

# AN OVERVIEW OF THE EPIDEMIOLOGY AND LOCAL HEALTH SERVICES OFFERED FOR COLORECTAL CANCER



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## ABSTRACT

Colorectal cancer is the second most common cancer in Malta. On average, between 2012-2014, 259 persons have been diagnosed with colorectal cancer and 110 persons died each year. It is a disease of the Western world. The need to target colorectal cancer from prevention through physical exercise and healthy eating, to earlier diagnosis and treatment, through organised screening programmes and fast track referral systems and advanced treatment protocols is crucial to reduce incidence and improve survival.

## INTRODUCTION

Colorectal cancer accounts for 9.7% of all cancers worldwide (excluding non-melanotic skin cancer). It is the second most common cancer in Europe and third most common cancer in the world.<sup>1</sup> It is far more common in the Western world with age standardised incidence rates being highest in Europe and North America (Table 1) and lowest in Africa and Central America.<sup>1</sup>

Population	Numbers	Crude Rate	ASR (W)
World	1360602	19.3	17.2
Africa	41105	3.8	6.3
Central America	11601	7.2	8.0
South America	67464	16.8	15.7
Northern America	158169	45.1	26.1
Asia	607182	14.3	13.7
Central and Eastern Europe	139856	47.6	26.6
Northern Europe	65162	65.0	30.4
Southern Europe	105009	66.7	31.1
Malta	268	63.9	31.9
Western Europe	137109	72.3	31.4

\* (age standardised rates using the world standard population)

**Table 1:** Estimated incidence in specific world regions, both sexes, 2012

There is variation in the trends in incidence and mortality of colorectal cancer in different countries with three main patterns being observed:

- Increase in incidence and mortality is being seen in rapidly transitioning regions such as Eastern Europe, Asia and South America;
- Increase in incidence with a decrease in mortality is being seen in some European countries such as Denmark, Sweden, United Kingdom and Malta amongst others as well as Canada and Singapore;
- In countries such as the United States, Japan and other Western countries both incidence and mortality have stabilised or have even started to decline.<sup>2</sup>

Colorectal cancer is associated with a number of modifiable risk factors including diets rich in animal fat and protein, obesity and lack of physical activity, smoking and excessive alcohol consumption. Inherited conditions such as familial adenomatous polyposis (FAP) as well as a personal history of inflammatory bowel diseases<sup>3</sup> are associated with a high risk of developing colorectal cancer. The latter risk conditions account for only a small proportion of all colorectal cancer cases.

A reduction in colorectal cancer incidence and mortality is achievable through a number of measures which include primary prevention through improved nutrition and increased physical activity, and organised population-based cancer screening programmes. New and advanced treatments are also contributing towards improvements in the outcomes of colorectal cancer care. There are wide variations worldwide in the state of implementation of colorectal screening with countries such as the United States and Japan having organised screening programmes since the 1990s.<sup>4</sup> On the other hand, by 2008, only 19 out of the 27 EU countries had or were developing a screening programme.<sup>5</sup> By 2015, this implementation figure has gone up to 24 out of 28 EU countries.<sup>4</sup> However, to date there are still several countries worldwide with no organised screening programme in place despite having a high incidence and mortality from the disease.<sup>4</sup>

## EPIDEMIOLOGY OF COLORECTAL CANCER IN MALTA COLORECTAL CANCER INCIDENCE

Colorectal cancer is the second commonest cancer for Malta in both genders combined following breast cancer. On average, 146 males and 113 females (3 year average of 2012-2014) are diagnosed each year with colorectal cancer. The incidence of colorectal cancer increases with age (Figure 1) and age-specific incidence rates in males are much higher than those in females for most age groups.<sup>6</sup>

The standardised incidence rate of colorectal cancer in Malta has remained relatively stable in females (Figure 2) but seems to show a rising trend in males. Incidence rates in Malta in both males and females are lower than the EU average (Malta: M: 42.1, F: 35.2; EU-27 average: M: 59.0, F: 36.1 in 2012 per 100,000 pop (ESP)).<sup>7</sup>

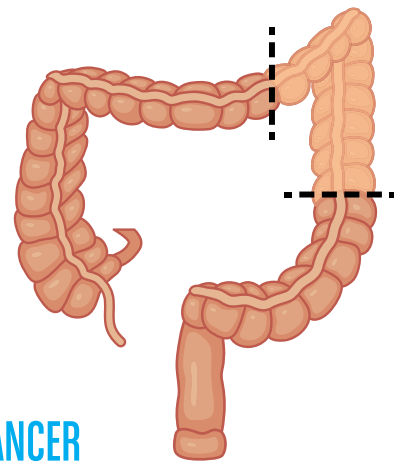
## COLORECTAL CANCER MORTALITY MORTALITY

On average there are 61 male deaths and 49 female deaths due to colorectal cancer each year (average of 2012-2014). Colorectal cancer is the second most common cause of cancer death in both sexes combined following lung cancer. Average age at death for both genders is 73 years (2012-2014). The age standardised mortality rate has remained relatively stable in males over the past years (Figure 3) but is showing a downward trend in females.<sup>6</sup> Mortality rates in Malta in both males and females are slightly above the EU average (Malta: M: 23.9, F: 15.9; EU-27 average: M: 23.8, F: 14.2 in 2012 per 100,000 pop (ESP)).<sup>7</sup>

## SURVIVAL

The one-year and 5-year relative survival for patients with invasive colon cancer who were diagnosed between the years 2000-2007 was 77.6 and 57.0 respectively in Europe.<sup>8</sup> Malta

## COLORECTAL CANCER IS THE SECOND COMMONEST CANCER FOR MALTA IN BOTH GENDERS COMBINED FOLLOWING BREAST CANCER



observed one of the highest increases in colon cancer 5-year relative survival from 53% for patients diagnosed between 1999-2001 to 61% in patients diagnosed with *colon* cancer in 2005-2007.<sup>8</sup> As presented in the tables below, one-year relative survival of patients with rectal cancer is higher than those with colon cancer in all regions. However, the same does not always apply for the 5-year relative survival. In Malta, between the periods 1999-2001 and 2005-2007, the 5-year relative survival for patients with *rectal* cancer fell from 60% to 50% (European average increased by 6 percentage points to 58%).<sup>8</sup>

## SERVICES FOR THE MANAGEMENT OF PATIENTS WITH COLORECTAL CANCER IN MALTA

Prior to the introduction of the colorectal screening programme in Malta in November 2012, screening for colorectal cancer by faecal occult blood tests (FOBT) and other means was only performed on an opportunistic basis and activity rates were very low. Only 2.6% of persons aged between 50 and 74 years interviewed in the European Health Interview Survey carried out in 2008 reported as having had a FOBT in the previous two years.<sup>9</sup>

The National Colorectal Cancer Screening programme was launched in November 2012. During its first screening cycle, persons aged between 60-64 years were invited to undergo colorectal cancer screening. The colorectal cancer screening programme is now in its second cycle and persons aged 55 to 66 years are invited to undertake an iFOBT (immunochemical-faecal occult blood test) every 2 years. Clients that obtain a positive iFOBT result are referred for a colonoscopy. The aim is to eventually reach the age cohorts 50 to 74 years recommended in the EU Council Recommendation of 2003 on Cancer Screening.<sup>10</sup>

Apart from the screening route, patients can also enter the colorectal cancer care pathway from the symptomatic route. A number of measures are being planned and introduced to ensure that patients with suspicious signs and symptoms gain access to specialist care in hospital in the shortest time possible. One of these measures involves the introduction of a fast-track referral system. A **pilot system relating to the fast-track referral system for colorectal cancer was introduced in early 2016 whereby participating family physicians can complete an electronic referral form that has been specifically designed for this purpose.** A surgeon with a special interest in colorectal surgery vets these referrals. When the indication for a fast-track

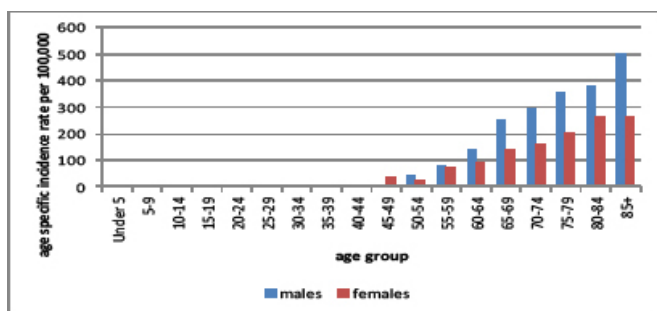


Figure 1. Yearly age-specific incidence rate for colorectal cancer (average of 2012-2014), by gender<sup>6</sup>

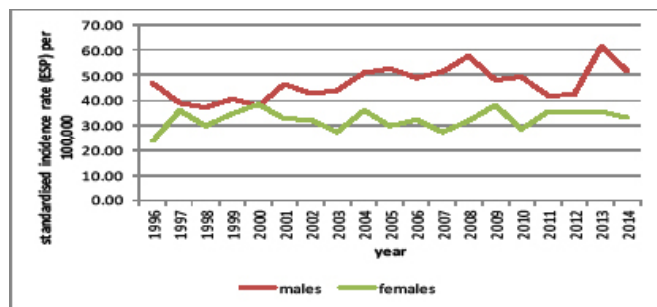


Figure 2. Trends in standardised incidence rate (European Standard Population) in males and females in Malta<sup>6</sup>



# A PILOT SYSTEM RELATING TO THE FAST-TRACK REFERRAL SYSTEM FOR COLORECTAL CANCER WAS INTRODUCED IN EARLY 2016 WHEREBY PARTICIPATING FAMILY PHYSICIANS CAN COMPLETE AN ELECTRONIC REFERRAL FORM THAT HAS BEEN SPECIFICALLY DESIGNED FOR THIS PURPOSE

referral is confirmed, the family physician is instructed on how best to prepare their patient and an expedited appointment for a colonoscopy is given.

Measures are also being planned to ensure continuity and seamless care for patients navigating the cancer pathway from diagnosis to palliative care and survivorship. The aims are to improve patients' experience and outcomes and also to assist patients during this challenging journey. These include the planned and incremental introduction of cancer care pathway navigators. These navigators will most often be nursing professionals and they will be appointed to act as care-coordinators for patients with various cancers. Navigators will be assigned to different groups of cancer patients so that they will be able to develop specific expertise in assisting patients with similar conditions.

The diagnostic and treatment plan of patients suspected or diagnosed with colorectal cancer is discussed during multidisciplinary team (MDT) meetings which are held once every fortnight at Mater Dei Hospital. Support for the operations of these MDTs will be reinforced to improve their effectiveness and to ensure inclusivity for all patients diagnosed with colorectal cancer. Plans also envisage that the MDTs will eventually assume the role of a tumour management group which will have the responsibility of developing and overseeing the implementation of relevant national care guidelines and monitor and evaluate selected performance outcome indicators.

## DISCUSSION AND CONCLUSION

There is large variation in trends in mortality from colorectal cancer in the different European countries, with an average reduction in mortality in EU 27 falling by 13% in men and 27% in women between 1989 and 2011.<sup>11</sup> Countries including the United Kingdom, Austria, Germany and Ireland amongst others showed major reductions in mortality while other countries especially central European countries showed either a small decline or no decline at all.<sup>11</sup> In Malta the overall mean change in mortality in females fell by 15.9% while in males it increased by 5.2% from between 1989 and 2011.<sup>11</sup> Implementation of and participation rates in national screening programmes varies considerably between countries and this is considered to be an important factor in reducing mortality.<sup>12</sup>

The need to target colorectal cancer from prevention, through to earlier diagnosis and advanced treatment protocols is key to improved survival<sup>3</sup> and requires financial resources and well planned cancer strategies.

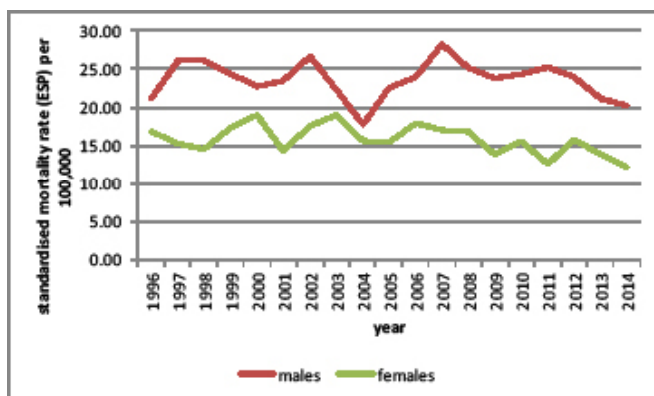


Figure 3. Trends in standardised mortality rate (European Standard Population) in males and females in Malta.<sup>6</sup>



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Cancer control services require a comprehensive approach for the planning, acquisition and governance of the necessary organisational, human, technological and financial resources for the sustainability and further development of the services needed to meet the increasing demand and the dynamic and evolving domains of cancer care. A new National Cancer Plan for Malta is currently being collated and this strategy will include several measures aimed at generating quality improvements at the multiple different phases of the cancer care pathways. Measures will include generic upgrades that will affect all cancer patients such as the implementation of a comprehensive ICT infrastructure that will closely document an individual patient's trajectory, improve connectivity between different care providers and allow the generation of more timely and detailed cancer intelligence. The new National Cancer Plan will also include specific developments that will target the accessibility of increasingly more advanced levels of expertise and technology (including cancer care medicines) for specific cancer groups.

In 2015 the Ministry for Health set up the Cancer Care Pathways Directorate. The aim of this directorate is to develop

individualized pathways of excellence in cancer care where the journey of both patients and their families is facilitated in a safe and integrated manner through the provision of holistic care. It also supports, recommends and implements changes within cancer services to ensure high quality services that are delivered in a timely manner.

Support for the patients and their families during this time is an important factor that helps people cope with this challenging condition. The Malta ColoRectal Cancer Awareness Group (MCRCAG - <http://www.crc.org.mt/GetSupport>) has been set up in February of this year with the aim of creating awareness and education about colorectal cancer as well as support to the patients and their families and caregivers.

Region/Country	1 year	5 year
Northern Europe	79.3 (78.9-79.6)	59.0 (58.5-59.5)
Ireland and UK	72.6 (72.4-72.8)	51.8 (51.5-52.1)
Central Europe	80.5 (80.3-80.7)	60.5 (60.2-60.8)
Southern Europe	78.6 (78.4-78.9)	58.5 (58.1-58.8)
Malta	74.9 (72.0-78.0)	58.1 (53.7-62.7)
Eastern Europe	69.7 (69.4-70.1)	49.4 (48.9-49.8)

**Table 2:** 1-year and 5-year relative survival for adult patients with invasive colon cancer diagnosed in 2000-2007<sup>8</sup>

Region/Country	1 year	5 year
Northern Europe	83.4 (83.0-83.8)	59.5 (58.9-60.2)
Ireland and UK	78.5 (78.2-78.7)	53.7 (53.3-54.1)
Central Europe	83.7 (83.5-84.0)	60.1 (59.7-60.5)
Southern Europe	80.4 (80.1-80.7)	55.4 (54.9-55.9)
Malta	82.1 (78.5-85.8)	52.8 (47.0-59.3)
Eastern Europe	72.4 (72.0-72.8)	44.6 (44.1-45.1)

**Table 3:** 1-year and 5-year relative survival for adult patients with invasive rectum cancer diagnosed in 2000-2007<sup>8</sup>

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