

# Slovenian National Screening and Early Detection Programme for Colorectal Cancer - SVIT, Our Results

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## INTRODUCTION

Colorectal cancer (CRC) is a significant health burden globally, and its management and outcomes vary substantially across countries. European Union faces approximately 350,000 new cases of colorectal cancer annually, and 156,105 deaths yearly. With one in every 35 women and one in every 22 men likely to develop CRC in their lifetime, it is imperative to focus on preventive measures and early detection strategies.

Slovenia recorded a CRC incidence of 56.4 per 100,000 inhabitants in 2020, ranking sixth among European Union countries. The SVIT Program, initiated in 2009, stands as Slovenia's response to this rising health challenge, aiming to curb CRC incidence through enhanced primary and secondary preventive measures (1, 2).

## THE SVIT PROGRAM

Initiated in 2009, the SVIT Program is Slovenia's national response to CRC, inviting approximately 600,000 individuals, aged between 50 and 74 years, for screening every two years. Employing an immunochemical test for occult bleeding in stool, the program refers individuals with positive results for colonoscopy. Persons undergoing diagnostic or therapeutic treatment for colorectal cancer and patients with IBD (Ulcerative colitis, Crohn's disease) are excluded

from the screening program. Persons with negative colonoscopy findings in the past 5 years are temporary excluded from the screening program. All participants however are instructed to return the signed Declaration of Participation to the SVIT Program regardless of the presence of an exclusion factor (3).

Functioning on an estimated budget of 7,114,708 €, it is meticulously organized and ensures short waiting times, personalized communication, regional accessibility, and special care for people with special needs, with an emphasis on continual improvements and adherence to the newly renewed Slovenian guidelines (3).

Funds for running the program, invitations, sending testers, purchasing testers and means for cleaning the intestines before colonoscopy are 3,466,568 €, and for screening colonoscopies and screening histopathological examinations are in the amount of 3,648.140 €.

The implementation and management of the program adhere to legal acts and regulations framed by the Slovenian government (Rules on the implementation of national screening programs for the early detection of precancerous changes and cancer (UL 68/2019) and Act on data collections in the field of health care (4–5).

## OPERATIONAL FRAMEWORK AND RESULTS (Figure 1)

The program has been well-received, with a 65% responsiveness to invitations and a 94% colonoscopy rate after a positive FIT. However, responsiveness disparities exist, particularly among men (58.8% compared to women's 69.9%) and in specific regions of the country. The program's success relies significantly on the quality of colonoscopies performed and the continual training and inspections of the endoscopists involved, ensuring the high reliability of the screening process.

It is important that qualified colonoscopists enter the program. However, this factor in itself is not sufficient. To ensure the proper quality level of performing colonoscopies and to improve it, we perform regular, continuous checks. The control of the indicators certainly reduces the potential occurrence of interval colorectal carcinoma and serious complications, as well as provide better cooperation by all individuals involved in the program.

Sixty-eight colonoscopists from 29 endoscopy units participated in SVIT from April 2009 to January 2015. A group of 3 supervising endoscopists from the SVIT

Program Council performed 91 inspections and provided regular annual training.

A total of 891,364 (58.2%) Slovenian citizens participated in the first three screening rounds.

Among 46,552 (6%) positive individuals, 42,866 (92.1%) underwent a first colonoscopy. Total colonoscopies were performed in 98% of endoscopies ( $p = 0.459$  between cycles), mean ADR was 51.8% ( $p = 0.872$  between cycles), mean right colon ADR was 37.5% ( $p = 0.227$  between cycles), mean MAP was 1.1 ( $p = 0.981$  between cycles), mean MAP+ was 2.0 ( $p = 0.824$  between cycles), and the mean SSL detection rate was 3% ( $p < 0.001$ ).

We observed large differences in quality indicators between endoscopists and a significant increase in MAP, ADR in the right part of the colon and detection of SSL per endoscopist over a 6-year period (5).

The emphasis on quality assurance and regular monitoring has led to an increase in the Adenoma Detection Rate (ADR) to 58% in 2023. The introduction of SVIT has correspondingly seen a decrease in CRC incidence and mortality, with a 3% annual decrease for men and a 2% annual decrease for women since 2010 (5–6).

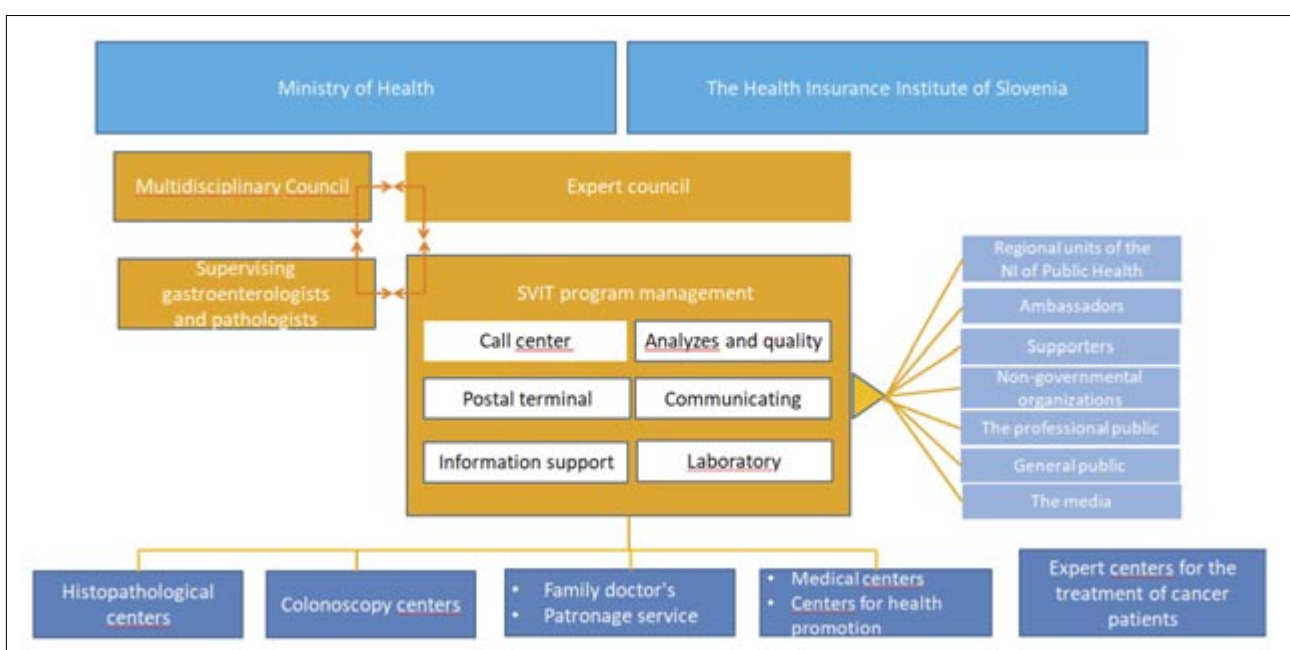


Figure 1. Organizational chart of Program SVIT

## SURVIVAL RATES AND IMPACT ASSESSMENT

The post-program era has seen a rise in five-year survival rates, from 54% in 2000–2004 to 62% in 2010–2014 for colon cancer patients. Notably, rectal cancer patients have experienced an increase in survival from 49% to 60% within similar periods. Additionally, the program has enabled catching up of the survival rate of individuals below 50 with those aged between 50 and 74 (5–6). Five-year net survival is more than 94% for cancer detected in a limited stage, 71% for an extended stage, and survival is only slightly less than 10% for patients with diffuse disease at the time of diagnosis (7).

## CONCLUSION

Fifteen years of the SVIT program reflect a promising advancement in colorectal cancer management in Slovenia. The outcomes highlight an increase in limited disease diagnosis, continual improvements in ADR, and a significant reduction in CRC incidence and mortality. The structured and quality-centric approach of SVIT provides valuable insights and underscores the importance of nationally implemented, meticulously organized screening programs in combating colorectal cancer. The blend of preventive strategies, quality assurance, and targeted improvements resonate as foundational elements in achieving substantial progress in colorectal cancer management globally.

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