

# EXPLORING THE ROLE OF A&E IN CANCER DIAGNOSES

Using linked emergency and hospital activity data in the Scottish Routes from Diagnosis framework

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## Background

The Scottish Routes from Diagnosis (SRfD) project forms part of the Macmillan Cancer Support/ NHS Scotland Information Services Division (ISD) partnership. SRfD uses routinely collected health data to quantitatively describe the pathways patients follow after diagnosis with cancer.

Detecting previously undiagnosed cancers through Accident & Emergency (A&E) attendances can be difficult and often late stage<sup>1</sup>. Evidence in England suggests that patients diagnosed through emergency presentation have lower 12-month survival rates<sup>1</sup> and report lower patient experience scores<sup>2</sup>. Using linked, patient-level A&E attendances and other hospital activity data, we explored A&E attendances prior to a cancer diagnosis in Scotland.

## Methods

We identified people living in Scotland diagnosed with female breast, colorectal, lung, or prostate cancer in 2011 through the Scottish Cancer Registry<sup>3</sup>. To investigate the survivorship experience across the different cancers, these cases were linked to several national health datasets, including hospital activity<sup>3</sup> and unscheduled care activity,<sup>3</sup> encompassing A&E attendances. Data were linked using the Community Health Index Number (CHI),<sup>3</sup> the unique healthcare patient identifier in Scotland.

We examined overall attendances at A&E in the 30 days prior to and post diagnosis and identified patients who attended A&E at any point in the 30 days prior to diagnosis. January diagnoses were excluded to allow full 30-day lookback.

## Conclusion

Linking cancer diagnosis data with patient-level A&E attendances showed an increase in A&E attendance towards the time of diagnosis for all cancer types. One third of lung cancer patients and a fifth of colorectal cancer patients attended A&E at some point in the 30 days prior to their cancer diagnosis. Attendances were lowest amongst breast and prostate cancer patients, where 4.5% and 8% respectively attended A&E at some point in the 30 days prior to diagnosis. Despite this data linkage allowing investigation of patient journeys, the intricacies of the cancer registry recording system and the lack of clinical information included in A&E attendance data leaves the relationship between A&E attendances and cancer diagnosis uncertain. Next steps are to use this data to further explore how the role of A&E attendances and other unscheduled care activity – e.g. NHS24 and GP Out of Hours activity – prior to diagnosis influence patient pathways and survivorship outcomes.

## Results

Across all cancer types, the total attendances at A&E increased towards the date of diagnosis and a peak was seen around the date of diagnosis (figure 1). At a patient level, one third of lung cancer patients (33%) diagnosed in 2011 attended A&E at least once (for any reason) in the 30 days prior to their diagnosis. Across other cancer types, 20% of colorectal cancer patients, 8% of prostate cancer patients and 4% of breast cancer patients attended at least once (figure 2).

Additional linkage with hospital inpatient records identified that of the 33% of lung cancer patients diagnosed in 2011 who attended A&E in the 30 days prior to diagnosis, 59% of these patients' attendances resulted in them being admitted with a cancer diagnosis recorded during this inpatient stay. Across other cancer types, the percentage of A&E attendees admitted and a cancer diagnosis recorded during their inpatient stay ranged from 46% of prostate cancer patients to 66% of colorectal cancer patients (figure 2).

Figure 1: Frequency of all attendances at A&E in the 30 days pre and post diagnosis

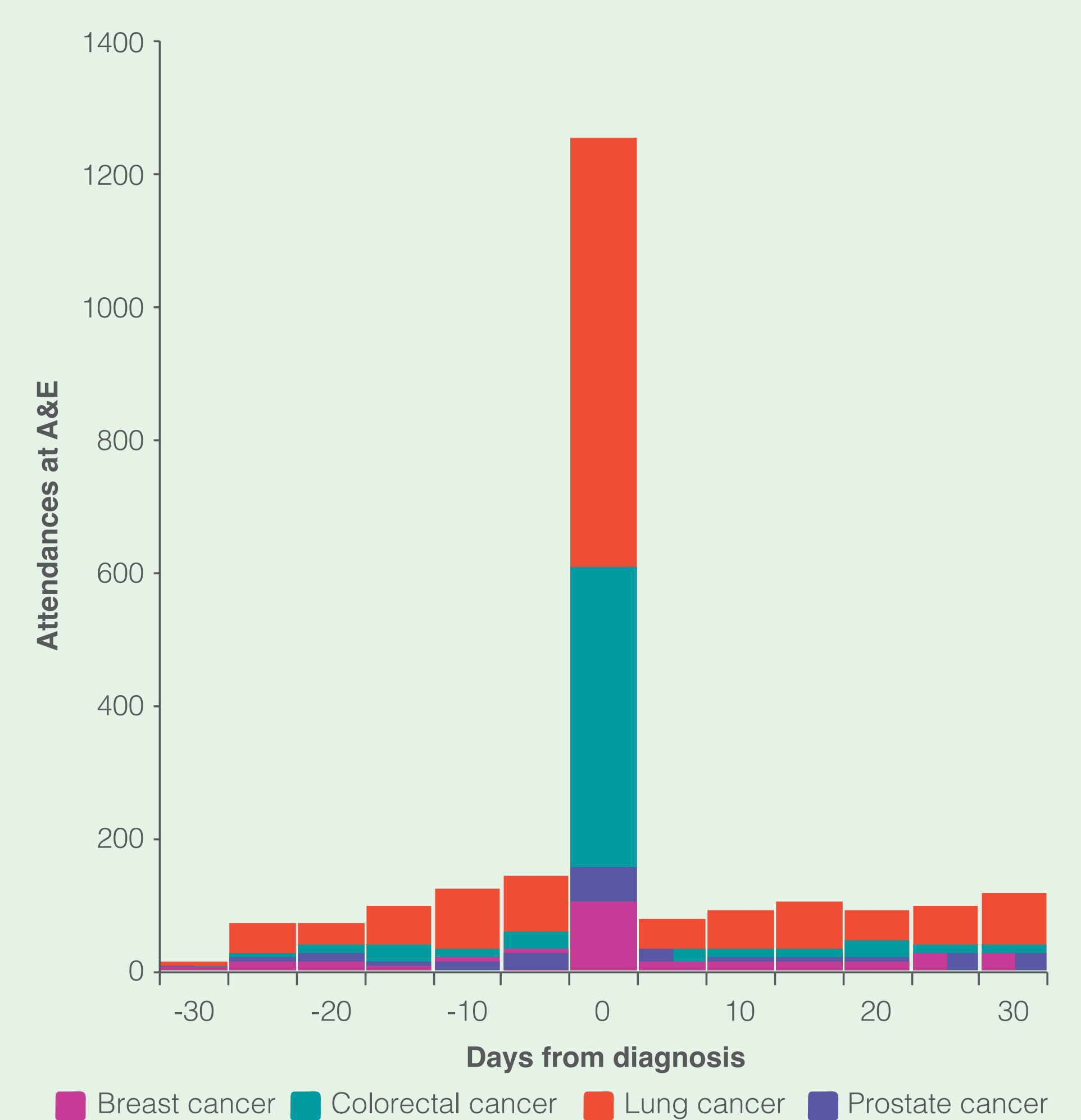
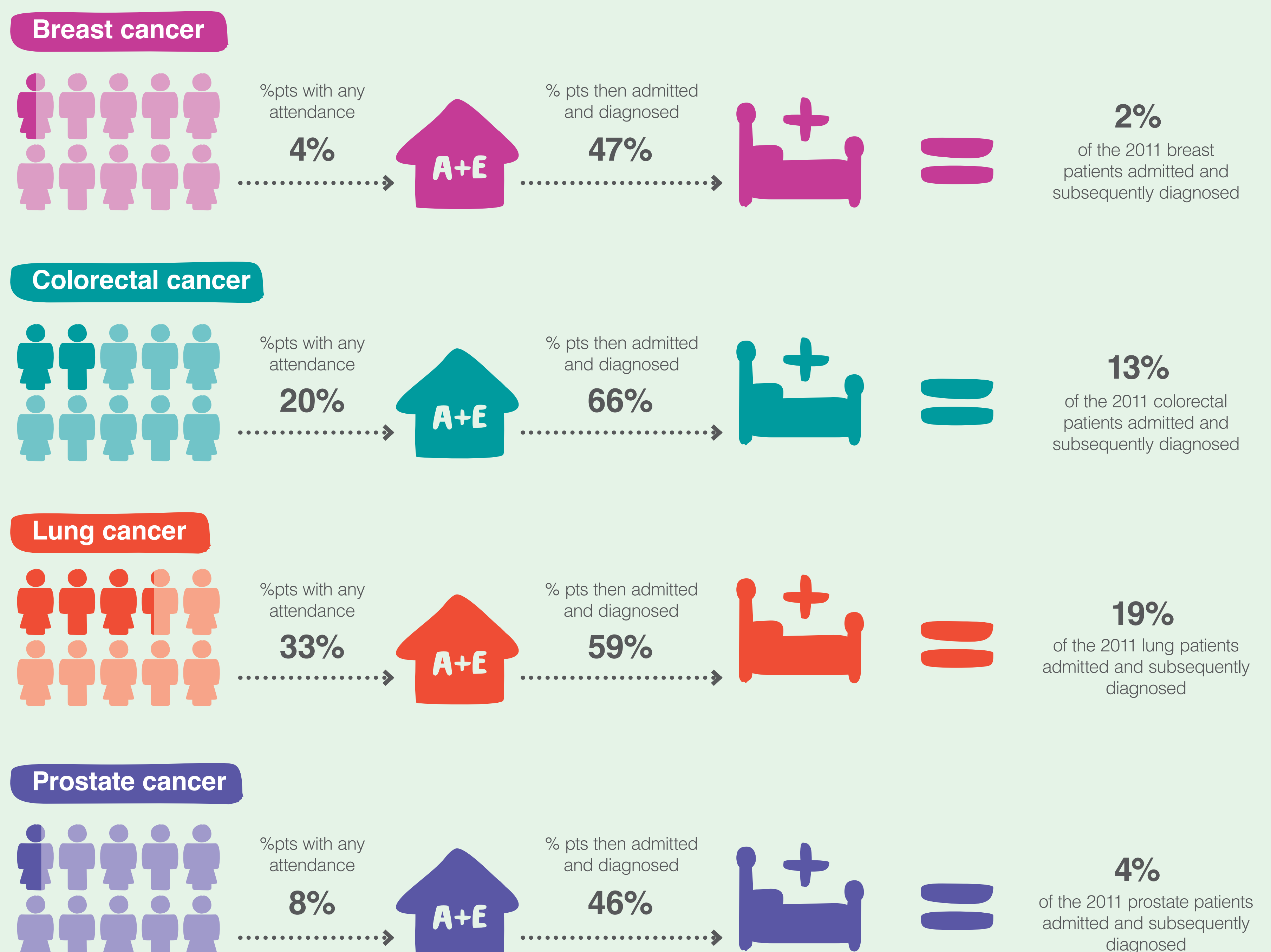


Figure 2: Patients attending A&E in the 30 days prior to diagnosis and percentage of them then admitted and cancer diagnosis recorded



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**References**  
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2. NHS England. National Cancer Patient Experience Survey. 2014  
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<https://www.macmillan.org.uk/about-us/what-we-do/evidence/research-funding/our-partnerships/information-services-division-scotland.html>  
<http://www.isdscotland.org/Health-Topics/Cancer/Macmillan-ISD/>