest percentage (42.6%) of psychiatric / psychological problems followed by the age group of "over 60 years" (25.0%) and the age group of "26-40 years" (22.9%).

The age group "41-60 years" has the highest rate of gastrointestinal problems (44.3%). The next one is the age group "over 60 years" with 30.2%.

Finally, the highest frequencies (those reporting 1, 2, 3, 4, 5 diseases) appear at older ages (41-60 years and over 60 years).

Monthly Income and Diseases

The lowest income groups "up to 500 €" and "500-1,000 €" monthly, show the highest rates in all diseases. The lower income group "up to 500 €" presents the higher rates in most diseases.

In more Detail:

The lowest income groups "up to 500 €" and "500-1,000 €" monthly, have the highest rates of circulatory diseases, 45.4% and 38.4% respectively.

The lower income groups "up to 500 €" and "500-1,000 €" monthly, have the highest rates of endocrinological diseases, 37.8% and 38.3% respectively.

The lowest income groups "up to 500 €" and "500-1,000 €" monthly, have the highest rates of Psychiatric - Psychological Problems, 53.7% and 29.3% respectively.

The lower income groups "up to 500 €" and "500-1,000 €" monthly, have the highest rates of Respiratory Problems, 46.8% and 34.9% respectively.

The lower income groups "up to 500 €" and "500-1,000 €" have the highest rates of musculoskeletal diseases, 50.0% and 33.3% respectively.

The lower income groups "up to 500 €" and "500-1000 €" have the highest rates of gastrointestinal diseases, 38.3% and 37.4% respectively.

Finally, the highest frequencies (those reporting 1, 2, 3, 4, 5 diseases) appear at the income levels of "up to 500 €" and "500-1,000 €".

Education, Profession and Diseases

From the specific correlations between health problems (diseases) and the different levels of education, it has been resulted that **these problems are more prevalent among low-educated residents.**

Also the specific correlations between diseases and the various professions have shown that these problems are more prevalent at **farmers and retired persons.**

Correlations of Preventive Tests with Age, Income for the 2 Municipalities

In general, **the preventive check increases with age**, with a higher frequency at people over 60, with the majority (83.9%) of them, getting vaccinated or having some other preventive test.

Also, **the rate of preventive measures increases as the income level rises**. Those with the lowest income level have the lowest (36.1%) rate in preventive tests or vaccination.