DORA
SLOVENIAN BREAST CANCER SCREENING PROGRAMME

Slovenian Breast Cancer Screening Programme – DORA
Facts & Figures

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Programme type: national organised population-based cancer screening programme.

Year of introduction: April 2008. Different regions in Slovenia have been consecutively joining the programme from 2008; all the regions of Slovenia were included by December 2017, all screening centres were set and operating by April 2018.

Programme founders: Ministry of Health of the Republic of Slovenia, Health Insurance Institute of Slovenia and Institute of Oncology Ljubljana.

Legislation: The right of insured persons to early detection of breast cancer in Slovenia from the funds of the basic health insurance is set out in Article 23 of the Health Care and Health Insurance Act (Official Gazette of the Republic of Slovenia, No. 9/1992, as amended – ZZVZZ). The purpose, organisation and implementation of the DORA programme are defined in the *Rules on the implementation of national screening programmes for the early detection of precancerous lesions and cancer* (Official Gazette of the Republic of Slovenia, No. 57/2018). The collection and processing of personal data in the DORA programme is carried out on the basis of the Healthcare Databases Act (Official Gazette of the Republic of Slovenia, No. 65/2000, as amended).

The protocols and standards of the DORA programme are defined in *DORA Programme Guidelines*.

Area of implementation: Slovenian public health sector **Responsible institution:** Institute of Oncology Ljubljana.

Screening interval: two years.

Screening examination: digital screening mammography in two projections.

Target group of population: women aged from 50 to 69 with residence (permanent or temporary) in the Republic of Slovenia with Slovenian basic health insurance – approximately 280,000 eligible women. Exclusion criteria for screening is the following: previous breast cancer diagnosis, registered in Slovenian cancer registry, including carcinoma *in situ* (C50, D05).

Invitation method: all eligible women from the target population group who do not meet the exclusion criteria are sent a personal invitation letter with a prefixed appointment (date, hour and place of screening examination are set) and contact information in case they want to change the appointment. If a woman does not attend the examination, she is sent another invitation in 4 weeks time, in case of non-respondence another invitation is sent in two years.

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Additional diagnostics and treatment of lesions detected during screening: additional projections (compression, enlargement), breast ultrasound, clinical examination, core biopsy, MRI, open biopsy, surgery, chemotherapy, radiotherapy and biological (targeted) therapy.

Participation rate: participation in the DORA programme is defined as a percentage of women invited in the specific period of time that attend for screening. In order to reduce breast cancer mortality rate it is necessary to reach at least 70% participation rate. The average participation rate in the first 15 years (2008–2022) of all invited women was 75%.

Programme coverage and sensitivity: Invitation coverage in 2022 was 99.0% and screening coverage was 77.9%. In the period 2008-2018 the programme sensitivity was 80.6% , programme specificity was 97.3%.

Quality assurance and control: all personnel, equipment, workflow and programme results must meet the EU requirements[1] for quality assurance. Monitoring of activity and performance indicators has been enabled ever since the introduction of the programme. Quality control intervals: yearly, 6-months, monthly, daily.

Information system of the programme: consists of a web application and a system for images' storage (PACS, RIS). The web application that follows all steps in the screening procedure was developed. It consists of 4 modules (invitation module, mammography module, reading module, assessment module). All data needed for constant and stable workflow and statistical analysis (from the invitation till postoperative conference) is collected in the data warehouse of the DORA Registry. All screening and diagnostic units are using the same web application.

Links with DORA Registry on a daily basis: Central Population registry (eCPR), Registry of spatial units of Slovenia and Slovenian Cancer Registry

Programme providers: screenings are carried out in 19 screening units; in 16 stationary screening units and in 3 mobile screening units. All together 22 mammographs are used for screening.

1 N. Perry, M. Broeders, C. de Wolf, S. Törnberg, R. Holland, L. von Karsa and E. Puthaar (ed.): European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis. Fourth Edition. European Commission. Luxembourg, Office for Official Publications of the European Communities, 2006

Figure 1: Locations of the DORA programme screening units in Slovenia

Programme goals and challenges: The future challenge of the DORA programme is to assure the participation rate of the target group above 75% in all Slovenian regions and in all screening units, in order to achieve the long-term goal of the screening programme: to reduce the breast cancer mortality of women in the target group for 25% to 30% in accordance with the DORA Programme Strategic Plan 2021-2025.

PERFORMANCE INDICATORS OF DORA PROGRAMME

The DORA programme regularly monitors the quality of implementation through pre-determined indicators as stated in the European guidelines for quality assurance, published in 2004[1]. Those guidelines state the desirable and acceptable values of performance indicators to be followed and achieved by each breast cancer screening programme.

Registry and call centre of programme DORA provides the basic statistics of the screening programme: reports (on a weekly, monthly, annual basis), basic selection of performance indicators, more detailed statistics for the internal programme quality assurance (statistics by screening centre, by radiographers, by radiologists…) and performs epidemiological studies.

In the view of the present screening data, the DORA program follows and meets the acceptable levels of performance indicators according to the EU standards (Table 1). Participation rate exceeds 75%, overall recall rate is 3% and 40% of all invasive screened-detected cancers are smaller than 1 cm.

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Improvements related to cancer treatment are needed – women wait for the surgery of screen-detected cancer more than two weeks.

Table 1: Performance indicators of the DORA programme, 2017-2021

PERFORMANCE INDICATOR		DORA value 2017	DORA value 2018	DORA value 2019	DORA value 2020	DORA value 2021	EU acceptable value	EU desirable value
Proportion of women invited that attend for screening		71,1	75,3	78,3	75,6	77,8	> 70 %	> 75 %
Proportion of women recalled for further assessment	Initial screening round	4,1	4,2	5,0	7,5	9,9	< 7 %	< 5 %
	Subsequent screening rounds	1,3	1,5	1,5	1,9	2,0	< 5 %	< 3 %
Compliance with further assessment	screening round	98,8	98,8	99,0	99,3	99,2	NA	
	Subsequent screening rounds	99,5	99,2	99,5	99,7	99,6		
Proportion of screened-detected incasive cancers		75,1	79,2	76,0	72,9	76,5	90%	80 - 90 %
Breast cancer detection rate (per 1,000 screened women)	Initial screening round	8,1	7,4	7,0	6,7	8,5	6,8 / 1.000	> 6,8 / 1.000
	Subsequent screening rounds	3,7	4,9	5,1	5,2	4,6	3,4 / 1.000	> 3,4 / 1.000
Proportion of invasive screened-detected cancers, that are node negative	Initial screening round	76,4	76,3	75,8	73,0	87,2	NA	> 70 %
	Subsequent screening rounds	78,3	81,9	80,9	84,3	79,7 %	75%	> 75 %
Proportion of invasive screened-detected cancers, that are stage II+	screening round	23,8	25,8	24,4	28,0 %	NA	NA	< 30 %
	Subsequent screening rounds	14,7	19,4	22,8	18,0 %	NA	25%	< 25 %
Proportion of invasive screened-detected cancers that <= 10 mm in diameter	Initial screening round	37,1	39,8	40,9	42,3	39,3	NA	? 25%
	Subsequent screening rounds	39,1	50,6	40,8	44,1	44,4	? 25%	? 30 %
Proportion of invasive screened-detected cancers that < 50 mm in diameter		61,3	62,1	61,3	65,9	64,7	50%	> 50 %
Time (in WD) between screening mammography and result		2,8	2,9	3,4	2,5	2,6	15 working days	10 working days
Time (in working days) between decision to operate and date offered for surgery		24,2	22,4	22,4	22,2	21,3	15 working days	10 working days