

DRAFT

Use of Cancer registry data to aid resource allocation for service planning

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Background

The health system delivers preventive, promotive, curative and rehabilitative interventions through a combination of public health actions and health improvement activities and facilities that deliver personal health care [1]. Information is needed to track how health systems respond to increased inputs and improved processes, and the impact they have on health indicators.

A common monitoring and evaluation framework developed across countries in association with WHO, shows how health inputs and processes (e.g. health workforce and infrastructure) are reflected in outputs (e.g. interventions and available services) that in turn are reflected in outcomes (e.g. coverage) and impact (morbidity and mortality) [1].

According to SláinteCare there is a strong case for pooled budgets across primary and social care to support integrated care. *“A resource allocation model is required that allows for equity of access to health services across different geographic areas, taking into account population need, demographics, deprivation and other measures. Ideally, it should relate funding to all aspects of care within a specific area”*. It recommends that this is done via *“Development and utilisation of a Geographic Resource Allocation Formula to ensure the equitable allocation of resources based on both population characteristics and activity level”*.

The alignment of Community Health Organisations (CHOs) and Hospital Groups is set out as one of the fundamental principles underpinning the healthcare reforms in the SláinteCare Report. The new nine Community Health Organisations (CHOs) will consist of 96 Community HealthCare Networks (CHNs), each of which will provide health and social care services to approximately 50,000 people. The CHN is recommended as the fundamental unit for organisation for the delivery of services. Each CHO will have an average of 10 CHNs to support groups of Primary Care Teams. A Primary Care Team (PCT) is a multidisciplinary group of health and social care professionals who work together to deliver local accessible health and social services to a defined population of between 7,000-10,000 people determined by geographical boundaries and/or the practice population of participating general practitioners (GPs).

A network is planned for every large town or district in the country. There will be nine model CHN ‘learning sites’ to allow design of a population based service for chronic diseases based on age, deprivation and local incidence and prevalence rather than average figures. The initial phase will involve piloting the management structure. A model of integrated care will be based on the learning derived from these nine sites.

Document scope and purpose

The purpose of this document is to review how Cancer Registry data might be incorporated into local area profiles and displayed as a tool for service planning and to monitor service improvement.

Methodology

A literature search on the use of cancer registry data for service planning was conducted. Information on international cancer registries was obtained from relevant websites and is not exhaustive. Key personnel consulted in the preparation of this document are listed in Appendix 1. The findings from the relevant cancer registries are presented separately below.

National Cancer Registry

The primary aim of cancer registration is to collect data using a standardised method to provide timely, high quality data which is nationally and internationally comparable on all incident cancer diagnoses within a well-defined population over time [2]. There are three main sources of data utilised by the National Cancer Registry (NCR) in Ireland (i) histopathology and cytopathology, (ii) the patient administration system (PAS) currently used by all hospitals in Ireland, which provides demographic information on patients and cancer diagnoses (ICD- 10 codes) and (iii) death certification. Diagnoses are verified and confirmed by skilled tumour registration officers (TROs). Data completion and validity rates are high (ref)

Sharp et al conducted a national study [2] to determine how cancer registry data may be useful for service planning in survivorship care. Details of people diagnosed with invasive cancer (ICD10 C00-C96) during 1994–2011, and who were still alive on 31/12/2011, were abstracted from the National Cancer Registry, and tabulated by cancer site, sex, current age, marital status, initial treatment, and time since diagnosis. They generated population based cancer estimates for cancer prevalence in Ireland and described socio-demographic and clinical characteristics of the survivor population. The results revealed substantial socio-demographic and clinical heterogeneity of the survivor population, and highlighted groups which may have specific medical and supportive care needs. The authors concluded that these types of population-based estimates may help decision-makers, planners and service providers to develop follow-up and after-care services to effectively meet survivors' needs.

National Cancer Control Programme (NCCP)

The NCCP Cancer Intelligence unit provides data on cancer which informs the planning, organisation and monitoring of cancer services. These data include information on cancer incidence, mortality and survival (provided on website) key performance indicators and analysis of hospital data (not provided).

England

The National Cancer Strategy for England [3] Achieving World-Class Cancer Outcomes was published in 2015. Central to the Report is the imperative to make better use of data to underpin service improvements. The Report proposed piloting new models of care and commissioning and has recommended the entire cancer pathway in at least one area should

have a fully devolved budget over multiple years, based on achieving a pre-specified set of outcomes.

The first recommendation in their report was to create of an integrated cancer dashboard. to bring together, and make more readily accessible, data across the whole cancer pathway at Clinical Commissioning Group (CCG), provider and national levels. The cancer dashboard, co-produced by NHS England and Public Health England (PHE). The dashboard is intended as a tool to help clinical leaders, commissioners and providers to quickly and easily identify priority areas for improvement in their cancer services. This can be done by comparing performance against other similar organisations or the England average and tracking progress over time where data are available. The 'domains' of the dashboard (survival; treatment; patient experience; quality of life; operational performance and incidence and mortality) reflect these key areas. The Taskforce set ambitions for incidence, survival, patient experience and quality of life, and the metrics included will both directly track progress towards those ambitions.

The National Cancer Registration and Analysis Service (NCRAS) is part of PHE. NCRAS produces the dashboard data and works to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. It provides overview and detailed information on cancer incidence and screening, diagnostic services, Two Week Wait referrals, emergency presentations and admissions. <http://www.ncin.org.uk/home>. From this home page there is access to detailed childhood cancer statistics, national and CCG level incidence and mortality statistics, routes to diagnosis and survival information and cancer outcomes metrics.

Cancer Outcome Metrics

NCRAS has developed two cancer outcomes indicators that can be refreshed on a quarterly basis:

- Emergency Presentations by Clinical Commissioning Group (CCG)
- Stage at Diagnosis

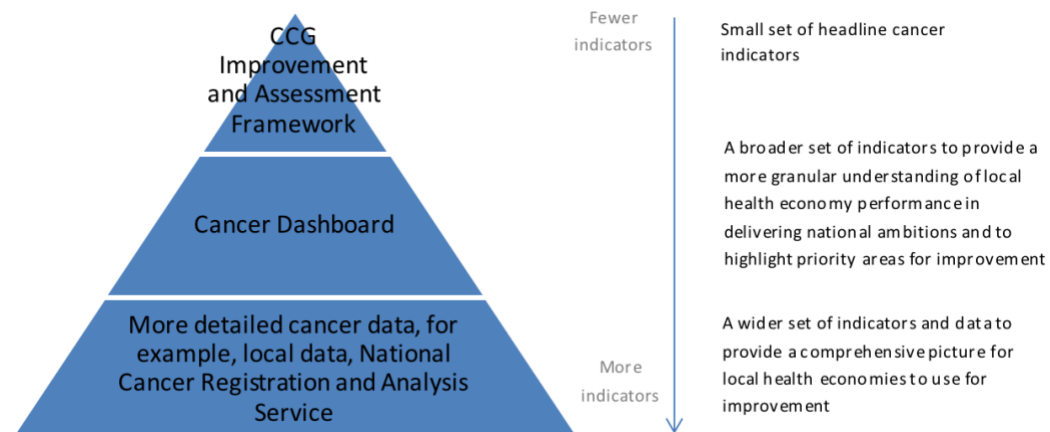
Early stage at diagnoses tool: The Stage at Diagnosis metric shows the proportion of 10 cancers diagnosed in each quarter that are recorded as presenting at early stages e.g. (1,2) vs. late stages (3, 4 or unknown).

The 10 cancers are: Invasive malignancies of breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin.

These two outcome indicators are available by CCG and can be compared with another CCG or all England.

The dashboard is not intended to be a comprehensive set of cancer data. It is best thought of as a tool to highlight areas for further investigation. The profiles are for commissioners and health professionals to use when assessing the impact of cancer on their local population and making decisions about services. The figure below shows how cancer data might be organised across three levels.

Figure 1: Levels of cancer data



Source: Adapted from the King's Fund (2016) Measuring the performance of local health systems: a review for the Department of Health

General Practice Profiles

Profiles are generated for all practices in QOF 2017/18 with a list size of at least 1000 patients and for other practices if they had according to NHS digital in April 2018 a list size of at least 1000 patients and there is valid GP patient survey data for the practice.

Local Cancer Intelligence (LCI) interactive tools.

LCI interactive tools are used to determine how many people in a defined area i.e. region are living with cancer

LCI England

[LCI England](#) is an online tool which gives visual and analytical identification of cancer information in England by Clinical Commissioning Group (CCG) as well as some data groupings and comparisons within Cancer Alliances.

Data sets currently available are:

- Cancer Patient Experience Survey (CPES)
- prevalence
- incidence
- mortality
- survival.

In collaboration with Public Health England's NCRAS, the tool is targeted at NHS decision-makers, commissioners and planners, as well as Macmillan's service development teams. The LCI England tool data has been last updated in July 2018.

Northern Ireland Cancer Registry (NICR)

The Northern Ireland Cancer Registry (NICR) holds data on all cancers diagnosed in the population since 1993. There are three main sources of data utilised by the NICR: (i) histopathology and cytopathology, (ii) the patient administration system (PAS) currently used by all hospitals in Northern Ireland, which provides demographic information on patients and cancer diagnoses (ICD- 10 codes and (iii) death certification. Diagnoses are verified and confirmed by skilled tumour verification officers (TVOs). VO's also have access to electronic data sources, including the clinical oncology information system (COIS) which contains annotated clinical oncology notes and the cancer patient pathway system (CaPPs); a system which manages multidisciplinary cancer meetings.

NICR registry data have been used to monitor services, via specific audits and plan services by working on predictions. They also link closely with clinicians via their cancer specific N. Ireland Cancer network groups.

GPs are financially incentivised to maintain a high quality up-to-date record of patients with chronic conditions, including cancer. Under the quality and outcome framework (QOF) general medical services contract (2004).

A validation of the completeness and accuracy of the NICR of living patients who received a malignant cancer diagnosis between 1993 and 2010 was carried out [4]. This involved linking with GPs twice to offer the opportunity to check the data NICR hold on their patients which also this provided NICR with a link to the GP and provided an opportunity for GPs to check completeness of their own data. 100 practices responded (25.8% of total contacted (387 practice managers) with comparisons made for approximately 17,000 patients (29% of total cohort). Only 15 individuals on GP lists were not on NICR database.

Improvements in accuracy between 2004 and 2010 due in part due to the introduction of the NHS unique identifier at the end of 2008. The unique identifier facilitates automatic matching of datasets thereby reducing the likelihood of missed changes to surnames or addresses and reduces the mix-ups between patients, such as a father/son. It also enables the cancer registry to assess demographics, thereby further improving the data held within the registry.

In 2016, the 350 General Practices came together to form 17 GP Federations (GPFs). GPFs are not-for-profit healthcare provider organisations, with approximately 20 General Practices and 100,000 patients per federation. Part of the role of the newly formed GPFs will be an increased focus on caring for people with chronic conditions (including cancer) within the primary care setting with, for example, the introduction of GPF based pharmacists and physiotherapists.

The aim of this Macmillan-funded project is to assimilate evidence from the NICR to report the cancer incidence and prevalence for each GPF as well as screening history (female breast cancer only), age, stage, and socio-economic distributions at diagnosis to support future service planning.

Cancer profiles of each GPF have been reported based on place of care rather than place of residence, by matching GP cypher codes at time of diagnosis to GP practices and then assigning to GPFs. GP data held by NICR is regularly updated by Business Services Organisation; (BSO) and is matched to GPFs. The 2017 Multiple Deprivation measure is available from the NI Statistics and Research Agency (www.nisra.gov.uk).

This information on incidence and prevalence by GPF has been presented in the form of a factsheet for each of the 17 GPFs areas. The Profile for the Armagh Dungannon Federation is presented in Appendix 2.

LCI Northern Ireland

The [LCI NI tool](#) filters information by Health and Social Care Trust (HSCT), Council Area and cancer type. Data are available at nation and HSCT levels.

The tool aims to support policy and funding decision-makers around cancer and its treatment in Northern Ireland by providing better access to relevant data.

International Cancer Registries

Canadian Cancer Registry

The Canadian Cancer Registry (CCR) is a population based registry that includes data collected and reported to Statistics Canada (StatCan) by each provincial/territorial cancer registry. The person based CCR collects information about each new primary cancer diagnosed among Canadian residents since 1992. The objective is to produce standardized and comparable **incidence data** that can be used to assist and support health planners and decision-makers to: identify risk factors; plan, monitor and evaluate cancer screening, treatment and control programs; and conduct research.

The target population is persons whose usual place of residence is Canada or who are non-permanent residents. The CCR includes basic patient demographic information (e.g., age and sex) and more detailed tumour information e.g. characteristics of the tumour and its diagnosis by agreed Standard Geographical Areas and by standard Health Authority within geographical region.

US

The Surveillance, Epidemiology and End Results (SEER) Program

The National Cancer Institute's (NCI) Surveillance, Epidemiology and End Results (SEER) program is a large population-based registry. It collects information from certain geographic areas which represent 28% of the US population, including:

- Cancer incidence (new cases)
- Survival
- Prevalence (number of people living with cancer during a given time period)

The data, along with data on cancer-related deaths from the entire US from the National Center for Health Statistics (NCHS), are analyzed and are published annually in the SEER Cancer Statistics Review.

The National Program of Cancer Registries (NPCR)

The National Program of Cancer Registries (NPCR) of the Center for Disease Control and Prevention (CDC) supports population-based registries in state health departments. This program was established by to respond to the need to collect data on larger percentages of state populations.

They are designed to:

- Monitor cancer trends over time.
- Look for cancer patterns in different groups of people.
- Guide **planning and evaluation of cancer control programs** e.g. examine whether prevention, screening, and treatment efforts are making a difference.
- **Help set priorities for allocating health resources.**
- Advance clinical, epidemiologic, and health services research.
- Provide information for a national data base of cancer incidence.

Together, the NPCR and the National Cancer Institute's SEER Program collect data for the entire US population.

Future directions for cancer registries include support of more electronic information sharing. It's hoped this will allow better studies on things like access to care for people with cancer and survivorship.

The Australasian Association of Cancer Registries (AACR) <https://www.aihw.gov.au/>

The Australasian Association of Cancer Registries (AACR) is a collaborative body representing the eight Australian state and territory cancer registries, the New Zealand Cancer Registry and the Australian Institute of Health and Welfare (AIHW)

The AIHW most commonly reports on its smaller areas by:

- **Primary Health Network (PHN) areas**—PHNs are organisations that connect health services across a specific geographic area (a PHN area), with the boundaries defined by the Australian Government Department of Health. There are 31 PHN areas that cover the whole of Australia.
- **Statistical Areas**—Statistical Areas are a geographical classification defined by the Australian Statistical Geography Standard (ASGS) used by the Australian Bureau of Statistics (ABS). They encompass four levels, with increasing size and population: The ABS Structures are a hierarchy of areas developed for the release of ABS statistical information. This means that the

statistical areas are designed to meet the requirements of specific statistical collections as well as geographic concepts relevant to those statistics such as remoteness and urban/rural definitions. This helps to ensure the confidentiality, accuracy and relevance of the data. The ABS Structures are stable for five years to enable better comparison of data over time. **The Non ABS Structures** represent administrative areas for which the ABS is committed to providing a range of statistics. These areas can change regularly as they are not defined by the ABS. ASGS uses Mesh Blocks as a common building block for all structures. Mesh Blocks, like other ABS Structures, are stable for 5 years. However, they are small enough that they can accurately approximate the changing administrative areas without changing themselves. See <https://www.aihw.gov.au/about-our-data/aihw-data-by-geography>

Results are sometimes unable to be reported for all areas in Australia. due to the smaller number of results in these smaller areas, and the strict privacy and confidentiality controls applied to the data.

References

1. World Health Organization, *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*. 2010.
2. Sharp, L., et al., *The magnitude and characteristics of the population of cancer survivors: using population-based estimates of cancer prevalence to inform service planning for survivorship care*. BMC Cancer, 2014. **14**: p. 767.
3. Independent Cancer Taskforce, *Achieving World-Class Cancer Outcomes. A Strategy for England 2015-2020*.
4. Kearney, T.M., et al., *Validation of the completeness and accuracy of the Northern Ireland Cancer Registry*. Cancer Epidemiol, 2015. **39**(3): p. 401-4.

Appendix 1. Persons contacted in the process of conducting this research

Name	Role and Organisation	Comment
Ms Ciara Mellett	Programme Manager - Sláintecare Programme Implementation Office	
Dr Anna Gavin	Director Northern Ireland Cancer Registry	
Prof Kerri Clogh/ Dr Conan Donnelly/Mr Paul Smith	National Cancer Registry	Appointment awaited
Dr Triona McCarthy	Acting Assistant National Director - Community Oncology / Primary Care / Prevention, NCCP	
Dr Deirdre Murray -	Cancer Intelligence, NCCP	Awaiting return from annual leave
Dr Orlaith O'Reilly	Clinical Lead Integrated Care Programme HSE	

Appendix 2: Armagh Dungannon Federation

Armagh & Dungannon GP Federation

This factsheet presents information on cancer incidence and prevalence in the Armagh & Dungannon GP Federation to provide those working with cancer some idea of the number of people diagnosed each year, the ages of these people, the type of cancer they have had and how many people are living with and beyond a cancer diagnosis between 1993-2015. It forms part of a larger report produced as part of the Macmillan-NICR partnership to describe the cancer profiles of the 17 GP Federations in Northern Ireland (NI). The full report can be accessed at <http://www.qub.ac.uk/research-centres/nicr/>. The data are reported based on GP federation of care rather than GP federation of residence i.e. people registered at GP practices in the Armagh & Dungannon GP Federation area and not based on their home address. Also were data are presented for 'All cancers' this excludes non-melanoma skin cancer.

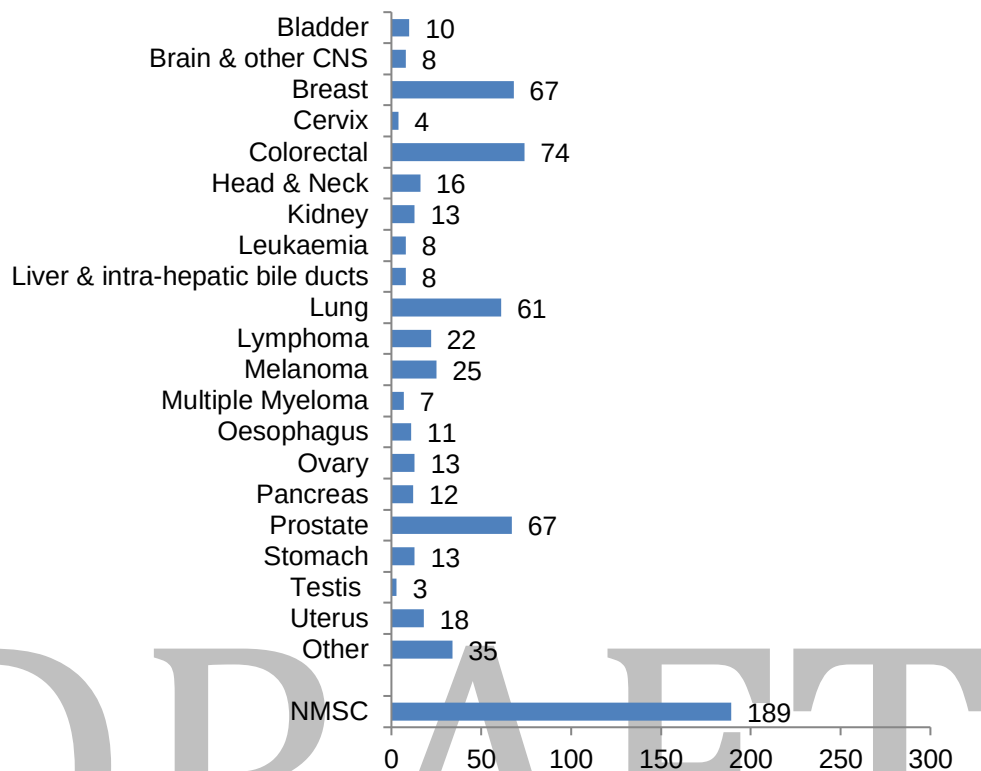
Table 1. Summary statistics for all cancers (excluding non-melanoma skin cancer) in Armagh & Dungannon GP Federation area

	Males	Females	Both Sexes
Average cases diagnosed per year (2011-2015)	258.0	239.0	497.0
10 year prevalence	1,102	1,207	2,309
23 year prevalence	1,817	1,465	3,282

Incidence

skin cancer (NMSC; C00-C97 ex.C44) diagnosed each year between 2011 and 2015.

Figure 1. Average number of cases of specific cancers diagnosed each year between 2011-2015 in people registered in Armagh & Dungannon GP Federation



- In 2011-2015 there were on average 67 cases of invasive female breast cancer, 67 cases of prostate cancer, 74 cases of colorectal cancer, 61 cases of lung cancer and 189 cases of non-melanoma skin cancer diagnosed each year.

Figure 2. Proportion (%) of cases diagnosed between 2011 and 2015 by specific cancer site and stage at diagnosis in Armagh & Dungannon GP Federation

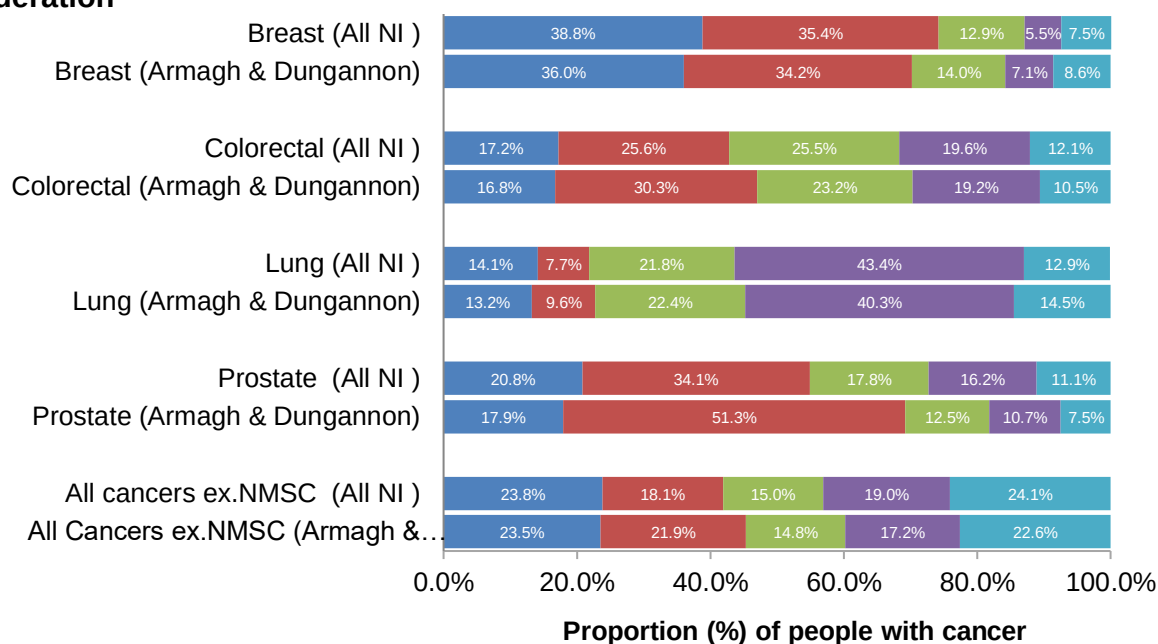
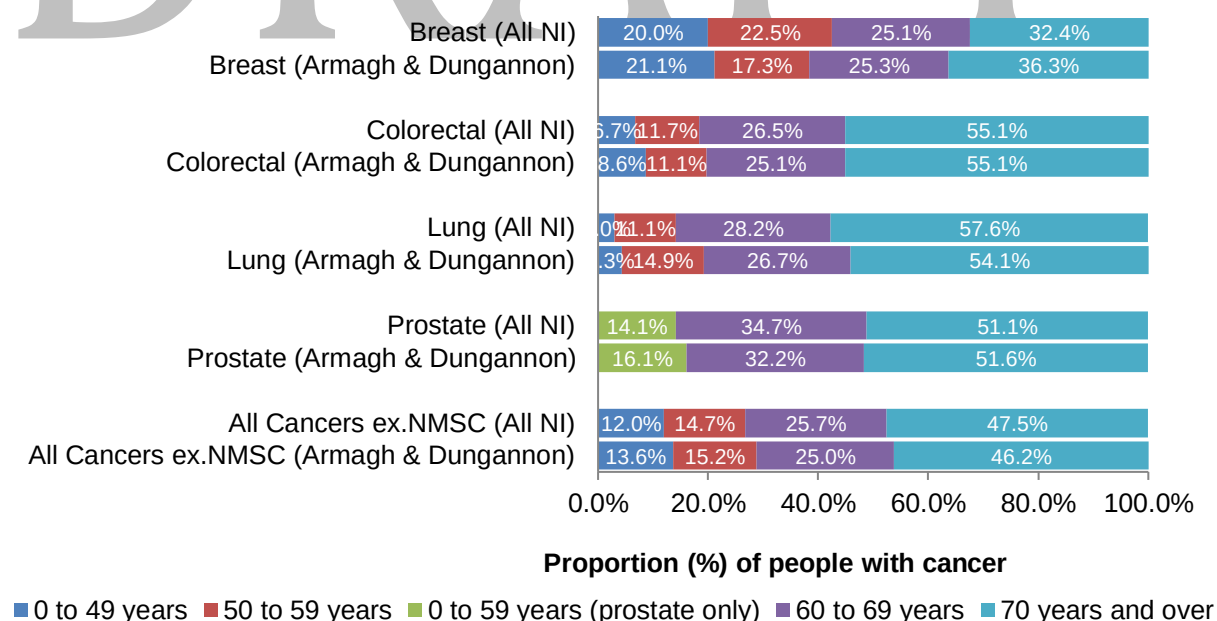
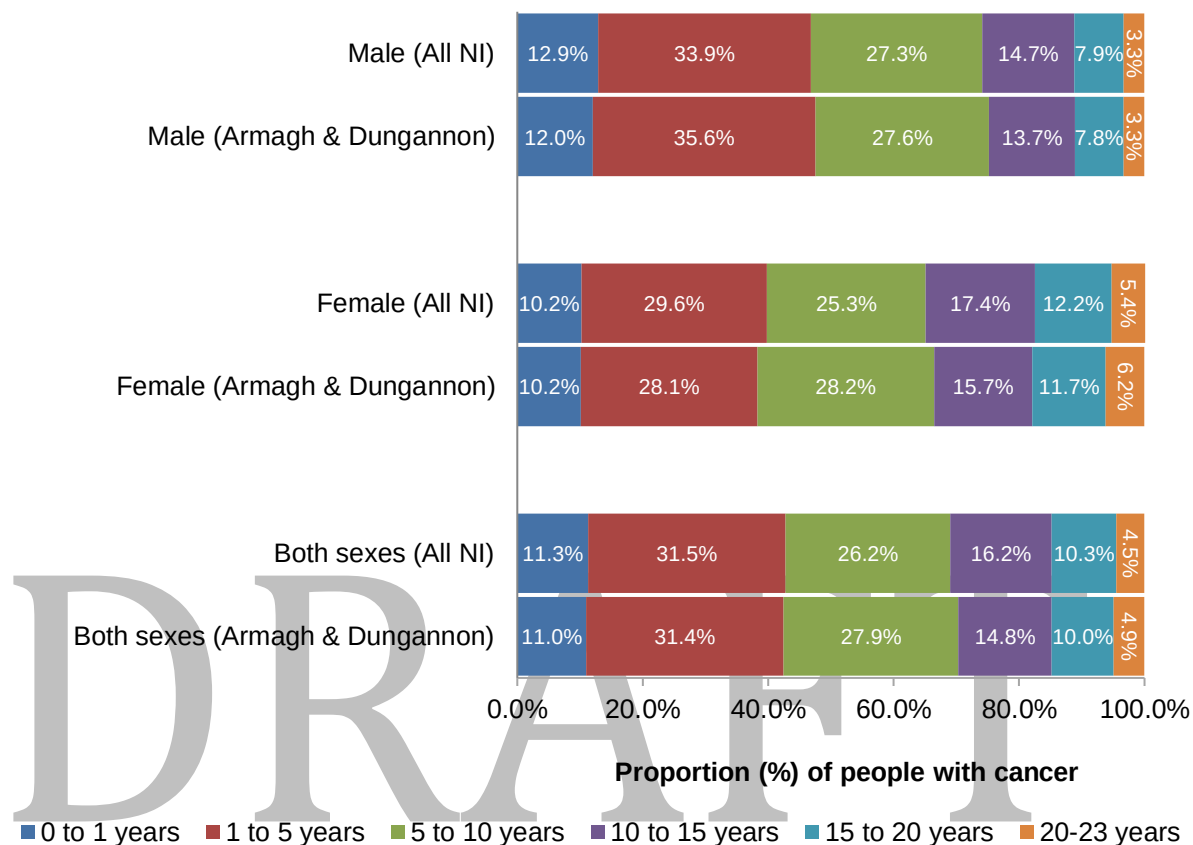


Figure 3. Proportion (%) of cases diagnosed between 2011 and 2015 by specific cancer site and age at diagnosis in Armagh & Dungannon GP Federation



Prevalence

Figure 4. 23-year prevalence of all cancer (excluding NMSC) by sex and time from diagnosis in Armagh & Dungannon GP Federation area



The 23- year prevalence represents all people diagnosed with cancer during 1993-2015 who are still alive at the end of 2015. Other prevalence measures commonly used, which depend on the diagnosis period considered, include:

- One year prevalence (people diagnosed in 2015) which at the end of 2015 was 361 (176 males and 185 females).
- Five year prevalence (people diagnosed 2011-2015) which at the end of 2015 was 1,392 (697 males and 695 females).
- Ten year prevalence (people diagnosed 2006-2015) which at the end of 2015 was 2,309 (1,102 males and 1,207 females).
- Twenty-three year prevalence (people diagnosed 1993-2015) which at the end of 2015 was 3,282 (1,465 males and 1,817 females).

Figure 5. 23 year prevalence (based on time since diagnosis) for all cancers (excluding NMSC) by sex in Armagh & Dungannon GP Federation

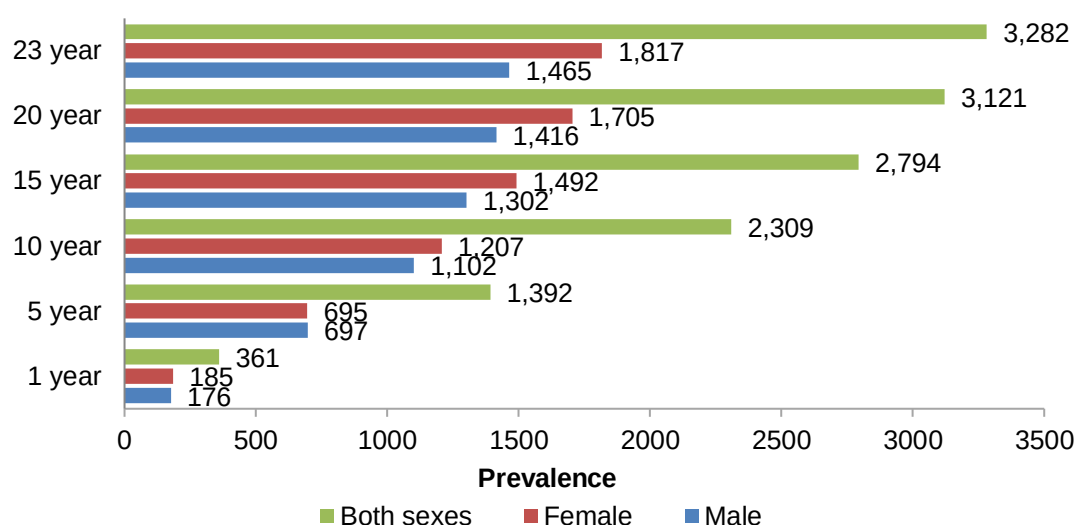
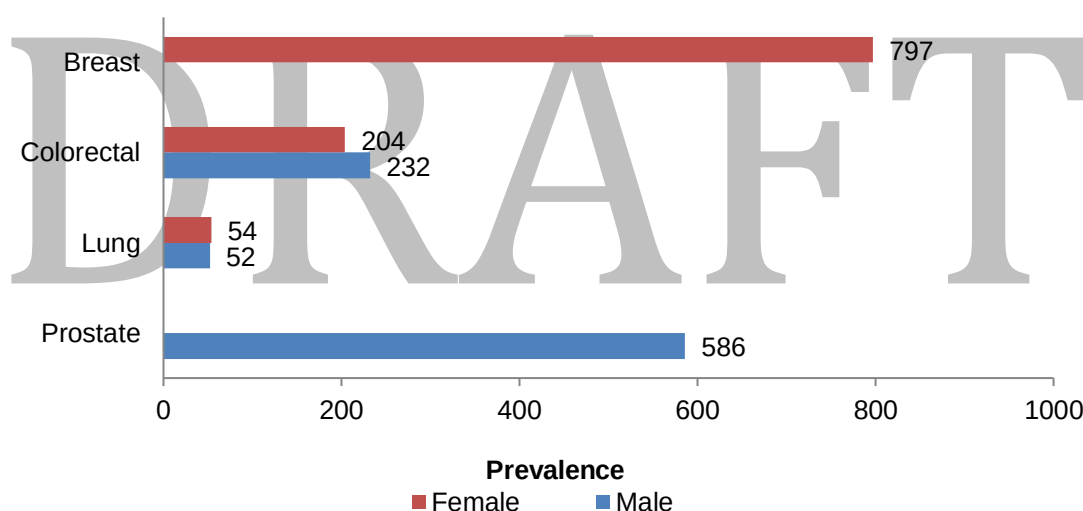


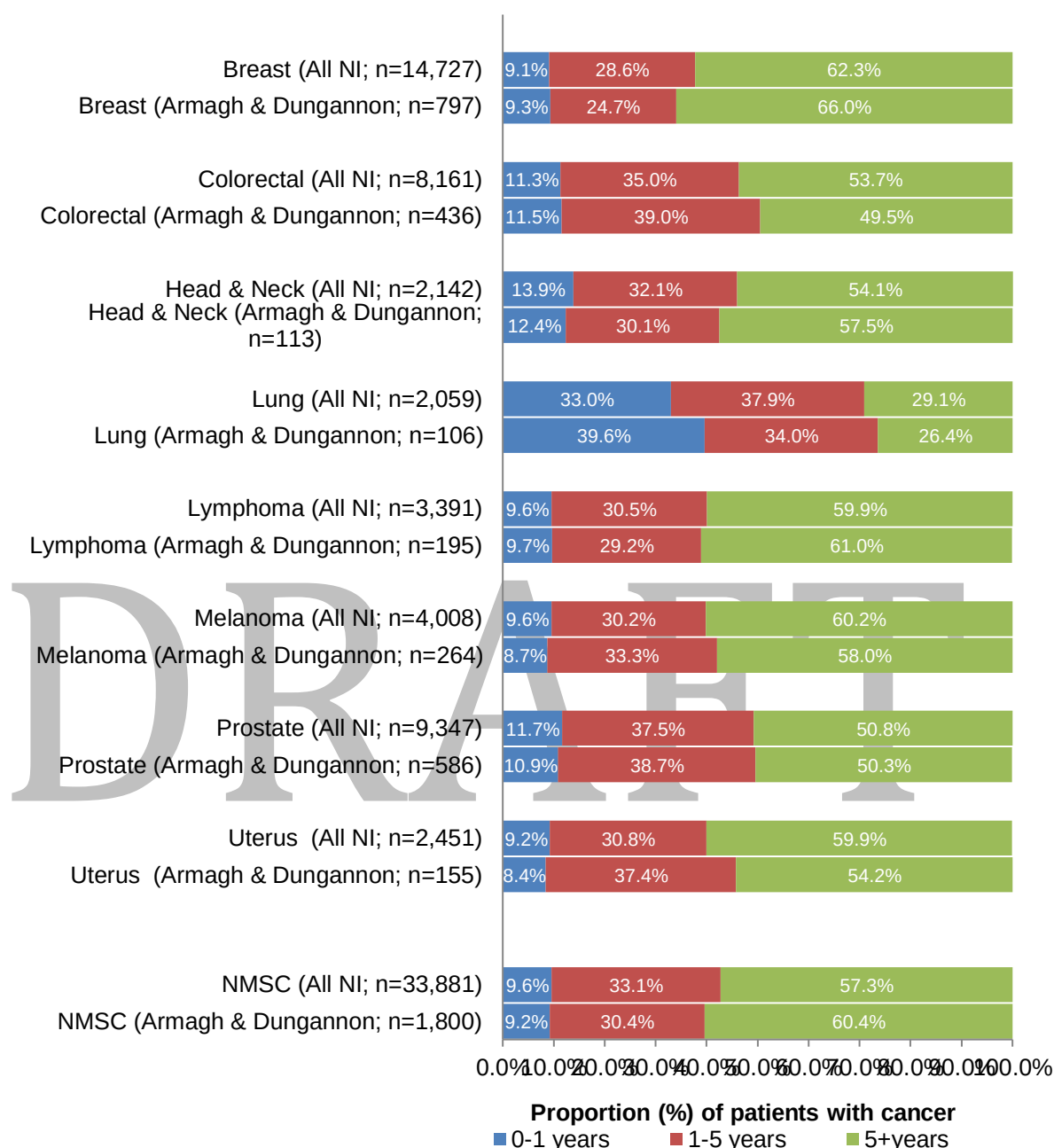
Figure 6. 23-year prevalence (number of people) for all cancers (excluding NMSC) by sex and cancer site in Armagh & Dungannon GP Federation



At 31st December 2015, of those people living up to 23 years after a cancer diagnosis (excluding non-melanoma skin cancer) in the Armagh & Dungannon GP Federation:

- Over half (58.7%) of people had been diagnosed with breast, prostate, colorectal or lung cancer.
- 1817 were females and of these over 4 in 10 females (43.9%) had, had a diagnosis of invasive breast cancer (ICD10 C50).
- 1465 were males and of these 4 in 10 males (40.0%) had, had a diagnosis of prostate cancer (ICD10 C61).

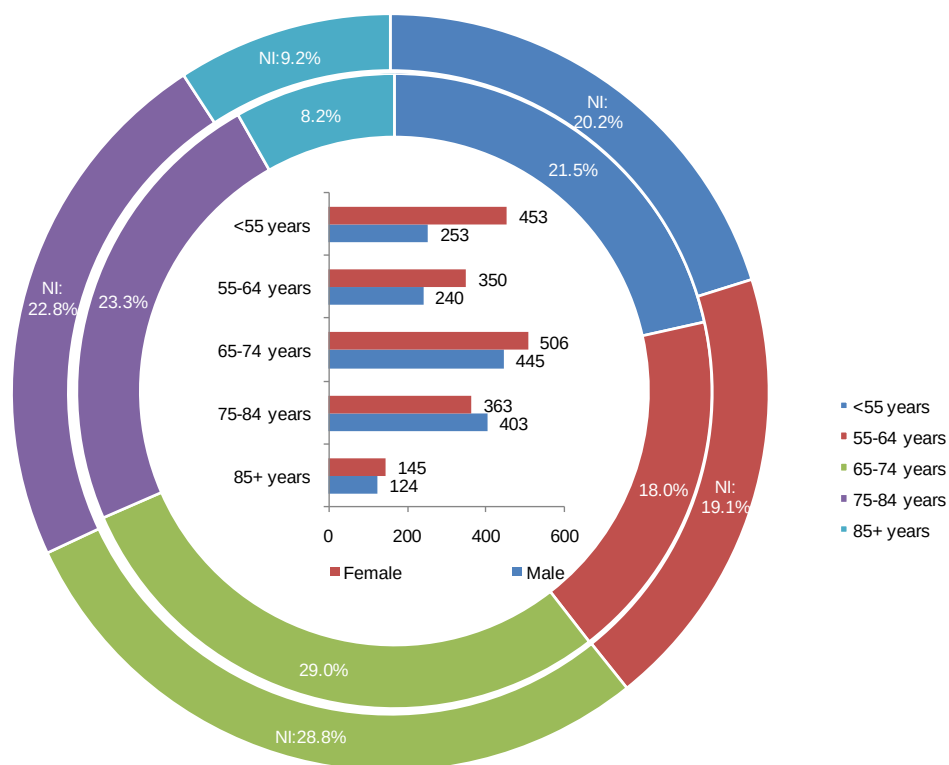
Figure 7. 23-year prevalence for all cancers (excluding NMSC) by cancer site and time since diagnosis in Armagh & Dungannon GP Federation area



At 31st December 2015, of those people living up to 23 years after a cancer diagnosis (excluding non-melanoma skin cancer) in the Armagh & Dungannon GP Federation:

- Two thirds of people diagnosed with female breast cancer (66.0%) and melanoma (62.2%) were diagnosed more than five years previously.
- Over half (50.5%) of people diagnosed with colorectal cancer were diagnosed within the last five years.

Figure 8. 23- year prevalence of all cancers (excluding NMSC) by age at end 2015 in Armagh & Dungannon GP Federation area



- Over three quarters (78.5%) of people diagnosed between 1993-2015 and alive at end of 2015 were aged 55 years or over at 31st December 2015 with one in five of people (23.3%) aged between 75 and 85 years.

Acknowledgements

Macmillan-NICR Partnership funded by Macmillan Cancer Support. The N.Ireland Cancer Registry is funded by the Public Health Agency and is hosted by Queen's University, Belfast. This work uses data provided by patients and collected by the health service as part of their care and support. Further data is available from the Northern Ireland Cancer Registry web site: www.qub.ac.uk/nicr.
Phone: +44 (0)28 9097 6028 e-mail: nicr@qub.ac.uk



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Appendix 3: Profile of Cancer by GP surgery (NCRAS)

Compared with benchmark: Lower Similar Higher Not compared * a note is attached to the value, hover over to see more details

Recent trends: — Could not be calculated ↑ Increasing / Getting worse ↑ Increasing / Getting better ↓ Decreasing / Getting worse ↓ Decreasing / Getting better ↔ No significant change ↑ Increasing ↓ Decreasing

Indicator	Period	England	NHS Airedale, Wharfedale And Craven...	B83020 - Addingham Surgery	B82020 - Cross Hills Group Pr...	B82053 - Dineley House Surger...	B83021 - Farfield Group Pract...	B82028 - Fisher Medical Centfr...	B83019 - Grange Park Surgery	B83027 - Haworth Medical Prac...	B83023 - Holycroft Surgery	B83024 - IG Medical	B83002 - Ilkley & Wharfedale...	B83033 - Kilmory Group Medica...	B83008 - Ling House Medical C...	B83002 - North Street Medical...	B83061 - Oakworth Medical Pra...	B83006 - Sliden & Steeton Me...	B82007 - Townhead Surgery
% aged 65+ years	2018	17.3	21.5	35.6	23.3	21.0	17.5	26.0	22.1	21.9	17.2	27.0	27.5	16.0	14.1	6.8	20.0	23.4	29.6
Deprivation score (IMD 2015)	2015	21.8	18.9	7.4	11.3	14.6	34.7	12.6	5.5	16.6	35.3	7.2	6.4	31.9	37.7	45.9	16.1	11.8	13.0
New cancer cases (Crude incidence rate: new cases per 100,000 population)	2016/17	521	634	1032	656	628	730	723	601	736	491	698	763	436	449	259	618	613	915
GP1 - Cancer: QOF prevalence (all ages)	2017/18	2.7	3.4	5.1	4.2	3.5	3.3	4.3	3.7	3.2	2.7	3.9	4.6	2.3	2.3	0.8	2.9	3.5	3.9
Females, 50-70, screened for breast cancer in last 36 months (3 year coverage, %)	2017/18	72.1	67.6	74.3	44.2	64.7	67.5	67.9	72.2	69.8	64.2	76.2	75.7	65.1	63.0	53.1	77.8	74.4	72.0
Females, 50-70, screened for breast cancer within 6 months of invitation (Uptake, %)	2017/18	71.7	64.4	51.9	63.8	52.7	61.8	48.2	38.1	68.6	37.5	48.1	70.4	64.2	63.6	52.3	76.6	72.8	42.0
Females, 25-64, attending cervical screening within target period (3.5 or 5.5 year coverage, %)	2017/18	71.7	75.4	82.1	78.5	77.2	67.5	80.2	81.8	76.3	67.3	83.6	82.7	72.3	61.2	66.7	79.4	76.8	78.6
Persons, 60-69, screened for bowel cancer in last 30 months (2.5 year coverage, %)	2017/18	57.3	62.8	73.0	65.9	64.7	55.4	67.9	63.7	66.0	53.3	66.4	67.5	56.5	52.0	34.2	64.4	64.9	67.7
Persons, 60-69, screened for bowel cancer within 6 months of invitation (Uptake, %)	2017/18	56.1	61.2	70.8	66.5	63.6	53.6	65.4	60.7	64.2	50.6	66.5	67.7	55.0	52.1	29.8	64.4	61.0	66.3
Persons, 60-74, screened for bowel cancer in last 30 months (2.5 year coverage, %)	2017/18	59.6	65.0	73.1	68.1	67.0	58.3	68.9	67.1	66.9	57.1	68.3	69.8	57.9	55.8	34.6	65.5	67.1	69.0
Persons, 60-74, screened for bowel cancer within 6 months of invitation (Uptake, %)	2017/18	57.7	63.0	69.2	68.5	65.6	56.5	67.3	64.1	64.1	53.7	67.4	68.7	56.3	54.8	29.2	63.5	63.5	66.3
In-patient or day-case colonoscopy procedures (Number per 100,000 population)	2017/18	747	898	884	1168	742	714	998	920	1311	757	1150	967	790	607	337	893	1015	838
In-patient or day-case sigmoidoscopy procedures (Number per 100,000 population)	2017/18	522	974	1054	1018	912	753	1047	1380	1204	737	1244	1225	761	736	368	835	1093	1177
In-patient or day-case upper GI endoscopy procedures (Number per 100,000 population)	2017/18	1253	1459	1122	1702	1340	1499	1309	1380	1897	1383	1572	1096	1379	1215	1042	950	1726	1813
Number of emergency admissions with cancer (Number per 100,000 population)	2017/18	540*	668*	306*	551*	597*	831*	722*	534*	980*	575*	828*	795*	552*	582*	138*	634*	729*	806*
Number of emergency presentations (Number per 100,000 population)	2017/18	85*	95*	-	100*	81*	124*	134*	59*	96*	91*	128*	64*	82*	60*	-	58*	87*	74*
Number of other presentations (Number per 100,000 population)	2017/18	362*	427*	340*	401*	403*	388*	453*	356*	543*	414*	433*	559*	432*	351*	92*	576*	512*	562*