

Supplementary material

Table S1. Diagnostic and procedure codes used to define screening outcomes.

Codes for Cervical Cancer Screening PAP/HPV tests	HCPCS Codes	ICD diagnostic code
Screening Papanicolaou smear; obtaining, preparing, and conveyance of cervical or vaginal smear to laboratory	Q0091	V72.31 = Routine gynecologic exam, with or without Pap test V72.32 = Encounter for Pap test to confirm recent normal test following initial abnormal test V76.2 = Routine screening Pap test, intact cervix (reimbursed every 2 years only) V76.47 = Routine vaginal Pap test (reimbursed every 2 years only) Z01.419 = Routine gynecological exam without abnormal findings Z01.411 = Routine gynecological exam with abnormal findings Z12.4 = Cervical Pap test
Cervical or vaginal cancer screening; pelvic and clinical breast examination	G0101	Z01.411 = Encounter for routine gynecological examination (with abnormal findings) Z01.419 = Encounter for routine gynecological examination (without abnormal findings) Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vagina Z12.79 = Encounter for screening for malignant neoplasm of other sites of genital
Screening cytopathology, cervical or vaginal (any reporting system), collected in preservative fluid, automated thin layer preparation, screening by cytotechnologist under physician supervision	G0145	Z01.411 = Encounter for routine gynecological examination (with abnormal findings) Z01.419 = Encounter for routine gynecological examination (without abnormal findings) Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vagina Z12.79 = Encounter for screening for malignant neoplasm of other sites of genital Z11.51 = Encounter for screening for human papillomavirus (HPV)
Screening cytopathology, cervical or vaginal (any reporting system), collected in preservative fluid, automated thin layer preparation, with manual screening and rescreening by cytotechnologist under physician supervision	G0123	Z12.4 = Encounter for screening for neoplasm of cervix Z01.411 = Encounter for routine gynecological examination (with abnormal findings) Z01.419 = Encounter for routine gynecological examination (without abnormal findings) Z12.72 = Examen de dépistage médical spécial pour néoplasme malin du vagin. Z12.79 = Examen de dépistage médical spécial pour néoplasme malin d'autres sites. Z12.89 = Examen de dépistage pour néoplasme malin d'autres

		organes
Screening cytopathology, cervical or vaginal (any reporting system), collected in preservative fluid, automated thin layer preparation, with screening by an automated system, under physician supervision	G0124	Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vagina Z01.419 = Encounter for routine gynecological examination without abnormal findings Z01.411 = Encounter for routine gynecological examination with abnormal findings
Screening cytopathology, cervical or vaginal (any reporting system), collected in preservative fluid, automated thin layer preparation, with screening by automated system and manual rescreening under physician supervision	G0143	Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vagina Z12.79 = Encounter for screening for malignant neoplasm of other sites of genitourinary tract
Screening cytopathology smears, cervical or vaginal, performed by automated system under physician supervision	P3000	Z12.4 = Encounter for screening for malignant neoplasm of the cervix. Z01.411 = Encounter for routine gynecological examination with abnormal findings. Z01.419 = Encounter for routine gynecological examination without abnormal findings. Z01.42 = Encounter for cervical and vaginal Pap smear.
Screening cytopathology smears, cervical or vaginal, performed by an automated system with manual rescreening	G0148	Z12.4 = Encounter for screening for malignant neoplasm of cervix Z01.419 = Encounter for routine gynecological examination without abnormal findings Z01.411 = Encounter for routine gynecological examination with abnormal findings Z11.51 = Encounter for screening for human papillomavirus (HPV)
Screening papanicolaou smear, cervical or vaginal, up to three smears, by technician under physician supervision	G0147	Z01.411 = Encounter for gynecological examination (general) with abnormal findings Z01.419 = Encounter for routine gynecological examination without abnormal findings Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vagina Z12.79 = Encounter for screening for malignant neoplasm of other sites of female genital organs Z12.89 = Encounter for screening for malignant neoplasm of other sites
Screening cytopathology, cervical or vaginal (any reporting system), collected in preservative fluid, automated thin layer preparation, requiring interpretation by a	G0141	Z12.4 = Encounter for screening for malignant neoplasm of cervix Z12.72 = Encounter for screening for malignant neoplasm of vaginal Z01.419 = Encounter for routine gynecological examination without abnormal findings

physician		Z01.411 = Encounter for routine gynecological examination with abnormal findings Z12.4 = Encounter for screening for malignant neoplasm of cervix Z11.51 = Encounter for screening for human papillomavirus
Screening cytopathology smears, cervical or vaginal, performed by an automated system, with manual rescreening, requiring interpretation by physician	P3001	Z01.411 = Encounter for general adult gynecological examination with abnormal findings Z12.4 = Encounter for screening for malignant neoplasm of cervix (cervical Pap smear) Z12.72 = Encounter for screening for malignant neoplasm of vagina (vaginal Pap smear)
Screening papanicolaou smear, cervical or vaginal, up to three smears, requiring interpretation by physician	G0144	Z12.4 = Encounter for screening for malignant neoplasm of the cervix Z01.419 = Encounter for routine gynecological examination without abnormal findings Z01.411 = Encounter for routine gynecological examination with abnormal findings Z11.51 = Encounter for screening for human papillomavirus
Codes for Colorectal Cancer Screening Services	HCPCS Codes	ICD10 diagnostic code
Colorectal cancer screening; fecal occult blood test, immunoassay,1–3 simultaneous	G0328	Z12.11 = Encounter for screening for malignant neoplasm of colon (primary code for asymptomatic routine screening). Z12.12 = Encounter for screening for malignant neoplasm of rectum
Screening fecal occult blood test	82270	Z12.11 = Encounter for screening for malignant neoplasm of the colon
Colorectal cancer screening; colonoscopy on individual not meeting criteria for high risk	G0121	Z12.11 = Encounter for screening for malignant neoplasm of the colon
Colorectal cancer screening; stool-based dna and fecal occult hemoglobin	G0464	Z12.11 = Encounter for screening for malignant neoplasm of the colon Z12.12 = Encounter for screening for malignant neoplasm of the rectum Z12.10 = Encounter for screening for malignant neoplasm of the intestinal tract, unspecified
Colorectal cancer screening; flexible sigmoidoscopy	G0106	Z12.11 = Encounter for screening for malignant neoplasm of colon
Codes for Prostate Cancer Screening Services	HCPCS Codes	ICD10 diagnostic code
Prostate cancer screening; digital rectal examination	G0102	Z12.5 = Encounter for screening for malignant neoplasm of prostate
Prostate cancer screening; prostate specific antigen test (PSA)	G0103	Z00.00 = Encounter for general adult medical examination without abnormal findings Z12.5 = Encounter for screening for malignant neoplasm of prostate

Prostate specific antigen (PSA); Testing	G0143	Z00.01 = Encounter for general adult medical examination with abnormal findings
Prostate specific antigen (PSA); free	84153	R97.20 = Elevated prostate specific antigen (PSA)
Prostate specific antigen (PSA); complexed (direct measurement)	84152	R35.0 = Frequency of urination and nocturia