A BRIEF OF CHILDHOOD CANCER

SITUATION WITHIN THE FRAMEWORK OF HEALTH INSURANCE IN COLOMBIA, **2022**

Cuenta de Alto Costo

Fondo Colombiano de
Enfermedades de Alto Costo

A brief of childhood cancer situation within the framework of health insurance in Colombia, 2022

CUENTA DE ALTO COSTO
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Fondo Colombiano de Enfermedades de Alto Costo
Cuenta de Alto Costo (CAC)

Annual periodicity

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The full textbook in spanish of the situation of childhood cancer in Colombia is available at this link

Abbreviations

ALL: Acute lymphoblastic leukemia.

AML: Acute myeloid leukemia.

CI: Confidence interval.

CNS: Central nervous system.

IQR: Interquartile range.

HL: Hodgkin lymphoma.

NHL: Non-Hodgkin lymphoma.

PNCR: Proportion of new cases reported. For the purpose of this document and a better understanding, it can be interpreted as an equivalent of the incidence.

US: Urinary system.

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Cancer overview

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Chapter 1

Cancer overview

Period analyzed: January 2nd, 2021 to January 1st, 2022.

General characterization of cases

7,748 prevalent cases

of childhood cancer were notified.

The number of new cases was 995.

55.3% of prevalent cases were hematologic malignancies.

55.4% of new cancer cases were men.

Median age of new cancer cases was 8 years (IQR: 4 - 13).

54.3% of new cases

were insured by the third payer,

and most of them (24.0%) lived in the Central region.

Among new cases, the most frequent types of cancer were ALL (36.4%), CNS tumors (12.6%) and NHL (7.6%).

From solid tumors, 99.5% were invasive.

Morbidity and mortality of childhood cancer

Crude PNCR increased by 13.6% compared to 2021.

The highest age-standardized PNCR were observed in ALL, CNS tumors, and NHL with 25.3, 8.8, and 5.3 new cases per 1,000,000 people under 18 years, respectively.

Crude prevalence decreased by 0.4% compared with 2021.

Bogotá, D.C.

was the region with the highest PNCR, prevalence, and mortality.

Age-standardized prevalence was

544 cases

(95% CI: 532.6 - 557.0) per 1,000,000 people under 18 years.

Age-standardized PNCR was

70 new cases

(95% CI: 65.3 - 74.0)

per 1,000,000 people under 18 years of age.

Crude mortality increased by 1.8% compared with 2021.

Age-standardized PNCR, prevalence and mortality were higher in children under third payer insurance than in those under state insurance.

In women, most deaths were observed in those with ALL (37.7%), CNS tumors (16.2%), and AML (6.8%).

In men, the highest proportion of deaths was observed in ALL (31.1 %), CNS tumors (18.9%), and AML (9.0%).

The highest standardized general mortality was observed among cases of ALL, CNS tumors and NHL with 9.7, 4.9 and 2.1 deaths per 1,000,000 people under 18 years.

Age-standardized mortality was

28 deaths

(95% CI: 25.6 - 31.2) per 1,000,000 people under 18 years.

Clinical characterization of new cases

42.0% of new cases were solid tumors, 41.5% were acute leukemia and 13.7% were lymphoma.

29.9% of solid tumors

and 76.5% of lymphomas

reported the staging at diagnosis.

48.8% of solid tumors were diagnosed at stages I and II.

38.5% of lymphomas were diagnosed in early stages.

46.9% of children with acute leukemia were classified as intermediate risk cases.

Systemic therapy was the most frequent therapy (73.4%), followed by surgery (24.1%).

Diagnosis and treatment were shortly provided in ALL with medians of 5 days (IQR: 2 – 10) and 1 (IQR: 0 - 6) day, respectively.

The longest waiting time to treatment initiation was observed in HL tumors with a median of 18 days (IQR: 6 - 31).

Risk classification was reported in 78.5% of acute leukemia cases and 69.1% of lymphomas.

At the national level, the median waiting time to diagnosis was 11 days (IQR: 4 - 27) and to the first treatment was 3 days (IQR: 3 - 13).

Cases with CNS tumors had the longest median waiting time to diagnosis with 24 days (IQR: 12 - 36).

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Childhood acute lymphoblastic leukemia (ALL)

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Chapter 2

Childhood acute lymphoblastic leukemia (ALL)

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of ALL

It was the most frequent among the pediatric population, accounting for 33.6% (n= 2,603) of total cases notified.

There were 362 new cases, 2,603 prevalent cases, and 138 deaths during the period analyzed.

Age-standardized prevalence was 184 cases (95% CI: 176.6 - 190.7) per 1,000,000 people under 18 years of age.

Age-standardized general mortality was 10 deaths (95% CI: 8.1 - 11.5) per 1,000,000 people under 18 years of age.

The highest age-standardized PNCR, prevalence and mortality were observed in Bogotá, D. C.

PNCR and prevalence estimations were higher in children under third payer insurance than in those with state insurance.

The general age-standardized mortality was higher in children under state insurance than in those under third payer insurance.

Compared to 2021, the PNCR, prevalence and mortality estimations increased 36.6%, 11.5% and 6.3%, respectively.

Age-standardized PNCR was 25 new cases (95% CI: 22.7 - 28.0) per 1,000,000 people under 18 years of age.

Characterization of new cases of ALL

55.3% were males.

52.2% were under third payer insurance, and most new cases (22.1%) lived in the Caribbean region.

49.3% of new cases were classified at intermediate risk, having a similar performance among the third payer (49.4%), state (48.0%) and exception insurance (100.0%).

At the national level, the median waiting time to diagnosis was **5 days (IQR: 2 - 10)** and the first treatment was 1 day **(IQR: 0 - 6).**

Median age was 6 years (IQR: 4 - 12).

At the national level, 81.2% of cases had risk stratification at diagnosis. This proportion was higher in children under exception (85.7%) and third payer insurance (84.7%).

Systemic therapy was provided to most new cases (94.5%), followed by radiotherapy (2.2%).

Compared to 2021, the median waiting time to diagnosis increased by 2 days in the third payer insurance (median of 5 days; IQR: 2 - 10).

Treatment was shortly provided in children under the third payer insurance with a median of 0 days (IQR: 0 - 2) in contrast to state insurance.

Quality measures in ALL

At the national level, the goal for treatment access (≤ 5 days) was not reached, with an average of 7.4 days.

At the national level and in all insurance groups, the indicator related to treatment abandonment has a high performance, being 2.3%.

In the country, the goal for mortality during induction treatment was reached with an estimation of 3.2%. In cases under the third payer insurance it was 1.28%, while in the state insurance it was 5.0%.

The goal for the proportion of cases that reached complete remission after the induction therapy was not reached neither at the national level (28.1%) nor in the third payer (32.0%) and state (23.5%) insurance groups.

The average waiting time for treatment initiation was **higher in children** under state insurance (9.2 days) than in those under the third payer (6.2 days).

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Childhood acute myeloid leukemia (AML)

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Chapter 3

Childhood acute myeloid leukemia (AML)

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of AML

It was the sixth most frequent cancer type in terms of the new cases reported, representing the 5.1% (n= 51) of new cases.

There were 51 new cases,

314 prevalent cases and 32 deaths during the period analyzed.

Age-standardized prevalence was 22 cases (95% CI: 19.7 - 24.7) per 1,000,000 people under 18 years of age.

Age-standardized general mortality was 2 deaths (95% CI: 1.5 - 3.2) per 1,000,000 people under 18 years of age.

The Central region had the highest PCNR and prevalence estimations.

The PCNR and prevalence were higher in children under the third payer than those under state insurance. Mortality was higher in children under the state insurance.

Compared to 2021, the PNCR decreased by 1.9% and mortality increased by 6.7%.

Age-standardized PNCR was 4 new cases (95% CI: 2.7 - 4.7) per 1,000,000 people under 18 years of age.

Characterization of new cases of AML

52.9% were females.

47.1% had state insurance, and most new cases (29.4%) lived in Caribbean and Central regions.

63.3% of cases

with risk stratification had high risk.

This proportion was higher in the third payer insurance (64.7%).

The median age was

8 years (IQR: 4 - 13).

Systemic therapy was the most frequent treatment (84.3%), followed by hematopoietic cell transplant (17.7%).

At the national level, the median waiting time to diagnosis was 5 days (IQR: 3 - 8) and to the first treatment was 2 days (IQR: 1 - 4).

Cases from the third payer insurance had the shortest time to diagnosis (Median: 3 days).

Treatment was shortly provided in children with third payer and state insurance with a median time of 2 days.

At the national level

58.8%

of new cases

had risk stratification and this proportion was higher in those under third payer insurance (73.9%).

Quality measures in AML

In the country, the goal for treatment initiation (≤ 5) was not reached, with and average waiting time of 5.4 days.

At the national level and all insurance groups, the indicator related to treatment abandonment had an intermediate perfomance, with estimates slightly above the goal (≤ 10).

The goal for complete remission at the end of induction treatment (≥ 90), was no reached, neither at the national level (21.6%), nor in the third payer (16.7%) and state (17.7) insurance groups.

At the national level, the mortality during induction treatment increased by 2.1%. Among insurance groups, in the state insurance there was a higher proportion of cases (29.4%).

The average waiting time for treatment initiation was **higher in children** with third payer insurance (6.3 days) than in those under state insurance (4.9 days).

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Central nervous system (CNS) tumors

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Chapter 4

Central nervous system (CNS) tumors

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of CNS tumors

It was the second most frequent in terms of new cases reported.

There were 125 new cases, 895 prevalent cases, and 71 deaths during the period analyzed.

Age-standardized prevalence was 63 cases (95% CI: 59.0 – 67.4) per 1,000,000 people under 18 years of age.

Age-standardized general mortality was 5 deaths (95% CI: 3.9 – 6.3) per 1,000,000 people under 18 years of age.

The highest morbidity and mortality estimations were observed in Bogotá, D. C.

The highest prevalence, PNCR and general mortality were registered in the third payer insurance group.

Compared to 2021, the PNCR, and the prevalence increased by 3.4% and 3.5%, respectively. In contrast, the general mortality decreased by 9.0%.

Age-standardized PNCR was 9 new cases (95% CI: 7.3 – 10.5) per 1,000,000 people under 18 years of age.

Characterization of new cases of CNS tumors

49.6% were males.

62.4% were under the third payer insurance and most new cases (28.0%) lived in the Central region.

Histologic classification was not available in

15.2% of new cases

and it was higher in children under state insurance (17.1%).

At the national level, the median waiting time to diagnosis was

24 days

(IQR: 13 - 35)

and to the first treatment was 21 days **(IQR: 2 - 35).**

The median age was

8 years (IQR: 5 - 12).

Excluding new cases with unknown and non-specified classification, the most frequent histology types were astrocitoma (32.8%) and medulobastoma (20.0%).

Surgery was the most frequent treatment (64.8%).

The longest waiting time to diagnosis was observed in children under the state insurance (median: 30 days (IQR: 12 - 54)).

Treatment was shortly provided in children under the third payer insurance (median: 15 days; IQR: 1 - 32).

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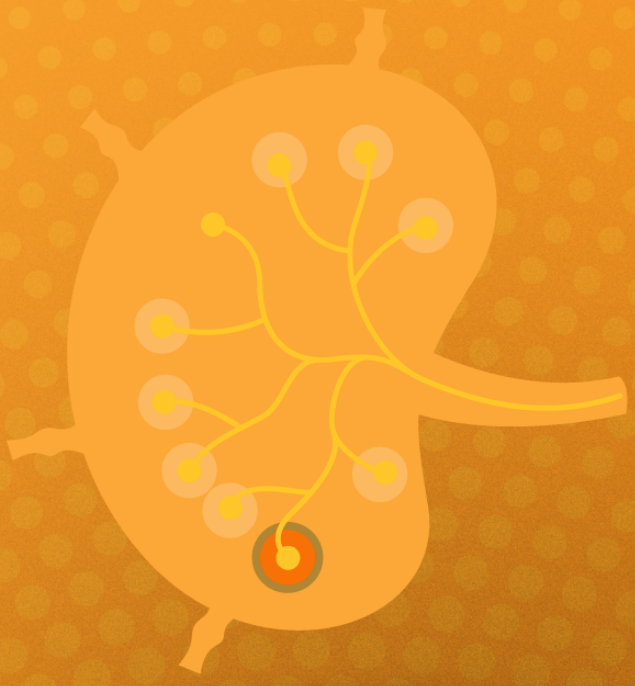
Non-Hodgkin lymphoma (NHL)



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Chapter 5

Non-Hodgkin lymphoma (NHL)

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of NHL

It was the third most frequent in terms of new cases reported.

There were 76 new cases,

641 prevalent cases and 30 deaths during the period analyzed.

Age-standardized prevalence was 45 cases (95% CI: 41.8 - 48.9) per 1,000,000 people under 18 years of age.

Age-standardized mortality was 2 deaths (95% CI: 1.4 - 3.0) per 1,000,000 people under 18 years of age.

The highest age-standardized PNCR was estimated in Bogotá, D. C. The Central region had the highest age-standardized prevalence and general mortality.

The third payer insurance registered the highest age-standardized PNCR and prevalence, while the state insurance group had the highest age standardized general mortality.

Compared to 2021, the general mortality increased by 76.5%, while the PNCR and the prevalence by 31.4% and 9.1%, respectively.

Age-standardized PNCR was 5 new cases (95% CI: 4.2 - 6.7) per 1,000,000 people under 18 years of age.

Characterization of new cases of NHL

76.3% were males.

51.3% were under the third payer insurance, and most new cases (32.9%) lived in Caribbean region.

In the country and in all insurance groups, most cases were diagnosed at stage III (49.1%).

Risk classification was documented in 72.4% of new cases in the country.

At the national level, in **72.4%** the staging was reported.

This proportion was similar in the third payer insurance (74.4%), and the state insurance (74.3%).

The median age was 8 years (IQR: 4 - 12).

Among cases classified, 36.4% were high risk. This proportion was higher in children under the state insurance (40.0%) compared to those with third payer insurance (33.3%).

Systemic therapy was the most frequent treatment (84.2%).

In the country, the median waiting time to diagnosis was 14 days (IQR: 8 - 30) and to the first treatment was 3 days (IQR: 1 - 13).

The longest waiting time to diagnosis was registered in the state insurance group with a median time of 15 days.

The waiting time for treatment initiation was similar among the state and the third payer insurance groups with a median time of 3 days.

The waiting times for diagnosis and treatment were higher in children diagnosed at stage IV and I, respectively.

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Hodgking lymphoma (HL)

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Chapter 6

Hodgking lymphoma (HL)

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of HL

It was the fifth most frequent in terms of new cases reported.

There were 60 new cases, 439 prevalent cases, and 8 deaths during the period analyzed.

Age-standardized prevalence was 31 cases (95% IC: 28.2 - 34.1) per 1,000,000 people under 18 years of age.

Age-standardized mortality was 0.6 deaths (95% IC: 0.2 - 1.1) per 1,000,000 people under 18 years of age.

The highest age-standardized PNCR and prevalence were estimated in Bogotá, D. C., while the mortality was higher in the Caribbean region.

All morbidity and mortality measures were higher in children under the third payer insurance.

Compared to 2021, the mortality increased by 60.0%, followed by the PNCR (7.1%) and the prevalence (3.6%).

Age-standardized PNCR was 4 new cases (95% IC: 3.2 - 5.5) per 1,000,000 people under 18 years of age.

Characterization of new cases of HL

66.7% were males.

51.7% had the third payer insurance and the most (28.3%) lived in Caribbean region.

Nationally, risk classification was documented in

78.3% of new cases.

55.3% of the cases were classified at high risk.

The median age was

13 years (IQR: 8-15).

In the country the staging was reported in 81.7% of the cases. Among those, most cases were diagnosed at stage II (42.9%), being similar in the third payer (46.4%) and state (38.9%) insurance groups.

Systemic therapy was the most frequent treatment administered (86.7%).

In the country the median waiting time to diagnosis was 17 days (IQR: 10 - 48) and to the first treatment was 18 days (RIC: 6 - 31).

Cases under the third payer insurance had the lowest waiting times to diagnosis (median: 14 days; IQR: 9 - 30).

The highest waiting time to diagnosis was registered in cases diagnosed at stage III and IV. Furthermore, time to treatment initiation was higher in cases at stage I and III.

At the national level,

81.7%

were staged at diagnosis;

this proportion was higher in children under third payer (90.3%).

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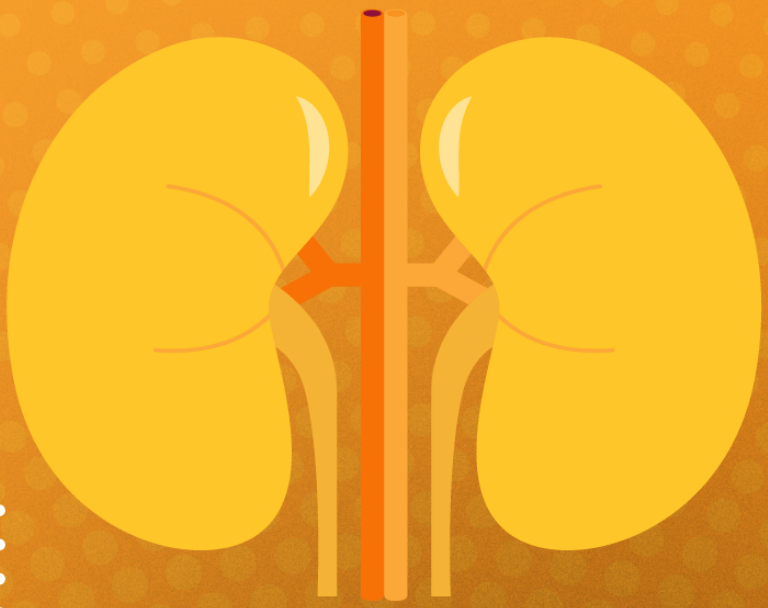
Urinary system (US) tumors



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Chapter 7

Urinary system (US) tumors

Period analyzed: January 2nd, 2021 to January 1st, 2022.

Morbidity and mortality of US tumors

It was the eighth most frequent in terms of new cases reported.

There were 40 new cases,

473 prevalent cases, and 14 deaths during the period analyzed.

Age-standardized prevalence was 33 cases (95% CI: 30.4 - 36.5) per 1,000,000 people under 18 years of age.

Age-standardized mortality was 1.0 deaths (95% CI: 0.5 - 1.7) per 1,000,000 people under 18 years of age.

The highest PNCR and general mortality were registered in Bogot,a D. C.; the prevalence was higher in the Central region.

The third payer insurance registered the highest PNCR and prevalence, while the general mortality was higher in the state insurance.

Compared to 2021, the PNCR and the general mortality increased by 8.1% and 7.7%, respectively.

Age-standardized PNCR was 3 new cases (95% CI: 2.0 - 3.8) per 1,000,000 people under 18 years.

Characterization of new cases of US tumors

42.5% were males.

62.5% were under the third payer insurance and most new cases (35.0%) lived in the Caribbean region.

Nationally, most cases were diagnosed at

stage III (40.0%).

Systemic therapy was the most frequent treatment (87.5%), followed by surgery (67.5%).

The median age was

4 years (IQR: 3-7).

In the country, the median waiting time to diagnosis was 15 days (IQR: 7 - 37) and to the first treatment was 2 days (IQR: 0 - 6).

In children under third payer insurance, diagnosis and treatment were shortly provided with medians of 13 days and 1 day, respectively.

At the national level, in

75.0% of the cases

the stage at diagnosis was reported;

this proportion was higher in the third payer insurance (84.0%).

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