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A panorama of the health situation in Brazil's Federal District, 2005 to 2017

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Abstract *This study examines the health situation in Brazil's Federal District between 2005 and 2017. A related set of indicators were selected and compared to those for Brazil's Midwest ("Centro-Oeste") region and for the country as a whole. First, data are presented on the demographic profile and current organizational structure of the health regions and administrative areas of the Federal District. The results show that infant mortality declined from 18.3% in 2006 to 10.3% (one of the lowest in rates in Brazil) in 2016. AIDS incidence in the Federal District declined 21.3% between 2006 and 2016, a positive result when compared to data for the Midwest region and Brazil. Tuberculosis incidence and mortality rates were among the lowest in Brazil between 2006 and 2016, well below the national average, as were those for Hansen's disease, where both annual incidence and incidence of grade 2 disability decreased significantly between 2007 and 2017. Congenital syphilis in under 1 year-olds has increased in recent years in Brazil and the Midwest, and also in the Federal District, where the rate was 2.56 per 1,000 live births in 2006 and 4.7 per 1,000 live births in in 2016. These data enable managers to identify trends and challenges to be met, and inform decision-making in response to health realities in the Federal District.*

Key words *Evaluation, Health situation, Epidemiology*

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Introduction

Declining fertility, increasing life expectancy and consequent population aging, rising rates of chronic non-communicable diseases and conditions (CNCDCs) all impact demographic and epidemiological patterns in Brazil's population and pose challenges for the health sector.

Changes in reproductive patterns and population structure similar to those experienced by developed countries have caused early mortality to continue its downward trend, while life expectancy has increased. Prominent among the determinants of this demographic transition are patterns of economic and social development, intensifying urbanisation, women's entry into the labour market and the implicit costs of reproduction and child maintenance, as well as factors inhibiting fertility[1-3].

This situation exists in different proportions in all regions of Brazil, and is no different in the Federal District. Although achieving a human development index (HDI) of 0.824 in 2010, which was considered high and ranked highest among the states, it underwent important shifts in population growth and structure under the influence of factors such as lower fertility, aging and migratory movements, which caused changes in the profile of morbidity and mortality.

The positive features of the epidemiological transition and alteration of the age pyramid are due more to the demographic transition, the high burden of non-communicable diseases and conditions, which affect individuals at ever earlier ages, and the indices of morbidity and mortality from neoplasms, cardiovascular diseases, interpersonal violence and land transport accidents[4,5]. The panorama is similar in the Federal District, where data from historical series for 2000 to 2016 for the main causes of death show external causes, NCDCs and communicable diseases predominating[6].

Many authors have examined the changes in mortality patterns in Brazil's population in recent decades, such as the decline in deaths from infectious and parasitic diseases and in infant mortality. The risk of a child dying before completing one year of age was observed to decline in all regions of Brazil between 2006 and 2016, the decrease being most pronounced in the Northeast (-52.6%) and smaller in the Midwest (-42.8%), North (- 42.6%)[7,8] and in the Federal District (-18.3%).

In Brazil, tuberculosis is the ninth most common cause of hospital admissions and the fourth cause of death from infectious diseases. The onset of the AIDS epidemic and foci of multi-resistant tuberculosis in areas where control is deficient have aggravated the problem worldwide. Brazil ranks 15th among the 22 countries responsible for 80% of all cases of tuberculosis in the world[9].

As regards STDs, AIDS was first identified in Brazil in 1980 and incidence grew until 1998, since when rates have slowed. Meanwhile, there have been major increases in rates of syphilis and congenital syphilis. That scenario is repeated in the Midwest and Federal District, where cases of syphilis, especially among under one year-olds, have increased significantly, from 1.5 to 4.8 per 1,000 live births in the Midwest and 2.6 to 4.7 in the Federal District.

Improved conditions of life and advances in scientific knowledge have modified the epidemiological situation of Hansen's disease. Trend analysis of Hansen's disease points to diminishing overall incidence and of grade 2 disability in recent years, both in Brazil and in the Midwest and Federal District. Access to information, diagnosis and polychemotherapy treatment have been (and continue to be) key to the strategy to eliminate the disease as a public health problem.

Among external causes of death, road traffic accidents and interpersonal violence stand out Brazil-wide[10]. This trend holds in the Federal District, where the burden from external causes is high[6].

Morais Neto et al.[11] argue that traffic-related violence, which causes an unacceptably high number of preventable deaths and disabilities in the youth and adult population, is due to rapid growth in the fleet of cars and motorcycles, in response to production incentives for vehicles for individual, private use, to the detriment of collective, public transport.

This complex, dynamic scenario calls for ongoing analyses of the population's health situation. Information on the magnitude and determinants of health problems, risk disparities among people, among points in time and different regions, as well as the influence of inequalities and the social and economic context on population health in Brazil, can inform decision making and assist in resetting priorities, forecasting future scenarios and evaluating health interventions[12].

When public policymakers examine local data and set goals for improving indicators year by year, they are reaffirming their commitment to comprehensive health measures and must take into consideration the permanent need for investments in promotion and prevention.

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In that context, understanding the health situation in the Federal District requires analysis of the panorama of geopolitical, social and health conditions, in order to yield a diagnosis of the realities from which strategic actions can be planned for interventions best suited to meeting the population's needs.

The Federal District reproduces the demographic phenomenon seen at the country level, although with specific characteristics of its own as the capital of the Republic, where social indicators are better and average incomes are higher. By contrast, the epidemiological situation is complex and diversified, featuring diseases and conditions that affect the different age brackets, requiring that health policymakers and professionals formulate policy guidance by continuously monitoring and analysing health indicators.

Given that context, this paper aims to present a panorama of the health situation in the Federal District in the period from 2005 to 2017, by way of comparative analyses against health indicators for Brazil and the Midwest region.

Methodology

A descriptive study was conducted using secondary data from Brazil's Mortality Information System (*Sistema de Informações sobre Mortalidade*, SIM), Notifiable Disease Information System (*Sistema de Informação de Agravos de Notificação*, SINAN), Hospital Admissions System (*Sistema de Internações Hospitalares*, SIH) and Live Births Information System (*Sistema de Informação sobre Nascidos Vivos*, SINASC), as posted on the portal of the Strategic Management Support Room (*Sala de Apoio à Gestão Estratégica*, SAGE), by the Ministry of Health (MoH), the Federal District State Health Secretariat (*Secretaria Estadual de Saúde do Distrito Federal*, SES/DF) and Federal District Planning Company (*Companhia de Planejamento do Distrito Federal*, CODEPLAN). Population figures were taken from the 2010 Census, and intercensal population estimates, from the official Brazilian statistics institute (*Instituto Brasileiro de Geografia e Estatística*, IBGE)[13].

Analyses were performed for the period from 2005 to 2016 and, in some specific situations, up to 2017, when indicators for Federal District data were available.

Selected indicators were constructed for certain diseases and conditions of greater magnitude which shaped the morbidity and mortality profile of the Federal District, viz.:

a) Mortality: Infant mortality rate;

b) Communicable diseases: AIDS mortality rate, AIDS incidence rate; tuberculosis mortality rate, tuberculosis incidence rate; congenital syphilis incidence rate in under one year-olds, incidence rates of Hansen's disease overall and related grade 2 physical disability; and

c) Non-communicable diseases and conditions: Number of deaths from neoplasms, number of deaths from intentional injuries (interpersonal and self-inflicted violence) and number of deaths from traffic accidents.

Data selection reflected the availability of national, regional and Federal District data considered reliable and valid by MoH technical staffs, in addition to the indicators' being largely within the scope of Sustainable Development Goal (SDG) 3, Ensure healthy lives and promote well-being for all at all ages.

Results

The Federal District lies within the Midwest Region of Brazil and, as estimated by the IBGE[13], Brasília has a resident population of 2,972,209, having increased 14% from the last census to 2018. Males account for 48.0% of the population and women, 52.0% and mean life expectancy is 79 years. That figure is directly related to the rate of aging, which is constantly rising, as can be seen from the 1991, 2000, 2010 and 2018 figures shown in the Table 1.

Analysis of the infant mortality rate in no Brazil from 2006 to 2016 showed a reduction from 12.6 per 1000 livebirths in 2006 to 10.3 per 1000 livebirths in 2016, i.e., a national percentage variation of -25.2%. Percentage variation in the Federal District was -18.3% and, in the Midwest region, -26.3%, greater, that is, than observed for the Federal District and for Brazil (Figure 1a).

From 2006 to 2016, the rate of incidence of congenital syphilis in under one year-olds (per 1000 live births) increased: in Brazil, the variation was from 1.7 to 6.8; in the Midwest, from 1.5 to 4.8; and, in the Federal District, from 2.6 to 4.7, as in Figure 1b.

AIDS incidence has stabilised in recent years in Brazil. In 2016 the rate was 18.5 and mortality, 6.0. Incidence has also stabilised in the Midwest region, at 16.7, and mortality at 5.1, as well as in the Federal District, at 15.4, and mortality at 3.7, as shown in Figures 2a and b.

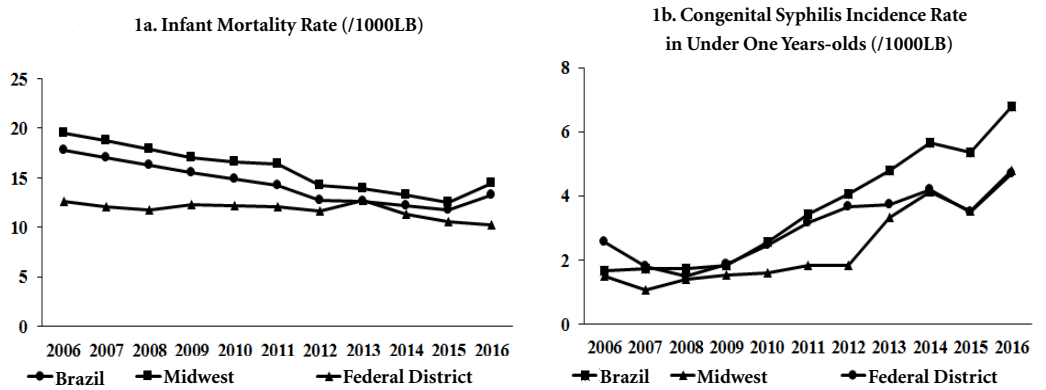
Incidence of tuberculosis has diminished in Brazil, from 38.8 cases per 100,000 population in

Table 1. Characteristics, demographic profile and locations of the Federal District health and administrative regions

Demographic profile of the Federal District				
Year instituted		1960		
Geographical area		5,806.6 km²		
Population density		444.66 pop/km²		
Municipal HDI		0.82 (very high)		
Census data	**1991**	**2000**	**2010**	**2018***
Population total	1,601,094	2,051,146	2,570,160	2,972,209
Male population	768,550 (48.0)	981,356 (47.8)	1,228,880 (47.8)	1,427,459 (48.0)
Female population	832,544 (52.0)	1,069,790 (52.2)	1,341,280 (52.2)	1,544,750 (52.0)
Urban population	1,515,889 (94.7)	1,961,499 (95.6)	2,482,210 (96.6)	2,906,574 (97.8)
Rural population	85,205 (5.3)	89,647 (4.4)	87,950 (3.4)	65,635 (2.2)
Rate of aging (%)	2.4	3.3	5.0	6.9
Life expectancy at birth (years)	69.0	74.0	77.0	79.0
Total fertility rate (children/ woman)	2.3	2.0	1.8	1.7
Poor (%)	15.0	12.3	4.9	2.2
Extremely poor (%)	4.0	3.3	1.2	1.2

Health Regions (RS)	Name	Administrative Regions
South-Central	RA I	Brasília (Asa Sul)
	RA XVI	Lago Sul
	RA XVII	Riacho Fundo I
	RA XXI	Riacho Fundo II
	RA XXIV	Park Way
	RA XIX	Candangolândia
	RA VII	Núcleo Bandeirante
	RA X	Guará
	RA XXIX	SIA
	RA XXV	SCIA (Estrutural)
North-Central	RA I	Brasília (Asa Norte)
	RA XVIII	Lago Norte
	RA XI	Cruzeiro
	RA XXII	Sudoeste/Octogonal
	RA XXIII	Varjão
West	RA IX	Ceilândia
	RA IV	Brazlândia
Southwest	RA III	Taguatinga
	RA XX	Águas Claras
	RA XXX	Vicente Pires
	RA XII	Samambaia
	RA XV	Recanto das Emas
North	RA V	Sobradinho I
	RA XXVI	Sobradinho II
	RA XXXI	Fercal
	RA VI	Planaltina
East	RA VII	Paranoá
	RA XXVII	Jardim Botânico
	RA XXVIII	Itapoã
	RA XIV	São Sebastião
South	RA II	Gama
	RA XIII	Santa Maria

Note* - IBGE estimate for 2018.
Source: PNUD14, Ipea, PJF, 2013; IBGE, 2018; DIPLAN/COPLAN/SUPLANS/SES-DF, 2017.



Figures 1a and b. Rates of infant mortality and incidence of congenital syphilis in under one year-olds – Brazil, Midwest and Federal District, 2006 to 2016.

Source: SINASC/SIM/MS; SINAN/SIM/IBGE.
Note 1: Data current at 22 Sept. 17. Note 2: Data processed by MoH technical staff.

2006 to 33.9 in 2016. In the Federal District, in the same period, incidence ranged from a minimum of 11.3 to a maximum of 15.6 cases per 100,000 population. However, between 2006 and 2016, the Federal District stands out for having one of the lowest coefficients of incidence in Brazil, well below the national average (Figures 2c and d).

Between 2007 and 2017, incidence of Hansen's disease decreased by 36.0% in the Federal District, from 10.7 to 3.8 per 100,000 population. In 2017, the Midwest returned a discrepant rate (25.2) as compared with those for Brazil (9.6) and the Federal District (3.8) in the same period. Trend analysis of Hansen's disease points to a decline in overall incidence and in incidence of grade 2 disability in Brazil, as well as in the Midwest region and the Federal District, as in Figures 2e and f.

In Brazil, malignant neoplasms were responsible for 147,418 deaths in 2005, and 208,754 in 2015, corresponding to 7.5% and 10.6%, respectively, of total estimated deaths. Data for the Midwest and the Federal District for 2005 and 2015 show growth in the Midwest, from 5.8% to 6.4% of the Brazil total, and in the Federal District, a decrease from 18.5% to 18.3% of the Midwest total, respectively. The percentage increases in neoplasms can be seen from the distribution shown in Table 2.

Figure 3a shows the number of deaths from intentional injuries in Brazil, the Midwest and Federal District, from 2005 to 2015. While the number of deaths from intentional injuries has risen steadily since 2005, it fell in 2015, because mortality from road traffic accidents decreased in 2015. This, if confirmed in subsequent years, indicates a downward trend.

Figure 3b illustrates a very important situation: mortality rates among motorcyclists were low in 2005, but they have become the leading victims of road traffic accidents since 2010, at considerable levels by 2015: 12,652 in Brazil and 1,375 in the Midwest. The situation does not hold in the Federal District, however, where road traffic deaths (142) predominantly involved those traveling by car.

At the same time, there has been a significant reduction in road traffic mortality rates among pedestrians: while, in 2005, they were recurrently the leading victims in Brazil and the Midwest, by 2015, they had become the third most common. In the Federal District, from ranking second, they fell to third.

Discussion

The changes observed in the Federal District population's age structure have resulted from changes in levels and patterns of fertility, mortality and migration[15]. The total fertility rate has declined from 2.3 to 1.7 children per woman in recent decades. Minimum population replacement-level fertility is considered to be 2.1 and, accordingly, unless there is migration into the

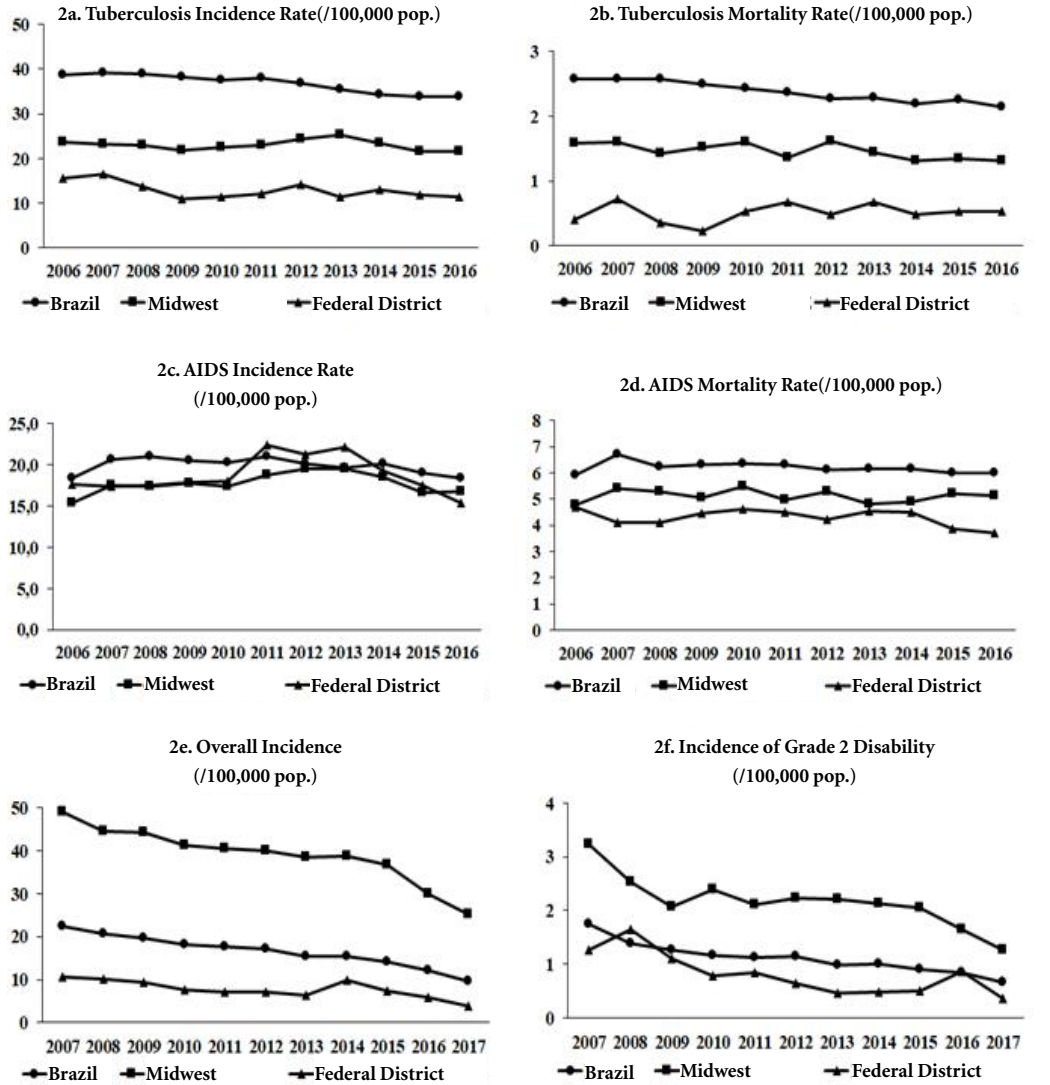


Figure 2. Incidence and mortality rates of tuberculosis and AIDS and incidence of Hansen's disease, overall and with grade 2 physical disability – Brazil, Midwest and Federal District, 2006 to 2017.

Source: SINAN/SIM/IBGE.
Note 1: Data current at 08 Sept. 17. Note 2: Data processed by MoH technical staff. Note 3: Grade 2 is physical disability due to Hansen's disease.

Federal District, the population will tend to decrease.

This decline has had a direct effect on population aging, which has practically doubled in recent years, as has life expectancy at birth, by 10 years, to become one of the highest in Brazil[16].

The WHO[17] defines an old country as one with older adults in excess of 7% of the population. In the Federal District, in 2018 this age group already accounts for 6.9% of the population, calling for a restructuring of public policies formerly designed to suit the epidemiological profile of a population pyramid whose base was formed by the youngest age group of the population.

In the 1960s, demand for labour to build Brazil's new capital, Brasilia, brought intense migratory flows from various regions of the country. While, in Brazil more broadly, the impact of urbanisation was to impoverish the population,

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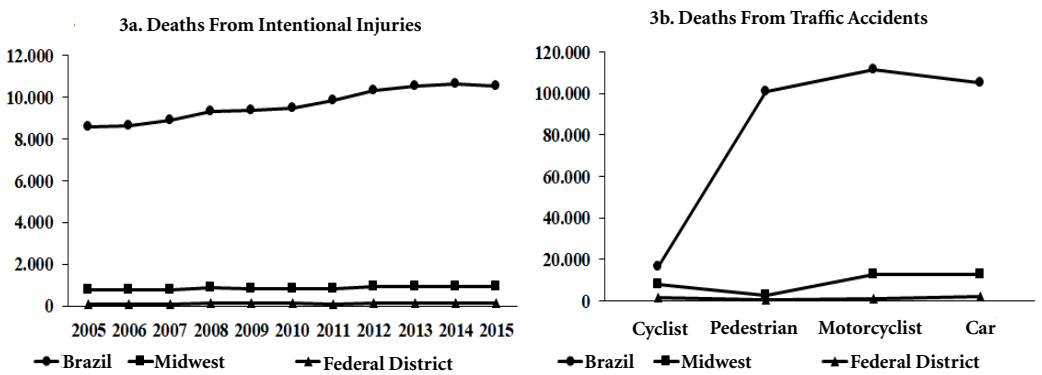
Table 2. Deaths from neoplasms in Brazil and respective percentages for the Midwest and Federal District – Brazil, 2005 to 2015.

Year	Brazil	Midwest		Federal District		
	No.	No.	(%) BR	No.	(%) BR	(%) Midwest
2005	147,418	8,566	5.8	1,586	1.1	18.5
2006	155,796	9,056	5.8	1,753	1.1	19.4
2007	161,491	9,376	5.8	1,783	1.1	19.0
2008	167,677	9,961	5.9	1,847	1.1	18.5
2009	172,255	10,276	6.0	1,946	1.1	18.9
2010	178,990	10,917	6.1	2,047	1.1	18.8
2011	184,384	11,329	6.1	2,136	1.2	18.9
2012	191,577	11,937	6.2	2,198	1.1	18.4
2013	196,948	12,258	6.2	2,288	1.2	18.7
2014	201,968	13,116	6.5	2,346	1.2	17.9
2015	208,754	13,447	6.4	2,455	1.2	18.3
Total	1,967,258	120,239	6.1	22,385	1.1	18.6

Source: SIM/MOH.
Note 1: Percentage deaths in the Midwest and Federal District were calculated from total deaths in Brazil's population. Note 2: Data current at 29 Jun 17. Note 3: Data processed by MoH technical staff.



Figures 3a and b. Number of deaths from intentional injuries and traffic accidents – Brazil, Midwest and Federal District, 2005 to 2015.

Source: SIM/MoH.
Note 1: Data current at 21/09/17. Note 2: Data processed by MoH technical staff.

in the Federal District, despite pockets of poverty, the data show a substantial fall of more than 12.8% in the number of poor and 2.8% in those considered extremely poor, in the period from 1991 to 2018. This is corroborated by the value of the municipal HDI which at 0.82, is one of the highest in Brazil.

Another important input to monitoring improvement in populations' health conditions is declining infant mortality. From 2006 to 2016, the infant mortality rate was found to have fallen from 17.8 to 13.3 deaths per 1000 live births, a decrease of 25.2%. Reducing infant mortality forms part of the SDGs[18], a commitment assumed in Brazil not only at the federal level, but also by the state and municipal governments.

Analysis of the causes of infant mortality revealed that 66% of all deaths occurred from perinatal causes, and 35% resulted from maternal factors and complications of pregnancy and childbirth. The data thus underscore the importance of improving access to, and the quality of, antenatal care and care during childbirth and for newborns.

Since 2009, recorded congenital syphilis has increased steadily and significantly in Brazil. That fact can be attributed partly to expanded testing coverage using rapid tests, as well as to decreased condom use, primary care health professionals' resistance to administering penicillin, worldwide short supply of penicillin and improved surveillance systems, which may be reflected in increased case notifications[19,20]. In 2016, the rate of congenital syphilis in the Midwest region (4.8) was lower than the national level, and the Federal District was among the state capitals with lowest rates of incidence (4.7).

Araújo[21] remarks that the group of infectious diseases that will apparently be with us for a long time yet includes urban endemic diseases, such as tuberculosis and Hansen's disease, both of which are considered neglected diseases.

Hansen's disease and tuberculosis are serious public health problems. There is active transmission in Brazil and, despite all the efforts made to eliminate Hansen's disease, Brazil continues to be the country with the second highest number of recorded new cases worldwide[22].

Incidence of tuberculosis, which rose in the 1980s in association with HIV infection, was partly reversed by the spread of antiretroviral therapy, and the number of occurrences has fallen slowly but steadily in the past twenty years, from 51.4 cases per 100,000 person-years in 1990 to 38.2 in 2007 (a 26% decrease). Related mortality also declined in this period, from 3.6 to 1.4 deaths per 100,000 person-years (a 32% reduction)[23].

The figures for tuberculosis in Figures 2a and b show that, while the coefficient of incidence of tuberculosis has been diminishing in Brazil, from 38.8 cases per 100,000 population in 2006 to 33.9 in 2016, incidence has held stable in the Midwest. In the Federal District, meanwhile, the coefficient of incidence showed little change, oscillating between 15.6 and 11.3 cases per 100,000 population (averaging 13.4) in the same period.

However, the Federal District is noteworthy for displaying one of the lowest coefficients of incidence of tuberculosis in Brazil, well below the national average, between 2006 and 2016. In the same period, mortality did not diminish in the Federal District at the same rate as the national decrease, which although slow, is steady.

Between 2007 and 2017, 151,764 new cases of Hansen's disease were diagnosed in Brazil, equivalent to a mean incidence of 14.9 new cases per 100,000 population. From Figures 2e and f, it can be seen that the incidence in Brazil's population overall fell from 22.4 to 9.6, as also occurred in the Midwest region (from 49.0 to 25.2) and in the Federal District (from 1.3 to 0.4).

The same decrease was found in the incidence of grade 2 physical disability from 2007 to 2017, with the Federal District recording a lower rate than either Brazil or the Midwest region (1.3 as against 1.8 and 3.2 ,and 0.4 as against 3.2 and 1.3, respectively).

From 1980 to 2016, more than 800,00 cases of AIDS were identified in Brazil. The mean has been 40,000 new cases recorded annually over the past five years. The Midwest region accounts for 6% of all cases and, in the past five years, has returned an annual mean of 2,800 new cases.

Figures 2c and d show that incidence of AIDS held practically stable in Brazil between 2006 and 2016 (from 18.4 to 18.5), the Midwest (15.4 to 16.7) and the Federal District (17.7 to 15.4). AIDS mortality has increased steadily over the years in Brazil (from 5.9 to 6.0) and in the Midwest (4.8 to 5.1), whereas in the Federal District it decreased from 4.7 to 3.7 over the same period.

Most cases were concentrated in large metropolises in the Southeast and Midwest regions, and the groups most affected were injectable drug users and men who have sex with men. The data for 2016 show more cases of the disease in men than women, in a proportion of 25 cases in men to 10 cases in women[23].

NCDCs constitute the chief causes of morbidity in Brazil and are associated with premature deaths, incapacities, lost quality of life and substantial economic impacts. Prominent among them are neoplasms, hypertension, traffic accidents and violence. They were important enough for related mortality goals to be included in the SDGs and in Agenda 2030[18]. Lessons learned in relation to NCDCs show the need for participatory, coordinated, inter-sector actions to reduce vulnerabilities, inequalities and inequities.

In 2007, the rate of mortality from NCDCs in Brazil was 540 deaths per 100,000 population[24,25]. The world estimate is that 14.1 million new cases of cancer and 8.2 million related deaths occurred in 2012.

Ferlay et al.[26] showed, in developed countries, a predominance of types of cancer associated with urbanisation and development (lung, prostate, female breast, colon and rectal cancer), while in least-developed and developing countries, occurrences associated with infections (cervical, stomach, oesophagus, liver cancer) are still high. In addition, despite low incidence, mortality was associated with nearly 80% of cases of cancer in the world.

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Table 2 shows the increasing number of deaths from neoplasms in the period from 2005 to 2015, in Brazil and comparatively in the Midwest, while in the Federal District, they have averaged 18% of all deaths. The main causes of mortality, by incidence, are: diseases of the respiratory system (26.6%), neoplasms (tumours) (19.0%) and external causes of morbidity and mortality (17.2%).

As regards the epidemiological transition, the mortality profile of the Midwest and Federal District displays a reduction in deaths from contagious infectious diseases and an increase in deaths from NCDCs in the period from 2005 to 2015.

It is estimated that 600,000 new cases of cancer occurred per year in Brazil, over the two-year period 2018-2019. Excluding non-melanoma skin cancer (about 170,000 new cases), there were some 420,000 new cases of cancer. Mathers et al.[27] reported that the overall calculation, once corrected for under-reporting, points to a total of 640,000 new cases. These estimates reflect the profile of a country where prostate, lung, female breast and colon and rectal cancers are among the most incident, while still presenting high rates of cervical, stomach and oesophageal cancers.

Suicidal behaviour is characterised by suicidal thoughts, attempted suicides and suicide proper, while self-harm comprises acts of self-mutilation, ranging from mild forms, such as scratches, cuts and bites through to the more severe forms, such as amputation of members[28,29].

In Brazil, the suicide mortality rate represents only a small part of the overall problem of intentional self-inflicted injuries. These constitute a signal of distress and suffering in individuals whose actions are generally related to feelings of inability to identify feasible alternative means of addressing their conflicts and sufferings, and who opt, in response, to attempt to take their own lives.

Road traffic accidents cause both substantial types of injury and death. Early epidemiological studies of traffic-related deaths in Brazil, dating from the 1970s, already showed high and growing mortality[30,31]. In 2007, traffic-related deaths represented nearly 30% of all deaths from external causes in Brazil. Rates declined in 1998 and have remained at about 23 per 100,000. The most abrupt fall was recorded in the Midwest region.

Nonetheless, until 2007, pedestrians were the category with most deaths in Brazil and the Midwest, while in the Federal District, the category that predominated was car users, holding that position until 2015. Meanwhile, in Brazil and the Midwest, the category that predominated from 2008 until 2015 was motorcyclists (29.7% and 24.2%), respectively. The results show that the changes in the profile of morbidity and mortality, chronic non-communicable diseases and external causes, such as road traffic accidents, are coming to be the greatest concerns for the health system and point to new challenges for the future.

Limitations of the study: some data were not included in this analysis of the health situation in the Federal District, because they were either unavailable and/or not current. Another important factor to be stressed is the major prevalence of deaths and diseases among residents of areas surrounding the Federal District, which altered the region's epidemiological profile.

Final remarks

From the analyses set out in this article, it can be deduced that conditions of life in Brazil's Federal District are important to reducing infant mortality and increasing life expectancy at birth. While, on the one hand, increased life expectancy can be attributed to the population's improved quality of life, on the other, the number of older adults leads to an increase in the number of people with special needs and in prolonged care, requiring that public policymakers develop programmes designed to meet the health care needs of this portion of the population.

Control of communicable diseases must be a priority on the public agenda, with the focus on surveillance, diagnosis and timely treatment. The environment where the Federal District is located is subject to occurrences of yellow fever, hantavirus and leishmaniosis and often, as chronic diseases increase, the communicable diseases are neglected.

Investments in the public transport system should be prioritised to produce positive impact in reducing the number of traffic accidents in the Federal District, following the example of what has been done in developed countries.

As regards mortality, investment in income distribution programmes and improved conditions of life for the needier portions of the population help to maintain the downward trend in mortality and increasing life expectancy at birth.

Infant mortality has continued to decline, reaching low levels in the post-neonatal component, while decreases have been observed in both

the neonatal component and in maternal mortality.

In the event the trend identified from analysis of the historical series of indicators presented in this article continues, the expected projections are:

1. mortality from cardiovascular diseases should continue its downward trend, with fewer deaths from ischemic heart diseases. That decline should entail increasing prevalence, concentrated, however, in more elderly population groups.
2. Cancer incidence and mortality should continue stable, although cancer types will change and survival of patients in continuous care will increase.

There will be territorial redistribution of traffic accidents and interpersonal violence, as well as of their effects in harm and deaths. Increases in these events in the Northeast and Midwest regions will not offset their decline in the South and Southeast.

It is thus important to maintain investment in expanding primary care coverage, with the focus on activities to promote health and prevent diseases and health conditions, and to maintain health surveillance activities in order to identify and introduce controls and measures suited to the needs of the population of the Federal District.

Collaborations

SO Santos and LFS Moraes: data collection, drafting, analysis and final review; PEG Sellera: drafting, analysis and final review; OL Morais Neto and AMN Vasconcelos: analysis and final review; and MB Ruy: analysis.

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