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ICCI-LA

Iniciativa Integrada para el Control de Cáncer en América Latina

Integrated Cancer Control Initiative in Latin America

Addressing the rising burden of cancer in Argentina: Challenges & opportunities

An Analysis of Argentina's Health System and Cancer Control Policies

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Table of Contents

1. Executive Summary **5**

2. Introduction **7**

3. Methods **8**

4. Analyzing the Health System and Cancer Context **8**

4.1. Demographic and Epidemiological Transition 8

4.1.1. Cancer Incidence 9

4.1.2. Incidence Comparisons: Argentina, Latin America, and the World 11

4.1.3. Cancer Mortality 13

4.1.4. Cancer Types and Mortality 15

4.1.5. 5-Year Net Survival for The Most Common Cancer Types 18

4.1.6. Childhood Cancer: Incidence and Survival 22

4.2. Political, Legal, and Regulatory Environment 23

4.3. Argentina's National Cancer Control Plan 25

5. Health System Analysis **26**

5.1. Health System Challenges related to Cancer 26

5.2. Suggested Policy Options to Address Identified Challenges 30

5.3. Evidence for proposed Policy Options 47

5.3.1. Organization Focused Policies 47

5.3.2. Finance Focused Policies 47

5.3.3. Resource Management Focused Policies 49

5.3.4. Service Delivery Focused Policies 49

6. COVID-19 Pandemic and Implications for Cancer in Argentina **50**

7. Recommendations and Next Steps **51**

7.1. Highest Priority 52

7.2. High Priority 53

7.3. Medium Priority 54

8. References **56**

9. Appendix A: Health System Framework **62**

10. Appendix B: Methods **66**

10.1. Literature Review 66
10.2. Online Stakeholder Survey 66
10.3. Buenos Aires Stakeholder Workshop 67
11. Appendix C: Analysis of Context in Argentina 68
11.1. Demographic and Epidemiological Transition 68
11.2. Political, Legal, and Regulatory Environment 69
11.3. Economic Environment 69
11.4. Socio-Cultural Dynamics 72
11.5. Ecological Changes 73
11.6. Technological Changes 74
12. Appendix D: Incidence Projections and Incidence Rate for Most Common Cancers 76
12.1. Cancer Incidence Projections 76
12.2. Most Common Cancer Types and Incidence 77
13. Appendix E: Projected Mortality from Cancer in Argentina and Selected Comparator Countries 81
13.1. Cancer Mortality Projections 81
14. Appendix F: Projected Incidence of Childhood Cancers and Estimates of 5-Year Net Survival for Selected Childhood Cancers 84
15. Appendix G: Analysis of Argentinian Health System and Its Performance Generally and in Relation to Cancer 88
15.1. Health System Goals 88
15.1.1. Population Health 88
15.1.2. Financial Protection 89
15.1.3. User Satisfaction 92
15.2. Health System Objectives 92
15.2.1. Equity 92
15.2.2. Efficiency 93
15.2.3. Effectiveness 94
15.2.4. Responsiveness 94
15.3. Health System Functions 95
15.3.1. Governance and Organization 95
15.3.2. Health Financing 96
15.3.3. Resource Management 97
15.3.4. Service Delivery 98
16. Appendix H: Stakeholder Meeting Report 99
17. Appendix I: Stakeholder Meeting Participants 111

1. Executive Summary

Objectives

The aim of the Integrated Cancer Control Initiative in Latin America (ICCI-LA) study is to help improve Argentina's response to the rising burden of cancer, as part of its Constitutional commitment to health as a human right and as part of the international push for universal health coverage. This report discusses the overall context of the Argentinian health system related to cancer, presents major health system challenges identified by stakeholders, and identifies policy options proposed by the leading experts involved in the ICCI-LA study.

Methods

The primary methods of inquiry used by the research team include a review of published literature and datasets on the Argentinian health system and cancer burden, an online survey conducted among subject-matter experts to ascertain primary challenges and opportunities within the Argentinian health system around cancer, and an in-person stakeholder workshop in Argentina which involved facilitated expert discussions around the topic.

Findings

According to data published by the International Agency for Research on Cancer (IARC), a part of the WHO, the cancer incidence in Argentina is expected to rise from 129,047 new cases of cancer in 2018 to 190,779 cases in 2040, a 47.8% increase in 20 years. Incidence rates in Argentina are higher than that in other large Latin American countries like Brazil, Chile, Colombia, Mexico, and Peru, yet lower than counterparts in Europe and North America. Regarding mortality, the number of deaths from cancer in Argentina is projected to increase by 53.9% from 2018 to 2040, a significantly lower figure than most other Latin American countries. Such projections suggest that Argentina is part of a trend across Latin America of rapidly growing cancer incidence and mortality.

Argentina's National Cancer Control Plan (Plan Nacional de Control de Cáncer, PNCC) aims to help reduce overall cancer morbidity and mortality; improve cancer prevention, diagnosis, treatment, and care quality; and prioritize cancer as a major public health problem. However, improving cancer management in Argentina's complex health system represents a significant challenge. Primary challenges, as identified by 75 expert stakeholders, were organized into four opportunity areas: (1) Organization and Governance, (2) Financing, (3) Resource Management, and (4) Service Delivery. A common challenge identified in both the survey and stakeholder workshop was the high-level of health system fragmentation which leads to inequality in service delivery based on geography and persistent provincial differences in access to care. Other commonly reported issues included a lack of financial organization and planning at a national level, inefficient use of resources, and low-quality services provided to significant portions of the population.

Policy options to address the identified challenges were also organized according to the four opportunity areas. Suggestions related to Organization and Governance included strenghtening the single entity that develops cancer policies with a multisectoral approach, creating a national cancer plan, developing a

framework for a national cancer law, defining problems with care access and quality, and conducting cost-effectiveness analyses to identify priority interventions. Regarding Financing, policy proposals included increasing the national public budget allocated for cancer, creating a centralized and transparent cancer financing mechanism, and redistributing resources in order to lower patient catastrophic health expenditures. Resource Management related proposals included developing accountability and transparency mechanisms for cancer policies and using cost-effectiveness analysis to reoallocate existing resources. Proposals for Service Delivery included closing the gap in access and health outcomes between public and private sectors, investing in primary care, and creating an agency to develop and enforce quality control standards for cancer services.

Recommendations

We propose nine overarching recommendations for the Argentinian health system to address the rising burden of cancer.

Highest priority:

1. Develop and enact a comprehensive National Cancer Law.
2. Strengthen the entity responsible for developing cancer policies, conducting evaluations, and implementing the national cancer plan.
3. Conduct transparent cost-effectiveness analysis to better delineate cancer policy goals and allocated resources for cancer services.

Higher priority:

4. Develop standardized care plans, holistic care protocols, and mandatory guidelines for each province that are aligned with national cancer law.
5. Centralize procurement, purchase, and price negotiation of medicines and health technologies.
6. Expand access to cancer care services in the public sector.

Medium priority:

7. Establish and enforce national quality control standards and develop indicators to measure effectiveness, efficiency, and equity of cancer services.
8. Improve cancer prevention, primary care, and health education.
9. Strengthen health research and scientific activities in the country.

2. Introduction

The objectives of the Integrated Cancer Control Initiative in Latin America (ICCI-LA) are to (i) identify and fill the knowledge gaps in relation to the burden of cancer and health system responses to cancer prevention, care and control in selected countries (ii) determine the main challenges that need addressing in these countries (iii) detail potential interventions that are needed at country level to develop an effective response, and (iv) build an inclusive coalition of stakeholders to mount a sustained and lasting response in order to improve health outcomes, enhance financial protection and reduce inequalities. Argentina is the first of four countries that are currently the focus of ICCI-LA.

The purpose of this study is to analyze key issues relating to the rising cancer burden in Argentina. The objectives of this report are to present an analysis of the overall context of the Argentinian health system related to cancer, present major health system challenges identified by stakeholders via a survey and in-person meetings, and identify policy options, as suggested by the leading experts in Argentina and international collaborators involved in the ICCI-LA study, aimed at improving Argentina's response to the rising burden of cancer.

The study used a mixed methods approach to ascertain primary challenges and opportunities within the Argentinian health system related to cancer. The methods of inquiry included: a literature review of published data, a novel online survey conducted among topic experts, and an in-person stakeholder workshop in Argentina.

The framework for health systems analysis used in the literature review builds on earlier approaches (1–5), and emphasizes a systems view (6) when analyzing context and health system performance. The analytical framework has been used in single-country and multi-country analyses (7,8) to explore contextual factors and health systems functions that interact to influence the achievement of health system goals and objectives. Appendix A provides more information on the framework and each section of the analysis.

This report is organized into three major sections. The first section is an analysis of the health system context in Argentina that includes demographic, epidemiological, political, economic, legal/regulatory, ecological, socio-cultural and technological changes, which individually and through their interactions influence trajectory of change in the health system. The second section is the analysis of the main health system challenges in relation to cancer and policy options proposed by expert stakeholders, along with evidence that supports the proposed policies. The third section is focused on the major areas for improvement for the Argentinian health system in relation to cancer control and care and recommendations by priority.

3. Methods

In order to achieve a detailed understanding the context, health system, and challenges and opportunities related to management of cancer in Argentina, the methodological approach, the details of which are presented in Appendix B, included:

1. A literature review of published articles, policies, and datasets,
2. A novel online survey conducted among experts, clinicians, policy makers and key informants from civil society, and
3. An in-person stakeholder workshop in country.

The Harvard research team worked with collaborators in Argentina to establish a core team to undertake the study. The data were collected and analyzed between September and December 2019. During the data collection and analysis process, there was constant guidance and feedback from the different working groups involved in the stakeholder workshop in Argentina.

4. Analyzing the Health System and Cancer Context

This section provides an analysis of the context of the health system in Argentina. In this section we discuss demographic and epidemiological transition and political and regulatory context related to cancer. We also provide in Appendix C additional analyses in these areas along with analysis of the economic, socio-cultural, ecological and technological factors affecting Argentine health system context.

4.1. Demographic and Epidemiological Transition

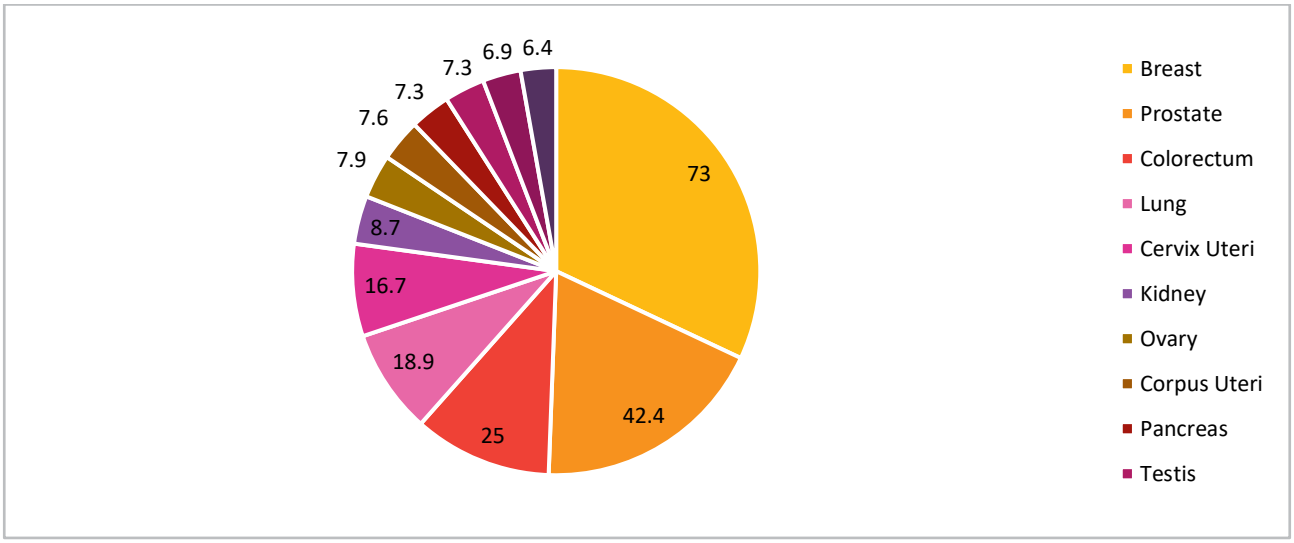
When studying cancer, crude incidence figures portray an incomplete contextualization of Argentina's cancer burden as they do not account for the substantial difference in population sizes and age structures between countries. For example, Argentina understandably has more cases of incident cancer than smaller countries like Peru or Chile, yet significantly fewer cases than larger countries like Brazil (9).

Consequentially, using rates standardized per 100,000 people more accurately depicts the cancer burden in-country. Additionally, given that cancer disproportionately affects older populations, having age-standardized metrics facilitates a more accurate comparison across countries with different age-pyramid structures. Hence we present throughout this report age-standardized rates (ASR) for cancer incidence.

4.1.1. Cancer Incidence

In 2018, the estimated ASR of cancer was 218 per 100,000 people in Argentina (9). The top 5 cancers were breast, prostate, colorectal, lung, and cervical cancers, accounting for 81% of all incident cancer in 2018 (9). Figure 1 depicts the estimated ASR of incident cancer for the 11 most common cancer types in Argentina.

Figure 1: Estimated Age Standardised Rates of Incident Cancer by 100,000 People in Argentina (Source: IARC Cancer Today (9)).



Overall, Argentina has the highest age standardised incidence of cancer in any large Latin American country. Figure 2 compares the cancer incidence rates per 100,000 people of Argentina with those of Brazil, Chile, Colombia, Mexico, and Peru, and Figure 3 shows a disaggregated comparison among comparable Latin American countries for the 6 most common cancer types in Argentina. The comparison continues in Figure 4 in a table expanded to include the 11 most common cancer types in Argentina.

Figure 2: Estimated Age Standardised Rate of All Incident Cancer per 100,000 People in 2018 (selected countries in Latin America) (Source: IARC Cancer Today (9)).

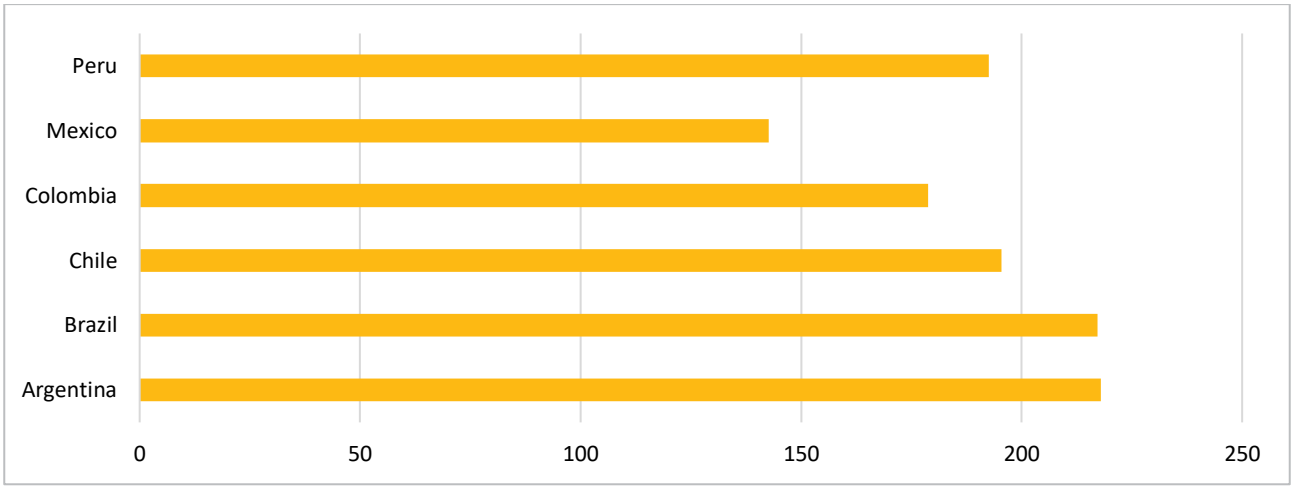


Figure 3: Estimated Age Standardised Rate of Incident Cancer per 100,000 People in 2018, for Argentina's 6 Most Common Cancer Types (selected countries in Latin America) (Source: IARC Cancer Today (9)).

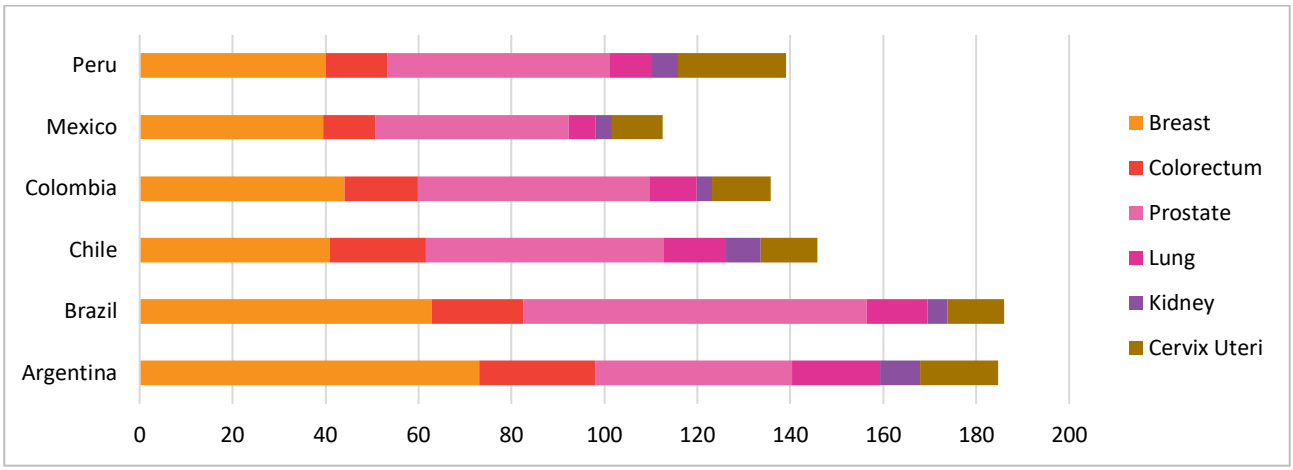


Figure 4: Estimated Age Standardised Rate of Incident Cancer per 100,000 People in 2018, by Cancer Type (selected countries in Latin America) (Source: IARC Cancer Today (9)).

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Total ASR / Cancer Type	218	217.2	195.5	178.8	142.7	192.6
Breast	73	62.9	40.9	44.1	39.5	40
Prostate	42.4	74	51.2	49.8	41.6	47.8
Colorectum	25	19.6	20.7	15.8	11.2	13.3
Lung	18.9	13	13.4	10.1	5.8	9.1
Cervix Uteri	16.7	12.2	12.2	12.7	11	23.2
Kidney	8.7	4.3	7.4	3.3	3.5	5.7
Ovary	7.9	4.9	6.5	8	6.8	7.6
Corpus Uteri	7.6	6.7	6.7	5.2	10.6	6.1
Pancreas	7.3	4.7	5.6	4	3.6	4.4
Testis	7.3	3.4	9.5	4.7	6.5	4.6
Thyroid	6.9	8.6	4.8	9	8.9	7
Stomach	6.4	7.9	17.8	12.8	5.6	16.1

4.1.2. Incidence Comparisons: Argentina, Latin America, and the World

Two primary drivers of Argentina's high cancer incidence rate are the country's relatively high rates for breast and lung cancer at 73 and 18.9 per 100,000 people respectively (9). Breast cancer is the more common type of cancer. Other than Brazil, Argentina's breast cancer burden is nearly double that of Latin America's large countries. Lung cancer incidence is similarly high in Argentina, compared to other Latin American countries that have incidence rates as low as 5.8 per 100,000 people (9). Prostate cancer may have the second highest incidence among all cancers in Argentina at 42.4 incident cases per 100,00, yet only Mexico has a lower incidence rate at 41.6 cases per 100,000 (9). Stomach cancer is not nearly as prevalent in Argentina, with Chile, Peru, and Colombia having 2 to 3 times the incidence of stomach cancer (9). Unfortunately such trends are not new, with Argentina historically having the highest incident rate of breast, colorectal, lung, and cervical cancer of any large Latin American country (10). Figures 5, 6, and 7 provide a comparison of incidence rates globally and regionally. Once again, ASR is used to enable a more accurate inter-country comparison.

Figure 5: Estimated Age Standardised Rate of All Incident Cancer per 100,000 People in 2018 (Argentin and selected world regions) (Source: IARC Cancer Today (9)).

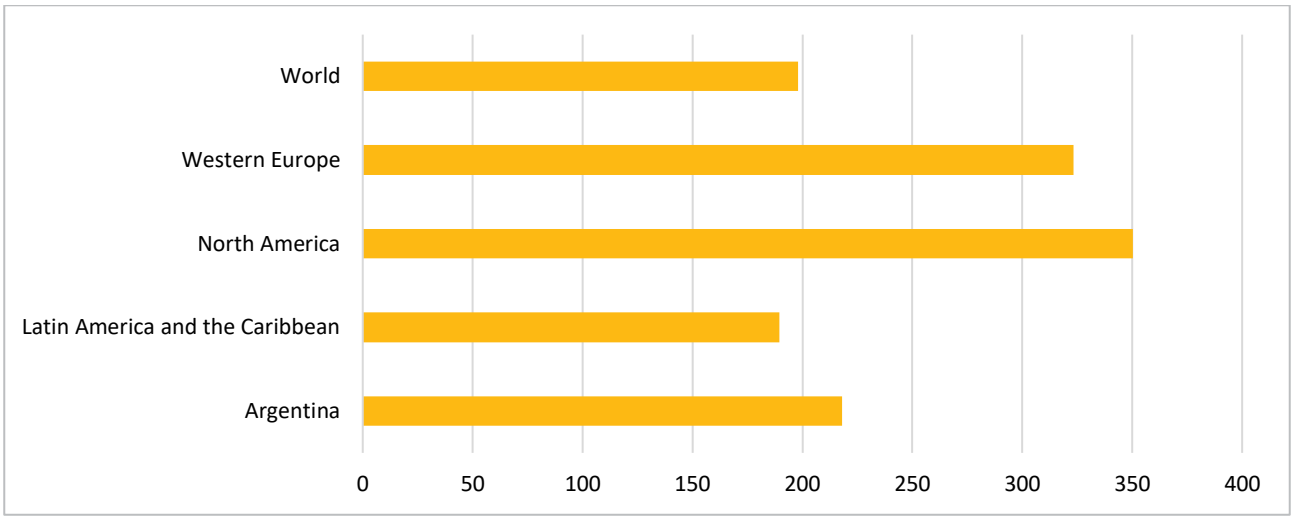


Figure 6: Estimated Age Standardised Rate of Incident Cancer per 100,000 people in 2018 (Argentin and selected world regions), by Argentina's 11 Most Common Cancer Types (Source: IARC Cancer Today (9)).

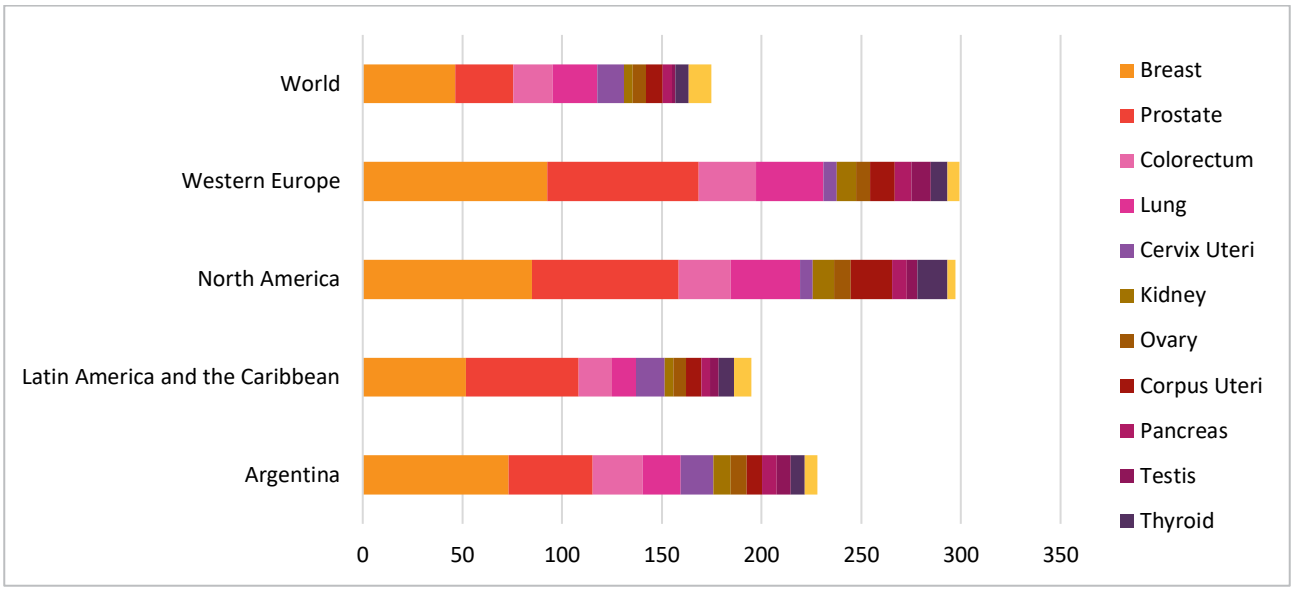


Figure 7: Estimated Age Standardised Rate of Incident Cancer per 100,000 people in 2018 (selected countries in Latin America) (Source: IARC Cancer Today(9)).

	Argentina	Latin America and the Caribbean	North America	Western Europe	World
Total / Cancer Type	218	189.6	350.2	323.4	197.9
Breast	73	51.9	84.8	92.6	46.3
Prostate	42.4	56.4	73.7	75.8	29.3
Colorectum	25	16.8	26.2	28.8	19.7
Lung	18.9	11.8	34.5	33.9	22.5
Cervix Uteri	16.7	14.6	6.4	6.8	13.1
Kidney	8.7	4.4	10.9	9.7	4.5
Ovary	7.9	6.1	8.4	7	6.6
Corpus Uteri	7.6	7.7	20.5	12.3	8.4
Pancreas	7.3	4.5	7.6	8.3	4.8
Testis	7.3	4.4	5.1	9.7	1.7
Thyroid	6.9	7.6	15	8.5	6.7
Stomach	6.4	8.7	4.1	5.8	11.1

Expanding the comparison to world regions beyond Latin America helps to contextualize Argentina among countries at different levels of economic development and stages of epidemiological transition. Age

standardised incidence rates in Argentina are below those observed in North America and Western Europe, regions which are at later stages of epidemiological transition, and higher than the average rates onbserved for the World and other Latin American and Caribbean countries, likely driven by countries in those regions being earlier in the epidemiological transition. We provide in Appendix D cancer incidence projections for Argentina and comparator countries in Latin America and the indicence levels for most common cancer types.

4.1.3. Cancer Mortality

Cancer mortality levels in Argentina have not changed substantially in recent years. Cancer is currently the second cause of mortality, accounting for 22% of all deaths and a major contributor to disability-adjusted life-years lost (DALYs) at 14% of all DALYs in the country. The percentage of deaths attributed to cancer according to different age groups is shown in Figure 8.

Figure 8: Percentage of deaths attributed to cancer by age groups in Argentina (Source: IARC Cancer Tomorrow (11)).

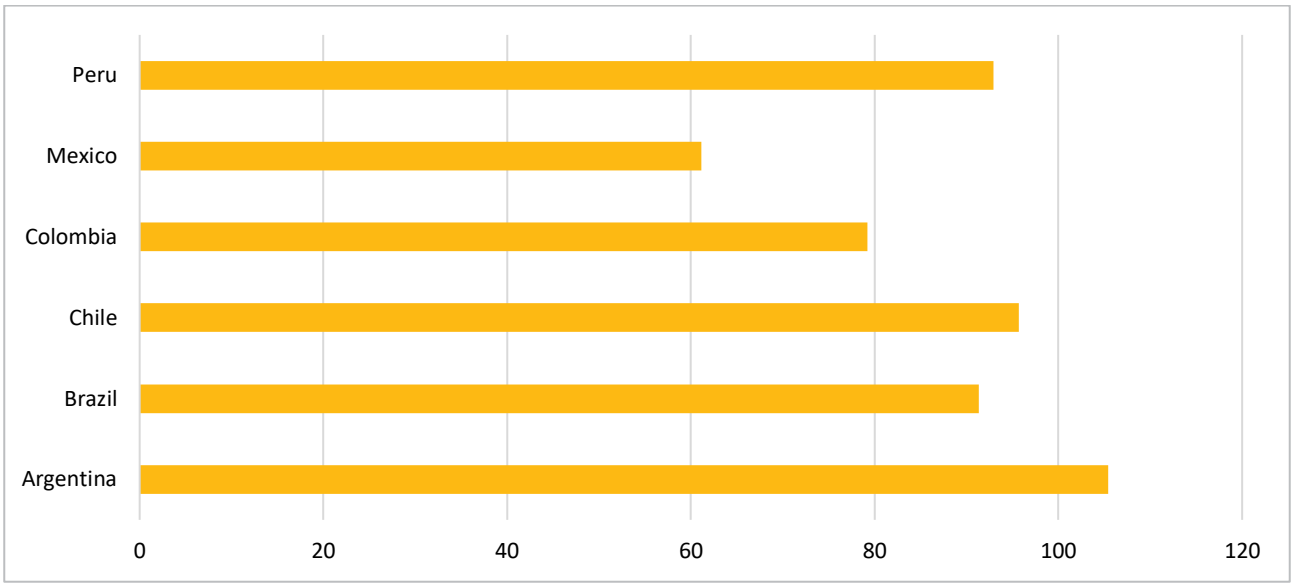
Age group (years)	% of deaths related to Cancer
<5	2.01
5 – 14	21.46
15 – 49	21.31
50 – 69	33.94
>70	18.66

There has been a general downward trend in cancer mortality in Argentina since 1980. In men, during the period 1997-2017, there was a statistically significant decrease at an annual rate of -1.2%. In 2017, 62,618 deaths from cancer were registered, 52% of which occurred in men (32,393) and 48% in women (30,225).

Lung cancer accounted for the highest number of deaths from malignant tumors in 2017 (9,485), concentrating 15% of the total deaths from cancer and 20% of deaths from this cause in men. Colorectal cancer was ranked second in frequency, with 12% of total deaths (7,499). In women, breast cancer (6,049 deaths) accounted for 20% of the total deaths due to cancer. This was followed by cancer of the pancreas (4,302) and prostate cancer (3,771), which represented approximately 6% each of the 60,000 registered cancer deaths (12).

When comparing the ASR of mortality to other large Latin American countries, Argentina has the highest age strandardised mortality rates at 105.4 per 100,000 people in 2018 (9). This figure was relatively close to those of Chile, Peru, and Brazil yet substantially higher than Colombia and Mexico at 79.2 and 61.1 per 100,00 people respectively (Figure 9) (9).

Figure 9: Estimated Number of Deaths from Cancer per 100,000 People in 2018 (selected countries in Latin America) (Source: IARC Cancer Today (9)).



After segmenting by cancer type, the highest mortality rates per 100,000 people in Argentina were among breast cancer, colorectal cancer, lung cancer, kidney cancer, corpus uterine cancer, and pancreatic cancer (Figures 10 and 11) (9).

Figure 10: Estimated Number of Deaths from Cancer per 100,000 People in Argentina, by Cancer Type (Source: IARC Cancer Today (9)).

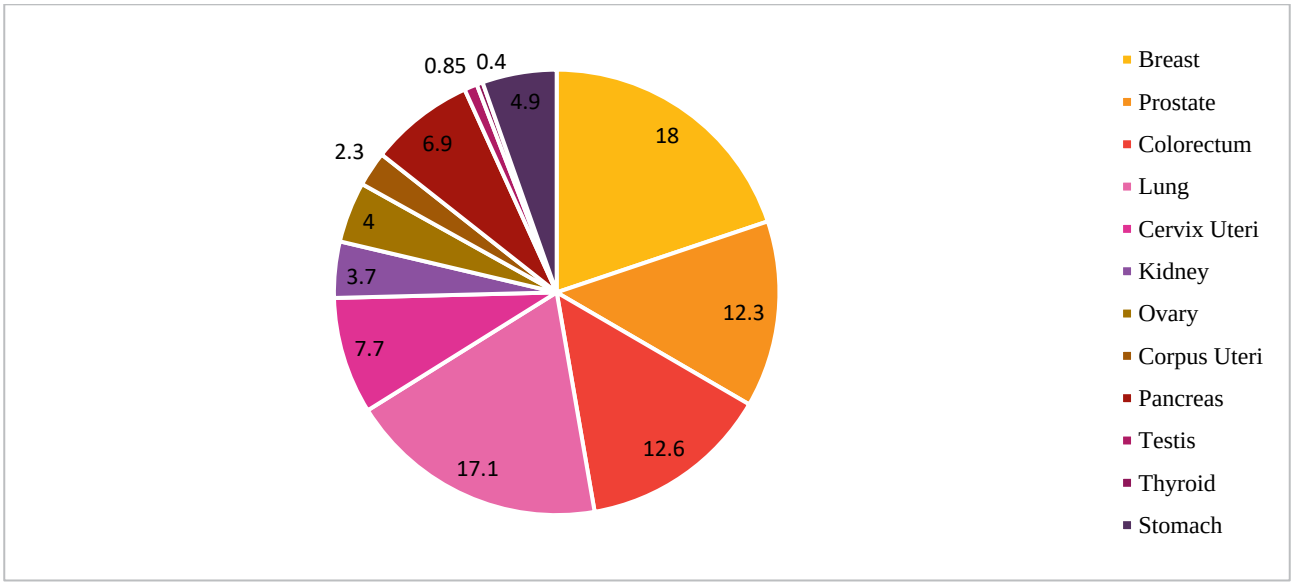
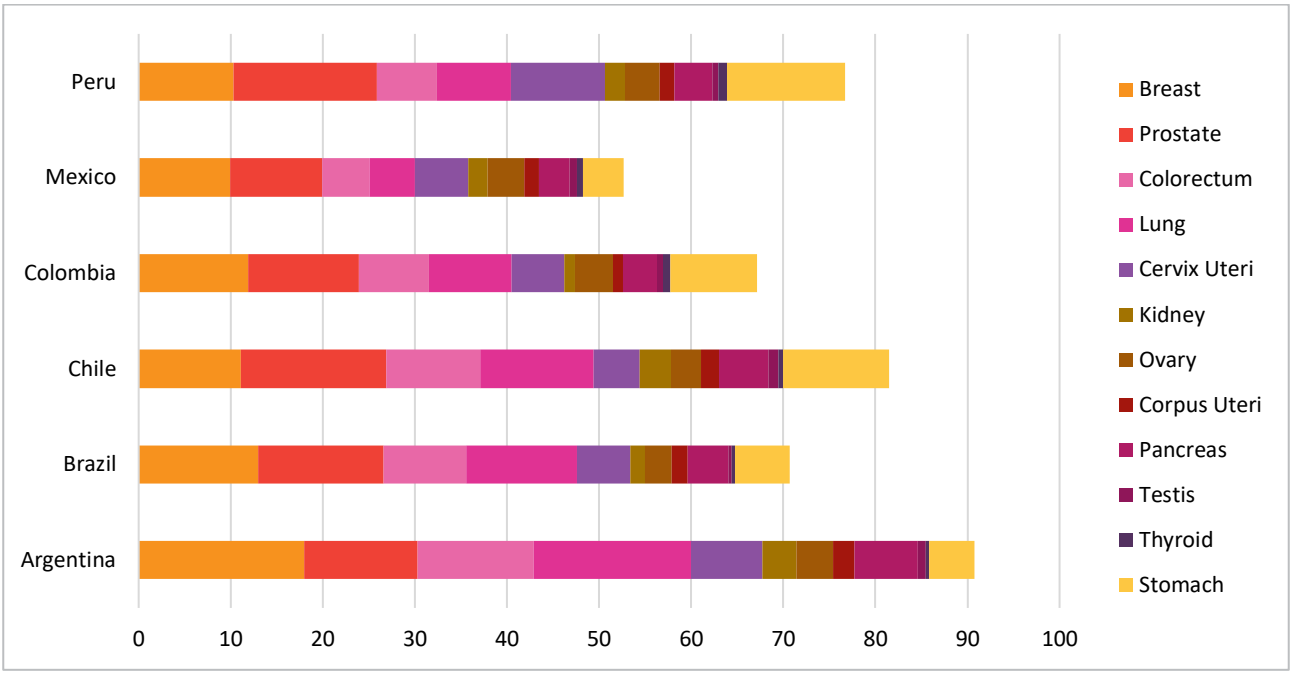


Figure 11: Estimated Number of Deaths from Cancer per 100,000 People in 2018, by Argentina's 12 Most Common Cancer Types (selected countries in Latin America) (Source: IARC Cancer Today (9)).



4.1.4. Cancer Types and Mortality

Age standardised mortality rates for breast cancer and lung cancer in Argentina are the highest among other large Latin American countries, likely driven by Argentina's relatively high incidence of both cancer types. For lung cancer, Argentina's mortality rate is approximately double that of Colombia, Mexico, and Peru. In contrast, mortality rates for stomach cancer are the lowest in the region, at less than half of Chile's rate of 11.9 deaths per 100,000 people (Figure 12) (9).

Figure 12: Estimated Number of Deaths from Cancer per 100,000 people in 2018, by cancer type (selected countries in Latin America) (Source: IARC Cancer Today (9)).

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Total / Cancer Type	105.4	91.3	95.7	79.2	61.1	92.9
Breast	18	13	11.1	11.9	9.9	10.3
Prostate	12.3	13.6	15.8	12	10	15.6
Colorectum	12.6	9	10.2	7.6	5.2	6.5
Lung	17.1	12	12.3	9	4.9	8
Cervix Uteri	7.7	5.8	5	5.7	5.8	10.2
Kidney	3.7	1.6	3.4	1.2	2.1	2.2
Ovary	4	2.9	3.3	4.1	4	3.8

Corpus Uteri	2.3	1.7	1.9	1.1	1.6	1.6
Pancreas	6.9	4.4	5.4	3.7	3.3	4.1
Testis	0.85	0.4	1.1	0.64	0.8	0.62
Thyroid	0.4	0.37	0.5	0.8	0.65	1
Stomach	4.9	5.9	11.5	9.4	4.4	12.8

Extending the comparison of age standardised mortality rates to other regions of the world, Argentina performs poorly when compared to North America, Western Europe, and the rest of the world. Despite North America and Western Europe having a substantially higher burden of cancer, Western Europe has a similar mortality rate to Argentina while North America has a much lower mortality rate (Figures 13, 14 and 15). We provide in Appendix E projected number of cancer deaths for Argentina and compare these with selected comparator countries in Latin America and Europe.

Figure 13: Estimated Number of Deaths from Cancer per 100,000 People Argentina and selected workd regions) (Source: IARC Cancer Today (9)).

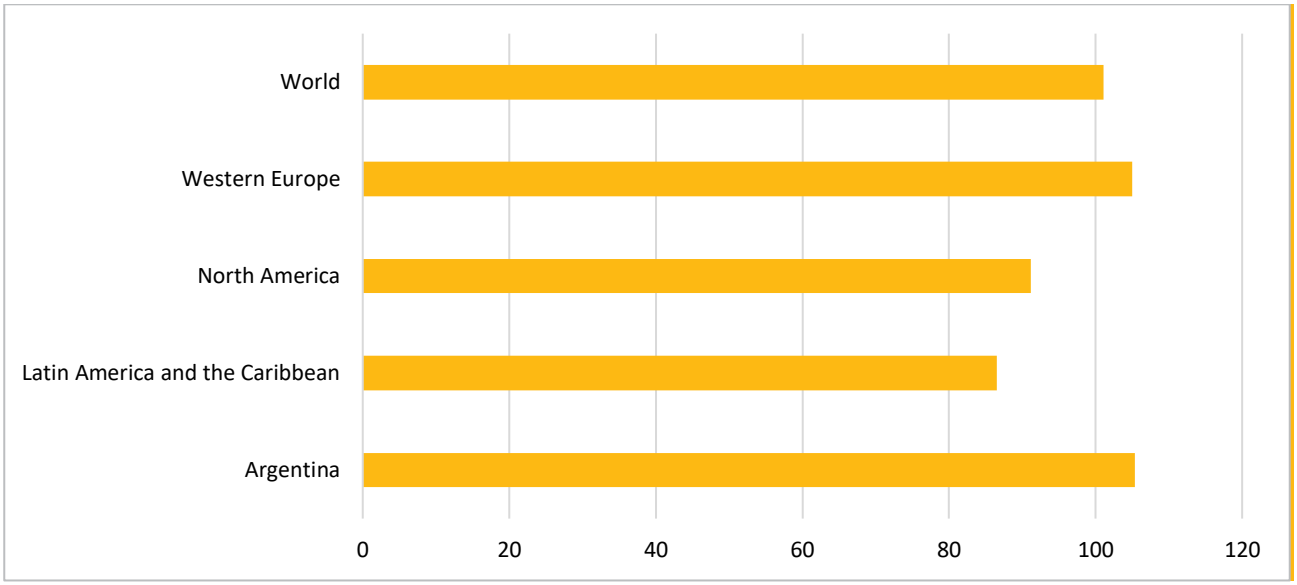


Figure 14: Estimated Number of Deaths from Cancer per 100,000 People, by Argentina's 12 Most Common Cancer Type (Argentina and selected world regions) (Source: IARC Cancer Today (9)).

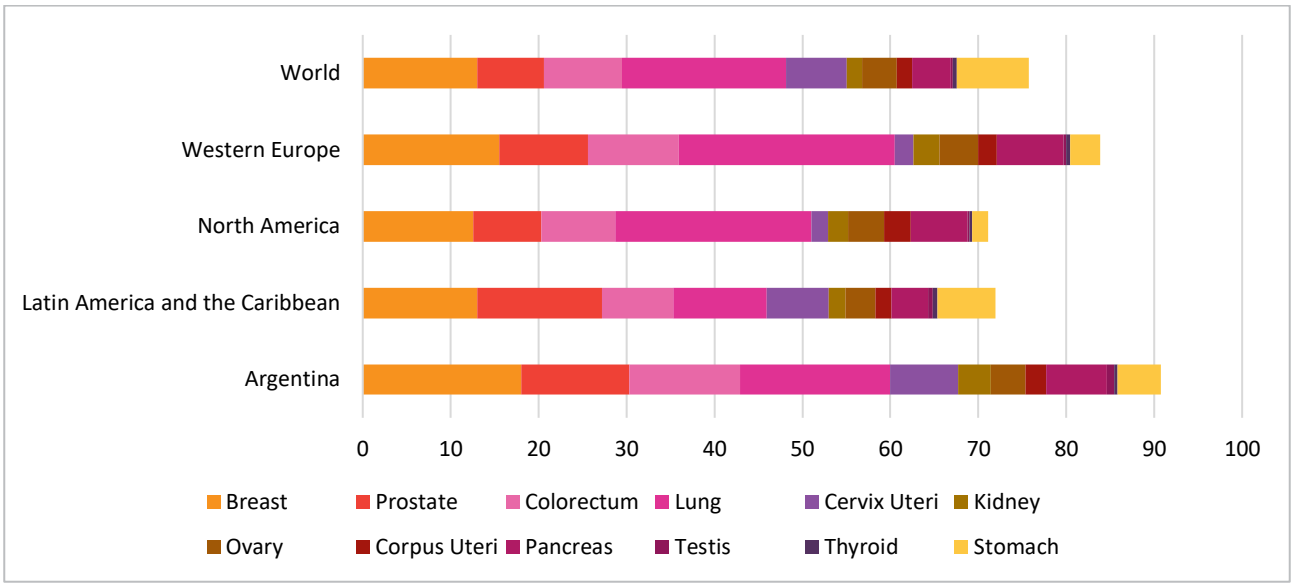


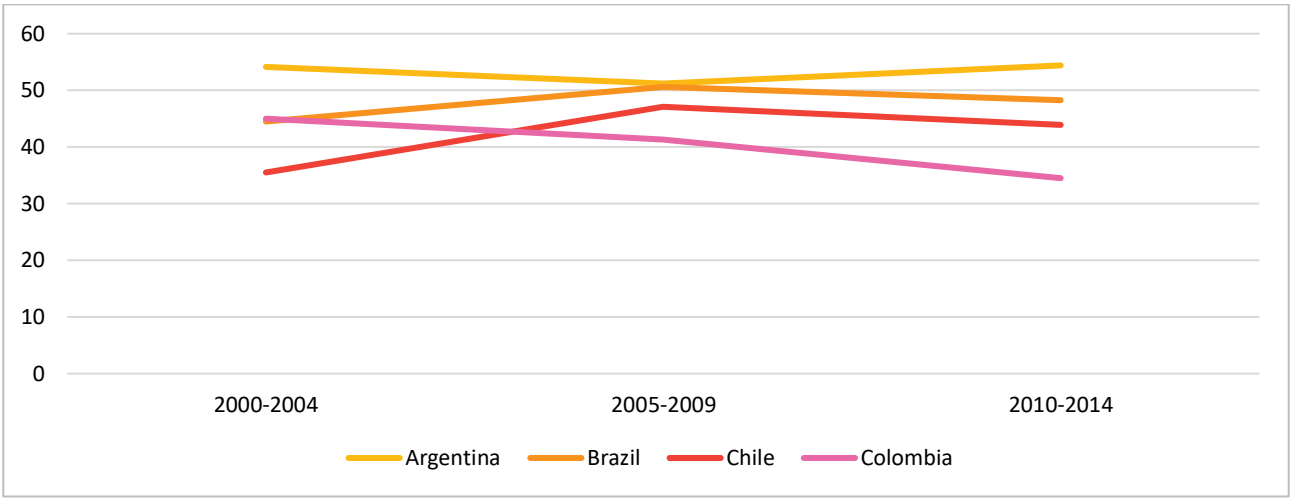
Figure 15: Estimated Number of Deaths from Cancer per 100,000 People, by Cancer Type (selected countries in Latin America) (Source: IARC Cancer Today (9)).

	Argentina	Latin America and the Caribbean	North America	Western Europe	World
Total / Cancer Type	105.4	86.5	91.2	105	101.1
Breast	18	13	12.6	15.5	13
Prostate	12.3	14.2	7.7	10.1	7.6
Colorectum	12.6	8.1	8.4	10.3	8.9
Lung	17.1	10.6	22.3	24.6	18.6
Cervix Uteri	7.7	7.1	1.9	2.1	6.9
Kidney	3.7	1.9	2.3	3	1.8
Ovary	4	3.4	4.1	4.4	3.9
Corpus Uteri	2.3	1.8	3	2.1	1.8
Pancreas	6.9	4.2	6.5	7.6	4.4
Testis	0.85	0.55	0.23	0.3	0.23
Thyroid	0.4	0.52	0.3	0.45	0.42
Stomach	4.9	6.6	1.8	3.4	8.2

4.1.5. 5-Year Net Survival for The Most Common Cancer Types

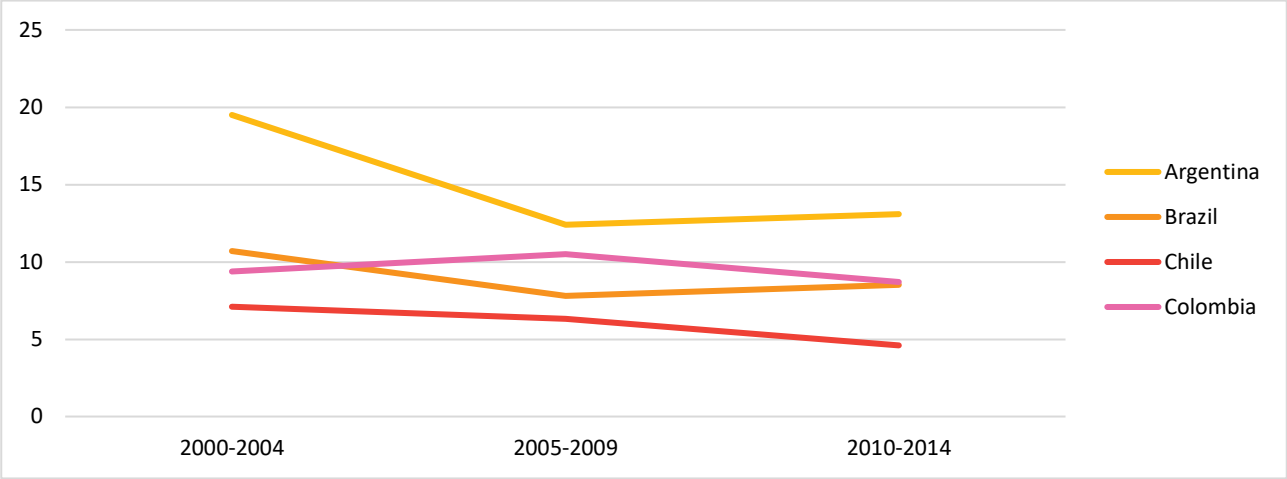
Mortality figures, even after age-standardization, fail to fully assess the quality of cancer care provided and the performance of a health system as they do not consider differences in disease incidence and health system response across countries. Net survival 5 years after cancer diagnosis as a percentage of all patients diagnosed provides a useful measure of health system performance in managing cancer (13). The cancers with the highest 5-year net survival in 2014 were prostate and breast cancer, at 87.6% and 84.4% respectively, and the lowest were lung and colon cancers, at 13.1% and 49.9% respectively (Figures 16 - 20) (13).

Figure 16: 5-Year Net Survival in Adults Diagnosed with Colon Cancer ((selected countries in Latin America) (Source: CONCORD 3 Study (13)).



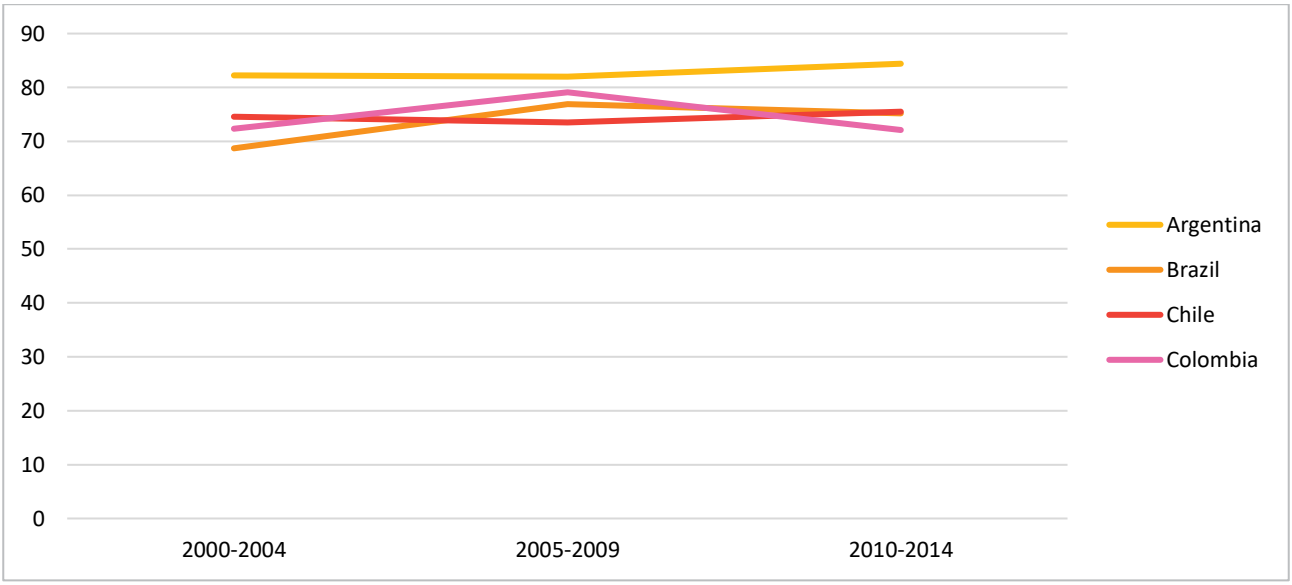
	Argentina	Brazil	Chile	Colombia
2000-2004	54.2	44.5	35.5	45
2005-2009	51.2	50.6	47.1	41.3
2010-2014	54.4	48.3	43.9	34.5

Figure 17: 5-Year Net Survival in Adults Diagnosed with Lung Cancer (selected countries in Latin America) (Source: CONCORD 3 Study (13)).



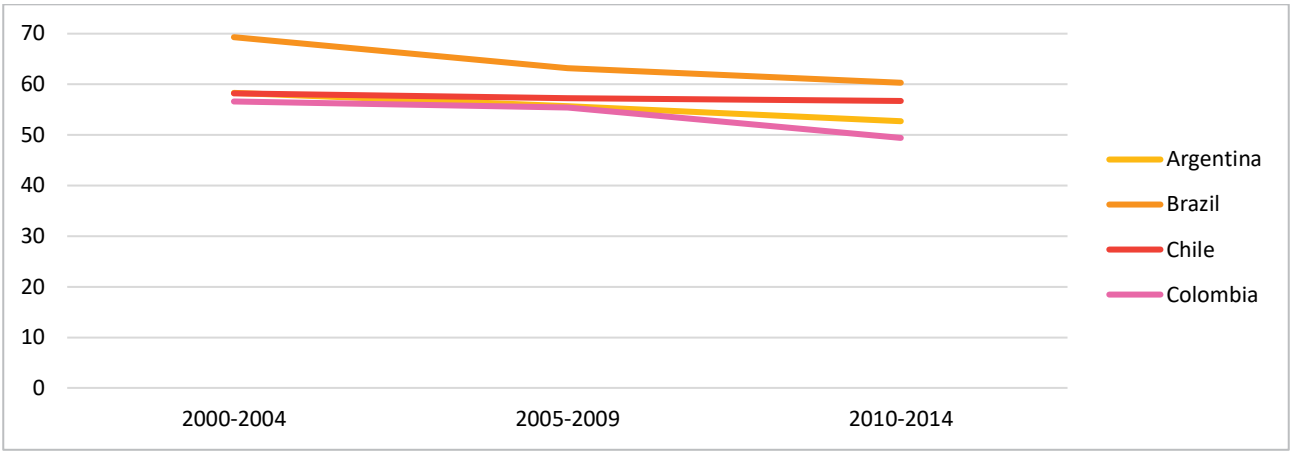
	Argentina	Brazil	Chile	Colombia
2000-2004	19.5	10.7	7.1	9.4
2005-2009	12.4	7.8	6.3	10.5
2010-2014	13.1	8.5	4.6	8.7

Figure 18: 5-Year Net Survival in Adults Diagnosed with Breast Cancer (selected countries in Latin America) (Source: CONCORD 3 Study (13)).



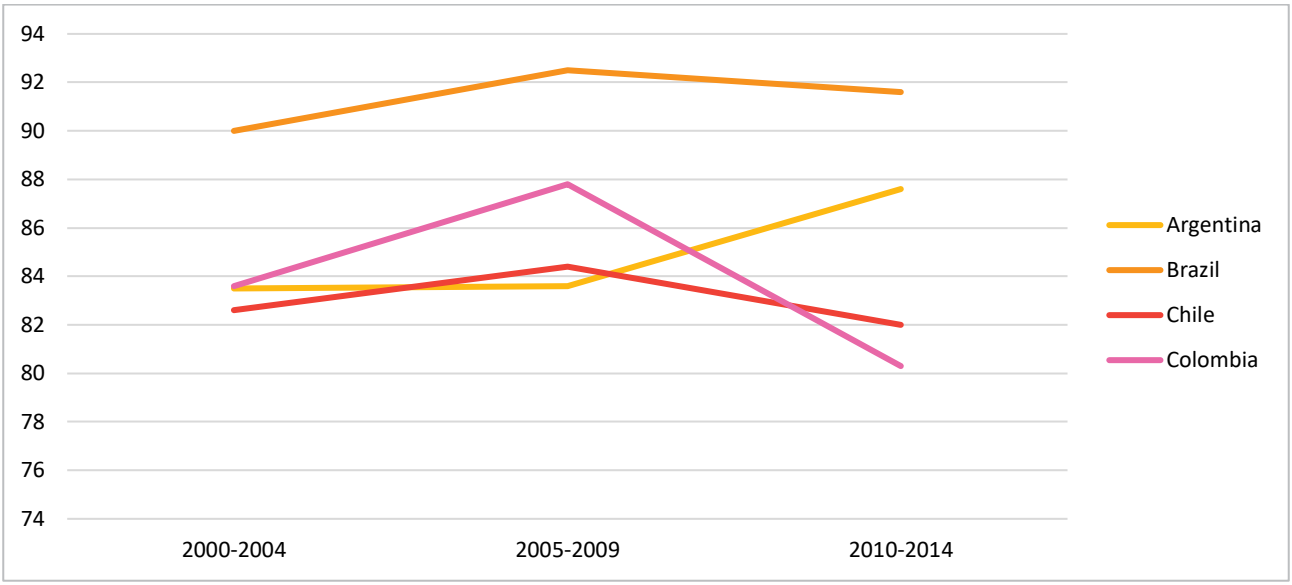
	Argentina	Brazil	Chile	Colombia
2000-2004	82.3	68.7	74.6	72.3
2005-2009	82	76.9	73.5	79.1
2010-2014	84.4	75.2	75.5	72.1

Figure 19: 5-Year Net Survival in Adults Diagnosed with Cervical Cancer (Source: CONCORD 3 Study (13)).



	Argentina	Brazil	Chile	Colombia
2000-2004	58.3	69.3	58.2	56.6
2005-2009	55.6	63.2	57.2	55.4
2010-2014	52.7	60.3	56.7	49.4

Figure 20: 5-Year Net Survival in Adults Diagnosed with Prostate Cancer (selected countries in Latin America) (Source: CONCORD 3 Study (13)).



	Argentina	Brazil	Chile	Colombia
2000-2004	83.5	90	82.6	83.6
2005-2009	83.6	92.5	84.4	87.8
2010-2014	87.6	91.6	82	80.3

Below we show the comparative figure with the countries with the best 5-year net survival with data from Argentina (Figure 21).

Figure 21: Age standardized 5-year cancer survival in Argentina compared to selected countries (Source: CONCORD 3 Study (13))

Type of Cancer	Best performance country	5 year - Survival (%)	5 year – Survival in Argentina (%)
Breast Cancer	USA	90.2	84.4
Cervical Cancer	Iceland	80.1	52.7
Colon Cancer	South Korea	71.8	54.4
Prostate Cancer	Puerto Rico	98.4	87.6
Lung Cancer	Japan	32.9	13.1

The CONCORD 3 study also shows that in Argentina, the chances of survival have decreased for seven types of cancer: of the esophagus, stomach, liver, lung, cervix, ovaries, and in cases of leukemia in adults. Though the CONCORD 3 study provides an indication of health system performance in relation cancer control, Argentinian registries used in the data analysis of CONCORD 3 cover only 9.2% of the national population,

providing an strong rationale for the current efforts aimed at strengthening the national tumor registry in Argentina.

4.1.6. Childhood Cancer: Incidence and Survival

A recent report in the Lancet Oncology modeled global incidence, diagnosis, and survival for the 48 most common childhood cancers around the world. The model estimated that there will be 13.7 million new cases of cancer between 2020 and 2050 globally, 44.9% of which will remain undiagnosed. Scaling up cost-effective interventions is projected to avert more than half of the 6.2 million deaths between 2020 to 2050, thereby producing a gain of 318 million life-years over the time period. The productivity gains from averting such needless deaths totaling a net benefit of $1.986 trillion on the global investment, equaling a net return of $3 for every $1 invested (14).

Figures 22 and 23 outline the projected number of incident cases for the 48 most common types of childhood cancer and the number of diagnosed cases in 2030 for Argentina and selected Latin American counterparts. The upper and lower bounds of the respective measurements indicate the 95% confidence interval for the projections. According to these figures, 68.9% of cases of childhood cancer are actually diagnosed in Argentina, a proportion on par with those of Brazil (70.3% of cases are diagnosed), Chile (68.9%), and Colombia (70.9%). While this is higher than the global figure of 55.1% of cases diagnosed, it still falls well-behind regions like Western Europe (97.2%) and North America (97.3%) (15). Appendix F provides details of projected childhood cancer incidence by cancer type.

Figure 22: Projected Number of Incident Cases of Childhood Cancer in 2030 (selected countries in Latin America) (15).

Country	Mean Incidence in 2030	Incidence Upper Bound	Incidence Lower Bound
Argentina	2089	2760	1578
Brazil	7934	10472	5588
Chile	648	863	452
Colombia	2004	2690	1369

Figure 23: Projected Number of Diagnosed Cases of Childhood Cancer in 2030 (selected countries in Latin America) (15)

Country	Diagnosed Cases in 2030	Diagnosed Upper Bound	Diagnosed Lower Bound
Argentina	1439	1729	1160
Brazil	5579	6826	4361
Chile	446	551	337
Colombia	1421	1753	1102

Comparing survival of childhood cancer to other Latin American countries, Argentina generally performs better than its peers (Figure 24). For instance, Argentina has the highest 5-year survival in each of its top 10 childhood cancer types when compared to Brazil, Chile, and Colombia. In some cases, Argentina performs significantly better, as with Central Nervous System Embryonal tumors (56.9% survival in Argentina compared to 28.8% in Brazil) and with astrocytoma (70.7% survival in Argentina compared to 49.0% in Chile and Colombia) (15).

Figure 24: Estimated 5-Year Survival for the Top 10 Incident Childhood Cancer Types in Argentina and selected countries in Latin America (15).

Cancer Group	Cancer Type	5 Year Survival (% of diagnosis)			
		Argentina	Brazil	Chile	Colombia
Leukaemia	Lymphoid	75.6%	69.4%	74.5%	74.5%
Leukaemia	Acute Myeloid	63.0%	54.8%	57.1%	58.4%
CNS Neoplasms	Astrocytoma	70.7%	37.8%	49.3%	49.9%
Lymphoma & Related	Non-Hodgkin except Burkitt	80.4%	69.8%	72.0%	74.3%
Lymphoma & Related	Hodgkin	89.0%	71.4%	76.7%	79.6%
Renal Tumors	Nephroblastoma	81.6%	61.2%	69.3%	71.3%
CNS Neoplasms	CNS Embryonal	56.9%	288%	41.0%	41.5%
Neuroblastoma	Ganglioneuroblastoma	73.9%	56.0%	63.0%	64.7%
Retinoblastoma	Retinoblastoma	83.8%	60.8%	72.3%	71.1%
Bone Tumors	Osteosarcoma	62.2%	49.9%	53.5%	55.0%

4.2. Political, Legal, and Regulatory Environment

Although the first policies related to cancer began in the last century, it was in the previous ten years that successive governments have placed a greater emphasis on the creation and implementation of policies related to cancer (Figure 25). New laws were particularly associated with the control of risk factors for cancer (tobacco, HPV), early detection (breast cancer). In 2019 the National Cancer Control Plan (Plan Nacional de Control de Cáncer; PNCC) was created as the guiding document for cancer policies in the country for the next years.

Figure 25. Key Cancer Policies in Argentina (major policies, decrees and laws in bold)

Timeline of Key Cancer Policies in Argentina
• 2006: Resolution 1124/2006. "National Tobacco Control Program" • 2009: "Program for the control of Non-communicable Diseases" created by Ministerial resolution 1083 / 2009.-

- **2010: Decree 1286/2010, Creation of the INC (National Cancer Institute)**
- 2010: Creation of the Hospital Base Registry (RCBH) Institutional Registry of Tumors of Argentina (RITA).
- 2010: Creation of seven Population Registries before 2010 and 7 more in 2010-19
- 2010: Creation of the Argentine Hospital Oncopediatric Registry (ROHA)
- 2011: Resolution No. 563/2011. Incorporation of HPV Vaccine into the National vaccination schedule
- 2011: Resolution 1261/2011 "National Program for the Prevention of Cervical Cancer" (PNPCCU)
- 2011: Resolution 112/2011. "Cancer Research Promotion Program"
- 2012: Resolution 1813/2012 "National Program for the Control of Breast Cancer"
- 2013: Resolution 2173/2013 "National Program for the Prevention and Early Detection of Colorectal Cancer" (PNPCCR)
- 2015: Resolution 2381/2015, which incorporates the HPV test as a primary screening method in Argentina
- **2016: Law No. 27,285 dated October 24, 2016. Autarchy of the NATIONAL INSTITUTE OF CANCER As a decentralized body of the National Public Administration with its own legal status under the jurisdiction of the MINISTRY OF HEALTH.**
- 2016: Resolution 1253 - E / 2016. "National Palliative Care Program"
- 2016: Resolution 1565 - E / 2016 "National Program for the Comprehensive Care of Children and Adolescents with Cancer" (PROCUINCA)
- 2017: Resolution 404-E / 2017. "National Family Cancer Program" (PROCAFA)
- **2019: Resolution 1760/2019 National Plan for Cancer Control within the scope of the National Cancer Institute**

In 2016, the Argentinian government defined Universal Health Coverage (UHC) as a policy to reduce inequality in access to health services (16). UHC is positioned on three axes: population in charge of family and community health teams; systems of interoperable data, information and analytic applications; and monitoring and evaluation of quality indicators related to agreed goals between the national and provincial stakeholders for prioritized areas of care (16). Currently UHC is being implemented with projects initiated in the provinces of Mendoza and Catamarca (17).

To position cancer on the agenda as a public health problem, the former Health Secretary launched the PNCC. The plan articulates priority policies under the leadership of the National Cancer Institute (Instituto Nacional de Cáncer; INC) whose authorities have yet to be defined (18). Published in 2019, the PNCC has a 5-year horizon, from 2018 to 2022, and takes 2017 cancer data as baseline (19). It provides a framework for the medium-term development and coordination of priority policies for the INC, a decentralized body under the jurisdiction of the Ministry of Health and Social Development acting as the coordinating entity on cancer.

The general objective of the INC is to reduce the cancer incidence and mortality in Argentina while improving the quality of life of the people affected by it. The INC is responsible for coordinating actions for health promotion and prevention, early diagnosis, treatment, rehabilitation and palliation, as well as epidemiological surveillance and cancer research in Argentina. It is responsible for the training of human resources, and coordinating and implementing the PNCC. An assessment of PNCC implementation for 2018 and 2019 is available, which we discuss later.

During the implementation of the PNCC, other laws related to the management and treatment of cancer continue to be passed and enacted, such as those associated with the treatment of more frequent cancers (Resolutions 37/2019 and 309/2019), and access to oncological drugs (405/2019 and 1089/2019) (20).

4.3. Argentina's National Cancer Control Plan

Argentina's PNCC aims to reduce cancer morbidity and mortality, improve early detection and timely access to the most appropriate treatment, and ensure the generation, availability and use of knowledge and information for decision making. It proposes to strengthen the management of human resources in the Argentine health system for effective cancer control (18)(19). The PNCC is centered around multi-sectoral collaboration among the Argentinian government and civil society organizations, scientific societies, and universities to implement evidence-based strategies (18). It's main objectives are to:

- Reduce overall cancer morbidity and mortality;
- Improve cancer prevention, diagnosis, treatment, and care quality; and
- Prioritize cancer as a major public health problem in Argentina.

The PNCC has five components, each with corresponding activities and verifiable indicators that are aimed at achieving the three main objectives of the plan:

1. **Reduce the prevalence of modifiable risk factors for cancer** by: increasing tobacco control, promoting healthy diets and physical activity, reducing alcohol consumption, decreasing occupational and environmental exposure to carcinogens, increasing immunization against potentially oncogenic viruses such as HPV, reducing prolonged sun exposure, improving sexual and reproductive health education, and improving educational interventions in schools.

2. **Improve the quality of early diagnosis and overall cancer care** by: developing provincial and municipal activities around their specific cancer control strategies, improving training on different control strategies, generating reference and counter-reference networks, and improving delivery of diagnostic tests such as HPV testing.

3. **Improve patient quality of life** by: developing provincial and municipal activities around their specific cancer control strategies, improving training on different control strategies, developing a federal voucher program, and improving delivery of opioids to the different provinces.

4. **Generate knowledge and information that can be used in making decisions about cancer control** by: coordinating all data sources, standardizing processes for information generation, implementing the Registro Institucional de Tumores de Argentina (RITA) in all jurisdictions, implementing nodes for telemedicine, and granting financial assistance for research projects.

5. **Strengthen the management of human resources for cancer control** by: increasing the number of research grants, granting financial assistance for research projects, granting training scholarships focused on human resources, and developing virtual training courses around human resource management.

Following the August 2019 elections, a new government was formed. The plans of the new government concerning health and cancer are not yet clearly known. However, it is expected that the new government will reinforce expanded health coverage for the poorest and will further subsidize cost of medicines (21).

5. Health System Analysis

In this section we provide an analysis of Argentinian health system in relation cancer. To do so, we report data from two sources: a qualitative online survey conducted with stakeholders and feedback collected from an in-person workshop with stakeholders in Buenos Aires. Both the survey and workshop asked stakeholders to identify the major challenges related to cancer for Argentina, and to suggest policy options for the challenges identified. Additionally, we provide in Appendix G an analysis of the Argentinian health system based on a literature review and its achievements in relation to helth system goals and objectives.

This section first reports the challenges identified in the survey and workshop, and then presents policy options that were suggested to help the Argentinian health system overcome these challenges to address the high and rising cancer burden.

5.1. Health System Challenges related to Cancer

A total of 75 stakeholders responded to the online survey. Of those, 45 respondents provided demographic information. Survey respondents were from different backgrounds, including the private sector (27%), public sector or government (27%), academia (24%), healthcare provider or other healthcare employee (11%), civil society (9%), and other not specified (2%).

Respondents ranked challenges in the Organization and Governance category as the top priority of the Argentinian health system to address in relation to cancer, followed by Financing, Resource Management, and Service Delivery (Figure 26).

Figure 26: Challenges for the Argentina health system in relation to cancer, organized by category and priority rank identified in stakeholder survey

Rank within Category	Top Priority Category	Second Priority Category	Third Priority Category	Fourth Priority Category
	Organization and Governance	Financing	Resource Management	Service Delivery
1	Need for high-level organizational reform	Lack of financial organization and planning	Inefficiency	Low-quality of services provided
2	Fragmentation of the health system	Lack of adequate budget	Lack of financial organization and planning	Lack of accessibility to cancer care
3	Poor policy planning and implementation	Low investment in cancer care and science	Transparency	Fragmentation of the health system
4	Inefficiency and lack of coordination	Fragmentation of the health system	Fragmentation of the health system	Poor policy planning and implementation
5	Lack of universal coverage	Lack of transparency	Lack of focus on prevention	Inefficiency

6	Lack of adequate budget	Need for industry regulation and price negotiation	Lack of evidence to inform delivery	Lack of focus on patients
7	Lack of accessibility	Need for increased taxes	Inadequate resource allocation	Lack of technology
8	Lack of focus on prevention	Lack of accessibility	Low-quality of services provided	Lack of focus on prevention

These challenges identified in the online survey are similar to the ones that emerged at the in-person stakeholder workshop held in Buenos Aires (Figure 27). The roundtable format in the workshop allowed for attendees to discuss in more detail the specific aspects of each challenge. Common challenges identified in both the survey and at the workshop health system fragmentation, inefficiency, poor policy planning and implementation, accessibility issues, and lack of transparency.

Figure 27: Challenges for the Argentina health system in relation to cancer organized by opportunity as identified at the stakeholder meeting.

Opportunity Area	Challenge Category	Specific Challenges
Organizational	*Poor planning*	• Problems with administration create issues with the provision of healthcare services • Lack of leadership and national organization around cancer • Lack of a comprehensive and fully funded national plan or a national law regarding cancer • Inefficient use of health system assets (physical, human, financial and knowledge)
	Lack of transparency	• Lack of transparency in planning process and policy implementation
	Low quality cancer registries	• Problems with data generation and collection • Lack of necessary data and analysis to make reliable decisions • Lack confidence in current data to make decisions and define the problem correctly • Lack of comparable data and statistics needed to identify problems and start addressing them
	Fragmentation of health system	• Inequality in service delivery based on geography • Lack of integration of all actors in the health system: public, private, and social security • Provincial differences in the availability and access to public sector and social security • Inadequate vertical integration of healthcare system between primary, secondary and tertiary levels • Lack of national protocols for cancer prevention and treatment that are applied in all settings • Lack of integration of the budget and finances
Financial	*Inefficiency*	• Financial resources not used efficiently • No financing from public-private partnerships
	High costs	• High cost of imported medicines
	Lack of technological innovation	• Low investment in research and development • No own production of medicines in the country

		• Patents are held by foreign laboratories, limiting the possibility of national production of critical cancer medicines • Gap between the availability of new technologies and the ability of social security to fund new innovations, and • Lack of access to cost-effective medicines that are not approved as new technologies
Resource Management	*Fragmentation of funding*	• Prevention programs and public policies are not national in scope • Gaps between public and private policies • Lack of health technology assessment for cost-effectiveness evaluations
	Inefficiency	• Waiting times for diagnostic tests that lead to long delays in treatment
	Lack of capacity and resources	• Lack of capacity in rural and low-income environments to implement policies or to effectively respond to the burden of cancer
Service Delivery	*Lack of quality standards*	• Problems with the quality and standards of care • Lack of quality control of services • Lack of treatment protocols
	Issues with access	• Problems with access to healthcare services and medications in all sectors and levels of care • Lack of information and education on cancer for patients • Challenges with patient access to the system • High costs for patients at hospitals

5.2. Suggested Policy Options to Address Identified Challenges

In the online survey, respondents provided policy options to address their identified health system challenges in each of the four opportunity areas. The proposed policy options are provided in Figure 28 and prsented in the order in which respondents ranked the importance of addressing their respective challenges: (1) Organization and Governance, (2) Financing, (3) Resource Management, (4) Service Delivery.

Figure 28: Policy opportunities for the Argentina health system in relation to cancer organized by opportunity area

Policy Option	Specific Policy Actions
Top Priority Policy Area: Organization and Governance	
1. Define a single entity that carries out cancer policies using a multisectoral approach.	• Strengthen governance by unifying the body that issues recommendations and ensures financing (using the Uruguay National Fund of Resources as a model). • Redefine the legislative power and establish a Directorate for Cancer within the Ministry of Health. • Consolidate cancer monitoring systems and registries across provinces and institutions into a single central entity. • Grant patient associations and social organizations representation in official government agencies and in the decisions of all health structures. • Use a multisectoral approach to develop policies that foster cooperation between public and private sectors. – Incorporate representatives from different ministries to develop a National Cancer Control Plan and national cancer budget. – Create intersectoral partnerships and strategies, including health professionals as stakeholders.
2. Create a centralized national cancer plan to legislate a national cancer law.	• Recognize the National Cancer Institute (INC) as the main regulatory body for cancer. – Generate a plan which requires participation from public projects. – Provide discounted membership fees for certifying and registering palliative care teams. • Implement an apolitical National Cancer Control Plan. • Enact legislation to create a Comprehensive Cancer Law.
3. Conduct evaluation and cost-effectiveness analysis to define problems with care access and quality.	• Create a National Health Technology Assessment Agency to conduct technological evaluations. • Define which organizations are participating in the cancer policy design and implementation process. • Create a commission to evaluate the goals established for each problem area to better delineate policy goals. • Hold regular meetings with specialists to define the most useful health practices and medications for use in cancer care and control.

4. Ensure transparent management and evaluation of health system activities related to cancer.	• Require the INC to be responsible for control and regulation of evaluation of high-cost drugs conducted by the National Administration of Medicines. • Publish funds allocated to each major actor to create a culture of data measurement and transparency. • Create clinical audit systems that incorporate patient experiences with health services and treatments. • Evaluate the benefits and risks of all (existing and new) medicines and health technologies.
5. Strengthen existing policies by focusing on improving cancer prevention, primary care, and health education.	• Improve health provider training (e.g. require education in patient-centered communication). • Strengthen anti-smoking laws by prohibiting smoking in open public spaces and increase the price of cigarettes through higher tobacco-taxes. • Increase in-person public education and neighborhood campaigns on cancer risk factors. • Provide incentives to providers for achieving results. • Focus prevention strategies on groups with higher cancer risk and socioeconomic burden. – Expand and scale up vaccination for HPV. • Expand population screening in cancer pathology. – Invest in colonoscopy screening in poor regions. – Provide free HPV testing to poorer populations.
6. Expand socioeconomic development to address inequities and social determinants of health.	• Achieve social mobilization to reduce access to cancer screening, prevention, diagnosis, treatment, and care, and lessen coverage gaps. • Aim policies at reducing the inequities in healthcare access (e.g. improving economic and living conditions). • Incorporate Ethics Committees in decisions pertaining to the care of vulnerable populations.
7. Strengthen the research and scientific activities in country by improving the quality, validity, and transparency of cancer data.	• Codify a National Cancer Registry. • Prioritize a public monitoring and evaluation agenda with commitment from the national statistical information system (INDEC). • Professionalize statistics in the country by empowering trained and ethical professionals in statistical analysis. – Use funding to train professionals to generate reliable and publicly accessible statistics. – Improve epidemiological surveillance tools. • Develop a digital database that centralizes all national health information by leveraging and adapting systems that are already developed.

	– Publish cancer incidence, survival, and mortality. – Ensure mandatory reporting of cases and deaths. • Fund qualitative studies in various populations and regions to understand user needs, expectations, and experiences, and include users' experience in wider evaluation of cancer challenges and policy results.
Second Priority Policy Area: Financing	
1. Implement laws and regulations to increase the national public budget allocated for cancer.	• Present national and provincial authorities with an action plan to increase expenditures for cancer. • Implement a law that allows for self-financing of cancer care and control by provinces. • Impose larger taxes on food and substances harmful to health (e.g. tobacco, high-sugar content beverages). • Establish a minimum of GDP investment in cancer with immediate compliance. • Require health budgets to be more specific in relation to areas of financial allocation.
2. Reduce overall out-of-pocket spending by patients and the prices of medicines and other health products to reduce catastrophic health expenditures.	• Implement an agency that evaluates innovative treatments and negotiates prices based on exclusivity – Improve acquisition prices for medicines and health technologies. – Centralize procurement and purchase of medicines and health technologies. – Establish the most appropriate model for each funder within budgets at the international level. • Prioritize the redistribution of resources according to data-driven analysis of actual need.
3. Create centralized and transparent cancer financing mechanisms for the health system.	• Create an Office of Financing Control and Management or similar authority. • Publish publicly the health funds given to each actor. – Enact a law that establishes a mechanism to transparently track and trace where all resources come from and how they are distributed. • Create an authority to set goals, oversee financing, and manage a plan for measuring compliance with budgetary provisions and priorities. • Enact a staggered federal commitment agreement over the next 20 years to increase financing for cancer. • Establish a fund to finance high-cost cancer therapies.
4. Re-distribute investments to support specific cancer policies.	• Increase the public budget for cancer research, prevention, care, and treatment. • Enact centralized policies to improve prevention and early diagnosis of cancer.

	• Bring in more technology to the sector to personalize patient follow-up mechanisms through digital health. • Ensure funding for treatment of diseases that result in catastrophic costs to prevent excessive and impoverishing out-of-pocket expenditures for patients.
Third Priority Policy Area: Resource Management	
1. Improve planning, transparency, and accountability of sustainable cancer policies.	• Develop a national health plan that includes prevention interventions, medication policy, and treatments based on scientific evidence. – Distribute healthcare services for cancer based on epidemiological data and available capacity. – Guarantee resources needed to implement activities laid out in the national cancer plan. • Establish an accountability mechanism for achieving targets in the national cancer plan. • Create an office in the INC for each area (e.g. prevention, economic evaluation). • Involve international organizations in the procurement and supply chain process to evaluate the efficacy and efficiency of the procedures and monitor results.
2. Restructure the oncology system through specific policies and protocols agreed upon by all actors.	• Create an incentive program to cover training gaps aimed at oncologists and oncology residents. • Develop province-specific plans with objectives, goals, and indicators adjusted to local needs. • Develop holistic care through cooperation between social workers, psychologists, and palliative care. • Establish criteria for pathologies where intervention of palliative care is a mandatory requirement prior to authorization of certain cancer treatments (e.g. unresectable pancreatic cancer, stage IV colon cancer). • Develop and implement mandatory guidelines for a core set of interventions and national medicines list for cancer and diagnostic/therapeutic methods used in management of cancer to ensure high-quality equitable care for all populations. • Foster greater coordination between provincial jurisdictions and institutions to improve technology use and investment in its development.
3. Conduct cost-effectiveness assessments and use results to reorganize existing resources and health budgets according to needs of each province.	• Assess the availability and use of resources for cancer prevention, diagnosis, treatment, and monitoring in each province to determine gaps. • Structure payment for services according to results. • Negotiate device prices based on the proven benefits each technology brings. • Evaluate the reimbursements managed by the national Obras Sociales system.

Fourth Priority Policy Area: Service Delivery	
1. Offer comparable services in the public and private sectors to close the gap in access and health outcomes.	• Limit access to the private sector only if the cancer services are not available in the public sector. • Centralize and federalize services offered in the private sector through networks. • Improve access to effective diagnosis and treatment across all sectors.
2. Set priorities and focus investments in primary care.	• Increase funding for primary care. • Invest in infrastructure and human resources. • Establish differential fees for diagnostic services such as imaging diagnostics, mammography, pathology laboratories in regions where access is difficult. • Share information between the different public and private actors to improve early detection of cancer.
3. Improve access to services through equitable and comprehensive policies to achieve universal health coverage.	• Define a central entity to deliver expanded coverage of public sector health services for those without access. – Ensure access to high-quality essential health services according to type of cancer and population group. – Ensure access to social services for all, especially lowest-income populations. • Establish as law user participation in the design and delivery of health services for cancer. • Provide necessary diagnostic and treatment equipment to referring hospitals for cancer.
4. Create an agency to develop and enforce quality control standards for cancer services.	• Strengthen the state's role in generating national quality standards and mechanisms for accreditation, licensing, audit, and classification. • Develop regulations to ensure systematic evaluation of the quality of cancer services. – Define indicators for care quality and effectiveness and enforce standardized quality criteria at all levels for consistency and equity. – Implement information systems to collect information on care quality in a systematic way. – Establish quality labels for accredited centers according to complexity and pathology.

Similar to the challenges identified, the roundtable format of the in-person stakeholder meeting allowed for attendees to discuss more in detail the specific details of each policy option (Figure 29).

Figure 29: Policy opportunities for the Argentina health system in relation to cancer organized by opportunity as identified at the stakeholder meeting.

Opportunity Area	Policy Category	Specific Policy Options
Organizational	*Planning*	• Have a monitored action plan that can be implemented, and that has a budget. This plan should include consensus among intersectoral actors on human resources, literacy, research studies, including medium- and long-term vision • Develop an intersectoral state strategic plan that can be implemented over time
	Integration	• Create provincial institutes and generate greater healthcare service access to the population • Improve education at different levels and create an evaluation agency • Conduct a systematic review of laws and evaluation of intersectoral actions to identify gaps and opportunities
	Transparency	• Comply with transparency mechanisms. • Establish protocols for control, sanctions, and audits, and sharing results transparently
	Equity	• Develop a regulatory framework that ensures equitable distribution of resources • Guarantee the enforcement of right to access • Offer essential services and medications to all citizens • Implement demonstration projects to enhance access to effective services • Choose demonstration projects to diagnose challenges and needs and to develop plans based on local reality • Strengthen the Consejo Federal de Salud (COFESA) reference and counter-reference networks at the local level • Generate data to reveal current problems and existing capacities at local level to develop appropriate investment plans in local health systems
Financial	*Efficiency*	• Use improved strategies for better use of the available resource: joint procurement and purchasing, policies for local production of medicines, process standardization for the provision of healthcare services. • Use new tools to improve efficiency in use of resources: for example, evidence-based medicine, precision medicine (molecular profiling), health technology assessment
	Technological Innovation	• Increase support for research, development and knowledge production

		• Develop policies for effective management of intellectual property (e.g. patents) and use them to create a source of economic benefits • Invest in research, development, and production of medicines in Argentina as an area for economic growth
	Regulation	• Develop clear policies and laws (Ricarte Soto Law - diagnoses and high-cost treatments), on prices of high-cost medicines • Negotiate drug prices: joint purchases or shared risk systems that have an impact on the price of medicines and outcomes • Propose changes in the law of professional practice that will prevent doctors without appropriate training to prescribe high-cost medications, or to provide complex services or use medical equipment
	Integration	• Create a national agency for negotiation of prices of medicines for the country, adjusting for Argentina's payment capacity
Resource Management	*Integration*	• Develop mechanisms to enable state coordination and organization of cancer care network • Create a multi-stakeholder program for cancer management with legitimate external partners to facilitate dialogue and to build trust • Improve prevention approaches between systems • Implement measures to avoid delays in access to cancer diagnosis and services.
	Efficiency	• Optimize resources to improve efficiency of cancer control throughout the care process: for example, through cost recovery, care networks, and public-private partnerships
	Evaluation	• Create nationwide systems for clinical audit and monitoring of implementation of treatment protocols • Evaluate cancer programs developed by consensus
	Registries and Data	• Unify access to data and information by developing computerized medical records, and establishing interoperability between existing systems • Generate a culture of data recording • Create a communication policy for effective data collection for cancer registries
	Education	• Update curricula in medical schools, public health, on ways to improve efficiency of healthcare services
Service Delivery	*Access*	• Improve health education in school and work to reduce stigma of cancer and encourage preventive behavior

		• Lower the bureaucratic burden and paperwork by implementing interoperable computerized patient data systems that can be used between the public and private systems to measure effectiveness and efficiency • Unify and integrate processes to ensure access to high-cost medications
	Evaluation	• Create health technology assessment agency that evaluates cost-effectiveness of medicines and health technologies • Create a culture of quality where the information is clear, accurate, and reliable
	Equity	• Improve professional development opportunities for doctors and patients
	Prevention	• Improve screening of risk factors and implement systems for active surveillance • Strengthen cancer prevention programs in primary health care
	Integration	• Create national protocols for diagnosis and treatment • Use unified guidelines for provision of high-quality services and medicines for healthcare providers and funders • Create a unified health data center to improve effectiveness and results of cancer diagnosis, treatment, and care

When comparing the proposals from the ICCI-LA Workshop and the progress with the implementation of the PNCC, we found many similarities but gaps do exist (Figure 30). The findings of the two published PNCC results reports (years 2018 (22) and 2019 (23)) mostly relate to actions that are in the development phase, hence, it would be premature to determine success. However, we highlight below some important findings.

Regarding Organization, most of the advances in PNCC relate to elaboration of the legal framework and the strengthening of information systems at the national level, especially reinforcing managerial capacities of the provincial programs. Likewise, proposals have been initiated to improve accessibility of the population to cancer control programs, and to develop evaluation strategies and quality control of different health plans. Finally, platforms are being established for the promotion of research and knowledge generation by national institutions, based on the strengthening of institutions such as Institutional Registry of Tumors of Argentina (RITA) through collaboration with international organizations.

For Financing, the emphasis is on access to certain high-cost drugs for treating cancer, and implementation of new technologies in the different phases of disease management, quality control in their application and use of standardized methodologies (such as WHO-GRADE method) in assessing quality of evidence.

For Resource Management, the emphasis is given to the creation, improvement, implementation, and dissemination of cancer-related registries and databases, both nationally and regionally. The initial impetus is on the provincial registries, beyond the existing regiestries. For financing, initiatives are in the embryonic phase.

For Service Delivery, implementation has advanced substantively, building on momentum from earlier initiatives, and existing networks for the control and management of common cancers, particularly strengthening of human resources, education in the community, and improving referral and counter-referral systems.

Figure 30: Comparison of the policy options identified by workshop participants and the 2018 and 2019 interim assessments of progress of Argentina's National Cancer Control Plan (PNCC).

Opportunity Area	Policy Category	Specific Policy Options	PNCC Results Assessment 2018 (22)	PNCC Results Assessment 2019 (23)
Organizational	*Planning*	• Have a monitored action plan that can be implemented, and that has a budget. This plan should include consensus among intersectoral actors on human resources, literacy, research studies, including medium- and long-term vision. • Develop an intersectoral state strategic plan that can be implemented over time	• Annual RITA meeting was held satisfactorily, planning to carry out consensus document from 2020. • Elaborated a Framework Document for Cancer Promotion and Research. • Establish a strategic information system that includes epidemiological surveillance, monitoring and evaluation of program quality and impact. • Generate assistance networks at different health system levels with a focus on primary care. • Promote development of a comprehensive care network with a registry of hereditary tumors at the national level. • Create guides and unified consensus approach. • Establish regional and international collaborative work networks. • Develop a culture of quality and safety.	• Direction and management of RITA • Position the INC as the expert entity in generating quality training content. • Establish a strategic information system that includes epidemiological surveillance, monitoring and evaluation of program quality and impact. • Strengthen the management and visibility of national program and provincial programs. • Ensure accessibility of prevention, early diagnosis, and control measures for all. • Institutionalize the Breast Cancer Control Program. • Generate assistance networks at different health system levels with a focus on primary care. • Eliminate access barriers by promoting information access and respect for patients' rights. • Implement an information and monitoring system.
	Integration	• Create provincial institutes and generate greater healthcare service access to the population • Improve education at different levels and create an evaluation agency • Conduct a systematic review of laws and evaluation of intersectoral actions to identify gaps and opportunities		
	Transparency	• Comply with transparency mechanisms. • Establish protocols for control, sanctions, and audits, in addition to transparent sharing of results		

	Equity	• Develop a regulatory framework that ensures equitable distribution of resources • Guarantee the enforcement of right to access • Offer essential services and medications to all citizens • Implement demonstration projects to enhance access to effective services • Choose demonstration projects to diagnose challenges and needs and to develop plans based on local reality • Strengthen the Consejo Federal de Salud (COFESA), reference and counter-reference networks at the local level • Generate data to reveal current problems and existing capacities at local level to develop appropriate investment plans in local health systems.		• Establish regional and international collaborative work networks. • Develop a culture of quality and safety. • Conduct training in risk management for patient cancer care in public institutions. • Encourage research and development of advances in organizational aspects, services delivery, or new technologies. • Implement safe practices for patient cancer care in public institutions. • Promote the participation of patients and citizens to encourage better quality and safety in cancer care. • Promote research on the quality and safety of caring for cancer patients.
Financial	*Efficiency*	• Use improved strategies for better use of the available resource: joint procurement and purchasing, policies for local production of medicines, process standardization for the provision of healthcare services.	• Prepare a methodological guide for economic evaluations. • In 2018, a call for extraordinary financial assistance was made for scholarships	• Apply the WHO - GRADE methodology in the development of Health Technology Assessment (HTA) documents. • Perform HTA and promote scientific dissemination.

		• Use new tools to improve efficiency in use of resources: for example, evidence-based medicine, precision medicine (molecular profiling), health technology assessment	• Implemented virtual courses subject to training area planning. • Digital technology availability in public sector mammography services increase by 20% last year. • Encourage research and development of advances in organizational aspects, services delivery, or new technologies.	• Promote basic, clinical, epidemiological, implementation and social research in cancer aimed at solving public health questions through different financing strategies. • Promote knowledge generation that impacts the health (life and quality of life) of the population. •
	Technological Innovation	• Increase support for research, development and knowledge production • Develop policies for effective management of intellectual property (e.g. patents) and use them to create a source of economic benefits • Invest in R&D and production of medicines in Argentina as an area for economic growth		
	Regulation	• Develop clear policies and laws (Ricarte Soto Law - diagnoses and high-cost treatments), on prices of high-cost medicines. • Negotiate drug prices: joint purchases or shared risk systems that have an impact on the price of medicines and outcomes • Propose changes in the law of professional practice that will prevent doctors without appropriate training to prescribe high-cost medications, or to provide complex services or use medical equipment		

	Integration	• Create a national agency for negotiation of prices of medicines for the country, adjusting for Argentina's payment capacity		
Resource Management	*Integration*	• Develop mechanisms to enable state coordination and organization of cancer care network • Create a multi-stakeholder program for cancer management with legitimate external partners to facilitate dialogue and to build trust • Improve prevention approaches between systems • Implement measures to avoid delays in access to cancer diagnosis and services.	• Strengthen regional cancer registries, implementing measures to achieve adequate data validity and exhaustiveness. • Published the Atlas of National Mortality. • Published epidemiological bulletins. • Progress in preparing the RITA Procedures Manual and publication of the report "Context, progress and results 2012-2017" • Update, improve and disseminate epidemiological data of childhood cancer in Argentina (Oncopediátrico Hospitalario Argentino) • Promote epidemiological analysis and related research projects.	• Consolidate the Epidemiological Information System. • Lead training of human resources in cancer epidemiology and registries. • Analyze and disseminate information on cancer morbidity and mortality, its risk factors and determinants. • Establish a strategic information system that includes epidemiological surveillance, monitoring and evaluation of the quality and impact of the Breast Cancer Program • Develop an efficient monitoring and treatment system for suspicious or non-diagnostic mammograms. • Strengthen regional cancer registries, implementing measures to achieve adequate data validity and exhaustiveness. • Develop an efficient monitoring and treatment system for precancerous lesions.
	Efficiency	• Optimize resources to improve efficiency of cancer control throughout the care process: for example, through cost recovery, care networks, and public-private partnerships		
	Evaluation	• Create nationwide systems for clinical audit and monitoring of implementation of treatment protocols • Evaluation of cancer programs developed by consensus		

	Registries and Data	• Unify access to data and information by developing computerized medical records, and establishing interoperability between existing systems • Generate a culture of data recording • Create a communication policy for effective data collection for cancer registries		• Promote the development of a comprehensive care network with a registry of hereditary tumors at the national level. • Design and implement tools for recording, reporting and monitoring information related to hereditary tumors. • Promote epidemiological analysis and related research projects.
	Education	• Update curricula in medical schools, public health, on ways to improve efficiency of healthcare services		
Service Delivery	*Access*	• Improve health education in school and work to reduce stigma of cancer and to encourage early access to services • Lower the bureaucratic burden and paperwork, by implementing interoperable computerized patient data systems that can be used between the public and private systems to measure effectiveness and efficiency • Unify and integrate processes to ensure access to high-cost medications	• Ensure the quality of early care, diagnosis and treatment services. • Quality controls performed on 70% of mammography equipment available in the public sector (first and second evaluations) • 70% of provinces with at least one accredited mammography center in public sector. • 100% participation in installation/purchase of mammography equipment in public sector.	• Train physicians, technicians and nurses in critical areas related to the care and treatment of cancer patients. • Achieve greater adherence of young physicians in oncology specialties. • Train professionals in the treatment of oncological pathology. • Achieve high screening coverage in target populations.

	Evaluation	• Create health technology assessment agency that evaluates cost-effectiveness of medicines and health technologies • Create a culture of quality where the information is clear, accurate, and reliable	• Develop an efficient monitoring and treatment system for suspicious or non-diagnostic mammograms. • Establish an efficient referral and counter-referral system that ensures the correct and timely diagnosis and treatment of women with breast cancer. • Establish an efficient referral and counter-referral network that ensures the correct treatment of children and adolescents with cancer. • Achieve 70% screening coverage of target population, targeting women who do not access screening services. • National Program for the Comprehensive Care of Children and Adolescents with Cancer. • Train health personnel in the suspected diagnosis of childhood cancer • Ensure the quality of early detection, diagnosis and treatment services from a rights-based approach. • Prepare and update the National Directory of Palliative Institutions.	• Ensure the quality of screening tests and follow-up and treatment. • Promote the inclusion of colorectal cancer prevention and control programs in different provinces. • Raise awareness about the benefits of prevention and early detection of colorectal cancer. • Facilitate the education and training of the necessary human resources at each stage of the program and at the level of leadership. • Ensure the quality of early care, diagnosis and treatment services. • Establish an efficient referral and counter-referral system that ensures correct and timely diagnosis and treatment of women with breast cancer detected. • Achieve 70% screening coverage of target population, targeting those women who do not access screening services. • Strengthen existing specific interdisciplinary primacy care teams and promote the creation of in-hospital teams in central or highly complex hospitals of reference in the jurisdiction. • Train human resources to provide tools to care for patients under palliative treatment.
	Equity	• Improve professional development opportunities for doctors and patients		
	Prevention	• Improve screening of risk factors and implement systems for active surveillance • Strengthen cancer prevention programs in primary health care • Create a mandatory cancer prevention program		
	Integration	Create national protocols for diagnosis and treatment • Use unified guidelines for provision of high-quality services and medicines for healthcare providers and for funders • Create a unified health data center to improve effectiveness and results of cancer diagnosis, treatment and care		

			• Strengthen the existing specific interdisciplinary primary care teams and promote the creation of in-hospital teams in central or highly complex hospitals of reference in the jurisdiction. • Train human resources to provide tools for care of patients under palliative treatment. • Train professionals and multidisciplinary groups in detection, management and high-risk advice. • Educate the community in family cancer.	• Train professionals and multidisciplinary groups in detection, management and high-risk advice. • Create guides and a unified consensus of approach. • Promote and maintain the constant relay (situation diagnosis) of human and molecular resources available throughout the country. • Educate the community in family cancer. • Develop criteria to measure quality and safety in patient cancer care.

5.3. Evidence for proposed Policy Options

5.3.1. Organization Focused Policies

In terms of *Organization*, one of the leading solutions proposed has been the integration of the cancer control system at the national level, establishing national policies that can be implemented over time. An instrument for this is a national cancer control program, which is a public health program designed to reduce cancer incidence and mortality and improve quality of life of cancer patients, through the systematic and equitable implementation of evidence-based strategies for prevention, early detection, diagnosis, treatment, and palliation, making the best use of available resources. Development of national cancer plans was proposed in 1991 by WHO, which has published since guidelines for the development and implementation of such plans (24). The national cancer plans must consider inequities in cancer outcomes and access to healthcare services by the most disadvantaged segments of the population as they may not improve equity as evidenced by the study published in 2018 on the NHS Cancer Plan on one-year cancer survival, which demonstrated no evidence of a direct impact of the NHS Cancer Plan in reducting socioeconomic inequities in cancer survival (25).

Another aspect of cancer control policy relates to the strengthening of regional and local authorities in the development of cancer control policies, specially adapted to local reality. In Argentina, there are significant inequities at regional level, with areas of poverty and difficulty in accessing health services, especially in the northern part of the country. Hence, cancer policies that do not appropriately consider inequality into account cannot achieve the goal of reducing the burden of cancer in the country.

Interventions must be carried out within a framework of transparency, evidence-based protocols, and guidelines and when establishing mechanisms for implementing electronic health records and electronic databases. Adherence to clinical practice guidelines for cancer management improves disease outcomes. However, guidelines have to be complemented with close monitoring of adeherence and evaluation of impact (26). Databases such as cancer registries and administrative health records can provide a picture of cancer care, including several less commonly available details that enable subtle nuances of treatment to be studied. A robust database provide opportunities for implementing clinical studies, to benchmark performance measures and to inform quality improvement initiatives (27).

5.3.2. Finance Focused Policies

The proposals for improving *Financing* focused on three main areas: (i) innovations to identify new sources of funding and efficient use of available resources in cancer management (ii) investment in technological innovations, and (iii) access to medicines.

In relation to the first main area of innovative financing, innovative funding models can help unlock new funding sources and more effectively deploy funds for cancer care, or a combination of both. When securing funding, innovation can occur in resource mobilization and resource pooling. Funds can be gathered from new sources (e.g. philanthropic foundations, levies on tobacco), or pooled for a common purpose. With deploying funding, innovations can occur in allocation, channeling or payment models (e.g. linked to performance or outcome).

A financing innovation that has been implemented in some Latin American countries is one that consists of fundraising partnerships led by non-profit organizations that provide or support treatment and care for patients who are otherwise unable to access appropriate care. These community-based organizations have strong relationships with stakeholders in the communities where they operate and have a common-view that access to oncology medicines and high-cost treatments for non communicable diseases should be accessible by all. This is the case of *Pro Mujer*, which focuses on cervical and breast cancer, mainly for population segments that do not have access to this type of services, to reducing health inequities (28).

In Brazil, there are examples of gender-specific insurance policies offered by banks and insurance companies like Santander and Tokio Marine. Besides, several insurance products are specifically tailored for women, including Women's Insurance by Bradesco and the MetLife's Women's Protection Insurance Plus. There are also several examples of local NGOs like Amigos de los Niños, GRAAZ Hospital in Brazil, and the Mexican Cancer Society Fund that are working in underserved communities and low-income families in the region. These NGOs are leveraging professional medical volunteers as well as donations from local companies, local institutions, and individuals for treatment. Other examples include different types of support, such as for transportation and social services, which are equally important for patients who may not have the means to reach treatment centers or adhere to care regimens (29).

The second area relates to financing of health technologies. Information and communication technologies (ICT) have the potential to improve and effectively scale-up screening and early detection, especially for female cancers. There are successful experience of using ICT for women's cancer prevention in higher-income countries. Most of the ICT experience in Latin America relate to the implementation of mHealth and Telemedicine solutions to address supply-side barriers of service access. For example, Brazil, is implementing projects that have passed the "test phase" to scale nationwide. In Argentina, fragmentation of the health system tposes challenge for the nationwide implementation of e-health solutions, and the involvement of provincial governments is fundamental to scaling e-health for cancer care (30).

Peru has implemented a telemedicine system in the Amazon, in a region with villages smaller than 100 inhabitants that are accessible by river, where few roads and no telephone line exist, to improve access of these communities to health facilities and healthcare advice (31).

The third area is related to access to medicines, where several successful cases exist, such as the Philippines, with the Breast Cancer Medicines Access Program (BCMAP). This program has helped to improve survival in cancer patients and alleviate their financial hardships by meeting the cost of cancer treatment, targeting the most cost-effective and commonly used adjuvant chemotherapy for Stage I-IIIb breast cancer in women. The free medicines access program for cancer is not only meant to provide ready access to cancer medicines but to promote early-screening and cancer awareness among Filipinos emphasizing that detecting, treating, and managing cancer in the early stages improves the overall prognosis and survival rates for patients (26). There are also initiatives led by pharmaceutical companies, an example of which inclides the provision of around 2.4 million doses of HPV vaccines at low cost to Gavi-eligible countries between 2013 to 2017. A further example relates to the offer to low-income and lower-middle-income of a portfolio of 15 on-patent and off-patent medicines for common non communicable diseases and cancer (namely generic anastrozole, tamoxifen and letrozole for breast cancer) at a price of USD 1 per treatment per month (32).

5.3.3. Resource Management Focused Policies

Integration of health systems is critical for effective and efficient use of available resources and to achieve acceptable cancer outcomes. Improved collaboration of public and private organizations in cancer control of care is an area with much potential. One example of such collaboration is the Esperanza Plan, in Peru, which has expanded the capacity of the state to finance access to early diagnosis and complete treatment of cancer. This has helped to reduce the proportion of patients presenting to health system with advanced stages of cancer from 75% to 50%. The scheme has also helped to reduce out-of-pocket expenses and expand coverage and access to free cancer prevention, early diagnosis and comprehensive care, including palliative care and complementary support (33).

A further area for resource management relates to implementation of surveillance and control systems and quality improvement programs. For example, European Union (EU) countries have developed the European Guidelines for quality assurance in breast and cervical cancer screening. The EU breast screening guidelines quickly became an internationally recognized reference for best practices in breast cancer screening and diagnosis and later for multidisciplinary management of breast cancer. The experience of 'quality assurance guidelines' was used to replicate the approach to other cancers such as colon cancer to develop population-based cancer screening programs and nationwide care guidelines (34).

Integrated databases for cancer (for example, one that integrates data from cancer care and surveillance program built around a population-based cancer registry) are important in improving the efficiency, effectiveness and equity of cancer, especially in fragmented health systems such as Argentina. Such integrated databases can capture and provide data on a continued basis on incidence, prevalence, mortality, methods of diagnosis, stage distribution, treatment patterns, and survival to enable monitoring and implementation of national cancer control programs and individual cancer control activities (35).

5.3.4. Service Delivery Focused Policies

Integrated health service delivery was identified as a priority, along with strengthening of the primary care system for cancer control and prevention, and the creation of national guidelines and integrated data systems. Globally, there is increasing interest in reducing diagnostic delay and the critical contribution of primary care to early diagnosis of cancer, and development of appropriate risk thresholds for referral to secondary care. Primary care has an increasing role in cancer care with continued increase in the numbers of cancer survivors and as many cancers become a chronic illness (36).

Enhanced integration between primary and specialist services is critical for provision of effective and efficient care throughout the cancer care continuum. Strategies that can potentially lead to better integration include structuring healthcare services and establishing care pathways, education, audit, care navigation, and electronic communication tools. However, for cancer few of these strategies have critically examined, and rigorous assessment through pragmatic randomized trials of how different contextual factors might impede or enhance effectiveness is warranted. Introducing and sustaining improvements to primary care's gatekeeping role and attending to other aspects of the cancer care pathway might achieve greater gains and might be a better investment of resources than incentivization. Future research needs to address important gaps in the international evidence base, especially with regard to community and primary care policy initiatives and their effects on cancer care and eoutcomes (37).

Finally, there are two key considerations if care integration for cancer is to become a reality. First, health policy needs to actively involve community-based provision of services and ensure that high-quality primary care is available, affordable, trusted, and valued by the public. This policy could include ensuring good access to primary care, organization of gatekeeping systems to enable rather than restrict access to secondary care, and creating the right incentives. The second involves including cancer care in undergraduate, postgraduate, and professional education programs (38).

6. COVID-19 Pandemic and Implications for Cancer in Argentina

The COVID-19 pandemic has placed unprecedented strain on health systems globally, many of which were already operating on the brink of their capacity. Argentina responded early to the pandemic, first COVID-19 case was reported on March 4th prompting the government to introduce voluntary isolation of health workers with symptoms of COVID-19. By March 11th, Argentina began to quarantine those travelling to Argentina with symptoms of COVID-19, and suspended public participation in sporting events, and banned all public events one week later. On March 12th, the Presidential Decree on Necessity and Urgency expanded the Health Emergency response and enabled the adoption of new measures to contain the spread of SARS-CoV-2. There were 1,100 registered cases in early April 2020 (39). The President used federal powers to enact a nationwide lockdown beginning on March 20, 2020 to stem the spread (40). This early action helped to contain the early phase of the epidemic with Argentina recording 6,000, with 300 deaths by May 11, 2020 (39).

COVID-19 presents a particular challenge for health systems in managing chronic conditions and cancer where vulnerable populations need ongoing care. Cancer care is particularly challenging as cancer itself and the treatments like chemotherapy can weaken the immune system and increase risk of developing infections like COVID-19 (41). A recent publication in *The Lancet Oncology* suggests that patients with cancer are at higher risk of infection for COVID-19 than the general population. Using data from Wuhan, China, the study reported that 1% of patients with COVID-19 had cancer whereas the incidence of cancer in the Chinese population is 0.29%. Though this relationship could be exacerbated by closer medical follow-up with cancer patients, evidence suggests that cancer patients are a particularly vulnerable population for developing COVID-19 (42). In addition to increased susceptibility to infectious disease, patients with serious chronic health conditions like cancer are also at higher risk for developing more serious complications from contagious diseases (43).

Coordinating and delivering quality care for cancer is a major challenge during the COVID-19 pandemic. From a healthcare provider perspective, the risk of a patient missing a cancer treatment or medical appointment must be weighed against the possibility of exposing a patient to infection in the hospital setting. In general, any measures that would enable management of patients with cancer at home should be enabled. Some treatments can be safely delayed or conducted through telemedicine or replacing intravenous drugs with oral drugs, yet other treatments are negatively impacted as an overwhelmed health system further limits access to care (43). For patients whose cancer treatment cannot be delayed, international guidelines for treating cancer while protecting patients asserts that oncology and radiotherapy departments should ideally remain COVID-19-free sanctuaries. The admission of patients with COVID-19 into these departments should be avoided as much as possible. If, despite this, COVID-19

patients are admitted, they should be isolated from other cancer patients and referred to departments specialized to handle COVID-19 as quickly as possible (44).

Lessons from international health emergencies like SARS point to additional challenges for patients seeking care. A 2004 study of lung cancer patients seeking care during the SARS epidemic in Taiwan, found that the majority of respondents were afraid of visiting the hospital during the SARS infection period, with a smaller number of patients delaying treatment or refusing treatment entirely (45).

Overall, such notions further underscore the importance of developing a resilient health system able to care for cancer while managing the COVID-19 pandemic.

7. Recommendations and Next Steps

In this section, we provide recommendations for major next steps that the Argentinian health system could take to address the rising cancer burden. These recommendations are organized by their priority for the health system (highest, high, or medium). For each policy recommendation, we categorize its potential financial cost to implement (higher, medium, or lower) and estimate the length of time needed to implement (shorter, medium, or longer term) (Figure 31).

Figure 31: Summary of policy recommendations with priority, cost, and timeline assessment.

Recommendation	Priority	Estimated Cost	Estimated Timeline
• Develop and enact a comprehensive National Cancer Law.	Highest	Lower cost	Shorter term
• Stengthen the entity responsible for developing cancer policies, conducting evaluations, and implementing the national cancer plan.	Highest	Higher cost	Shorter term
• Conduct transparent cost-effectiveness analysis to better delineate cancer policy goals and allocate resources for cancer control and care.	Highest	Lower cost	Shorter term
• Develop standardized care plans, holistic care protocols, and mandatory guidelines for each province that are aligned with national guidelines and provisions of national cancer law.	High	Lower cost	Medium term
• Centralize procurement, purchase, and price negotiation of medicines and health technologies.	High	Medium cost	Medium term
• Expand access to cancer care services in the public sector.	High	Higher cost	Longer term
• Develop and enforce national quality control standards and develop indicators to measure effectiveness, efficiency and equity of cancer services.	Medium	Higher cost	Medium term
• Improve cancer prevention, primary care, and health education.	Medium	Medium cost	Longer term

• Strengthen health research and scientific activities in the country.	Medium	Medium cost	Longer term

7.1. Highest Priority

The Argentinian government should take a multisectoral approach to create a comprehensive centralized strategy to address the cancer burden.

1. **Develop and enact a comprehensive National Cancer Law.** The government should legislate a comprehensive national cancer law and implement a set of regulations to enforce cancer-related health policies that apply to both the public and private health sectors and all levels of government. The law should also:
   - **Define governance and enforcement** of cancer policies through a central governing health entity,
   - **Allocate public funding** based on proven need and results of specific cancer activities. A publicly available digital mechanism to transparently track the origin and distribution of all resources should be established.
   - **Establish mandatory cancer data reporting guidelines**, including integration of existing data sources into a digital National Cancer Registry that is publicly available. Data sharing should be required between public and private sectors and all systems should be integrated into this central resource.
2. **Strengthen the entity responsible for developing cancer policies, conducting evaluations, and implementing the national cancer plan.** To most efficiently leverage existing infrastructure and resources, the INC should be strengthened as the central entity for cancer with the following charecteristics:
   - Diverse representation: Social organizations, patient associations, health professionals, public and private sector stakeholders, and health officials from each province should have representation in the governance functions of INC and provide input in the policy development process and policy evaluations.
   - Centralized data: Cancer monitoring systems across provinces and health institutions consolidated under the national entity, potentially through a new National Health Technology Assessment Agency.
   - Unified budget: Funding should be centralized under INC and overseen by this entity though an existing office or new Office of Financing Control and Management.
   - Accountability and enforcement: Mechanisms for achieving targets in the national cancer plan should be established, including setting goals and measuring compliance with budgetary priorities.
3. **Conduct transparent cost-effectiveness analysis to better delineate cancer policy goals and allocated resources for cancer services.** This analysis, which should be conducted by the national cancer entity as a part of the cancer law, should:

- **Assess the availability and use of resources** for cancer prevention, diagnosis, treatment, and monitoring in each province to determine funding gaps.
- **Reorganize allocation of available resources** and structure payment for healthcare services according to results and proven needs of each province.
- **Improve data quality and validity** by ensuring data is transparent and up to date. Clinical audit systems should be created to measure quality of care that also incorporate patient experiences with health services and treatments.

7.2. High Priority

All cancer policies should focus on improving the existing system of cancer care and expanding access to effective cancer services across the country.

1. **Develop standardized plans, holistic care protocols, and mandatory guidelines for each province that are in harmony with any national cancer law passed.** The oncology protocol system should reflect the diversity of each province. The national cancer entity should:

   - **Develop province-specific cancer plans** as a part of the national cancer plan with clear objectives, goals, and indicators adjusted to local needs, while also fostering greater coordination between provincial jurisdictions.
   - **Develop holistic cancer care protocols** through cooperation of oncologists, social workers, psychologists, and palliative care specialists.
   - **Develop mandatory guidelines** for a core set of interventions and national medicines list for cancer, diagnostics and therapeutic interventions used in cancer management to ensure high-quality equitable care for all populations.

2. **Centralize procurement, purchase, and price negotiation of medicines and health technologies.** With the aim of reducing patient out-of-pocket spending. The national cancer entity can help reduce catastrophic health expenditures by:

   - **Creating an agency to negotiate prices and evaluate treatments**, such as a National Health Technology Assessment Agency.
   - **Negotiating acquisition prices** for health technologies and medications based on cost effectiveness data.
   - **Leverage advancements in health technology**, such as telemedicine systems, to improve access to and reduce cost of effective care for poorer populations.

3. **Expand access to cancer care services in the public sector.** The national cancer entity should enable the expansion of coverage of cancer services by public sector by:

   - Offering comparable services in the public and private sectors to close the gap in access and health outcomes.
   - Limiting access to the private sector only if the cancer services are not available in the public sector.
   - Centralizing services offered in the private sector through provider networks.

7.3. Medium Priority

Cancer policies should be patient-centered, focus on providing ethical cancer care for vulnerable populations, address social determinants of health, and aim to improve socioeconomic development.

1. **Develop and enforce national quality control standards and measurement indicators for cancer services**. To improve the quality of care for cancer patients, the national cancer entity should:
   - **Establish national quality standards** and mechanisms for accreditation, licensing, audit, and classification and define measurable indicators for care quality and effectiveness.
   - **Develop regulations to ensure systematic evaluation** of the quality of cancer services and implement data collection and information systems to gather data on care quality in a systematic way.
   - **Enforce standardized quality criteria** at all health system levels for healthcare providers and institutions in both the private and public sector.
2. **Improve cancer prevention, primary care, and health education.** All cancer policies should focus on strengthening the primary care system, including cancer prevention and education, through:
   - **Implementing cancer prevention policies** such as higher taxes on harmful food and substances harmful to health (e.g. tobacco, high-sugar content beverages) and strengthening anti-smoking laws.
   - **Improving health provider training** and providing incentives to oncologists and oncology residents for achieving results. Training should include improving patient-centered skills, such as patient-centered communication.
   - **Increasing public health education** and neighborhood campaigns on cancer risk factors and focusing prevention strategies on groups with higher cancer risk and socioeconomic burden.
3. **Strengthen health research and scientific activities in the country.** The national cancer entity should focus on building local research capacity by:
   - **Professionalizing the field of statistics** by empowering trained and ethical professionals in statistical analysis.
   - **Training professionals in statistics and epidemiology** to generate reliable and publicly accessible quantitative data and surveillance tools.
   - **Utilizing qualitative studies to ascertain user needs, expectations, and experiences**. Standardized methods should be used to understand users' experience with cancer services and use this data in the health system's evaluation of cancer challenges and policy results.

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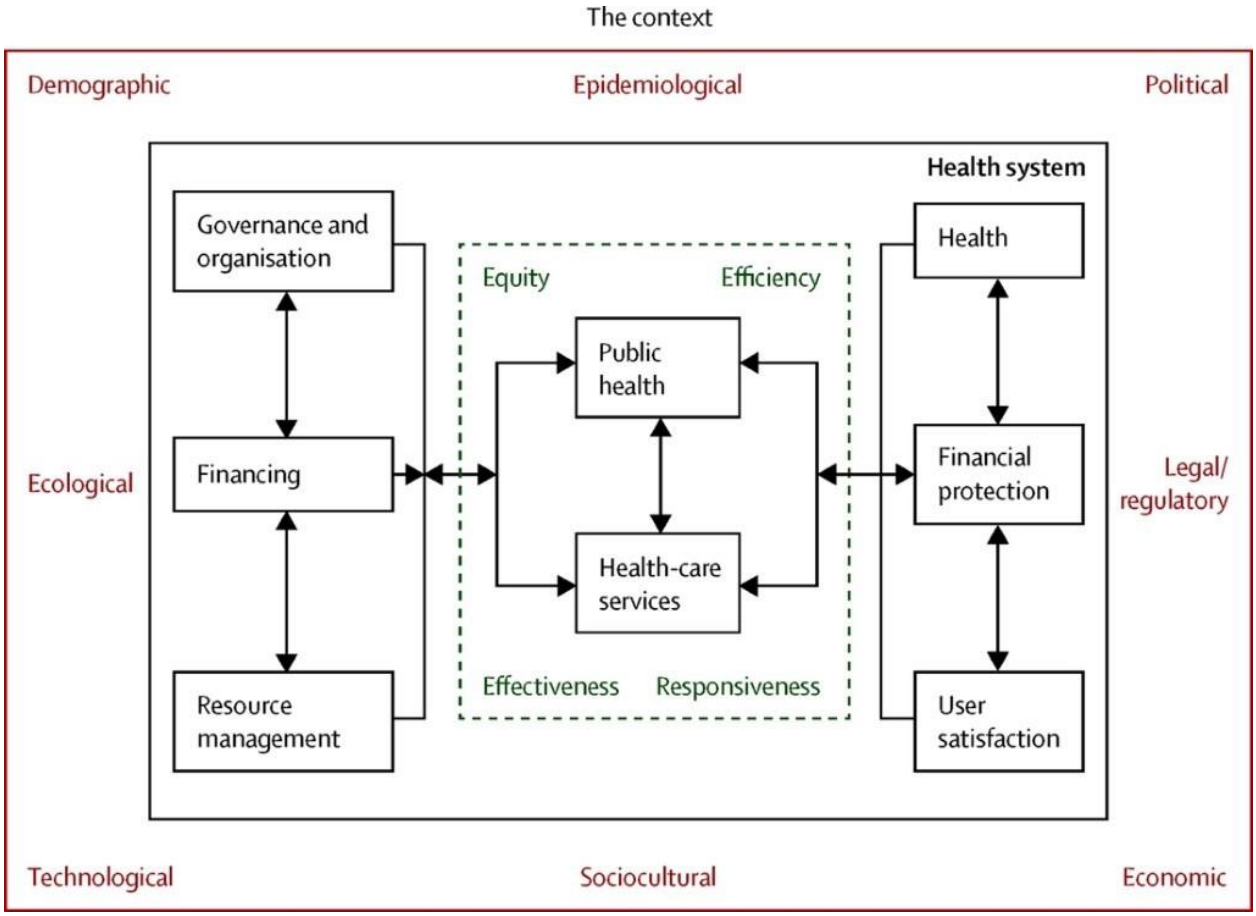
Appendices

9. Appendix A: Health System Framework

Analytical Framework

The framework for health systems analysis (Figure 32) builds on earlier approaches (1-5) and emphasizes a systems view 6 in analysis of context and health system performance. The analytical framework has been used in single- and multi-country analyses (7,8) and can be used to explore contextual factors and health systems functions that interact to influence system performance and achievement of health system goals and objectives.

Figure 32: Analytical framework.



PART I: Context

The context refers to the interplay of the demographic, epidemiological, political, economic, legal/regulatory, ecological, socio-cultural and technological changes, which individually and through their interactions influence trajectory of change in health systems. These changes create 'opportunities' or 'threats' for health systems in the short- or long-run.

While historical antecedents, political systems and socio-cultural norms shape direction of health system reform, critical events, such as government change, economic crises (or growth) and natural or human-led

catastrophes, create external shocks on health systems and provide opportunity for change and reform. Analysis of context aims to answer five questions:

1. What are the contextual changes?
2. How are these changes affecting the health system?
3. What is the likely magnitude of impact of these changes on the health system?
4. How and when will these changes impact the health system?
5. How certain is the likely impact?

In relation to "opportunities" analysis should identify contextual changes that are conducive for attaining desired health system goals and objectives in line with the values embraced by stakeholders. In relation to "threats" analysis should identify contextual changes that may hinder the attainment of desired health outcomes or may worsen health system performance.

Elements of context

- **Demographic transition**: How are the general population dynamics changing in the country of analysis (life expectancy, mortality rate, birth rate, population growth, population structure, urban and rural differences, emigration and immigration)? What are the implications of the demographic transition?
- **Epidemiological transition**: How is the epidemiological profile changing (infant mortality, maternal mortality, morbidity and mortality levels by different disease groups and population segments)? Which conditions are rising or falling (incidence, prevalence for key non-communicable and communicable diseases)? How is the prevalence of risk factors (smoking and obesity for example) and social determinants of health changing?
- **Political environment**: What are the prevailing values of the government that shape broad policy objectives, especially those related to social sectors; political stability; political economy.
- **Legal and regulatory environment**: What international treaties or important laws of the country are likely to affect the health system.
- **Economic changes**: What is the economic outlook, such as: GDP growth trends, government debt levels, current account balance, inflation level, unemployment levels, income distribution, and what is the likely impact of the economic environment on the government fiscal space for allocations to public sector health budget, or on private sector investment.
- **Socio-cultural dynamics**: Relates to values and expectations of citizens; lifestyles, behavioural choices (for example smoking, diet and physical activity) and risk perceptions, which might affect the health system.
- **Ecological changes**: Relates to physical and ecological environment affecting health.
- **Technological changes**: Technological developments – for example communication and information technologies, analytic capability, geographic information systems – that can be harnessed to enhance provision of services.

PART II: Health Systems Analysis

Health systems analysis should explore performance in relation goals and objectives, and analyse how health system design might affect performance.

Health System Goals

Population health: concerned with both the level and distribution of health, (for example as measured by life expectancy at birth, or at age 30 or 60 years), mortality (mortality levels), or burden of disease (as measured by disability adjusted life years), as well as specific population health outcomes of interest – such as infant or under-five mortality rate, maternal mortality ratio, standardised mortality rate for key diseases, or premature mortality from key diseases.

Financial risk protection: relates to fairness in health financing (distribution of health expenditures) and extent of financial risk protection for general population and specific population segments, (levels of out of pocket expenditures as a percentage of total health spending, and impoverishing health expenditures by income quintiles).

User satisfaction: examines citizens' satisfaction with health system.

Health System Objectives

1. **Equity** relates to fairness in the allocation of resources or services among different individuals or groups, health service coverage, access to health services by population segments and subsequent health outcomes; it considers equality and differential ability of various groups in accessing care and treatment, and assesses whether those in equal need are treated equally, irrespective of other characteristics.

   Efficiency relates to (a) Macroeconomic efficiency – level of health expenditure as a fraction of the GDP and (b) Micro economic efficiency – 'allocative efficiency' (producing right outputs to achieve goals, i.e. what is produced for available resources in terms of a mix of services to maximise a combination of health outcomes and user satisfaction) and 'technical efficiency' (producing outputs at minimum costs, i.e. how the services are produced – inputs or costs should be minimised for target output)

   Effectiveness related to the extent to which a desired outcome is achieved when a cost- effective intervention is applied to a population and includes an assessment of technical quality of clinical care and the extent to which evidence based interventions are used.

   Responsiveness relates to the ability of the health system to meet legitimate expectations of citizens in relation to perceived service quality and experience as patients.

Health System Functions

The framework identifies four health system functions, which policy makers can modify to achieve health system goals and objectives:

1. **Governance and organization;** (a) institutional relationships, in particular the role of the Ministry of Health in relation to other actors in the health system; (b) extent of decentralization (c) extent of

regulation and competition, and (d) organizational design – extent of public and private sector involvement;

Financing; the analysis should briefly discuss sources of financing, how finances are pooled, and how they are allocated to agencies or intermediary organizations (such as local authorities), and financial coverage provided for population groups. The analysis should also briefly explore which provider payment methods are used to remunerate healthcare service providers and the pros and cons of the methods used;

Resource management; The analysis should explore how and where financial, physical, human and intellectual resources are allocated, and whether resource shortages or distributional imbalances exist;

Service delivery; The analysis should discuss organization of public health and personal healthcare services, and assess whether health system is able to effectively meet current needs: i.e., whether the system offers comprehensive set of services, provides continuity of care, and achieves effective coordination of patients' journey in health system along the care continuum through effective referral- and counter-referral-systems. The analysis should also discuss public-private mix of services, and the balance of hospital services with those provided in primary health care and in the community.

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10. Appendix B: Methods

10.1. Literature Review

A literature review was conducted by three researchers from Harvard University to quantify the burden of cancer in Argentina and compare this burden for within other large Latin American countries like Chile, Brazil, Colombia, and Mexico, as well as other, more developed countries like France and the United Kingdom. To analyze cancer incidence and mortality figures in Argentina and in selected countries and to ensure comparability, we used data from the International Agency for Research on Cancer (IARC) Cancer Today and Cancer Tomorrow, data visualization tools inclusive of 36 cancer types in 185 countries or territories of the world in 2018 as part of the GLOBOCAN project. Supporting data was obtained from the CONCORD 3 study, which tracks global cancer survival data for 18 cancer types in 71 countries based on population-based cancer registries.

The team performed a critical analysis of the available literature concerning the different aspects of the Argentinian health system. Sources of information were divided into three components:

- **Context:** For which we take as a basis journal reports and analysis of different organizations, such as the International Monetary Fund, the World Bank, Latin American agencies (Inter American Development Bank, Pan American Health Organization), as well as official government bulletins, which describe the political, social, economic, ecological and technological context through which the Argentinian health system transits.
- **Health System:** For which we assessed multiple sources of information, including global and regional reports, about the Argentinian health system and its situation compared to other countries in the region. On the other hand, web pages and official statements of the Ministry of Health (MoH), referring to the health situation of the Argentine population, access to health, coverage, components of the health system, and the main challenges in the last decade were also reviewed.
- **Cancer:** Our main source of information was obtained through the portal of the National Cancer Institute of Argentina's web portal (https://www.argentina.gob.ar/salud/inc) (19), which contains reports on the different components of cancer care, and the numerous initiatives underway nationwide. Regarding records, our primary source was the Institutional Tumor Registry of Argentina (Registro Institucional de Tumores de Argentina; RITA) (46), which is a hospital registry that includes the main types of cancer in Argentina, prevalence, incidence, and mortality in the different age groups. We also used for comparative analysis data from GLOBOCAN and CONCORD 3.

Likewise, it is worth noting that another of our primary sources was the recently published National Cancer Control Plan (see section 3.2.1), which mentions the guidelines and strategies of the Argentinian government and for the health system for the five-year period 2019-2024 regarding cancer control.

10.2. Online Stakeholder Survey

An electronic survey was conducted with 75 stakeholders via the online survey program Qualtrics CoreXM™ (www.qualtrics.com). The purpose of the survey was to gather feedback from important stakeholders prior to the in-person stakeholder workshop in Buenos Aires, Argentina. The survey asked participants to identify major challenges for the Argentinian health system related to cancer and to suggest policy options to

respond to those challenges. Respondents were asked to suggest challenges and policy suggestions under four main categories of opportunity for health system reform: (1) organization and governance, (2) financing, (3) resource management, and (4) service delivery. Respondents were also asked to rank the identified challenges and policies in order of importance to address. All responses were open-ended to enable respondents to provide views and comments.

Challenges for the health system in relation to cancer were analyzed using qualitative thematic analysis. Coders categorized free text responses using pre-defined themes based on hypotheses (deductive codes) and new themes that arose organically in the data (inductive codes). Qualitative analysis of health system challenges around cancer included three parts:

1. **Deductive coding:** First, deductive codes were used to organize all open-ended responses by the four opportunity categories for which respondents were asked to identify challenges: (1) organization and governance, (2) financing, (3) resource management, and (4) service delivery.
2. **Inductive coding:** Then, responses under each of these four categories were organized into eight sub-categories using inductive codes which label major themes that arose in the data.
3. **Frequencies of rankings:** Lastly, the frequencies in which respondents applied each rank, from most (1) to least (4) important, to challenges in each of the eight sub-categories were calculated to identify the most frequently identified challenges under each of the four opportunity categories.

Policy suggestions to improve cancer prevention and control were also deductively coded using the four opportunity categories under which respondents were asked to identify solutions: (1) organization and governance, (2) financing, (3) resource management, and (4) service delivery. Once organized into these categories, related policies were grouped together. Any policy suggestions that overlapped were consolidated to remove repetition and redundancy. Lastly, policies were ranked by the authors in their priority for the health system to enact (highest, high, or medium), potential financial cost to implement (high, medium, or low), and length of time required to implement (short, medium, or long-term).

10.3. Buenos Aires Stakeholder Workshop

On December 6, 2019, the Integrated Cancer Control Initiative in Latin America (ICCI-LA) organized a workshop in Buenos Aires on cancer control policies in Argentina. The workshop was attended by around 80 stakeholders from leading public and private organizations involved in cancer control. The event helped to elucidate first-hand what the main challenges of the country were in terms of cancer and country context.

This workshop has its immediate referent in the initiative #AcciónXCáncer (Movement for social change in Cancer) (47). This initiative aim sought to promote an interactive process with all community actors capable of responding to the complicated situation of Cancer in Argentina, facilitating discussions throughout society, making visible patient rights, promoting research and investments, and positioning Cancer on the public agenda. In order to discuss the problem of Cancer and the challenges of the Argentine health system facing its management, two "Democratic Dialogues" were held in 2018 and 2019, respectively.

To address the various aspects of how to address the rising cancer burden in Argentina, the stakeholders were invited to participate in a series of facilitated roundtable discussions focused on four main areas of cancer policy: (1) organizational, (2) financial, (3) resource generation and management, and (4) service

delivery. Each roundtable was moderated by a senior policymaker with good knowledge of the Argentinian health system and cancer control and of the institutions and stakeholders therein. The moderators were also responsible for organizing and inviting a multi-stakeholder group of participants based on background and expertise for each of the roundtables which they facilitated. Each table also included representatives from the Harvard University, Prince Margaret, and University of Miami teams to assist with technical aspects of the discussion. Table discussion topics were informed by results from the online stakeholder survey conducted by the Harvard University research team.

Meeting participants were organized into a total of eight roundtables based on prior selection by table leaders. Each cancer policy area (organizational, financial, resource generation and management, and service delivery) was assigned two separate roundtables. Then, the roundtable discussions were divided into two parts. The first part focused on identifying the main challenges in each category, and the second on suggesting tangible policy solutions to the challenges identified. Each roundtable had a moderator that helped facilitate discussion. After discussion, each moderator presented the table's main points to all attendees to facilitate the larger discussion amongst all workshop attendees on each topic.

The themes emerging from the roundtables were collated and categorized for analysis and comparison with the responses for the survey and explored in more depth some of the issues identified in the survey. The roundtables enabled the participants to discuss and explore not only the challenges in relation to health system functions and outputs (public health/personal services), but also, and importantly, potential solutions that could be developed to address the challenges identified. The solutions were categorized and prioritized in discussion with the participants to develop a set of proposed policies and actions that are appropriately sequenced to improve health system performance to achieve equity, efficiency, effectiveness and responsiveness objectives for cancer and to improve cancer outcomes in terms better health (survival for example), financial protection and user satisfaction.

11. Appendix C: Analysis of Context in Argentina

11.1. Demographic and Epidemiological Transition

Argentina is a country located in the southern cone of South America. It is the second-largest South American country by landmass after Brazil and is considered the second largest economy in South America. It occupies the 21st position among the largest economies in the world, and is classified as a high-medium income country (48).

Argentina has a population of 44,938,712 inhabitants, which makes it the third most populous country in South America. About 65% of the population is concentrated in the Central region of Argentina, especially in the province of Buenos Aires, with 38.9% of the population of the country, constituted by the city of Buenos Aires and its surrounding areas. Approximately 91% of the population live in urban areas, with a male/female ratio of 0.95 (48,49).

In the last years, Argentina has undergone rapid demographic transition with declining mortality levels, reduced total fertility rates and improved longevity, and a substantial increase in the percentage of the

elderly population. It is estimated that the dependency index, the number of dependents in a population divided by the number of working age people, was 55% in 2010 and will reach 72% in the year 2100. In the same period, the percentage of the elderly in the general population will increase from 10% to 25% (50). This change in the population structure will have many effects on Argentine society in social, economic, and health terms. For example, on the issue of social protection, the demographic transition would imply an increase in health expenditure, projected to reach about 15% of GDP in the 2050s and exceeding 24% in 2100 (51).

On one end of demographic transition, the infant mortality rate decreased from 9.7 per thousand live births in 2016 to 9.3 in 2017 and maternal mortality is now at a historical low with 2.9 every 10,000 births (52). The infant mortality rate fell by almost half a point nationwide, with 12 provinces with the lowest rate in the last ten years (53). Regarding the neonatal mortality rate, there were no variations and it remains at 6.5 per 1,000 live births. The primary cause of neonatal mortality is prematurity, followed by congenital malformations (52). Non-communicable diseases (NCDs) including cancer constitute more than 60% of deaths in Argentina and the leading cause of years of life lost (YLL).

11.2. Political, Legal, and Regulatory Environment

Argentina has faced many political and economic challenges in the last few decades. In 2019, the country had a negative GDP growth of 3.1%. Argentina's economy, the second-largest in South America, is estimated to contract for the third consecutive year in 2020, with negative growth of 1.3%. Argentina has had to face a new economic crisis, accumulated by a growing deficit and debt, and political instability with alternations between governments of varying liberal and socal views which faced a budget deficit and difficulties in funding government obligations and securing debt funding.

GDP growth projected by the International Monetary Fund (IMF) for 2021 is 1.4% (54) but poverty increased to 35.4% in 2019. While inflation soared, economic growth stalled and the budget deficit widened, requiring the greatest level of emergency financing by the IMF of $55 billions of capital (55). Against this background of economic and fiscal crisis, in the August primary elections of 2019, a new president was elected. The new administration is expected to usher in growth-focused policies, which critics warn could strain already depleted state funds, with the hope that the current administration can tackle annual inflation running above 50%, poverty approaching 40% amid recession, and tricky restructuring talks over about $100bn in sovereign debt with lenders including the IMF (56).

11.3. Economic Environment

Argentina is classified by the World Bank as a high-middle-income country. It is one of the largest economies in Latin America with a Gross Domestic Product (GDP) of more than US$500 billion. Argentina has vast natural resources in energy and agriculture. Within its 2.8 million square kilometers of territory, Argentina is endowed with extraordinary fertile lands and has great potential for renewable energy. It is a leading food producer with large-scale agricultural and livestock industries. In addition, Argentina has significant opportunities in some manufacturing subsectors and innovative services in high-tech industries (57).

However, in past 20 years, the per capita GDP has stalled and the economy has been less productive following recessions in 2001 and 2010. High inflation rates have led to declines in the population’s

socioeconomic status (57). Volatility in economic growth and institutional obstacles have impeded the country's development. Urban poverty in Argentina remains high, approximately 50% higher than in newly high-income countries and is almost two-times that of the average for Organization for Economic Cooperation and Development (OECD) countries. The incidence of poverty has reached 41% among children aged 0 to 14 years old (58). To deal with this situation, the country has prioritized social spending through various programs, including the Universal Child Allowance, which reaches approximately 4 million children and adolescents up to age 18, or 9.3% of the population (59).

Recently, Argentina has been working on an ambitious structural reform agenda, while attempting to correct some of the macroeconomic imbalances. The administration moved swiftly to implement major reforms such as the unification of the exchange rate, agreement with international creditors, the modernization of the import regime, reduction of inflation and reform of the national statistics system. In addition, Argentina has taken a very active role on the international stage and was in charge of the presidency of the G20 in 2018, expressed intention to join the OECD and became an observer in the Pacific Alliance (60).

Financial and economic turbulence in 2018 led to a 50.6% depreciation of the Argentine peso and implied the revision of the economic plan and a US$57 billion agreement with the IMF until 2021, which includes a major reduction of government expenditure. In 2018, the government met its fiscal objectives, and aimed to achieve primary fiscal balance in 2019 with a primary fiscal surplus of 1% in 2020 (61). The economic context remains volatile. After a fall of 2.5% of GDP in 2018, a further contraction in economic growth of 1.3% was expected for 2019. With an annual inflation of over 50% (the highest level since 1991), the volatility of the Argentine peso increased and the currency depreciated more than 13% during 2019 (62).

Health expenditure in Argentina represents approximately 10% of GDP of which, two-thirds corresponds to the public sector, and the rest to expenditures from private sources. The government allocates approximately 8.5% of GDP to health, one of the highest levels in Latin America (63). These funds are mostly managed by provincial governments, which makes monitoring of the use of funds difficult. There are substantial inequalities between the metropolitan areas and the most remote provinces, especially Salta, Jujuy, and Misiones (64). With the universal health coverage plan, the government proposes to increase investment in public hospitals, primary healthcare, and health technologies. Additionally, the government has proposed canceling its debt with the *Obras Sociales*, or social security system (65). However, the implementation of these measures may be affected by the lack of economic growth, fiscal deficit, high debt levels and the finances needed to service the debt, high inflation, and political turbulence.

With the creation of the national cancer plan, the National Cancer Institute leads the general regulatory framework for health policies related to cancer yet as mentioned above, financing will continue to be managed at the provincial level (66).

Cancer is a complex and multidimensional challenge that requires a comprehensive and multi-faceted response by a variety of actors in the health system. That is why the World Health Organization and other agencies recommend the implementation of National Cancer Plans that articulate the areas that could be led by different state agencies (for example, areas of immunization, risk factor management, technology evaluation, social development, and education, among others). Health planning allows the consideration and integration of possible interventions, thereby choosing a combined program of action aimed at minimizing the global burden of disease in society.

Argentina has already taken an essential step in developing and implementing a National Cancer Control Plan. However, as part of the strengthening and deepening of its actions, it is necessary to increase the budget items allocated to these actions. The Ministry of Health plays a key role in financing of cancer control programs - and their implementation - within a coordinated framework of public policies designed to improve disease control. According to experts, in a federalized country with robust decentralization of the public provision of health, the problem of inadequate and inequitable cancer financing is closely related to pernicious inequalities concerning the historical legacies of unequal economic geography, which are reflected in healthcare (19).

One of the proposals aimed at correcting the persistent challenge of inadequate and inequitable funding for healthcare in Argentina, relates to the creation of a federal compensation fund that allows patients without insurance coverage to receive care, by transferring resources equitably throughout the territory. For this, it is essential to strengthen the role of the national government in its leadership position in the health system and to develop measures to compensate for the differences between jurisdictions that generate and consume resources unequally (67).

An example of this proposed policy approach was the use of a targeted tobacco tax allocation to prevent and treat cancer, as done in several countries worldwide. However, in Argentina, the proceeds of tobacco tax are not assigned to healthcare or health promotion. Moreover, a significant part of the tobacco taxes collected is used to reduce tobacco production costs and to subsidize tobacco production through the Special Tobacco Fund (FET) – established by law in the 1970s and raised 9 billion pesos in 2018– which operates as an obstacle to implementing effective tobacco control policies (68). This is a clear example of inconsistency in public policies, as the tax revenues are used to subsidize a harmful product instead of using the proceeds to promote health by stimulating higher consumption of fruits and vegetables, reducing obesity, or funding cancer and other chronic diseases.

Support for implementation of key components of the PNCC, as part of the Cobertura Universal de Salud (CUS), has been secured through external financing sources such as a World Bank loan that has provided support for population screening of colorectal cancer. A program funded by an Inter-American Development Bank (IDB) loan finances provincial investment projects to strengthen the health system and systems for monitoring and evaluation to verifying the achievement of health-related goals agreed upon with the provinces. In the first phase of the program funded through the IDB loan, the purchase of essential medicines for consultations in the first level of care was financed to counter the adverse health effects the economic crisis Argentina suffered in 2001-2002. Currently, this purchasing capacity has been recovered by the Ministry of Health and Social Affairs (Ministerio de Salud y Desarrollo Social; MSYDS) through the CUS Medicamentos Program, so that the financing objectives are focused on improving the physical management of medicines, with safety equipment and storage and training in rational use of medicines. The Program supports the implementation of actions defined by the MSYDS in conjunction with the provincial health ministries (Ministerios de Salud Provinciales; MSP)), through the consolidation of health networks. Considering the Primary Health Care Strategy (EAPS) as a structuring axis of the organization of the Argentinian public health system, the Program is aimed at strengthening prioritized strategies, to ensure enhanced accessibility of healthcare services for the most vulnerable population in the country and to guarantee continuity of the care process. The direct beneficiary of the Program is the population who are covered exclusively by the public sector (19).

11.4. Socio-Cultural Dynamics

According to the Argentina National Census Institute (Instituto Nacional de Estadística y Censos de la República Argentina; INDEC) estimates in 2015, the population of Argentina was 43,131,966 people. Argentina is a country with low population density, with a population that is highly concentrated in the Gran Buenos Aires Agglomerate (9%) (38), mostly urban (92%) and with a large proportion of people over 60 (14.3%). It has high levels of life expectancy (77 years) and literacy (98.1%) (69).

The Province of Buenos Aires is by far the most populous in the country with 15,594,428 inhabitants (almost 38% of the national total in 2010), of which approximately 10 million live in Greater Buenos Aires and the remaining 5 million in the rest of the Province. With much smaller populations, Buenos Aires is followed in magnitude by the neighboring provinces of Córdoba and Santa Fe with populations of around 3 million. In total, 60% of the population is concentrated in a region made up of the three provinces, Buenos Aires, Córdoba, and Santa Fe, in an area less than 22% of the country's total landmass (69).

The growth of the urban population is mainly due to the attraction of industries and services that cities offer, instead of agricultural activities. More than 90% of people live in urban areas (70). The country's human development index (HDI) is one of the highest in the region (HDI = 0.825 which is ranked as very high). Around 90% of the population is considered a descendant of Europeans, the rest of the population is composed of mestizos and natives, concentrated mainly in the northern part of the country in Jujuy, Chaco, and Misiones (71). Regarding immigration, Argentina is the country with most of its immigrants coming from other regions of Latin America at over 2 million people, many of whom are Bolivians, Paraguayans, or more recently, Venezuelans who came with the exodus in 2018 (72).

Although the HDI is high in relation to neighboring countries, there are substantial regional differences in socio-economic and human development, especially between the more developed regions of Greater Buenos Aires, Cordoba, and Rosario, and the poorest provinces, located in the Andes Mountains, with particularly high difficulties in access and provision of health services in Jujuy, Salta, and Catamarca (64). Within the provinces themselves, the most unequal region is the Northeast (Corrientes, Formosa, Resistencia, Posadas), with a Gini coefficient of 0.508, while the most egalitarian province is the Patagonian region with a Gini coefficient of 0.434. If poverty levels are analyzed, 41% of the people in the Northeast region below the poverty line, while for the Patagonia region only 8.4 % of the people who inhabit that region do not have enough income to acquire the basic food basket (73).

The National Survey of Risk Factors for Noncommunicable Diseases (Encuesta Nacional de Factores de Riesgo; ENFR) has been carried out every four years from 2005, to identify exposures to risk factors (for cancer and other chronic diseases) and to examine the influence of social factors in the development of cancer and chronic diseases in Argentina.

The main risk factors for cancer were identified as: low consumption of fruits and vegetables, excess weight, smoking, regular alcohol consumption, and low physical activity. Of these, smoking is the only risk factor which has declined in recent years.

Fruits and vegetables: at national level, the daily average of portions of fruits or vegetables consumed per person was 1.9 in 2013, a level which is well below the recommended amount by WHO (5 daily servings of fruits and/or vegetables). Only 5% of the population of Argentina has achieved the levels of consumption recommended by the WHO. The highest average levels of regular consumption of fruits or vegetables were

recorded in the oldest age group, among those with the highest level of education, and in the population with the highest level of income. However, these values are much lower than the recommended WHO average. There were no significant differences in consumption levels by sex.

Overweight and Obesity: in Argentina, the overweight and obese population has been increasing each year since the surveys began. Males have higher rates of overweight and obesity, as do people between 50 and 64 years of age and those with lower levels of education.

Physical Activity: according to data from the ENFR, the prevalence of low physical activity in Argentina (54.7% of the population surveyed) has been stable compared since 2009 (when the levels were 54.9%). The percentage of women who reported low physical activity (57.4%) was higher compared to men (51.8%). In turn, this indicator showed a higher prevalence in people over 65 years (67.6%) and among those with lower levels of education. There were, no differences in population groups with different levels of household income.

Alcohol consumption: In Argentina, there is a higher regular consumption of alcohol risk in men (11.7%) compared to that of women (4.4%) and in the age ranges of 18 to 24 years (10.7%) and 25 to 34 years (9.6%). There were no differences according to educational level or total household income per consumer unit. The provinces that presented the lowest consumption percentages concerning the national values were Catamarca (3.0%), Misiones (3.1%), San Luis (3.2%), Río Negro (5.1%), and La Rioja (5.2%).

Tobacco: Smoking levels in Argentina have declined in the last decade, both in the young (13 to 15 years) and the adult populations (18 years and older). The prevalence of smoking is the highest in the population group aged 25 to 34 years (30.8%), although the relative levels in this group have declined compared to that in 2005 (56.6%). The prevalence of smoking according to the ENFR 2013 was higher in men (29.9%) than in women (20.9%) and in households in the lowest income quintile (28.2%) compared to the highest income quintile (23.0%). At the jurisdictional level, Misiones (20.8%), Chaco (20.2%) and Formosa (20.0%) have the lowest levels of smoking. By contrast, the provinces of the Southern region of the country have the highest levels of tobacco consumption, with Santa Cruz (41.1%) and Tierra del Fuego (38.1%) having the highest consumption levels (19).

11.5. Ecological Changes

The Northern part of Argentina is tropical, while the Western region is more desert and arid. Most of the population centers lie in the Pampas, or the fertile plains of central Argentina where traditionally the cattle industry and agriculture of wheat have thrived. The country's largest cities are also located in this agriculturally fertile belt. The rest of the population is located in the mountain areas, in the Andes mountain range, near the country's borders with Bolivia and Chile. This region is the poorest in the country, due to the lack of infrastructure and difficulty in communications, and high concentration of indigenous people of Quechua and Aymara origin (74).

To the south, in the Patagonia region, there are areas with more dispersed population, which economically depend on tourism and the presence of natural resources like gas and oil. Only 12% of wastewater is treated before it is released to water stores for consumption. Most cities do not have continuous air quality monitoring and there are more than 100 million hectares of land affected by erosion. Native forests cover 27,290,000 hectares, around 23% of the territory is covered by wetlands. Argentina is ranked second in Latin America in terms of glaciers (75).

The government and the MOH are aware of the inequalities in health due to the different geographic and ecological characteristics of the provinces. To address these issues, the CUS has implemented telemedicine pilot projects in the western regions of the country, located on the border with Chile, such as Mendoza and Catamarca, with digital health in the high Andean provinces of Salta and Jujuy (76).

One of the most important aspects of the environment affecting health in Argentina is climate change which adversely affects the Argentinian agricultural sector and food production. In 2018, the country experienced one of the most severe droughts of the last 70 years, when the agricultural production decreased up to 23% with adverse consequences for the economy and society in general. In 2019, the agricultural exports recovered back to levels achieved before the 2018 drought.

In 1996, Argentina began to use genetically modified (GM) seeds in agricultural production. Currently around 25 million hectares of Argentina used for agricultural production, where 12 million people live, use genetically modified crops, which have led to a substantial increase in pesticide consumption (77,78). For instance, Argentina sprayed 240,000 tons of Glyphosate in 2013. Epidemiological studies have shown the relationship between Glyphosate and cancer. The extensive use of Glyphosate has generated resistance in some species of plants, requiring the addition of other chemical pesticides, such as 2.4D, atrazine, etc. This increase in pesticide use has led to high levels of pesticide exposure for all inhabitants of the country (around 5 kg of Glyphosate per person per year) but particularly in agricultural areas. For example, in the province of Cordoba, 650 tons of Glyphosate are used per year in the fields surrounding the town, which are sprayed by this pesticide daily. Glyphosate was found in 100% of soil and husk dust samples. The concentration was ten times higher than that of other pesticides (79).

In 2017, a study was carried out in the town of Monte Maiz, located in the southeastern part of Cordoba province, to examine the effects of exposure to chemical pesticides used in agricultural production. The study revealed that in 2014, the crude cancer incidence rate in Monte Maíz, a was 276% higher than Cordoba City and 317% higher compared to the rest of Argentina. The adjusted incidence of cancer rate in Monte Maíz was estimated to be 208% greater than that in Cordoba City.

The study findings indicated that cancer appeared in younger people in Monte Maíz – findings that were consistent with the observations made by local doctors, who also observed an absolute increase in levels of cancer and a higher relative proportion of young cancer patients. The cancer mortality rate in Monte Maíz was 299% higher than that observed in the Cordoba City. Likewise, the study evaluated morbidity and mortality levels in the districts of the province of Cordoba near Monte Maiz, to show a similar increase in the levels of morbidity and mortality related to cancer (80).

The International Agency on Research on Cancer (IARC), as part of WHO, after evaluating around 1,000 studies on Glyphosate concluded that there is a limited evidence in humans for the carcinogenicity of Glyphosate. However, there is a positive association for non-Hodgkin lymphoma. Also, there is sufficient evidence in experimental animals for the carcinogenicity of Glyphosate, concluding that it is probably carcinogenic to humans (Group 2A) (81).

11.6. Technological Changes

Argentina is one of the leading countries in Latin America in terms of the level and evolution of information and communication technologies (ICT). In general terms, the country is technologically-advanced compared to other Latin-American countries (82). The country allocates 0.63 of its GDP to research and development

(R&D), just behind Brazil which invests 1.2% of GDP for R&D, but below that for developed countries that invest around 3% of their GDP. Of that total investment in R&D, 78% is invested by the state at Science and Technological agencies and universities, and 19% by the private sector based on 2015 data (83).

One of the axes of the UHC plan proposed by the government includes the application of interoperable information systems and computer applications, mainly for the implementation of electronic medical records in primary care (16). Likewise, the digital health strategy, created in 2018, emphasizes the creation of digital health networks, standardization, telehealth services, and the improvement of the registry of vital statistics (84).

In relation to cancer, the Institutional Registry of Tumors of Argentina (RITA) was operationalized in 2012. RITA is a hospital-level cancer registry that allows clinicians to upload patient data, clinical characteristics of tumors, treatments, and follow-ups performed in each case and allow to analyze the degree of accessibility of cancer patients to the health system. The implementation and the scale-up of RITA is led by the National Cancer Institute (46).

The new National Cancer Control Plan lists the incorporation of new technologies in the control of cancer among its main objectives. The Plan also identifies the strengthening of capabilities for health technology assessment to evaluate the cost-effectiveness of new health technologies for cancer. Currently, evaluative research is carried out in the INC to prepare recommendations and reports on the use of new health technologies for cancer to generate, disseminate, and implement evidence that serve as guidelines for medical practice or health decision-makers. The Health Technology Assessment within INC is part of the Health Technology Assessment and Execution Coordinating Unit (UCEETS), which brings together various capabilities within the MOH related to HTA.

Argentina is investing about $80 million to establish the Argentine Center of Protontherapy (CEARP) in the city of Buenos Aires. CEARP which is being built on land belonging to the University of Buenos Aires (UBA) that neighbors the Nuclear Diagnostic Center Foundation (FCDN), is expected to be fully operational in 2022, CEARP will be an integrated center for clinical, scientific research, technological development and human resources training offer advanced radiotherapy for cancer for the whole of Argentina (19).

12. Appendix D: Incidence Projections and Incidence Rate for Most Common Cancers

12.1. Cancer Incidence Projections

Without decisive and immediate action, incidence of cancer in Argentina is projected to increase substantially over the next 20 years, a trend consistent with comparable countries (Figures 33,34,35) (11). The number of annual incident cases in Argentina are projected to rise 23.8% in the next 10 years, translating to 159,776 new cases of cancer in 2030 and well outpacing projected population growth figures (11).

Figure 33: Estimated Number of Additional Incident Cases in 2030 compared to 2018 (Source: IARC Cancer Tomorrow (11)).

	Number of Additional Cases	Percentage Increase
Argentina	30729	23.8
Brazil	229829	41.1
Chile	21608	40.5
Colombia	46707	45.8
Mexico	83716	43.9
Peru	28150	42.3

Figure 34: Estimated Incident Cases Over Time, Argentina (Source: IARC Cancer Tomorrow (11)).

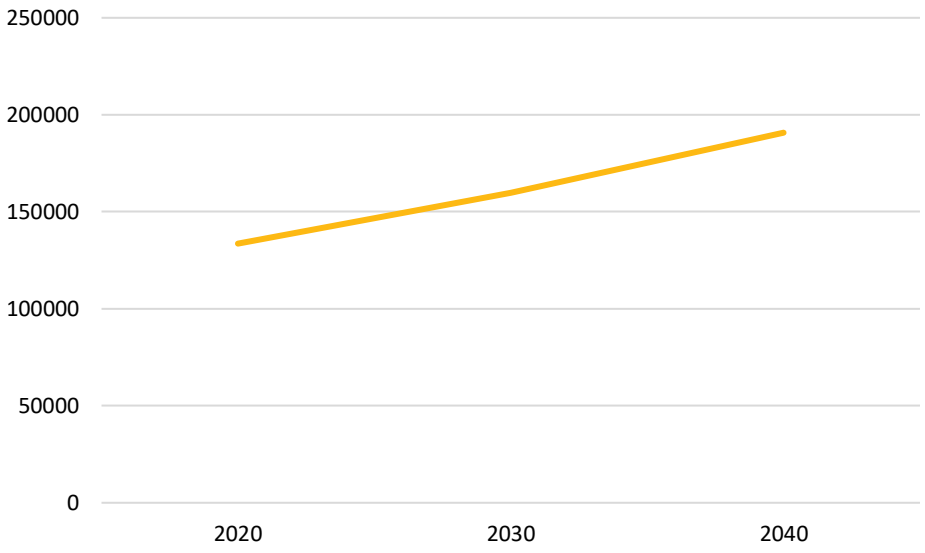
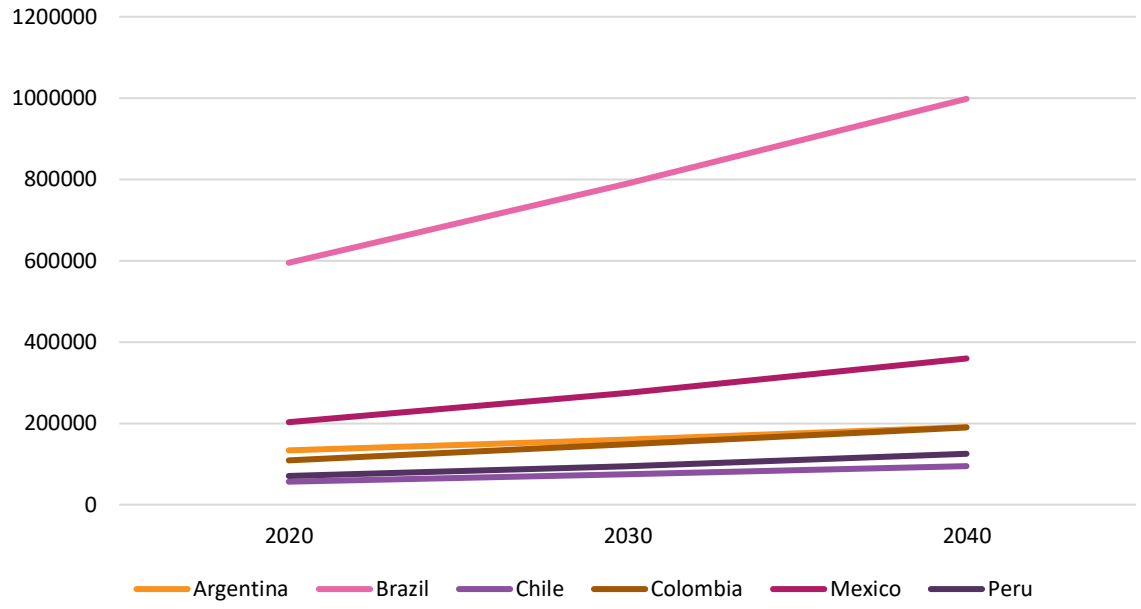


Figure 35: Estimated Incident Cases Over Time, Latin American Comparison (Source: IARC Cancer Tomorrow (11)).



By 2040, Argentina is projected to see a total of 190,779 incident cancer cases which is a 47.8% increase from the 2018 figure (11). Though a substantial increase is certainly alarming, Argentina has the lowest percentage increase in incident cases among comparable countries. This projected rate of increase, however, is higher than North America and Western Europe at 46.3% and 27% respectively (11) as evidenced in Figure 36.

Figure 36: Estimated Percentage Increase in Number of Total Incident Cases of Cancer Between 2018 and 2040 (Source: IARC Cancer Tomorrow (11)).

	Argentina	South America	North America	Western Europe	World
2020	3.5	6.0	4.4	2.8	5.0
2030	23.8	39.4	27.5	16.4	33.4
2040	47.8	76.2	46.3	27.0	63.4

12.2. Most Common Cancer Types and Incidence

Disaggregating the total projections above by cancer type, the highest increases in incidence from 2018 to 2040 for Argentina will be seen in prostate cancer (58%), pancreatic cancer (55.3%) lung cancer (54%), and colon cancer (53.1%). Such findings are of particular concern because prostate, colon, and lung cancers are already the second, third, and fourth most common type of incident cancer respectively. Despite these

substantial increases, breast cancer is still projected to be the most common form of incident cancer in 2040 with over 30,000 new cases, outpacing colon cancer, the second most common type of incident cancer in 2040, at about 19,000 new cases (Figure 37). For the subsequent discouse on estimates disaggregated by cancer type, a difference in methodology exists between GLOBOCAN datasets. Current incident and mortality estimates group colon, rectal, and bowel cancers together under the label colorectal cancers, while future projections disaggregate the group with colon cancer being the most common. For our analyses, colorectal cancer was simplified to colon cancer when disaggregating by cancer type.

Figure 37: Estimated Percentage Increase in Incident Cancer Cases Between 2018 and 2040, by Argentina's 10 Most Common Cancer Types (Source: IARC Cancer Tomorrow (11)).

	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
Breast	39.7	44.4	55.5	56.6	69.8	12.2	20.2
Prostate	58.5	104.4	99.1	114	127	25.5	38.5
Colon	53.1	85.7	89.9	102.4	101.3	36.9	41.2
Lung	54	89.6	98.3	113.4	122.3	21.9	41.5
Cervix Uteri	30.2	39.1	43.1	50.9	62	7.4	7.1
Kidney	48.7	71.5	68.5	71	88.5	23.7	33.9
Ovary	38.9	42.6	6	58.1	65	23.3	25.8
Corpus Uteri	44.9	52.6	65.7	74.6	73.5	20.5	25.4
Pancreas	55.3	88.7	102.9	114.5	116.4	34.1	41.4
Testis	18.2	11.7	1.5	3.7	15.2	1.1	4.2

Though many of the subsequent tables report raw numbers of incident cancer cases within countries, it is important to note that these increases in cancer incidence outpace population growth or risk associated with population aging (Figure 38).

Figure 38: Projected Number of New Cases of Incident Cancer for Argentina's 10 Most Common Cancer Type (Source: IARC Cancer Tomorrow (11)).

Breast Cancer Future Incidence Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	22308	5628	90225	14124	28958	57090	56601
2030	26128	6778	112951	17778	37761	60849	62142
2040	30124	7787	133118	20957	46315	63020	66612

Prostate Cancer Future Incidence Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	12080	7078	91653	13876	27078	67311	58545

2030	14807	10109	128706	20457	39894	76836	69246
2040	18384	13443	169252	27199	56864	81523	78092

Colon Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	12870	3912	29907	6099	11204	30553	32187
2030	15632	5290	40866	8647	15660	35798	38210
2040	19005	6827	53084	11456	21053	40545	43999

Lung Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	12028	4143	37088	6358	8418	48521	54187
2030	14602	5699	51785	9306	12249	54310	64565
2040	17855	7345	68429	12498	17363	57437	74047

Cervix Uterine Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	4616	1608	17030	4046	8295	3084	3456
2030	5250	1900	20466	4990	10514	3176	3550
2040	5836	2154	23323	5815	12744	3295	3674

Kidney Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	5069	2068	11322	1910	4799	16342	14102
2030	6076	2705	14649	2500	6541	18331	16324
2040	7269	3345	18010	3066	8467	19683	18321

Ovarian Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	2407	877	7046	2551	5031	5100	6571
2030	2815	1051	8893	3219	6453	5683	7383
2040	3237	1199	10697	3816	7850	6148	8060

Corpus Uterine Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	2499	982	9675	1694	7738	10879	10982
2030	2963	1221	12424	2257	10223	12156	12347
2040	3496	1424	15091	2764	12609	12750	13388

Pancreatic Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	5060	1744	13540	2505	5220	14417	11765

2030	6185	2380	19048	3657	7516	16781	13980
2040	7577	3086	25553	4958	10493	18734	16086

Testicular Cancer Future Incidence Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	1759	995	3789	1302	4701	3204	2448
2030	1914	1056	3853	1349	5086	3209	2489
2040	2038	1096	3816	1331	5303	3246	2544

Across the comparable countries, cancer incidence is projected to substantially and consistently increase for the next 20 years. Specifically, prostate, colon, lung, and pancreatic cancers are projected to double or nearly double by 2040 in Chile, Brazil, Colombia, and Mexico but not Argentina. Generally, Argentina has lower projected increases in incidence compared to other large Latin American countries, yet a higher projected increase in incidence compared to European countries like France and the UK.

13. Appendix E: Projected Mortality from Cancer in Argentina and Selected Comparator Countries

13.1. Cancer Mortality Projections

Similar to the incidence projections, Argentina's mortality projections are unequivocally increasing, yet by less than other large comparable countries and more than European countries like France the UK (Figure 39).

Deaths from prostate cancer are projected to increase the most of any cancer type in Argentina, with a 71% increase in deaths between 2018 and 2040. However, in Chile, Brazil, Colombia, and Mexico, prostate cancer deaths are projected to increase between 147% and 160% from 2018 to 2040, while Argentinian projections at 71% fall more in line with France and the UK at 74.1% and 75.9% respectively (Figure 39).

Figure 39: Projected Percent Increase in Number of Deaths Between 2018 and 2040 by Argentina's 10 Most Common Cancer Types (Source: IARC Cancer Tomorrow (11)).

Percent Increase in Number of Deaths Between 2018 and 2040 by Cancer Type							
	Argentina	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
Breast	47.5	66.9	72.6	78.3	86.6	33.9	35.7
Prostate	71.0	154.2	147.3	160.2	147.0	74.1	75.9
Colon	57.4	101.8	105.5	117.7	111.4	50.1	54.9
Lung	54.6	92.9	100.0	118.4	124.4	28.6	44.9
Cervix Uteri	35.2	60.8	57.9	75.9	83.6	20.4	23.4
Kidney	54.3	92.2	93.7	93.9	109.4	43.4	48.4
Ovary	45.2	59.4	78.3	80.8	87.3	34.7	35.9
Corpus Uteri	50.9	76.6	94.3	104.8	106.6	40.1	39.0
Pancreas	55.9	90.5	105.1	116.2	119.0	39.4	43.4
Testis	22.9	20.9	16.1	9.2	32.2	13.9	13.2

In 2040, the cancers with the highest number of deaths for Argentina, in order, are projected to be lung cancer (16,482 deaths), colon cancer (11,746), breast cancer (9,411), and prostate cancer (6,797). Figure 40 below outlines the projected number of deaths disaggregated by cancer type in 2020, 2030, and 2040.

Figure 40: Projected Number Deaths for Argentina's 10 Most Common Cancer Types (Source: IARC Cancer Tomorrow (11)).

Breast Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	6605	1778	19567	3942	7353	13639	12144
2030	7902	2273	25561	5247	9970	15539	14085
2040	9411	2817	31825	6600	12847	17881	16078

Colon Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	7730	2416	16491	3661	6121	14950	12202
2030	9512	3381	23285	5353	8700	18104	15143
2040	11746	4570	31539	7378	12049	21790	18269

Cervix Uterine Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	2301	761	8510	1886	4386	1492	1055
2030	2659	961	10693	2497	5882	1614	1169
2040	3017	1166	12759	3123	7568	1772	1275

Ovarian Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	1368	495	4453	1338	2951	4037	4279
2030	1626	627	5916	1800	4012	4676	4984
2040	1918	749	7451	2264	5178	5289	5645

Pancreatic Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	4858	1685	12761	2322	4816	13718	10391
2030	5949	2314	18035	3404	6980	16193	12426
2040	7300	3008	24315	4631	9801	18527	14398

Prostate Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	4099	2439	18161	3441	7459	9339	13708
2030	5243	3773	27856	5468	11294	12043	18245
2040	6797	5771	41368	8239	17082	15670	23122

Lung Cancer Number of Deaths Projection							
Type	**Argentina**	**Chile**	**Brazil**	**Colombia**	**Mexico**	**France**	**UK**
2020	11064	3833	34260	5693	7254	38626	39059

2030	13444	5318	48048	8412	10598	44210	47035
2040	16482	6909	63700	11435	15110	48181	54608

Kidney Cancer Number of Deaths Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	2403	1047	4373	725	2922	5473	4681
2030	2927	1438	6011	1006	4157	6537	5699
2040	3570	1885	7911	1305	5697	7598	6713

Corpus Uterine Cancer Number of Deaths Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	930	314	2660	388	1211	2778	2478
2030	1117	418	3700	556	1720	3267	2926
2040	1351	521	4803	731	2330	3775	3338

Testicular Cancer Number of Deaths Projection

Type	Argentina	Chile	Brazil	Colombia	Mexico	France	UK
2020	208	117	486	175	588	138	68
2030	230	128	519	186	673	145	73
2040	252	139	554	189	755	156	77

14. Appendix F: Projected Incidence of Childhood Cancers and Estimates of 5-Year Net Survival for Selected Childhood Cancers

After disaggregating by cancer group, Leukemia, CNS Neoplasms, and Lymphoma and related cancers are the most common childhood cancer groups in Argentina at a projected incidence of 760, 325, and 279 cases respectively. Together, these three cancer groups account for 65% of all incident childhood cancer cases. Figure 41 outlines the each of the 10 childhood cancer groups in Argentina by incidence, with Figure 42 defining which specific cancer types compromise each cancer group (15).

Figure 41: Projected Number of Incidence Cases of Childhood Cancer in 2030, by Cancer Group (15).

Cancer Group	Projected Number of Incident Cases in 2030 (per 100,000 population)
Leukemia	760
CNS Neoplasms	325
Lymphoma and Related Tumors	279
Soft Tissue Sarcoma	146
Bone Tumors	108
Renal Tumors	103
Neuroblastoma	79
Germ Cell Tumors	79
Carcinoma and Melanoma	78
Retinoblastoma	68
Hepatic Tumors	33
Other and Unspecified	32

Figure 42: Cancer Group Definitions (15).

Cancer Group	Cancer Type
Leukemia	a. Lymphoid
Leukemia	b. Acute myeloid
Leukemia	c. CMD

Leukemia	d. MDS & other
Leukemia	e. Unspecified
Lymphoma & Related	a. Hodgkin
Lymphoma & Related	b. Non-Hodgkin except BL
Lymphoma & Related	c. Burkitt (BL)
Lymphoma & Related	d. Lymphoreticular
Lymphoma & Related	e. Unspecified
CNS Neoplasms	a. Ependymoma
CNS Neoplasms	b. Astrocytoma
CNS Neoplasms	c. CNS embryonal
CNS Neoplasms	d. Other gliomas
CNS Neoplasms	e. Other specified
CNS Neoplasms	f. Unspecified CNS
Neuroblastoma	a. (Ganglio)neuroblastoma
Neuroblastoma	b. Peripheral nervous
Retinoblastoma	Retinoblastoma
Renal Tumors	a. Nephroblastoma
Renal Tumors	b. Renal carcinoma
Renal Tumors	c. Unspecified
Hepatic Tumors	a. Hepatoblastoma
Hepatic Tumors	b. Hepatic carcinoma
Hepatic Tumors	c. Unspecified
Bone Tumors	a. Osteosarcoma

Bone Tumors	b. Chondrosarcoma
Bone Tumors	c. Ewing & related
Bone Tumors	d. Other specified
Bone Tumors	e. Unspecified
Soft Tissue Sarcoma	a. Rhabdomyosarcoma
Soft Tissue Sarcoma	b. Fibrosarcoma
Soft Tissue Sarcoma	c. Kaposi sarcoma
Soft Tissue Sarcoma	d. Other specified
Soft Tissue Sarcoma	e. Unspecified
Germ Cell Tumors	a. CNS germ cell
Germ Cell Tumors	b. Other extragonadal
Germ Cell Tumors	c. Gonadal germ cell
Germ Cell Tumors	d. Gonadal carcinoma
Germ Cell Tumors	e. Unspecified gonadal
Carcinoma & Melanoma	a. Adrenocortical
Carcinoma & Melanoma	b. Thyroid
Carcinoma & Melanoma	c. Nasopharyngeal
Carcinoma & Melanoma	d. Melanoma
Carcinoma & Melanoma	e. Skin carcinoma
Carcinoma & Melanoma	f. Other & unspecified
Other & Unspecified	a. Other specified
Other & Unspecified	b. Other unspecified

Further disaggregating the cancer groups into cancer types, the three most-common types of childhood cancer regardless of group are lymphoid leukemia (553 projected cases in 2030), acute myeloid leukemia (127), and astrocytoma (107). Other cancers with over 75 projected incident cases in 2030 are non-Hodgkin lymphoma, Hodgkin lymphoma, nephroblastoma, CNS embryonal tumors, and ganglioneuroblastoma. The top 10 childhood cancer types account for 65.1% of all childhood cancer in Argentina, indicating a relatively fragmented concentration of incidence among cancer types (15).

In addition to incidence and diagnosis at a country-level, the study also estimated 5-year survival from 2015-2019 as a percentage of diagnosed patients for each cancer type. The lowest survival estimate for a top 10 childhood cancer type was CNS embryonal cancer, with a survival rate of 56.93%. In contrast, Hodgkin lymphoma has the highest 5-year survival rate at 88.97% of diagnosed cases. Lymphoid leukemia, as the most common type of incident cancer, has an estimated survival rate of 75.64% of cases in Argentina (15).

Figure 43: Estimated 5-Year Survival for the Top 10 Incident Childhood Cancer Types in Argentina (15)

Cancer Group	Cancer Type	Projected Incidence in 2030 (per 100,000 population)	5 Year Survival (% of diagnosed cases)
Leukemia	Lymphoid	553	75.64%
Leukemia	Acute Myeloid	127	62.99%
CNS Neoplasms	Astrocytoma	107	70.68%
Lymphoma & Related	Non-Hodgkin except Burkitt	97	80.40%
Lymphoma & Related	Hodgkin	95	88.97%
Renal Tumors	Nephroblastoma	93	81.62%
CNS Neoplasms	CNS Embryonal	83	56.93%
Neuroblastoma	Ganglioneuroblastoma	7	73.87%
Retinoblastoma	Retinoblastoma	68	83.82%
Bone Tumors	Osteosarcoma	63	62.15%

15. Appendix G: Analysis of Argentinian Health System and Its Performance Generally and in Relation to Cancer

15.1. Health System Goals

15.1.1. Population Health

Argentina is facing a dual health burden from communicable and noncommunicable diseases (NCDs) which are increasing in the country. Major communicable diseases affecting the country are Zika virus, dengue, and chikungunya, and there is increasing focus on these vector-borne communicable diseases as future outbreaks of Zika and dengue are feared. Neglected tropical diseases, like Chagas disease, are also present. Like other Latin American countries, decreasing the maternal mortality ratio is a major health priority (16).

Argentina has had an integrated NCD plan since 2009– one of the earliest countries to do so. Almost 80% of all deaths in Argentina are caused by NCDs, with cancer and heart disease being the main contributors to death (85). Smoking is a major problem as almost a quarter of the population smokes (86). The effects of aging are also a major population health issue and priority in Argentina, especially cancer (49). In 2010, the government started an integrated action plan for cancer to begin to address the rising cancer burden in the country. In 2018 alone, there were more than 123,000 new cancer cases reported. Though cancer rates have fallen slightly over the past few years, they are a priority considering the high burden of mortality. The deadliest cancers for men include lung, prostate, and colorectal cancer, and for women are breast and colorectal cancer.

According to the projections, it is estimated that by 2030, the incidence of cancer cases in Argentina will grow by 23.8%, and by 2040, the percentage will reach 47.8% (9). Regarding the leading causes of mortality, 22% of these deaths are attributed to cancer, the second most frequent cause. This is the fourth-highest rate in Latin America behind Chile, Uruguay, and Costa Rica (87).

The Northwest regions (Jujuy, Salta, Tucuman, Catamarca, La Rioja, Santiago del Estero) and Northeast (Formosa, Chaco, Corrientes, and Misiones) are the most socioeconomically deprived provinces in the country. These regions have the highest poverty rates and the worst health outcomes in the country, the most typical case being Corrientes with 49.3% population of its population in poverty (69).

Life expectancy varies considerably among provinces in Argentina with higher levels in the south and much lower levels in the northeast region of the country. These differences are also observable for gross all-cause mortality rate, mortality from cardiovascular disease and cancer, as well as for maternal and neonatal mortality and the potential years of life lost from these conditions (69). For example, in 2016, in Chaco in the Northeast Region, the potential number of life years lost per 100,000 population (0-70 years) was 113.87 whereas in La Rioja, in the Coyo region this level was 60.60 (88).

In Northern regions, a higher percentage of the population depends exclusively on the public health system (44% in the Northwest and 51% in the Northeast). Although these two areas have the highest number of health facilities in relation to the population (around 4.0 per 10,000 inhabitants), these facilities are mostly primary healthcare centers, and most of which do not have permanent medical staff and provide

continuous care. The number of doctors per 1,000 inhabitants in the northern zone is among the lowest in the country (89).

To combat high rates of cervical cancer, Argentina launched a nationwide Human Papilloma Virus (HPV) vaccination program for school-age girls in 2011. The program is considered a success as it incorporated HPV vaccination onto the national immunization schedule, making it both mandatory and free of charge. In addition to the political will, successful strategies employed in this policy change included having a clear implementation plan, involving the public, other health professionals and other government sectors, such as the Ministry of Education (90).

Risk factors for cancer are also increasing. Argentinian experts and data from surveys suggest a projected a rise in annual cancer cases due to tobacco use, cancer causing infections (primarily HPV), an aging population, and increasingly Western lifestyles. Currently, Argentina's most common cancers are breast, cervical, and colorectal cancer in women and prostate, lung and colorectal cancer in men (69).

Tobacco is the most important cancer risk factor for cancer in Argentina, accounting for 26% of all cancer deaths and 84& of lung cancer deaths. Argentina has a national smoking rate of 22%, with an especially high rate (38%) in Buenos Aires (89). Trends for the future are alarming, as 28% of children aged 13-15 years are smokers (88). Despite the recent anti-tobacco laws, tobacco-related cancers are expected to rise and continue to be a major public health issue for years to come (91). This recent passage in tobacco legislation is consistent with other Latin American countries, however Argentina remains the only country in South America not to have ratified the 2005 WHO Framework Convention on Tobacco Control and tends to lag behind on smoking rates because of a politically powerful domestic tobacco industry (87). Approximately two-thirds of all adults are overweight, while about 40% of adults have insufficient physical activity. Overweight and obesity also affects youth, with over 80% of school-going adolescents 11-17 years old not having enough physical activity in 2015 (91).

Preventive care is particularly deficient among the more vulnerable population, who are more likely to be exclusively covered by the public health system, and are less likely to have cervical cancer screening (60% compared to 72% of the rest of the population), receive mammographs among women aged 50–70 (48% versus 66%), and have a high blood pressure control test (71% versus 82%) (50).

15.1.2. Financial Protection

Argentina spends more than any other Latin American country on healthcare, amounting to about 10% of its GDP. Out-of-pocket (OOP) health expenditures account for 16% of Argentina's current health expenditure as of 2016, down from 32% in 2006. Social health insurance, or the *Obras Sociales*, accounts for 41% of current health expenditure, up from 29% in 2006 (2). Around 20% of health expenditure in the public sector is from the federal government, while the private sector accounts for 30%. About two-thirds of private health sector expenditure comes from household OOP. This level of private health spending is on par with that of Uruguay (30%), Chile (39%), but is substantially lower than that in Brazil (57%) (92).

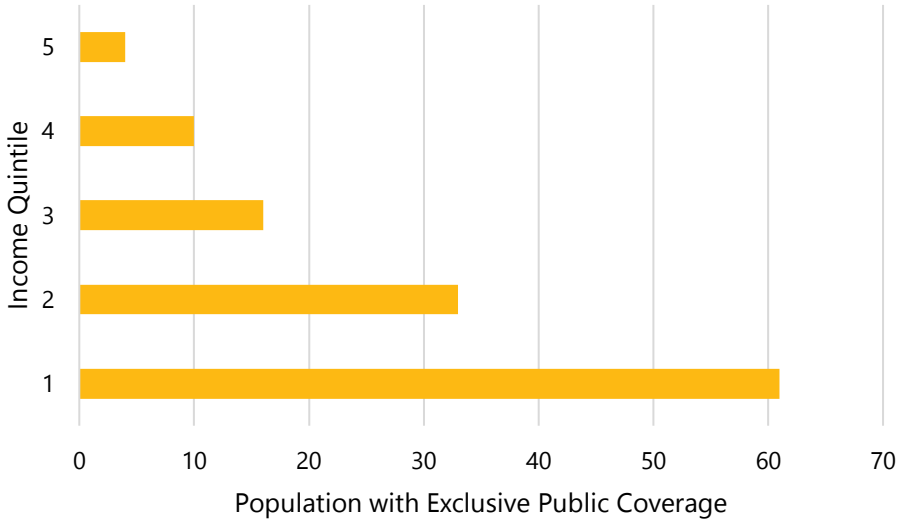
Figure 44: Health spending in Selected Latin American Countries, 2016 (Source: Past, present, and future of global health financing: a review of development assistance, government, out-of-pocket, and other private spending on health for 195 countries, 1995-2050 (93)).

Country	Health spending per capita (US$)	Annualized rate of change in health spending per capita, 1995–2016 (US$)	Health spending per GDP	Government health spending as a % health spending	Out-of-pocket spending as a % health spending
Argentina	1071	0.68%	7.9%	76.1%	14.8%
Mexico	505	2.64%	4.2%	52.5%	40.0%
Brazil	1114	3.35%	8.0%	33.3%	43.9%
Colombia	358	0.81%	3.9%	65.1%	20.6%
Chile	1244	4.55%	6.8%	58.5%	34.7%
Peru	337	3.59%	4.5%	62.7%	29.1%

Argentines of all income experience catastrophic health expenditures (CHE), which affects about 5.5% of households in Argentina. About 60% of CHE is from costs related to medicines. User fees have recently been introduced with the newly implemented structure of the *Obras Sociales*. OOP health expenditures and CHE from user fees contribute to worsening poverty levels in the country and are responsible for causing impoverishment in 1.7% of households. The income quintiles with the second and third lowest income are more likely to experience CHE than the first and fifth quintiles, suggesting that the middle class bear the greatest burden. About half of those in the highest income quintile have private health insurance, which better protects them from CHE (94,95).

The Argentina government does provide some protection from CHE depending on the patient's location of residence. Insurance through the private insurers or *Obras Sociales* will cover healthcare costs. For the many Argentines who are uninsured, the province where the patient resides will cover the costs. Any medication or treatments that are especially costly can be paid for through a fund that is part of the Special Programs Administration under health services (49).

Figure 45: Percentage of population with exclusive public coverage by income (92).



In 2002, the Superintendence of Health Services established for all the *Obras Sociales* of the country the Programa Médico Obligatorio (PMO) formed by a basic basket of mandatory coverage, through which beneficiaries have the right to receive medical benefits assistance not disadvantaged by pre-existing illnesses or a medical examination prior to admission to the scheme.

The PMO is based on the principles of primary healthcare, emphasizing health preservation rather than curative actions reinforcing prevention programs and providing comprehensive coverage through a biopsychosocial approach.

The healthcare approach envisaged by the PMO ensures the provision of integrated healthcare provided at the different levels of primary, secondary, and tertiary care, providing coverage in the areas of prevention, diagnosis, and treatment, for both medical and dental care. With PMO, the patients are entitled to comprehensive national health coverage, updated annually, including for patients residing in inhospitable or impoverished areas.

The PMO includes all the mandatory benefits that the *Obra Social* has to cover, whatever the nature of the health plan. For the benefits included in the PMO, there are no grace periods, and patients have the right to receive these benefits from the moment of their affiliation.

Concerning cancer, the program covers the following components:

- Breast and cervical cancer prevention tests, including diagnosis and treatment of all malignant conditions.
- 100% coverage for inpatient hospital care.
- In general, the drugs included in the program are covered by 40%. However, in specific cases (cancer medications) the coverage is 100%.
- 100% coverage of palliative care: to relieve the pain, symptoms, and psychosocial needs of the patient.

For cancer, in the case of patients who do not have an *Obra Social*, and who are therefore covered by the national health system, they have access to the National Oncological Drug Bank, which is aimed at cancer

patients enrolled in the CUS. The only requirement to access the National Oncological Drug Bank is the presentation of documents that prove that they only have coverage from the public health system and that the medications are included in the current list of essential drugs (19).

15.1.3. User Satisfaction

There is little data on user satisfaction of the Argentinian health system. The available data suggests that quality improvement in the health sector is needed. General public perceptions are that the quality of healthcare provided in the public sector is much lower than the healthcare provided in the private sector. In particular, studies have reported perceptions of low-quality in primary healthcare (96). According to a recent multi-country survey, Argentines had low expectations for the quality of their healthcare and have expressed personal experience of receiving "low-quality" care, which can adversely impact on users' uptake of healthcare services (97).

The National Cancer Plan proposes the development and implementation of a quality and safety management strategy for the care provided to patients with cancer(19). A multidisciplinary team is needed to provide healthcare services to cancer patients across the care continuum to ensure high quality services are provided for early detection, diagnosis, treatment, rehabilitation, palliative care, and end-of-life support. Different intensity of services is required at each stage of the care process and variability of care can affect quality of the services provided and the health outcomes. Standardization of the care process through guidelines and care pathways can help reduce unnecessary variability the possibility of low-quality care.

Improvement in the quality and safety of care provided to patients with cancer and reducing harm is an objective of the National Cancer Plan, taking into account the available evidence, the feasibility of implementing the available evidence, equity and sustainability of the system. The quality improvement program is aimed at the patients and citizens who receive healthcare services for cancer, health professionals (clinicians and managers), institutions, and healthcare providers in the public sector (19).

15.2. Health System Objectives

15.2.1. Equity

The Argentinian Ministry of Health has suggested that inequity is one of the major drivers of Argentina's most pressing health issues (92). Social determinants of health are a major contributor to the prevailing health inequities. About 36% of the Argentine population are uninsured – mostly populations in lower income quintiles who also experience more catastrophic health expenditures. To address this gap coverage, the MoH is trying to expand social health insurance coverage for those who are not covered by the public or private sector insurance schemes (94).

Differences in health outcomes among different population groups reflect the fragmented health system, in which those with access to the contributory social health insurance schemes are able to receive more effective healthcare services, at least for prevention and for the control of chronic diseases, than those who rely on the public healthcare delivery system. Given that access to different health systems is associated with labor market status, there is a strong relationship between socioeconomic status and access to

effective healthcare services. Two-thirds of the population have access to the contributory social or private insurance systems, compared with less than 30% for those in the poorest income quintile (91).

Geography is another major barrier to equity in access and coverage of healthcare services in Argentina. There are inequities in access to healthcare and health insurance coverage based on geography – poorer provinces have lower funding, capacity, insurance coverage and access to healthcare services. Mortality rates are also higher in poorer provinces than the national average. For example, compared to poorer provinces, wealthier provinces have infant mortality rates that are two-times lower and maternal mortality ratios that are eight-times lower. This regional inequity may be due to differences in the amounts of funding allocated to and invested by provincial governments in health, and the fact that the federal government has limited authority over provinces in enforcing quality improvement for healthcare services and procedural measures related to health (94).

Poorer provinces also have higher mortality rates for cancer. For example, the mortality rates for cervical cancer is eight times higher in poorer provinces compared with the richest. Research suggests that the observed inequities in cancer mortality rates based on provinces is due to regional differences in coverage of preventive services and for cancer screening and the time delays between diagnosis and treatment (92).

Inequities also exist between the public and private systems health systems in access to healthcare services for cancer, where social, economic, and educational attainment and disease patterns also differ. For example, there are substantial disparities in access to chemotherapy for patients with breast and lung cancer between public and private hospitals in Buenos Aires (98). Private healthcare organizations are concentrated in the Federal Capital, Buenos Aires, Santa Fe, Rosario, Córdoba, and Mendoza. Sixty-five percent of medical technology, and equipment for imaging diagnostics (ultrasound, computerized tomography, magnetic resonance imaging, and nuclear medicine) is concentrated within a radius of 60 kilometers from Buenos Aires (99).

The National Cancer Plan identifies equity as one of the main objectives of the plan and emphasizes a comprehensive approach to cancer. The plan stresses that inequities affect health outcomes for cancer, and the commitment of the MoH committed to fighting inequities in cancer and the development of high-quality healthcare services for cancer for all segments of the population.

15.2.2. Efficiency

The Ministry of Health also identifies inefficiency as a major problem for the health system in Argentina (92). The fragmentation of the health system contributes substantially this inefficiency and is a major contributor to geographical inequities in health outcomes. Fragmentation of the health system is both a cause and a consequence of the poor coordination between the national and provincial governments. While the national government sets norms and standards for how provincial governments should operate, there is little enforcement of these norms and as a result few provinces adhere to them.

The presence of more than 300 *Obras Sociales*, which provide health insurance coverage for those working in the formal sector, further contribute to health system inefficiencies due to duplication, lack of coordination and high administrative costs. Around 70% of the *Obras Sociales* have less than 30,000 beneficiaries, and 80% have less than 100,000, which are too small for as risk pools and in addition to inefficiencies due to high administrative costs make them financially vulnerable to high-cost medical events (85,92,94).

The National Cancer Plan proposes to improve efficiency in the health system and cancer control by monitoring and auditing healthcare providers involved in the management and control of cancer and the services provided for cancer across the care continuum. This will involve regular data collection, analysis and comparative benchmarking of performance, as well as review of medical records and site visits. Regular and systematic audit and monitoring will help identify where inefficiencies lie, and variances exist in performance against the targets set in the National Cancer Plan. The audits will also help determine the performance of the health staff working under the National Plan and help identify training needs (19). Where variances and underperformance exist, the MoH will provide resources and support to improve performance.

15.2.3. Effectiveness

The lack of coordination between the federal and provincial health systems undermines the effectiveness of Argentina's health system. Healthcare providers and unions, which have a strong voice and political leverage with the government, have opposed the consolidation of the highly fragmented *Obras Sociales*, the creation of a unified national health insurance scheme, and the integration of multiple healthcare provider systems that exist (85).

The sub-optimal effectiveness of the Argentinian health system is reflected in its relative under performance for health outcomes compared to peer countries. For example, the under-five mortality rate in Argentina is 9.9 per 1,000 live births (2018), which is a higher number compared with Chile, which spend far less per capita on health (100). The National Cancer Plan proposes that all healthcare services for the main types of cancer should be based on evidence-based guidelines and include interventions which have been proven to be cost-effective in national and international cost-effectiveness studies. The Plan also proposes the introduction of health technology assessment for medicines and high-cost technologies used in the management of the main types of cancer (19).

15.2.4. Responsiveness

Argentina's public health system is described as "traditionally supply-driven" and "poorly responsive to people demands and social preferences" (92). The health system's lack of responsiveness may be traced to the last two decades which have been characterized by political, social, and economic instability, with repeated changes in government, alternating between socialist to liberal parties, devaluations of the peso, high inflation, and social opposition (mainly by unions of workers and the general population) opposed to market-oriented economic liberalization policies. Although the government proposed major health policies, such as universal health coverage, strengthening of primary healthcare and digitalization of health services, these could not be implemented nationally. Universal health coverage, on the other hand, for which regulatory frameworks were developed in 2016, is still in the test phase in some small regions of the country. This economic crisis of the last two decades has limited the capacity of the government to decisively respond to the health problems affecting Argentinians. The worsening economic crisis, inflation, unemployment and poverty places is placing major strain on the health system.

The National Cancer Control Plan, launched in 2019, gives full responsibility to the National Cancer Institute for its implementation. However, without adequate resources and dedicated funding it is difficult to see how the plan could be implemented. The Plan, which is part of the policy aimed at introducing universal health coverage, has a clear objective to improve the responsiveness of the Argentinian health system to

cancer. Its purpose is to reduce cancer morbidity and mortality by improving early detection, providing timely access to most appropriate treatments, and strengthening the response capacity of the health sector for prevention and control of noncommunicable diseases and their risk factors.

The National Tobacco Control Program is a major example of improved responsiveness of the health system. Implemented since the end of 2003, the objectives of the National Tobacco Control Program are to prevent tobacco use, reduce consumption, and protect the population from exposure to secondary smoking and promote cessation. However, its implementation has been hampered by readily accessible tobacco products, positive image of tobacco consumption, high levels of exposure to tobacco smoke, and the low response capacity of the health system to provide services for smoking cessation. The National Cancer Plan aims to strengthen the National Tobacco Control Program by promoting tobacco-free lifestyles, limiting access to tobacco products, regulating promotion and marketing of tobacco products, creating smoke-free environments, and developing services for tobacco cessation with incentives for healthcare providers and users of tobacco products (19).

15.3. Health System Functions

15.3.1. Governance and Organization

Overall, Argentina is divided into 23 provinces and one autonomous city in Buenos Aires. These sub-national units are then divided into a total of 2,218 municipalities, with the City of Buenos Aires divided into 15 communities, then subdivided into 48 neighborhoods.

Provinces have substantial political, judicial, administrative, and fiscal autonomy, and the scope of municipal autonomy depends on the level of authority granted by the province. According to the 1994 Federal Constitution of Argentina, provinces can enact their own constitutions and laws, have the power to elect their authorities, and organize their own administrations of justice. The National Constitution establishes some autonomy of the municipalities, including the election of their own authorities, management of public works, police authority, some budget management, and the powers to levy taxes. In general, powers not delegated by the National Constitutions are then within the purview of the provincial state. As such, many important budget expenditure responsibilities lie at the provincial level – for example, basic healthcare and education – whereas revenues are mostly collected at the national level (63).

Healthcare is a constitutional right in Argentina, derived from one’s right to life and extends for the state to protect the prevention and treatment of disease in order to maintain an individual's health (101). In light of the legal precedence set by such a constitutional provision, healthcare delivery in Argentina remains fragmented with a mix of public and private sector providers.

Argentina's healthcare delivery system consists of three sectors: public, social security, and private. The public sector is made up of the national and provincial ministries, and the network of hospitals and public healthcare centers that provide free healthcare services to anyone who demands it, primarily aimed at people without social security and without payment capacity. The compulsory social insurance sector is organized around *Obras Sociales* which ensure and provide services to workers and their families. Most of the *Obras Sociales* deliver healthcare services through contracts with private providers and are financed with contributions from workers and employers. The private sector is made up of health professionals and

establishments that serve individual citizens, and the beneficiaries of *Obras Sociales* and private insurance – generally a population group with high income levels (63).

About half of the population uses the highly decentralized public system, with provincial or local governments empowered to prioritize or allocate funding as fitting their constituency. Primary care, for instance, is often regulated autonomously by each city, thereby encouraging local responsiveness at the expense of aggregated policies or analysis (92). In studies of neighboring health systems like Chile and Bolivia, decentralization has not been the panacea for addressing regional health inequities. Municipalities in both of these countries still have a reasonably restricted range of choice pertaining to health system allocations which has been further reduced over time. Redistribution efforts like Chile's Municipal Common Fund, which addresses inequitable allocations of health funding from municipal wealth, has been shown to improve equity between municipalities by decreasing the Gini coefficient (102).

Despite some benefits to decentralization, differences in provincial governance and infrastructure have led to disparate health outcomes and hamper the ability of the government to implement a national-level change for things like a national cancer registry. For instance, of Argentina's 24 provinces, 23 have at least one population registry. In aggregate, these cover about 30% of the population, but unfortunately, they do not all collect the same data, nor do they structure their data the same way, even if they are the same data. Their quality standards also vary. Getting a precise countrywide picture of cancer incidence, survival and mortality is therefore difficult (87).

15.3.2. Health Financing

Argentina spends more of its GDP on healthcare than almost all other Latin American countries at about 8.5% of total GDP, though this figure has remained relatively stable over the past decade. About one-third of total health expenditure is public spending, one-third is spending from the *Obras Sociales* discussed further below, and one-third is out-of-pocket spending on private premiums, co-payments, deductibles, or uncovered benefits (94).

Obras Sociales are organizations 'responsible for the provision of health and medical care services for the country's labor force (103). Managed by worker's unions, *Obras* have been historically organized according to the occupation of the beneficiary. Since 2000, however, formally employed workers have the freedom to choose among any *Obra* administered by another worker's union. Though there are more than 300 *Obras* in Argentina, the market is relatively concentrated with the top 30 *Obras* holding 73% of the beneficiaries and 75% of resources. By name, the top three *Obras* are those of the public employees; OSDEPYM (private business, professionals, and independent workers); and healthcare managers. *Obras* vary greatly in quality, efficiency, equity and effectiveness, in part due to the fact they are funded by compulsory payroll taxes where employees and employers contribute 3% and 6% of total pay respectively. To address this, there is a Solidarity Redistribution Fund to address such beneficiary inequities.

Adding to the issue of fragmentation, *Obras* do not represent a government agency but rather a pool of independent worker's organizations that at one point acquired the role of healthcare administrators and providers. With each *Obra* having its own administrative procedures, healthcare organizations must navigate the byzantine maze of different *Obra* reporting and reimbursement mechanisms. Another important note is that only formally employed workers are covered by *Obras*, so in times of economic crises with rising unemployment or informal sector employment, the number of people covered declines.

When segmenting the population by insurance coverage, 36% of people use the public system. The 196 different private insurers cover 16% of the population, including the 11% that have private coverage via the *Obras Sociales* and the 5% that have private insurance coverage via premiums paid out-of-pocket. The different forms of Social Security are the largest insurer at 63% of all Argentinians, with 36% of the population being National *Obras Sociales* Affiliates, 11% using the retirees fund (Programa de Atención Médica Integral; PAMI) managed by the National Institute of Social Services for Retirees and Pensioners (Instituto Nacional de Servicios Sociales para Jubilados y Pensionado), and 16% being Provincial *Obras Sociales* Affiliates.

Summing each of these three types of insurers (public, private, and Social Security) totals out to 115% of the total population, explained by the fact that 15% of the population has two types of formal insurance coverage. Of this figure, 11% have double coverage between private and social security because of their *Obra Social* and the remaining 4% use another form of multiple formal coverages. Dissatisfaction with the social security or public systems can lead formal workers to supplement their coverage with an additional private insurance plan (95). Because private sector insurance coverage often overlaps with other forms of insurance, it is difficult to estimate the degree to which individuals are dependent on public or private insurances. International competition has also been increasing, with American, Swiss, and other foreign private insurers entering the Argentinian insurance market (92)

15.3.3. Resource Management

As mentioned above, a highly fragmented health system has led to the inefficient use of health resources. Conducting an accurate assessment of current resources, alleviating communication barriers between provincial and national stakeholders, and standardizing some of the disparate sub-systems at the provincial level would be important steps to improving resource management. Additionally, individuals taking legal action against the government as a method of increasing their access to healthcare, and leveraging their right to do so, has led to major increase in litigation costs for both individuals and systems that further breed inefficiencies. In a critique of the Argentinian health system efficiencies, Rubenstein outlines five primary sources of inefficiency paraphrased below:

- First, a catalogue of covered benefits (Plan Medico Obligatorio; PMO) instituted in 1995 and embodies healthcare as a constitutional right. Over time, the catalogue has expanded the number and range of benefits covered and today is one of the most inclusive in the world, however, the coded catalogue is greatly outdated and there is no common nomenclature for diagnoses and procedures. As a result, every payer or provider of every segment has developed its own nomenclature.
- Second, there is no formal clearing or reimbursement mechanism for any services in any of the segments of coverage. Thus, an individual with formal coverage can receive care at a public facility at no cost and its insurance company may never receive a bill for it.
- Third, there is overlap in insurance beneficiaries, for example when people have both Obra and private insurance, or *Obra* and PAMI insurance. It is estimated that between 30 to 50% of the population has double or even triple affiliation (104).
- Fourth, there is a weak legal framework binding all healthcare related activities and segments, like every segment has its own set of laws and regulations and is controlled by different government offices.

- Fifth, there is no health technology assessment agency. The state mainly considers safety issues when approving/rejecting applications for the inclusion of new medicines to technologies. The clinical, social, ethical, and economic implications of new medicines medical technologies are not evaluated. The introduction of new medicines and technologies is therefore virtually unrestrictedly and uncritically incorporated into the catalogue of covered benefits (92,94).

Historically, Argentina's health sector reforms have emphasized this decentralization and provincial management of the tax-funded health sector and unlike other countries in the region, there was no comprehensive plan to unify the health sector. Subsequent fragmentation entails a lack of coordination mechanisms across systems and subnational entities, leading to inefficient use of resources and highly unequal access to quality services. Recent efforts to introduce cost recovery by self-managed hospitals, in order to increase their budgets and promote competition among social health insurance funds, did not reduce fragmentation as expected. Although reforming the Solidarity Redistribution Fund and implementing a single basic package for the insured was an important step towards equity and transparency, the extent of risk pooling is still very limited (95).

15.3.4. Service Delivery

Healthcare services pertaining to cancer range from early detection, to quality treatment and palliative care. In a 2019 index of cancer preparedness by The Economist, Argentina performs about average among high-income or upper middle-income countries in terms of policy and planning, and care delivery. It scores very low, however, with health system governance, likely driven by the stark fragmentation within the system (105).

Instances of legislative commitment include the recently launched National Cancer Control Plan and individualized frameworks for early detection, diagnosis, treatment, and follow-up like that of breast cancer introduced in 2010. Despite the presence of policy commitments to breast cancer, Argentina lags behind its peer countries in terms of health outcomes related to breast cancer. Mammography screening and clinical breast examinations in both the public and private sectors are generally available, yet geographic and socioeconomic disparities remain between healthcare services delivered. Moreover, only 46% of women ages 50-70 years had received a mammogram within the past 2 years, according to data from 2005 (106).

In regard to hospitals, the public health sector was always known to have well-trained human resources and overall high-quality healthcare services despite a deteriorating infrastructure, lack of resources and long waiting times. Those using public hospitals are mostly uninsured citizens. However, insured citizens also use the public hospitals, particularly for more expensive and complex treatments, but hospitals are rarely reimbursed for such costly services, which cancer treatments tend to include (107).

Finally, palliative care is essential to providing patient-centric care for cancer. Globally, cancer and HIV cause the largest number of people to experience serious health-related suffering, thus intrinsically linking cancer to palliative care and pain relief. A recent *Lancet* Commission on the subject found that in Mexico, only 36% of the estimated need is being met for health conditions most associated with serious health-related suffering. Though Argentina was not explicitly included in the analysis, the poor performance of a large Latin American peer country presses an important concern about the state of palliative care in Argentina (108).

Key recommendations from the Commission on improving service delivery for palliative care include systematically tying palliative care and pain relief to national cancer planning, strengthening the research evidence base , promoting priority-setting metrics which include and value the patient perspective, and augmenting palliative care packages with chemotherapy, radiotherapy, and surgery (108).

16. Appendix H: Stakeholder Meeting Report

On December 6, 2019, the Integrated Cancer Control Initiative in Latin America (ICCI-LA), organized in Buenos Aires, a workshop on Cancer control policies in Argentina, which was attended by around 80 stakeholders belonging to public and private organizations.

The event helped to know firsthand what are the main challenges of the country in terms of Cancer, taking into account the context of the country. To address the various aspects of the issue, the stakeholders were divided into groups according to the different aspects of the Cancer policy approach: Organizational, Financial, Resource Availability and Administration, Service Delivery.

Finally, participants were encouraged to propose potential solutions to the identified challenges. The event helped to raise a discussion about cancer in Argentina. Hopefully, it will lead to a better understanding of the problem and improvement of cancer outcomes. The main challenges and opportunities identified are included below.

Agenda		
Time	Item	Speakers
9:00-9:15	Opening remarks	• Prof. Dr. Tabaré Vázquez Rosas – President of Uruguay (video)
9:15-9:30		• Senator Ángel Torres – Senator, Senado de la Nación
9:15-9:30		• Drs. Eduardo Cazap y Rifat Atun – Co-chairs, ICCI-LA
9:30-10:00	The challenge of cancer in Argentina	• Dr. Gustavo Jankilevich – Superintendencia de Servicios de Salud • Dra. Julia Ismael – Director, Instituto Nacional del Cáncer • Prof. Rifat Atun – Professor of Health Systems, Harvard University
10:00-11:15	Panel discussion	• Felicia Knaul – University of Miami • Vicky Viel Temperly – Fundación Donde Quiero Estar • Oscar Sagaz – Subsecretario de Salud de Mendoza • Ricardo Mastai – PAMI • Luis Balbiani – Foro Argentino de Medicamentos de Alto Costo • Ernesto Gil Deza – Instituto Oncológico Henry Moore • Gonzalo Recondo – Academia Nacional de Medicina
11:15-11:30	*Coffee Break*	
11:30-12:30	Roundtables part 1: Challenges in cancer prevention, care, and control	• 1A & 1B: Organizational • 2A & 2B: Financing • 3A & 3B: Resource availability and management • 4A & 4B: Service delivery
12:30-13:15	Groups report back	• All
13:15-14:30	*Lunch Break*	
14:30-15:30	Roundtables part 2: Opportunities and innovations in cancer prevention, care, and control	• 1A & 1B: Organizational • 2A & 2B: Financing • 3A & 3B: Resource availability and management • 4A & 4B: Service delivery
15:30-15:45	*Coffee Break*	
15:45-16:15	Groups report back	• All
16:15-16:30	Review and conclusions	• Drs. Eduardo Cazap y Rifat Atun – *Co-chairs, ICCI-LA*
16:30-16:40	Critical evaluation	• Dr. Robert Carlson – *National Comprehensive Cancer Network* • Felicia Knaul – *University of Miami*
16:40-16:45	Next steps	• Drs. Eduardo Cazap y Rifat Atun – *Co-chairs, ICCI-LA*
End of meeting		

Opening remarks
Prof. Dr. Tabaré Vázquez Rosas – President of Uruguay

- Noncommunicable diseases account for 70% of all deaths in 2015, and 35% of them are premature (age 35-70)
- Fixing this should also involve people outside the health sector
- We need more than research, more than good legislation, more than good intentions: policies and interventions must resonate with people
- Prevention is the first line of defense (including education)

Senator Ángel Torres – *Senator, Senado de la Nación*

- Need to create a national cancer registry that works well
- The difficulty is bridging the medical and public health community with policy
- This is the challenge of the century

The challenge of cancer in Argentina
Prof. Rifat Atun – Professor of Health Systems, Harvard University

Challenges:

- Argentina has the highest incidence of cancer in Latin America, but the data we have to understand the problem is not good
- We need data on the economic costs and benefits of cancer control in the country (in addition to direct medical costs, loss of productivity at work)
- We need this data to present a valid and compelling case to policymakers

Health system response:

- Argentina has many opportunities for initiatives from other countries
- Main challenges identified in the pre-meeting survey:

How do we move forward:

- Clear narrative about the challenge and the opportunity
- Cancer control status and performance analysis
- Priorities and foundations for this (hopefully, we will be better after meeting today)
- Case for investment, need time frame and key performance indicators
- New additional sources of financing
- In general, make this an inclusive and participatory process
- Take advantage of capacities, associations, platforms, and political will

Dr. Gustavo Jankilevich – Superintendencia de Servicios de Salud

- We need to speak the same language
- We need to change the paradigm: PowerPoints and clinical trials are not useful anymore, we need quality treatment
- Innovation is excellent, but it is only efficient under quality standards
- Value of innovation should not compromise financial and sustainability aspects of the system
- Inequality is a problem: health is determined by where you live and how much money you earn
- Education and prevention is the best medicine, 40% of cancers can be prevented

Dra. Julia Ismael – Director, Instituto Nacional del Cáncer

- Opportunities: National Cancer Institute, National Cancer Plan
- We have fragmented government and insurance systems
- Sustainability: have policy of the state and not policy of the national government
- Scalability of SSS, PAMI, and private sector

Discussion panel

Felicia Knaul – University of Miami, Vicky Viel Temperly – Fundación Donde Quiero Estar, Oscar Sagaz – Subsecretario de Salud de Mendoza, Ricardo Mastai – PAMI, Luis Balbiani – Foro Argentino de Medicamentos de Alto Costo, Ernesto Gil Deza – Instituto Oncológico Henry Moore, Gonzalo Recondo – Academia Nacional de Medicina

Priority challenges:

- Technological change is much faster than social change, which is faster than economic change, which is faster than political change; this is the Law of Disruption
- But we need to add the change in health systems because we are behind in terms of measurement and return on investment
- Need to expand access and coverage, especially in rural areas with innovation and technology, but must also address the social elements (all actors intersect, so need interdisciplinary measures)
- Need to improve accessibility and transparency
- Without a health system that works well, we have no chance of a cancer system that works well

- We often implement these things (programs, policies, etc.) but we do not evaluate how effective or efficient they are

Next steps:

- INC can put together a rigorous evaluation (investment patterns, current initiatives, cancer burden, etc.) at the provincial level given the decentralized nature of the system and can work with the provincial cancer centers in this regard
- It is feasible to identify 4-5 provinces of the 14 as "innovation centers" to learn and expand successes
- Need coordinated national financing instead of provincial-level financing
- Successful implementation of a national cancer plan
- Real universal coverage (not just name) with equitable access
- Response that encompasses continuity of care from prevention to palliative care to reduce general suffering; use the province of Mendoza as a model
- Focus on preventive measures (smoking, obesity, etc.) and no more tobacco

Roundtables part 1: Challenges in cancer prevention, care, and control

CHALLENGES: ORGANIZATIONAL	
Table 1A	Table 1B
Poor administration and planning • Problems with administration create problems with the provision of services • Lack of leadership and national organization around cancer • Lack of a national plan or law • Lack of funds to create a plan • Assets not used in a complementary way **Lack of transparency** • Lack of responsibility of politicians to implement the plan • Lack of transparency in planning process and implementation of comprehensive plans **Fragmentation** • Inequality in provision of services based on geography	**Low quality cancer registries** • Problems with data generation • Lack of the necessary data to make budgets and make reliable decisions **Fragmentation** • Fragmentation of actions at all levels of government and *obras sociales* • Lack of integration of all actors: public, private, *obras sociales* • Provincial differences in the public sector and among *obras sociales*

CHALLENGES: FINANCIAL	
Table 2A	Table 2B

Inefficiency and poor administration • Main problem is not lack of resources, but poor administration and low efficiency in their use • No new sources of financing are explored as public-private administration **High costs** • Cost of medications is high because they are imported medications • Prices of imported medicines are excessively expensive **Lack of technological innovation** • Low investment in research and development • Need solid legislative framework on R&D issues • No own production of medicines in the country • Patents are preserved by foreign laboratories, limiting the possibility of national production **Low quality cancer registries** • No reliable cancer registries, so established policies are not correct	**Issues with access** • Patients have to pay a lot of money when they go to the hospital **Lack of technological innovation** • Gap between *obras sociales* and new technologies • Medicines that are not approved as new technologies **Lack of standards for quality** • Lack of treatment protocols **Fragmentation** **Lack of human resources**

CHALLENGES: RESOURCE AVAILABILITY AND ADMINISTRATION	
Table 3A	Table 3B
Fragmentation • Prevention programs and public policies are not national in scope • Gaps between public and private policy **Inefficiency** • Waiting times for diagnostic tests lead to delays in treatment **Low quality cancer registries** • Hard to have a goal because we need data **Lack of availability of resources**	**Fragmentation** • Difficulty understanding the real burden, how finances are used, and if it is working **Inefficiency** • Lack of efficiency in terms of assets, expenses, and budget **Low quality cancer registries** • We lack confidence in current data to make decisions and define the problem correctly • We do not understand the magnitude of the problem or we cannot quantify it, so we cannot understand the resources we need to determine the budget **Lack of capacity** • Lack of capacity in rural and low-income environments to implement policies or respond to the burden of cancer

CHALLENGES: SERVICE DELIVERY

Table 4A	Table 4B
Issues with access • Problems with patient access to the system **Lack of standards for quality** – Problems with quality and standards of care **Lack of transparency** **Fragmentation**	**Issues with access** • Problems with access to services and medications in all sectors and levels of care • Lack of availability of information and education for patients **Lack of standards for quality** • Lack of quality control of services **Fragmentation** • Vertical integration of healthcare system • Lack of national protocol for cancer prevention and treatment that is applied in all settings • Lack of integration of the budget and finances **Issues with data generation** • Lack of data and statistics needed to identify problems and start addressing them

Roundtables part 2: Opportunities and innovations in cancer prevention, care, and control

OPPORTUNITIES: ORGANIZATIONAL	
Table 1A	Table 1B
Planning • Have an action plan that is monitored, can be implemented, and has a budget. Plan should include consensus among intersectoral actors, human resources, literacy, research studies, and that includes medium- and long-term vision • State policy that can be implemented over time: intersectoral table and strategic plan **Integration** • Create provincial institutes and generate greater access • Education at different levels and create an evaluation agency • Systematic review of laws and intersectoral table that is evaluated **Transparency** • Comply with transparency mechanisms. • Protocol for control, sanction systems, and audits, in addition to showing results **Equity** • Greater distribution of resources, with regulatory framework, or strengthen it • Guarantee the effectiveness of access to rights • Basic services and medications basket	**Implementation of demonstration projects** • Choose pilot plans to generate a diagnosis and local reality planning • One year for implementation with National Treasury or World Bank resources • Strengthen Federal Health Council, reference and counter-reference networks at the local level • Continue with implementation of electronic single recipe **Data generation** • Strengthening and investment in systems to generate better data • Reveal what are the problems and capacities that exist today **Availability of human resources**

OPPORTUNITIES: FINANCIAL	
Table 2A	Table 2B
Efficiency • Challenge is efficient and equitable use of resources instead of increased funding • Strategies for better use of the resource: joint purchase, drug production policies, process standardization • Use of new tools to improve efficiency in use of resources: evidence-based medicine, precision medicine (molecular profile), health technology **Technological innovation**	**Integration** • Creation of a national agency for negotiation of price of the medicines for the country, adjusting to Argentina's payment capacity • Regulation • Modification of the regulation of high-tech medicines and cost

• Support for research, development and knowledge production • Resource allocation mainly goes to prevention and early detection: this has to be accompanied by research and development • Development of knowledge protection policies (patents) and their use as a source of economic benefits for the country • Production of medicines developed in the country financed by foundations and the State as economic growth mechanism **Regulation** • Political decision: laws (Ricarte Soto Law - diagnoses and high-cost treatments), medication price regulation. • Joint purchases or shared risk systems that have an impact on the price of medicines • This not only has to do with public financing: fundraising, foundations, citizens	• Propose change in law of professional practice that prevents any doctor without knowledge to prescribe high-cost medications, service or medical equipment, to eliminate induced demand to use it • Drug price negotiation at country level: compare with similar countries to negotiate prices

OPPORTUNITIES: AVAILABILITY OF RESOURCES AND ADMINISTRATION	
Table 3A	Table 3B
Integration • Access to information by unified and computerized medical records, establishing interoperability between existing systems • State must be the one who coordinates and organizes the cancer care network **Efficiency** • Optimization of resources based on achieving efficiency in cancer control care throughout the process: cost recovery, work networks, and public-private partnerships including the industry • Prevention measures at the subsystem level: prevention has to take on greater importance **Evaluation** • Create an audit and control system • Treatment protocols that must be monitored • Regulation of programs developed by consensus • Create a map of actors who will participate in the consensus and prioritization that should be regulated • Situation diagnosis	**Integration** • Multi-stakeholder program with a legitimate external partner that facilitates dialogue and allows common language and build trust • Approaches between systems to improve prevention • Measures to avoid delays in individual access and services **Registries and data** • Generate data record culture • Project directories of records, ongoing training and understanding what data is needed • Create scanning strategy • Social communication policy for registration process **Education** • There are enough laws, we have to work on education • Update in curriculum of the medical school, public health, efficiency indicators

ADMINISTRATION: SERVICE DELIVERY	
Table 4A	Table 4B
Access • Patient education in school and work • Lower the bureaucratic burden and paperwork, computerize patient data that can be crossed between public and private **Transparency** • Culture of quality where the information is clear, accurate, and reliable • Data system **Evaluation** • Creation of agency that evaluates cost effectiveness of medicines **Equity** • Low resolution of automatic drug approval • Essential that doctors and patients have professional development opportunities **Prevention** • Screening of risk factors and active surveillance **Integration** • National protocol for treatment diagnosis	• Access • Unify and integrate processes so that patients can easily access high-cost medications • Compatible electronic medical records to evaluate efficacy and efficiency • Educate the patient to inform the demand side **Quality** • Create a quality culture • Bioequivalent medications, correctly evaluated **Prevention** • Strengthening primary care and cancer care • Cancer prevention calendar that is mandatory similar to that of vaccines **Integration** • Use of unified guidelines for healthcare providers • Unified and defined protocols for those who finance therapeutics • Create drug control agency for cancer patients • Develop integrated processes around cancer to avoid duplication of data and reduce bureaucracy • Creation of a unified health data center, to improve effectiveness and results

Review and conclusions
Drs. Eduardo Cazap and Rifat Atun – Co-chairs, ICCI-LA

Summary of recommended solutions from group:

- Common solution proposed by all groups was to improve allocation of existing resources and funding instead of finding *more* resources and funding
- Administration
  - Use current decentralization as an opportunity to introduce demonstrations and show what policies can work in practice
  - Use consensus building, inclusive governance, public-private partnerships, and multi-stakeholder roundtables facilitated externally for bi-directional information gathering in problem identification and design of implementation and solutions
  - Instead of making new laws, translate existing laws into action, ensure we can apply current frameworks, and improve education around them to improve capacity to act
- Financing
  - Improve resource allocation for prevention, diagnosis, and treatment using available budget and funds
  - Invest in research and development for new ways of using medication and diagnostics (like precision medicine) to improve efficiency and effectiveness
  - Create a framework for high-cost medications to reduce costs and improve access
- Technology, data, and evaluation
  - Generate new information technology as a source of economic growth
  - Develop a digitization strategy to enhance interoperability between systems
  - Optimize research use and efficiency to improve the whole care process, including appropriate data and analysis of data to generate intelligence that can be shared
- Integration
  - Develop integrated care processes to improve quality and access
  - Create a unified person-centered health data system that can reduce bureaucracy and data duplication, and improve efficiency, effectiveness, and equity
  - Focus on prevention by strengthening primary care through developing a mandatory prevention schedule, and develop networks, alliances, and intersystem approaches to improve primary and secondary prevention
- Quality and evaluation
  - Develop measures to prevent delays in access and diagnosis of services
  - Create a national agency for healthcare quality assessment to ensure medications are effective and safe
  - Create a culture of quality using 3 pillars: quality design, implementation, and audit to be applied similarly across country; use unified guidelines across all providers to improve efficiency and equity

Critical evaluation
Dr. Robert Carlson – National Comprehensive Cancer Network

- The challenges and opportunities facing Argentina are not unique
- In today's world we see many people emphasizing differences, but today we focus on the common, on agreements, on challenges, on potential solutions
- Despite all the experience of doctors and researchers, the power of the patient advocate is stronger than science, we also have to incorporate this to increase the probability of success

Felicia Knaul – University of Miami

- The patient's voice is incredibly important, and that is why we do it
- We are here to celebrate working together making the world a better place

Next steps
Drs. Eduardo Cazap and Rifat Atun – Co-chairs, ICCI-LA

- They were very impressed with the group's discussion of challenges and solutions
- Feedback and recommendations from this diverse group of stakeholders are key to the success of this project

Next steps for this project:

- Research team will incorporate feedback from this workshop and from the pre-meeting survey into a full-length health system report
- The report will be shared with the group in January for feedback and all meeting participants will have the chance to provide edits and comments.

We thank everyone for their attendance and input in the workshop.

End of the meeting

17. Appendix I: Stakeholder Meeting Participants

Participant Names and Affiliations

1. Atun, Rifat – **Harvard T.H. Chan School of Public Health**
2. Rendler-Garcia, Melissa – **Union for International Cancer Control (UICC)**
3. Gospodarowicz, Mary – **Princess Margaret Cancer Centre, Canada**
4. Berlin, Alejandro – **Princess Margaret Cancer Centre, Canada**
5. Rodin, Danielle – **Princess Margaret Cancer Centre, Canada**
6. Trifonopoulos, Helen – **Novartis**
7. Knaul, Felicia – **University of Miami**
8. Arreola Ornelas, Hector – **University of Miami**
9. Graybeal Michael, Joseph – **University of Miami**
10. Frech, Silvina – **City Cancer Challenge Foundation**
11. Jimenez, Jorge – **Fundación Foro Nacional del Cáncer, Chile**
12. Gallardo, Jorge – **Fundación Cancer Chile**
13. Guevara, Mary – **Ecancer, Inglaterra**
14. Nervi, Bruno – **Pontificia Universidad Católica de Chile**
15. Aguilera, Jairo – **Instituto Nacional de Cancerologia de Colombia**
16. Serrano, Marta Lucia – **Instituto Nacional de Cancerologia de Colombia**
17. Candelaria, Alonso – **Novartis Argentina**
18. Jankilevich, Gustavo – **Superintendencia de Servicios de Salud**
19. Ismael, Julia – **Directora, Instituto Nacional del Cáncer**
20. Ortiz, Zulma – **Instituto de Investigaciones Epidemiológicas-Academia Nacional de Medicina**
21. Viel Temperly,Vicky – **Fundación Donde Quiero Estar**
22. Sagaz, Oscar – **Subsecretaría de Salud de Mendoza**
23. Mastai , Ricardo – **Programa de Asistencia Médica Integral (PAMI)**
24. Balbiani, Luis – **Foro Argentino de Medicamentos de Alto Costo**
25. Gil Deza, Ernesto – **Instituto Oncológico Henry Moore**
26. Recondo, Gonzalo – **Academia Nacional de Medicina**
27. Shammah, Cintia – **Federación Interamericana del Corazón (FIC)**
28. Kirchuk, Ricardo – **Organización de Servicios Directos Empresarios (OSDE)**
29. Aizenberg, Marisa – **Observatorio de Derecho a la Salud, Universidad de Buenos Aires**
30. Lacava, Juan – **Asociación Argentina de Oncología Clínica (AAOC)**

31. Robba, Manuela – **Superintendencia de Servicios de Salud**
32. Artigas, Marta – **Fundación ACIAPO**
33. Lorusso, Antonio – **Liga Argentina de Lucha Contra el Cáncer (LALCEC)**
34. Díaz, Celeste – **Instituto Nacional del Cáncer**
35. Irazola, Vilma – **Instituto de Efectividad Clínica y Sanitaria (IECS)**
36. Straw, Cecilia – **Centro de Estudios de Estado y Sociedad (CEDES)**
37. Quintanilla, Gabriela – **Agencia de Control de Cáncer**
38. Degani, Graciela – **Instituto Provincial de Cáncer,Entre Ríos**
39. Zervino, Ignacio – **Fundación ACIAPO**
40. RizzatoLede, Daniel – **Ministerio de Salud de la Nación**
41. Moreno, Florencia – **Instituto Nacional del Cáncer**
42. Chacón, Matías – **Asociación Argentina Oncología Clínica (AAOC)**
43. Caro, Luis – **Colorectal Cancer Screening Committee – World Endoscopy Organization (WEO)**
44. Prins, Arturo – **Fundación Sales**
45. Jorgensen, Natalia – **Programa de Atención Médica Integral (PAMI)**
46. Campos, Daniel – **Fundación Multidisciplinaria de Oncología**
47. Colina, Jorge – **Instituto para el Desarrollo Social Argentino (IDESA)**
48. Hasdeu, Santiago – **RedArETS-Neuquén**
49. Alvarez, Jorgelina – **RedArETS-Mendoza**
50. Torres, Ruben – **Universidad ISALUD**
51. Alonso Murray, Noel – **Fundación Directorio Legislativo**
52. Ventriglia, Mónica – **Sociedad Latinoamericana y del Caribe de Oncología Médica (SLACOM)**
53. Regueiro, Alejandro – **Medicus**
54. Barbagallo, Gabriel – **Organización de Servicios Directos Empresarios (OSDE)**
55. Cavallo, Eduardo – **Galeno Argentina**
56. Medina, Arnaldo – **Universidad Nacional Arturo Jauretche**
57. Loria, Dora – **Instituto Nacional del Cáncer**
58. Gonzalez Prieto, Guillermo – **Instituto de Investigaciones Sanitarias de la Seguridad Social (IISSS)**
59. Gercovich, Gustavo – **Instituto Oncológico Henry Moore**
60. Abriata, Graciela – **Instituto de Investigaciones Epidemiológicas-Academia Nacional de Medicina**
61. Denamiel, Juan Pablo – **Superintendencia de Servicios de Salud**
62. Confalone, Mónica – **Instituto de Investigaciones Epidemiológicas-Academia Nacional de Medicina**
63. Maiquez, Roberto – **Senado de la Nación**
64. Giraudo, Silvia – **Obra Social del Personal de la Industria Maderera (OSPIM)**
65. Criscuolo, Gustavo – **Medical**

66. Bruno, Mario – **Sociedad Argentina de Cancerología (SAC)**
67. Alonso, Daniel – **Universidad de Quilmes**
68. Boccanera, Gabriel – **Asociación de Economía de la Salud (AES)**
69. Abad, Carlos – **Medical Brokers**
70. Novick, Gabriel – **Swiss Medical Group**
71. Paonessa, Diego – **Liga Argentina de Lucha Contra el Cáncer (LALCEC)**
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75. Gori, Jorge – **Hospital Alemán**
76. Karlsson, Daniel – **Prosecretaría Operativa, Senado de la Nación**
77. Brandon, Maximiliano – **Instituto Oncológico Henry Moore**
78. Ramírez, Ilene – **Instituto Oncológico Henry Moore**
79. Japaze, Hugo – **Laboratorio Privado de Patología de Tucumán**
80. Grynszpancholc, Edith – **Fundación Flexer**
81. Nuñez, Lina – **Programa Nacional de Tumores Familiares y Hereditarios, Instituto Nacional del Cáncer**
82. Schaquievich, Paula – **Hospital Garrahan**
83. Agostinelli, Alejandro – **Periodista**
84. Mato, Gabriel – **Hospital Garrahan**
85. Prieri, Silvia – **Ministerio de Salud, Provincia de Buenos Aires**
86. Arabetti, Celso – **Hospital Centrángolo**
87. Massanti, Graciela – **Defensoría del Pueblo de la Nación**
88. Russo, Mario – **Hospital El Cruce**
89. Piaggio, Martin – **Secretario de Salud Gualeguaychú, Entre Ríos**
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91. Coppola, Maria Pia – **Hospital Provincial Vicente López**
92. Lebersztein, Gabriel – **Obra Social de Empleados de Comercio (OSECAC)**
93. Alfonso, Graciela – **Hospital Posadas**
94. Alberbide, Jorge – **Hospital Italiano**
95. Foncuberta, Cecilia – **Instituto Fleming**
96. Bengio,Raquel – **Academia Nacional de Medicina**
97. Kusminsky, Gustavo – **Hospital Universitario Austral**
98. Scoles, Graciela – **Hospital Dr. César Milstein**
99. Stemmelin, Gemán – **Hospital Británico**
100. Zerga, Marta – **Instituto de Oncología Ángel H. Roffo**

101. Custidiano, Rosario – **Instituto Alexander Fleming**

102. Cortes Guerrieri, Verónica – **Instituto Alfredo Lanari**

103. Gárate, Gonzalo – **Hospital Alemán**

104. Fantl, Dorotea – **Hospital Italiano**

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106. Rojas, Francisca – **Hospital de Clínicas**

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108. Milone, Jorge – **Hospital Italiano de la Plata**

109. Iastrebner, Marcelo – **Obra Social de Empleados de Comercio (OSECAC)**

110. Pavlovsky, Miguel – **Fundación Fundaleu**

111. Pavlovsky, Carolina – **Fundación Fundaleu**

112. Milovic, Vera – **Hospital Alemán**

113. Rey, Irene – **Hospital Ramos Mejia**

114. Cinat, Gabriela – **Instituto de Oncología Angel Roffo**

115. Rosales, Cristina – **Hospital Marie Curie**

116. Picca, Nils – **Programa de Atención Médica Integral (PAMI)**

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118. Lerzo, Guillermo – **Hospital Marie Curie**

119. Zamora, Liliana – **Hospital Italiano**

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124. Desimone, Gustavo – **Instituto Pallium Latinoamérica**

125. Isnardi, Matías – **Grupo Biorossi AnálisisClínicos**

126. Chianelli, Stella – **Prosecretaría de Coordinación Operativa, Senado de la Nación**

127. Karlsson, Daniel – **Prosecretaría de Coordinación Operativa, Senado de la Nación**

128. Vaquero, Susana – **Estudio Vaquero & Asociados**

129. Pérez, Cristina – **Odontología Odontológica**

130. Rainone, Patricio – **Hospital Tornu**

131. Gutierrez, Amanda – **Harvard T.H. Chan School Of Public Health**

132. Morgan, Anthony – **Harvard T.H. Chan School of Public Health**

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