

Supplementary information:

S1 tables 1-3. Full Medline and EMBASE search strategies

Objective: To identify original research of the use of PGS in a primary care population to identify individuals at highest risk of developing breast or prostate or colorectal cancer or lung cancer.

Data sources: A systematic review of articles using Medline (1946 to November 27, 2023) and EMBASE (1974 to 2023 November 27). Search limited to 2000 onwards.

Search strategy: 69 searches Medline and 192 searches EMBASE

Disease of Interest: Breast cancer OR prostate cancer OR colorectal cancer OR lung cancer

Population: Primary care population

Intervention: Polygenic Score (PGS)

Comparator / control: not applicable

Outcome: clinical utility, early cancer detection, cancer risk, cancer prevention, feasibility, acceptability and cost-effectiveness.

(S1) Table 1 Search Strategy

Ovid MEDLINE(R) ALL <1946 to November 27, 2023>	Search Terms	Results
1	exp lung neoplasm/ or exp bronchial neoplasm/ or exp carcinoma, non-small cell/	279123
2	((lung or bronch*) adj3 (carcinoma* or cancer* or neoplasm* or tumo?r*)).mp.	371149
3	1 or 2	373763
4	exp breast neoplasm/	347543
5	(breast adj3 (carcinoma* or cancer* or neoplasm* or tumo?r*)).mp.	477138
6	4 or 5	477155
7	exp colorectal neoplasm/ or exp colonic neoplasm/ or exp rectal neoplasm/	241329
8	((colorectal or colon* or rect*) adj3 (carcinoma* or cancer* or neoplasm* or tumo?r*)).mp.	319613
9	7 or 8	330506
10	exp prostatic neoplasm/	150722
11	(prostat* adj3 (carcinoma* or cancer* or neoplasm* or tumo?r*)).mp.	199735
12	10 or 11	199735
13	3 or 6 or 9 or 12	1287157
14	((polygen* or genetic* or genomic*) adj2 (risk* or score*)).mp.	33564
15	((polygen* or genetic* or genomic*) adj predictor*).mp.	1205
16	exp Risk Assessment/	312642
17	exp Multifactorial Inheritance/	4164
18	16 and 17	191
19	((polygenic or multifactorial or complex or multigenic) adj (inheritance or trait* or character*)).mp.	14995
20	(risk adj2 (assessment* or analys*)).mp.	397784
21	19 and 20	356
22	(PRS* or PGS* or GRS*).mp.	29823
23	14 or 15 or 18 or 21 or 22	60355
24	exp General Practice/ or exp primary health care/ or exp family practice/	264079
25	((general adj practice) or (primary adj2 care) or (family adj (medicine or practice))).mp.	290843
26	24 or 25	386888
27	exp "early detection of cancer"/ or exp primary prevention/ or "patient acceptance of health care"/ or exp patient satisfaction/ or exp "attitude of health personnel"/ or cost-benefit analysis/ or exp cost-effectiveness analysis/	618064
28	(early adj (detection or diagnosis) adj2 cancer).mp.	42962
29	(cancer adj2 (risk* or prediction* or screening* or prevention*)).mp.	150440
30	((primary or primordial) adj2 prevention*).mp.	40511
31	((health adj2 care) or healthcare) adj2 accept*).mp.	56245
32	(patient* adj2 satisfaction).mp.	122707
33	(clinical adj (utility or application or accuracy or value or validity)).mp.	125811
34	(prediction* adj2 accuracy).mp.	16621
35	(cost adj2 effectiveness).mp.	79294
36	(attitude* adj2 (staff or health personnel)).mp.	133162
37	((cost or economic) adj2 (analys* or evaluation*)).mp.	171231
38	27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37	1037152
39	13 and 23 and 26 and 38	74
40	limit 39 to yr="2000 -Current"	69
(S2) Table 2 Medline search		

Embase <1974 to 2023 November 27>	Search Term	Results
1	exp lung tumor/ or exp lung cancer/ or exp lung carcinoma/ or exp bronchus tumor/ or exp bronchus cancer/ or exp bronchus carcinoma/	495359
2	((lung or bronch*) adj3 (carcinoma* or cancer* or neoplasm* or malignan* or tumor?r*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	523616
3	1 or 2	597089
4	exp breast cancer/ or exp breast tumor/ or exp breast carcinoma/	657460
5	((breast or mammary) adj3 (carcinoma* or cancer* or neoplasm* or malignan* or tumor?r*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	756566
6	exp breast tumor/	657460
7	4 or 5	764490
8	exp colon cancer/ or exp colon tumor/ or exp colon carcinoma/ or exp rectum cancer/ or exp rectum tumor/ or exp rectum carcinoma/ or exp colorectal cancer/ or exp colorectal tumor/ or exp colorectal carcinoma/	464366
9	((colon adj3 rectum adj3 (cancer or malignan*)) or (colo-rectal or colorectal or recto-colonic or rectocolonic) adj (cancer* or carcinogenesis or malignan*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	269433
10	((colon* or mesocolon or coli) adj3 (mass or carcino* or neoplas* or tumor?r* or tumorigenesis or malignanc*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	89636
11	((rect* or pararectal) adj4 (mass or neoplas* or tumor?r* or carcino* or malignanc*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	44608
12	8 or 9 or 10 or 11	504140
13	exp prostate cancer/ or exp prostate tumor/ or exp prostate carcinoma/	299138
14	(prostat* adj2 (malignan* or cancer or tumor?r* or neoplas* or carcinoma)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	321655
15	13 or 14	326808
16	3 or 7 or 12 or 15	1937506
17	((polygen* or genetic* or genomic*) adj2 (risk* or score*)).mp.	102134
18	((polygen* or genetic* or genomic*) adj predictor*).mp.	2138
19	exp Risk Assessment/	754806
20	exp Multifactorial Inheritance/	270320
21	19 and 20	28394
22	((polygenic or multifactorial or complex or multigenic) adj (inheritance or trait* or character*)).mp.	16779
23	(risk adj2 (assessment* or analys*)).mp.	887029
24	22 and 23	563
25	(PRS* or GRS* or PGS*).mp.	44742
26	17 or 18 or 21 or 24 or 25	155235
27	exp general practice/ or exp primary medical care/ or exp family medicine/	219190
28	((general adj practice) or (primary adj2 care) or (family adj (medicine or practice))).mp.	390934
29	27 or 28	390934
30	16 and 26 and 29	256
31	exp early cancer diagnosis/ or exp primary prevention/ or exp patient attitude/ or exp "cost effectiveness analysis"/ or exp health personnel attitude/ or exp "cost benefit analysis"/	1003647
32	(Cancer adj2 (risk* or prediction* or screening* or prevention*)).mp.	397419
33	((primary or primodial) adj2 prevention*).mp.	66389
34	((health adj2 care) or healthcare) adj2 accept*).mp.	1391
35	(clinical adj (utility or application or accuracy or value or validity)).mp.	172825
36	(prediction* adj2 accuracy).mp.	19295
37	(cost adj2 effectiveness).mp.	217187
38	(attitude* adj2 (staff or health personnel)).mp.	90501
39	((cost or economic) adj2 (analys* or evaluation*)).mp.	308029
40	31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39	1626936
41	30 and 40	203
42	limit 41 to yr="2000 -Current"	192
(S1) Table 3 EMBASE		