

#Pop Health Lab

Frequency of low-value cancer screening: *a nationwide population-based study*

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What is low-value cancer screening?



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Correspondence

Low-value population screening

Arnaud Chiolero ^{a b} 



Forms of low-value cancer screening

Screening outside of evidence-based recommendations

- Using ineffective screening tests
- Screening at inappropriate ages
- Screening too frequently

Forms of low-value cancer screening

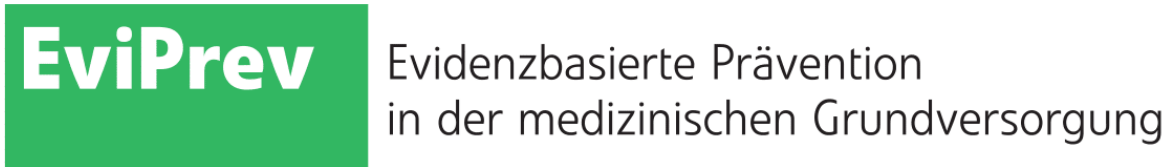
Screening outside of evidence-based recommendations

- Using ineffective screening tests
- Screening at inappropriate ages
- Screening too frequently

Screening individuals whose life expectancy does not exceed the lag-time to benefit of a given screening test

Screening individuals at a low risk of cancer

Evidence-based recommendations (Switzerland)



USPSTF Recommendations

Recommended:

A

B

Individualized
decision-making:

C

Discouraged:

D

Uncertainty:

I

Aim of Study

Describe the frequency of colorectal, breast, cervical, and prostate cancer screening outside of recommended age guidelines in Switzerland.

Recommended:

A

B

Individualized
decision-making:

C

USPSTF Recommendations (prior to 2022)

Screening type	Age (years)						
	20	30	40	50	60	70	80
Colorectal				45-49	50-75		76-85
Breast				40-49	50-74		75+
Cervical		21-65				66+	
Prostate					55-69	70+	

Recommendation grades:

A	B	C
D	I	

Methods (data source and population)

Target population

- Population of Switzerland

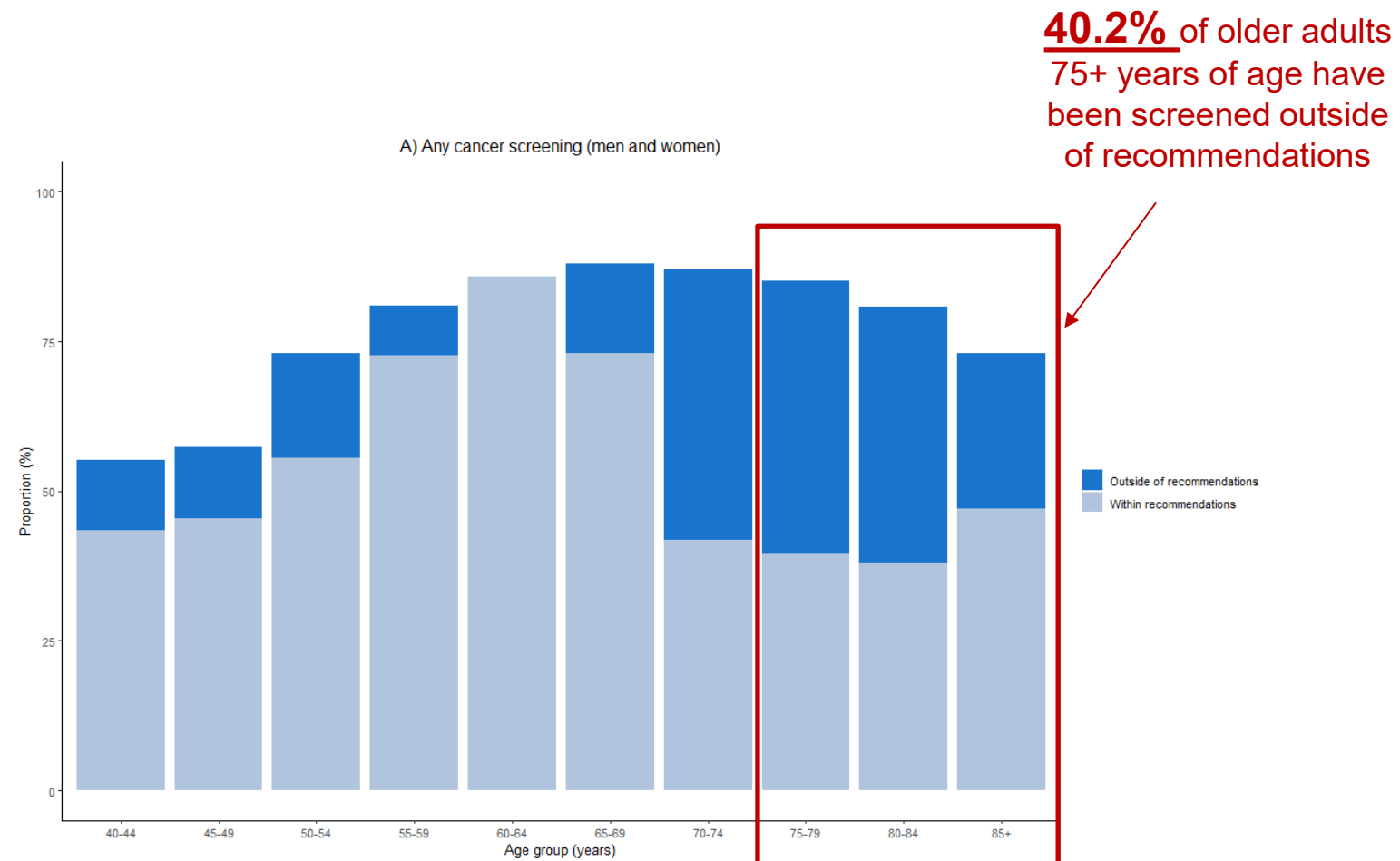
Data

- 2022 Swiss Health Survey (20,515 included participants)

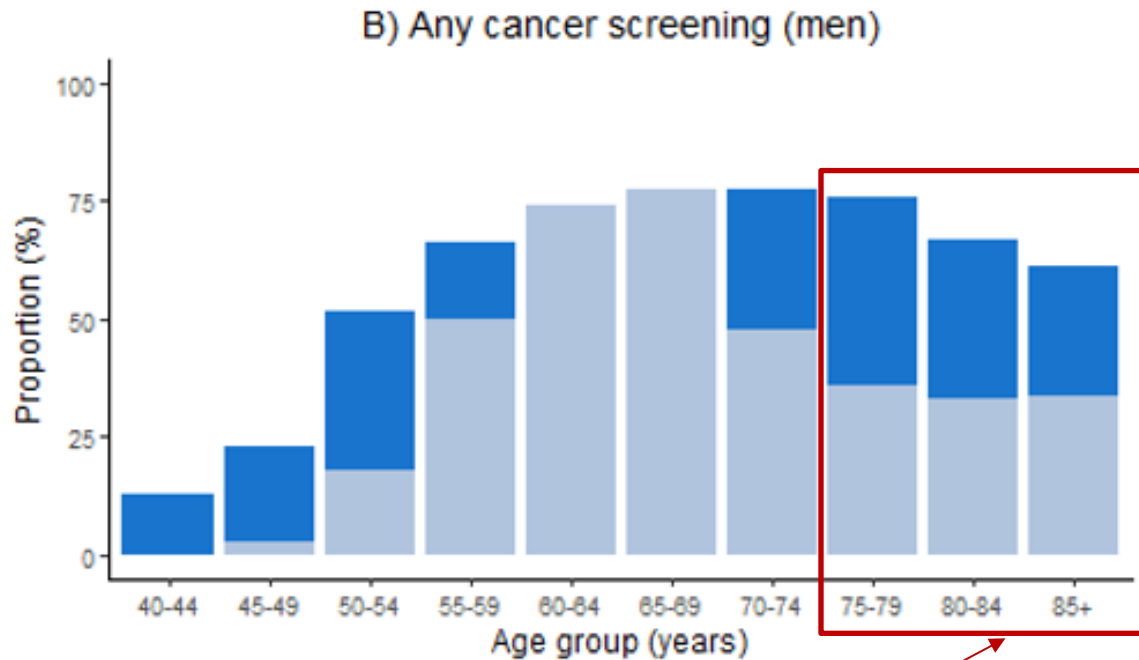
Variables of interest

- Age
- Self-reported use, reason, and timing of different cancer screening types:
 - Colorectal: Faecal occult blood test (FOBT) and colonoscopy
 - Breast: Mammography
 - Cervical: Uterine smear
 - Prostate: Prostate specific antigen (PSA) test or rectal exam

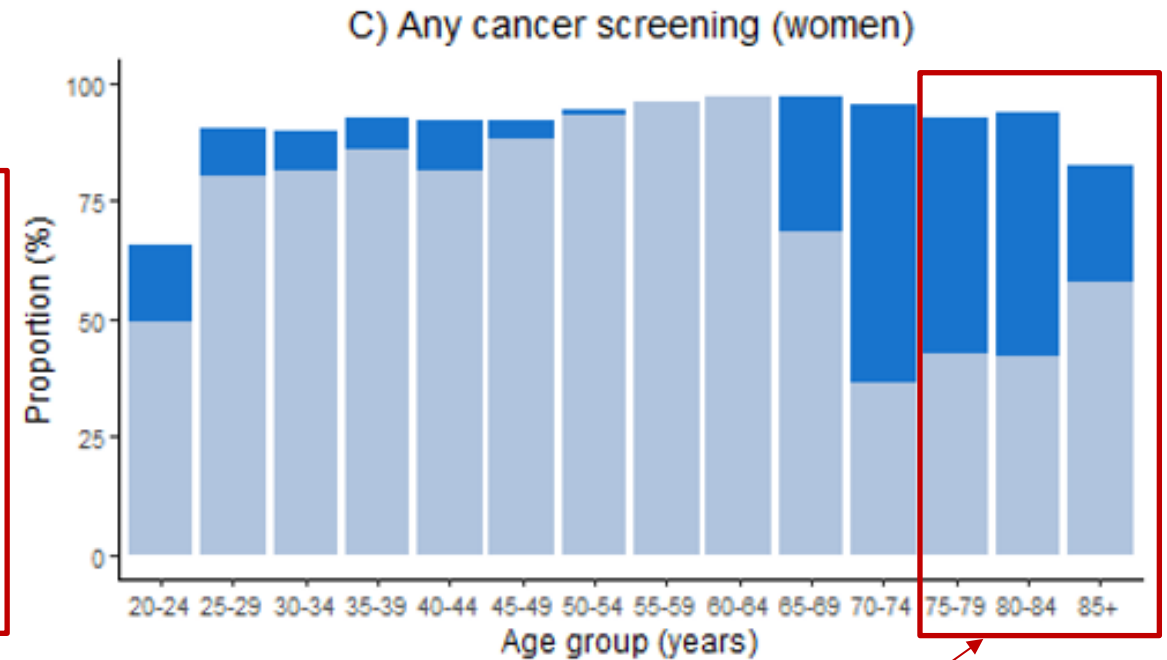
Results (A, B, and C recommendations)



Results (A, B, and C recommendations)



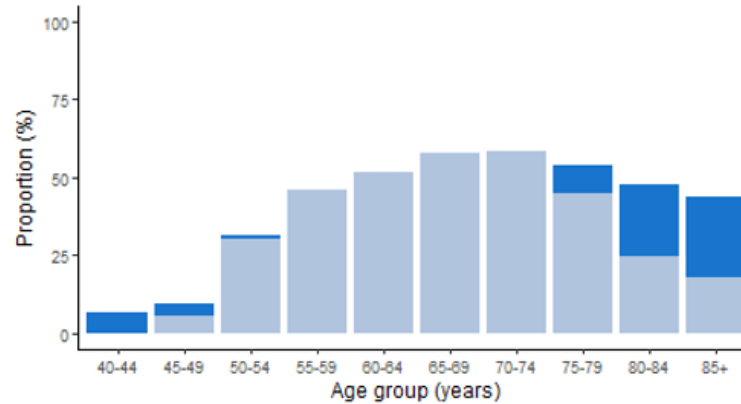
35.1% of older men 75+ years of age have been screened outside of recommendations



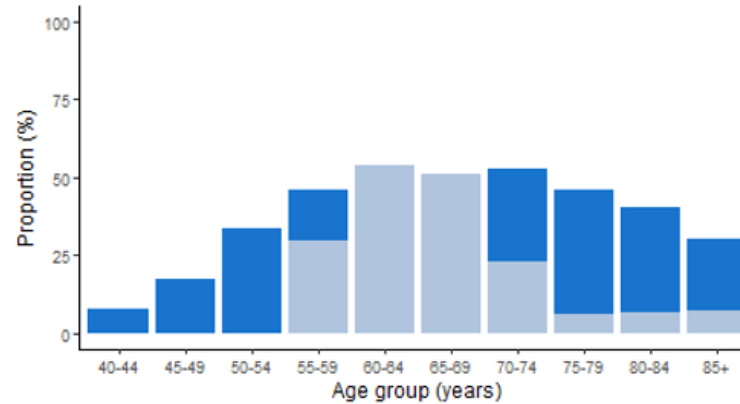
44.5% of older women 75+ years of age have been screened outside of recommendations

Results (A, B, and C recommendations)

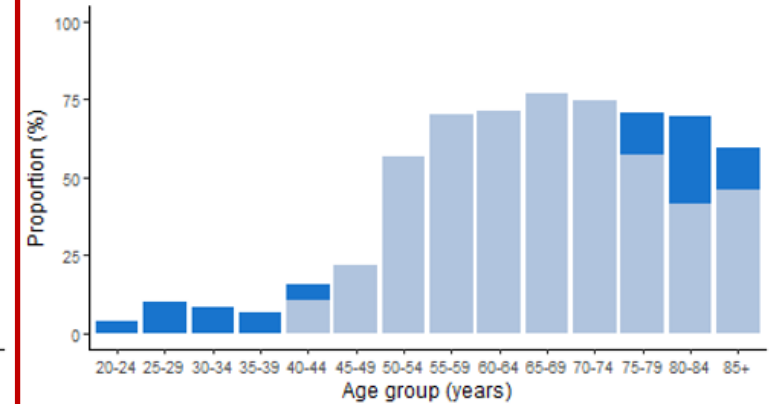
D) Any colorectal cancer screening (men & women)



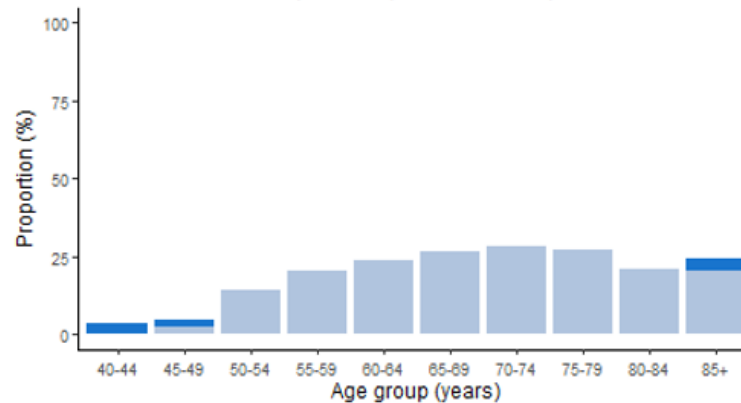
E) Prostate cancer screening (men)



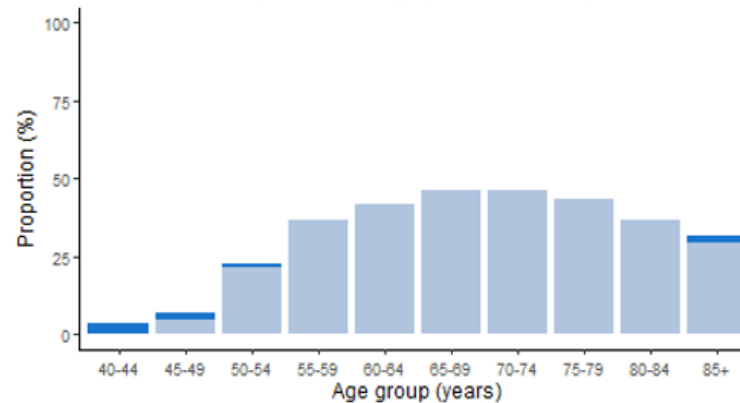
F) Breast cancer screening (women)



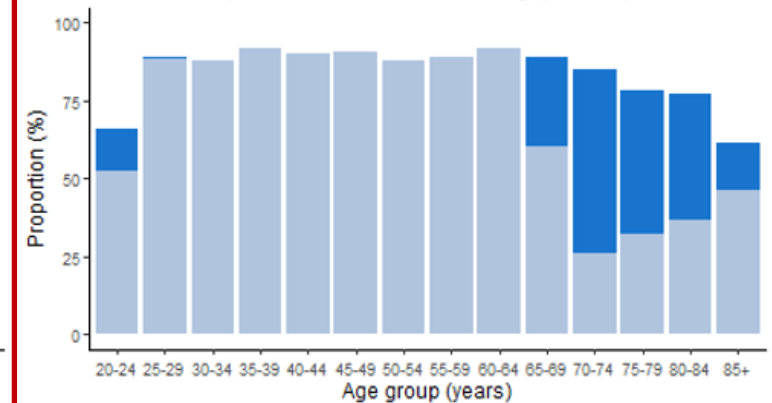
G) FOBT (men & women)



H) Colonoscopy (men & women)



I) Cervical cancer screening (women)



Outside of recommendations Within recommendations

Limitations

Results may not be nationally representative

- 36.2% participation rate in 2022 Swiss Health Survey
- Healthy volunteer bias
- Limitations of survey weights

Cancer screening data is self-reported

- Prone to inaccuracies
- Could have led to misclassification
- Research suggests likely overestimates of screening use

Additional data limitations

- Cannot know screening history of people whose last test were diagnostic tests
- Cannot know screening age of people who screening 5+ years ago (10+ for colonoscopy)

Key conclusions of findings

Cancer screening outside of evidence-based age recommendations is very common in Switzerland

- Particularly true among older adults 75+ y/o.
- Similar to findings observed in the United States.
- Indicates that cancer screening practices in Switzerland are often not evidence-based and, therefore, can be considered low-value.

Individualised approaches to cancer screening

1

Screening according to
life expectancy and lag-
time to benefit

2

Screening according to
cancer risk

Individualised approaches to cancer screening

We need more evidence!!

Caveat of individualised approaches

Individualised approaches to screening will not improve the value of screening if people do not adhere to the screening recommendation of their respective cancer risk or life expectancy stratum



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Correspondence

Screen no matter the risk?

Frerik Smit ^{a b}✉, Axelle Braggion ^{a b}, Arnaud Chiolero ^{a b c}

- “We observed that 86% (73–95) of participants would be willing to be screened more if categorised as high risk, whereas 57% (47–67) of participants were willing to be screened less if categorised as low risk.” (p. e90)
- “Similar to the general public, health-care professionals were more hesitant about lowering screening frequencies; from one study, 88% (85–90) intended to screen their patients more if they were at high risk, whereas 35% (31–39) intended to screen their patients less if they were at low risk.” (p. e90)

(Tan et al, The Lancet Public Health 2025)

Thank you for your interest

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