



Background

- breast density is a risk factor for breast cancer
- breast density reduces sensitivity of screening mammography
- radiologist visual assessment of breast density suffers from poor reliability
- breast density notification legislation in several US states (soon federally in US)

Methods

- automated breast density assessment (**densitas**™) carried out for all provincial screening mammograms for women aged 50-74 in period Jan 2017 – Apr 2018
- study-level density obtained as:
 - % area density, Bi-RADS 4, Bi-RADS 5
- analyses by age group and vendor

Nova Scotia Context

- digital mammography equipment is being replaced as part of province-wide contract (Siemens to Hologic)
- NS Breast Screening Program has not previously required reporting of breast density
- automated breast density assessment software recently implemented provincially
- availability of automated real-time breast density can enable notification of patients

Results

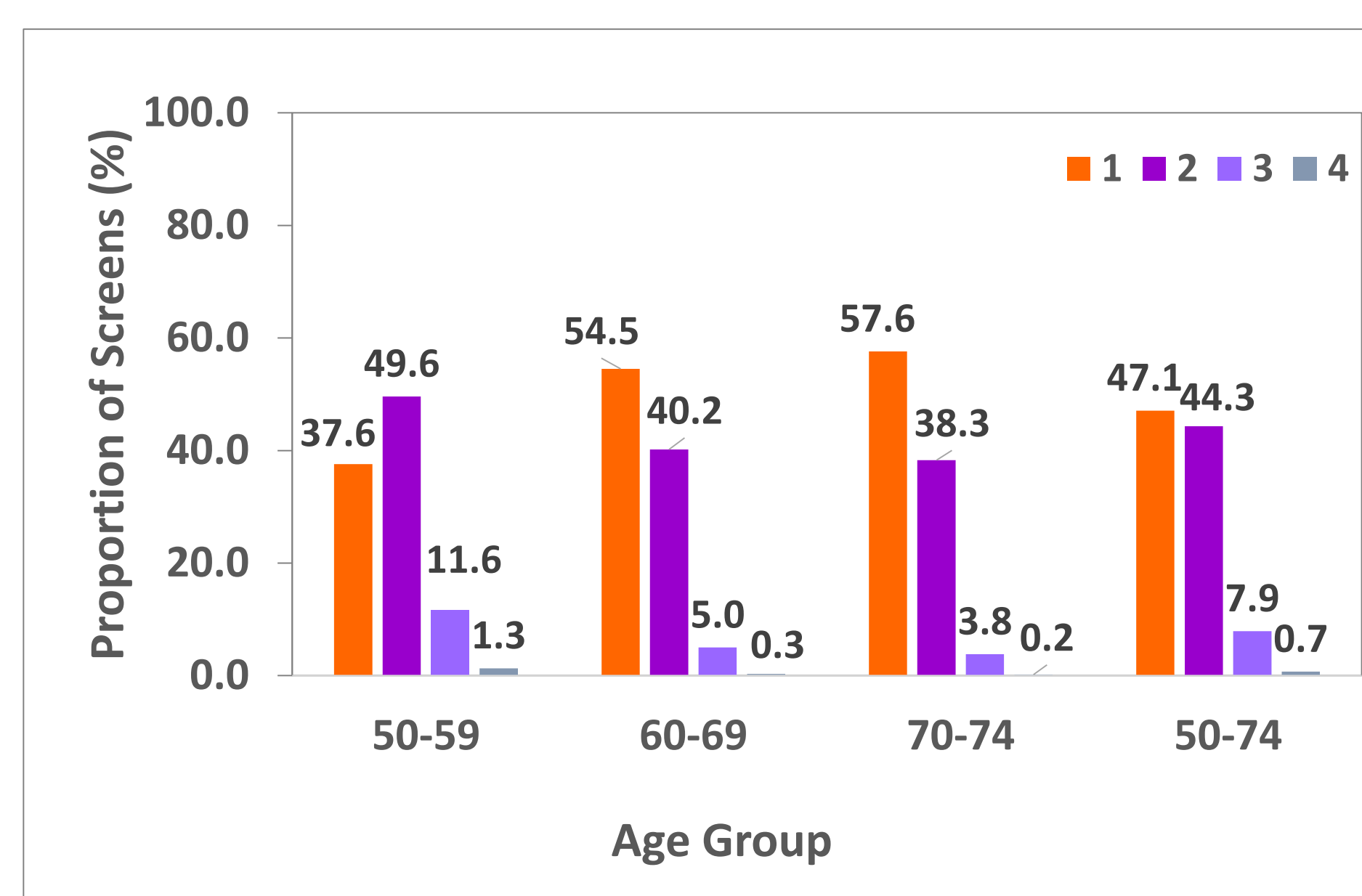
- N = 52 451 screening mammograms (42.9% Hologic)
- density distribution varied by:
 - age – decreasing density with increasing age
 - density measure – use of Bi-RADS 5 led to higher proportion of women with dense breasts (C & D)
 - vendor
- all three density measures, regardless of vendor, suggest that less than 2% of women have extremely dense breast tissue

Percent Density

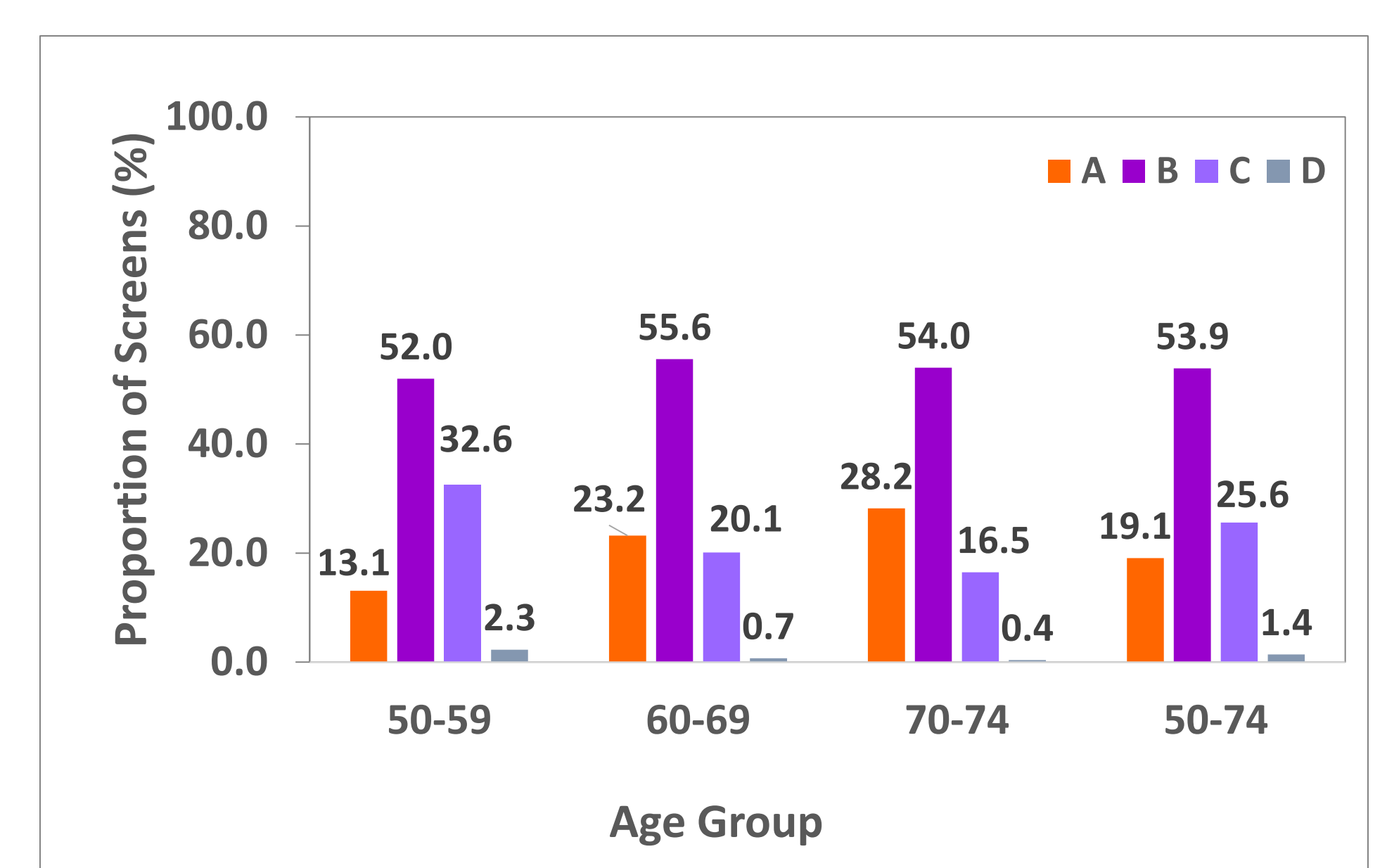
Quantile	Age Group			
	50-59	60-69	70-74	50-74
5%	15	14	13	14
10%	17	15	15	16
25%	21	18	18	19
50%	28	23	23	25
75%	40	32	30	35
90%	54	43	40	49
95%	63	51	47	58

Siemens

Bi-RADS 4

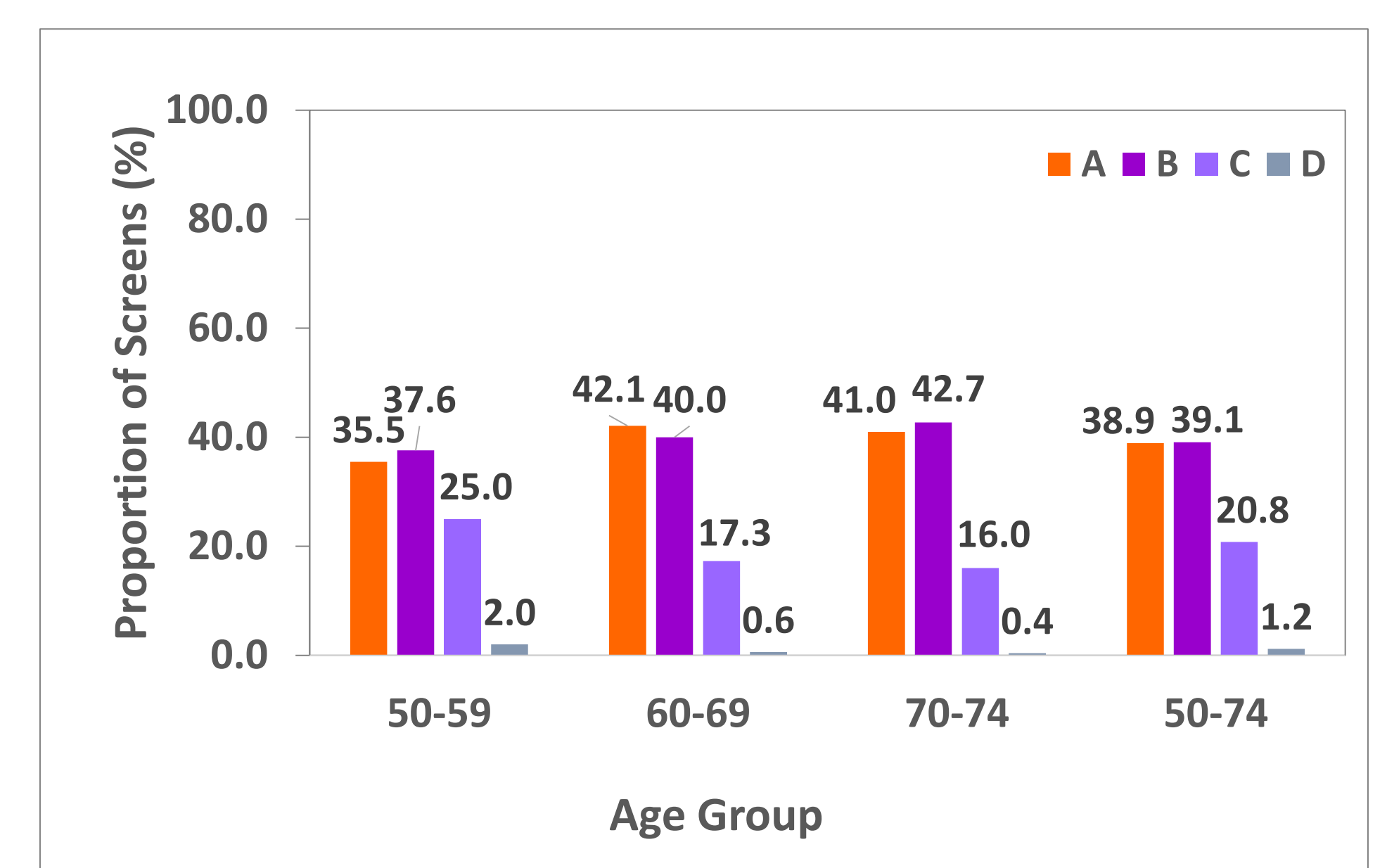
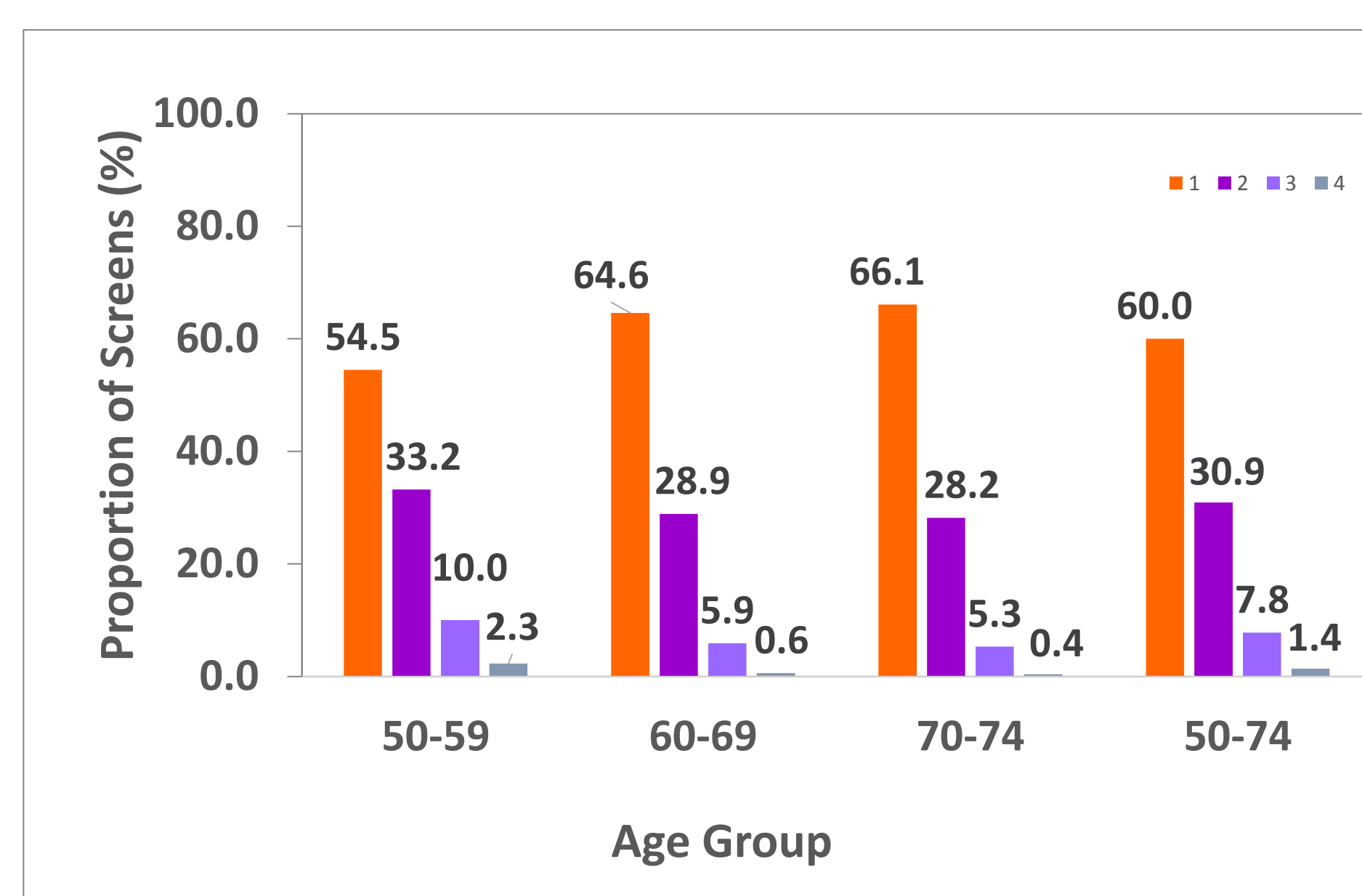


Bi-RADS 5



Quantile	Age Group			
	50-59	60-69	70-74	50-74
5%	5	5	5	5
10%	7	7	7	7
25%	12	11	11	12
50%	22	18	18	20
75%	37	30	29	34
90%	54	45	44	49
95%	64	54	52	59

Hologic



Discussion

- as expected, density decreased with increasing age
- density distribution varied with form of density measure
 - more women appear dense with Bi-RADS 5
- density distribution varied by vendor

Breast Density Notification – Next Steps

- patients will receive density results (Bi-RADS5) as part of screening results letter along with information sheet
 - primary care providers to receive sheet by mail
- recently screened women will continue to be able to request their density until due for next screen

Conclusion

- results provide insight into density distribution in NS women
- density distribution will need to be monitored regularly, with special attention to change in vendor equipment

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