



# **THE EVOLUTION OF THE POPULATION BASED CANCER REGISTRIES IN BRAZIL: A PERFORMANCE EVALUATION**

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**[www.inca.gov.br](http://www.inca.gov.br)**



28<sup>th</sup> ANNUAL MEETING OF THE INTERNATIONAL ASSOCIATION OF  
**CANCER REGISTRIES**  
8th -10th November 2006 - Goiânia, Goiás, Brazil

## **THE EVOLUTION OF THE POPULATION BASED CANCER REGISTRIES IN BRAZIL:**

- 1. A PERFORMANCE EVALUATION**
- 2. INDICES OF DATA QUALITY (poster)**
- 3. MAGNITUDE (poster)**

# THE EVOLUTION OF THE POPULATION-BASED CANCER REGISTRIES IN BRAZIL: A PERFORMANCE EVALUATION

## Objective

To analyze the historical evolution of the Brazilian PBCR through the report of their specific characteristics of implantation, maintenance and future perspectives.

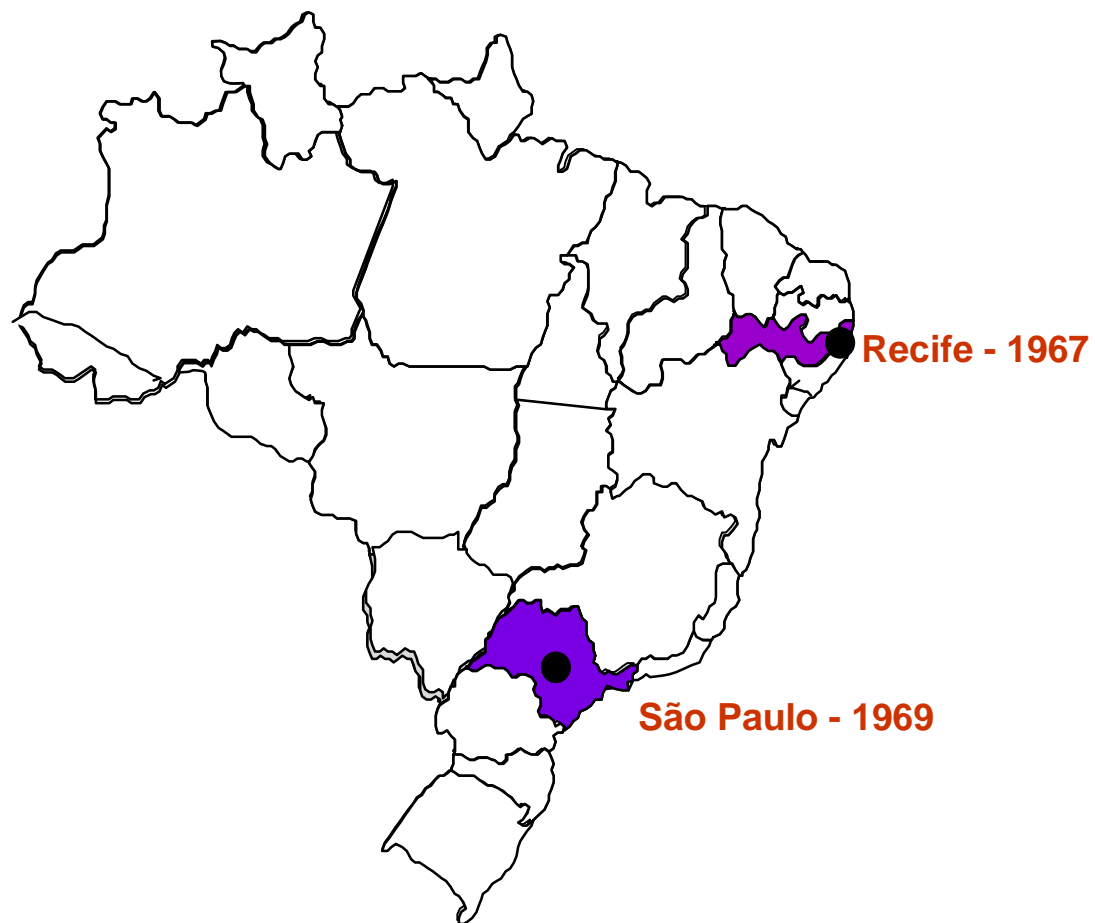
## Methods

The analysis was based on information included in available technical reports and publications from the National Cancer Institute of Brazil, emphasizing coverage indicators, quality of data collected, regularity of activities and to publish updated reports.

# Brazilian population-based cancer registries

**PBCR**

**Decade 60 ..... 2**



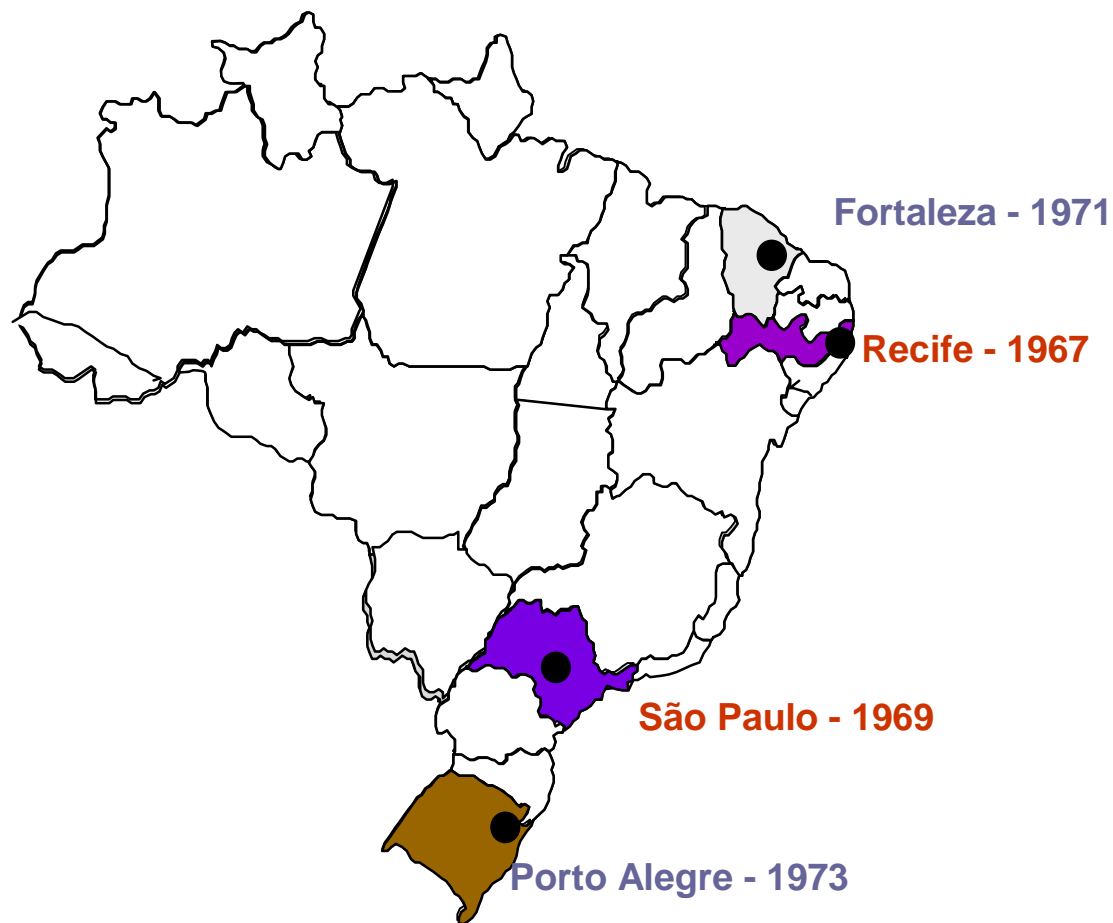
Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Source: MS/INCA/Conprev/ Information Department

# Brazilian population-based cancer registries

**PBCR**

**Decade 70 ..... 4**



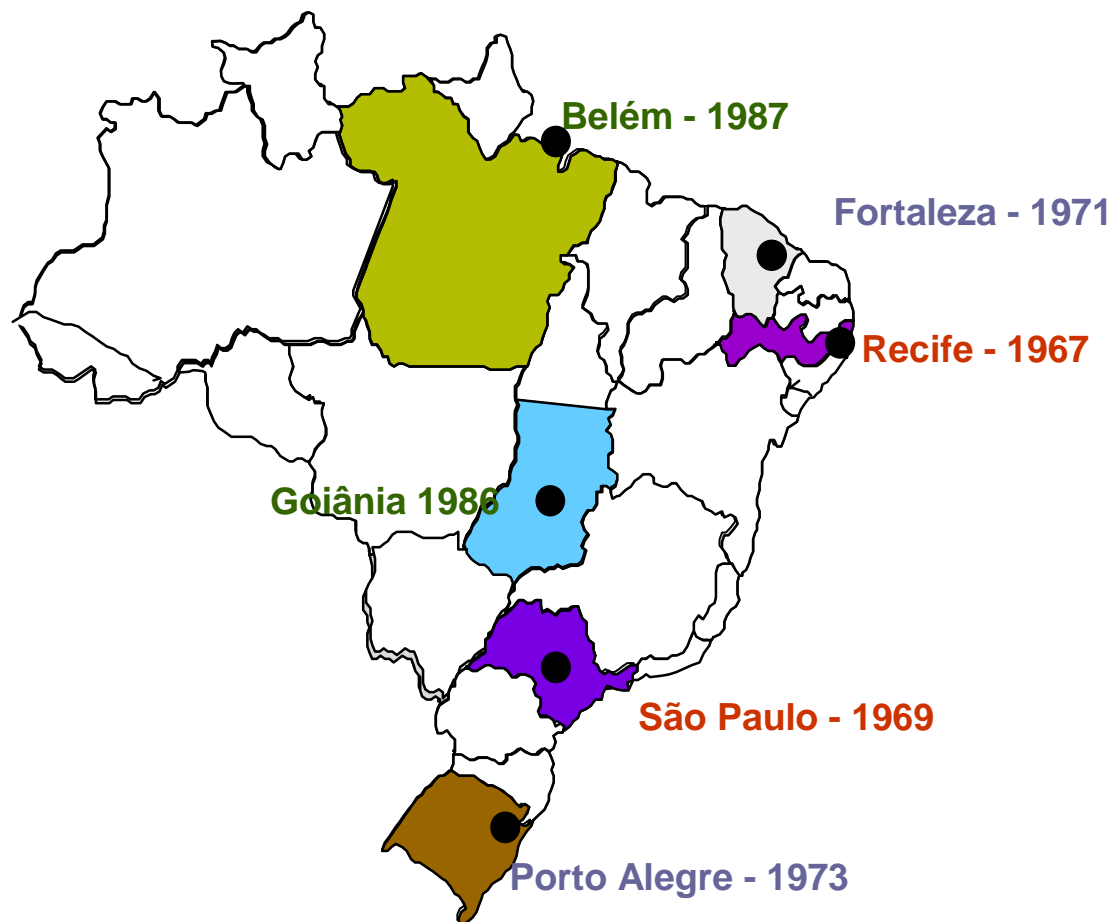
Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Source: MS/INCA/Conprev/ Information Department

# Brazilian population-based cancer registries

**PBCR**

**Decade 80 ..... 6**



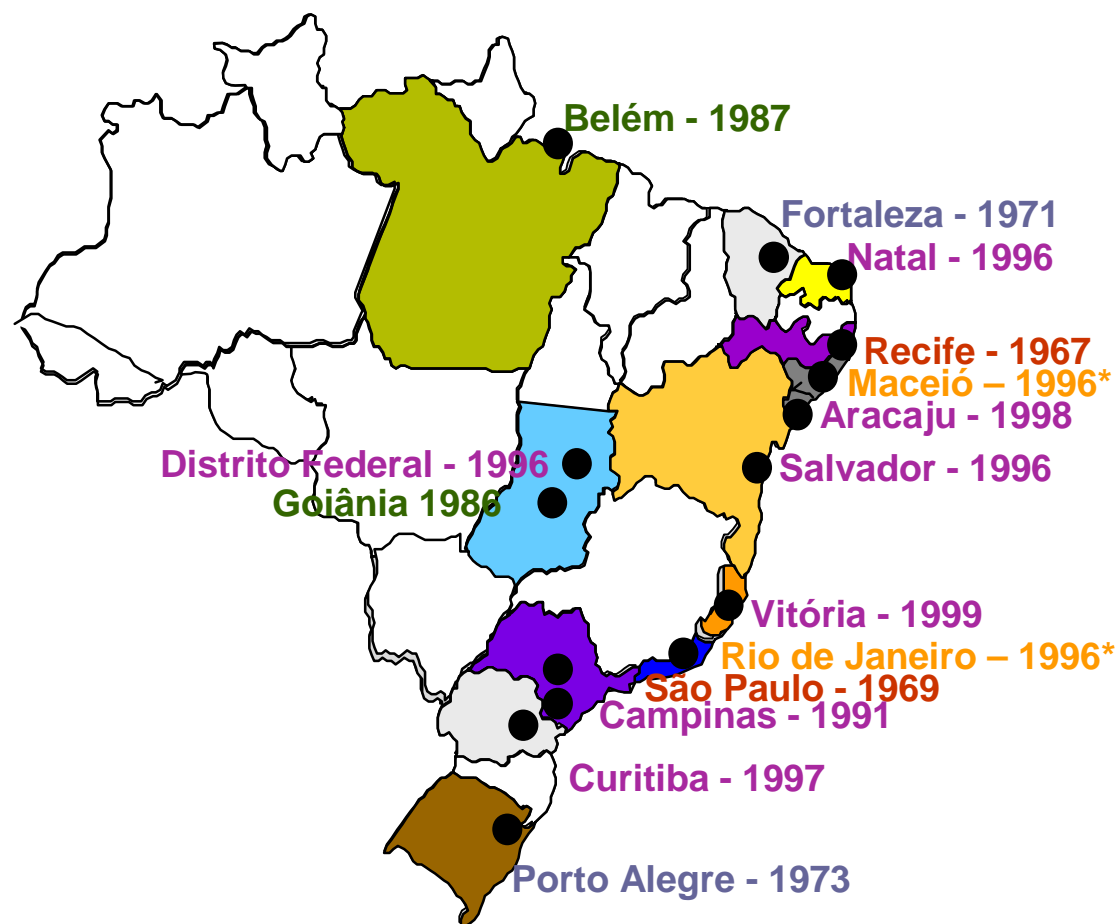
Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Source: MS/INCA/Conprev/ Information Department

# Brazilian population-based cancer registries

**PBCR**

**Decade 90 ..... 15**



Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Source: MS/INCA/Conprev/ Information Department

# Brazilian population-based cancer registries

## PBCR

Decade 60 .....	2
Decade 70 .....	2
Decade 80 .....	2
Decade 90 .....	9*
After 2000 .....	12

**25 PBCR**  
**20 capital cities**  
**05 cities**  
**02 inactive (\*RJ e AL)**



Source: MS/INCA/Conprev/ Information Department

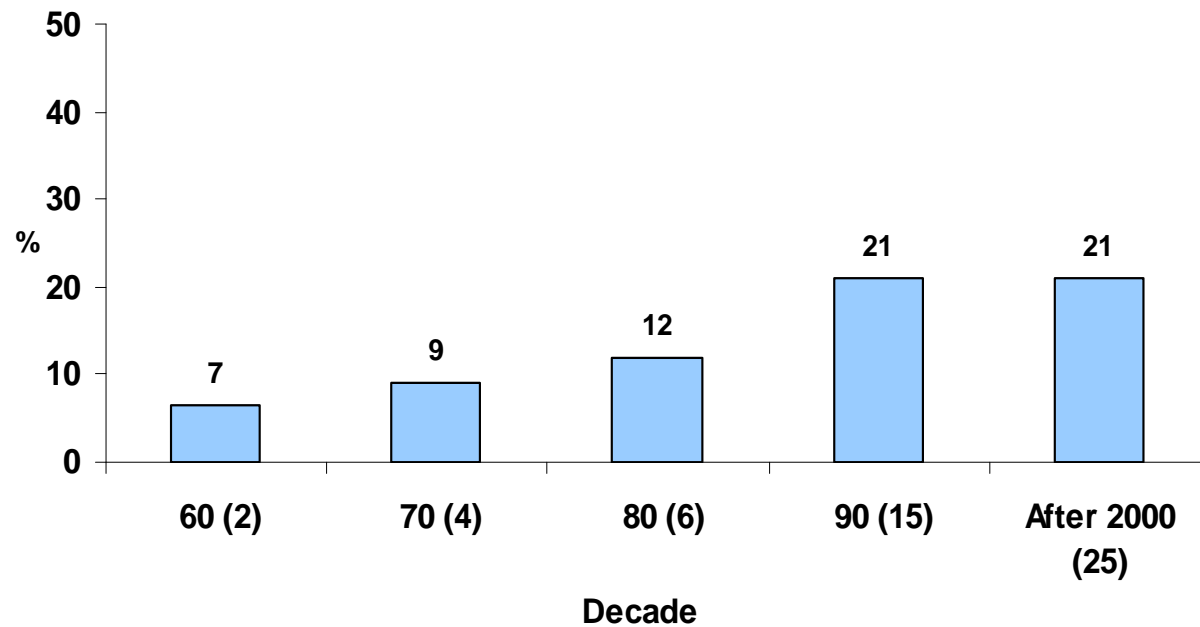
# The Evolution of Brazilian HBCR implantation process

Geographic Region	STATE	HBCR in 1990 - total number	HBCR in 1995 - total number	HBCR in 2000 - total number	HBCR in 2005 - total number
NORTH	AM	0	0	1	2
	AP	0	0	0	0
	PA	1	1	1	2
	TO	0	0	0	1
NORTH EAST	AL	0	0	0	2
	BA	1	1	3	3
	MA	0	0	0	1
	CE	1	1	3	4
	PB	0	0	1	3
	PE	0	0	1	3
	PI	0	1	1	1
	RN	0	0	1	1
	SE	0	0	0	1
	MIDDLE EAST	DF	0	0	0
GO		1	1	3	3
MS		0	0	0	7
MT		0	0	1	4
SOUTH EAST	ES	0	0	1	3
	MG	0	1	7	29
SOUTH	RJ	1	3	6	15
	PR	0	1	1	7
SOUTH EAST	RS	0	1	7	22
	SC	0	0	2	7
SOUTH EAST	SP	1	3	3	52
<b>BRAZIL</b>		<b>6</b>	<b>14</b>	<b>45</b>	<b>176</b>

Source: INCA/Prevention and Surveillance Coordination/Information Division

# Cancer registry coverage in Brazil

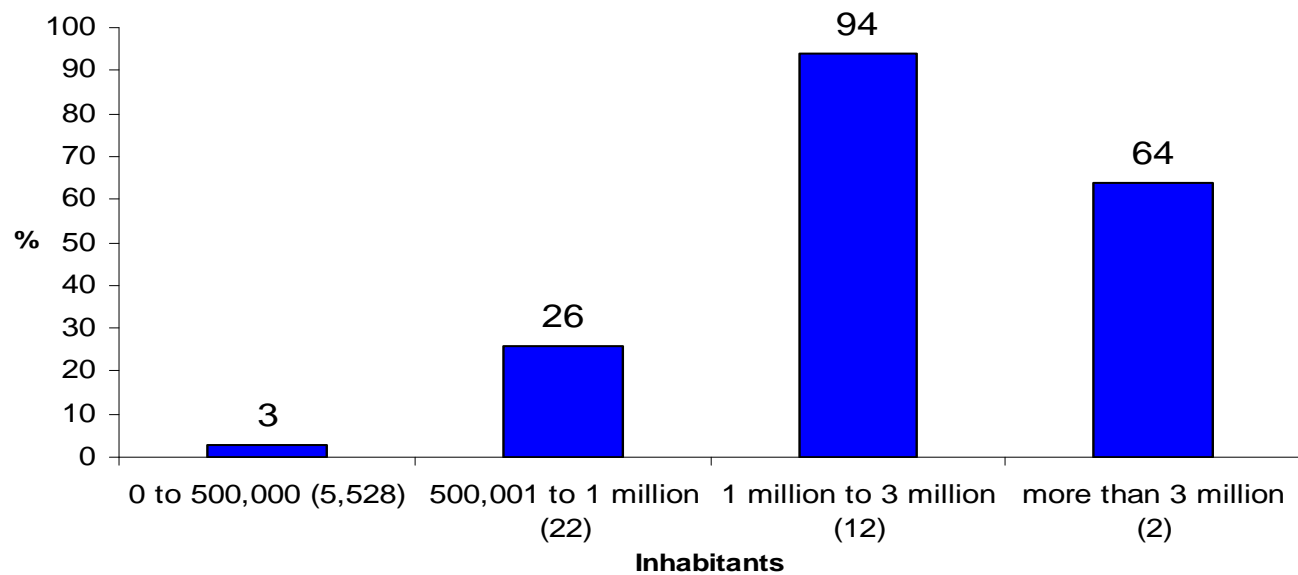
Population coverage of Brazilian PBCR established by decade



Sources: MP/Brazilian Institute of Geography and Statistics Foundation - IBGE  
MS/INCA/Conprev/ Information Department

# Cancer registry coverage in Brazil

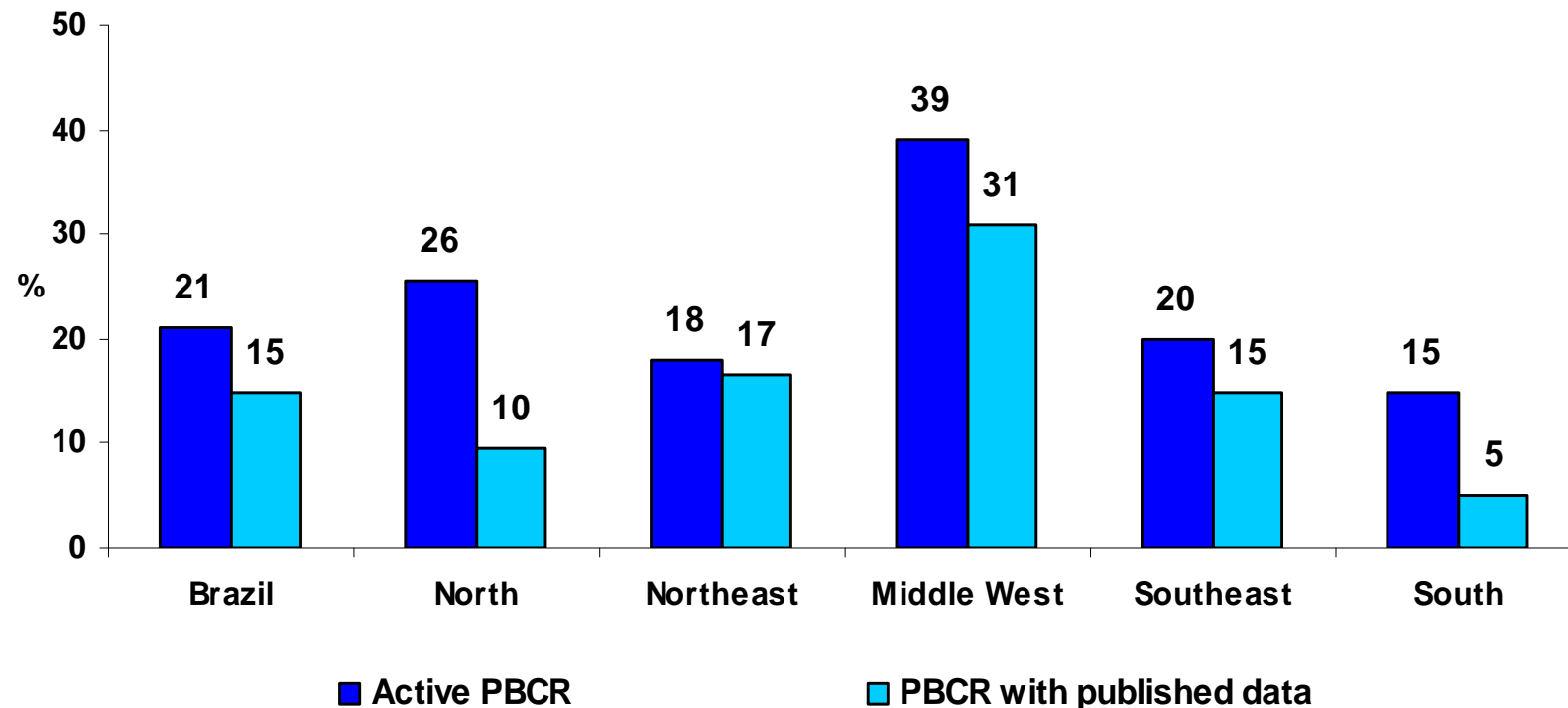
Coverage of active PBCR by cities population . Brazil, 2006



Sources: MP/Brazilian Institute of Geography and Statistics Foundation - IBGE  
MS/INCA/Conprev/ Information Department

# Cancer registry coverage in Brazil

Populational coverage by active PBCR and PBCR with published data\* from Brazil and geographical macro- regions, 2006.



(\*) at least 3 years

Sources: MP/Brazilian Institute of Geography and Statistics Foundation - IBGE  
MS/INCA/Conprev/ Information Department

# Historical evolution of Brazilian population-based cancer registries

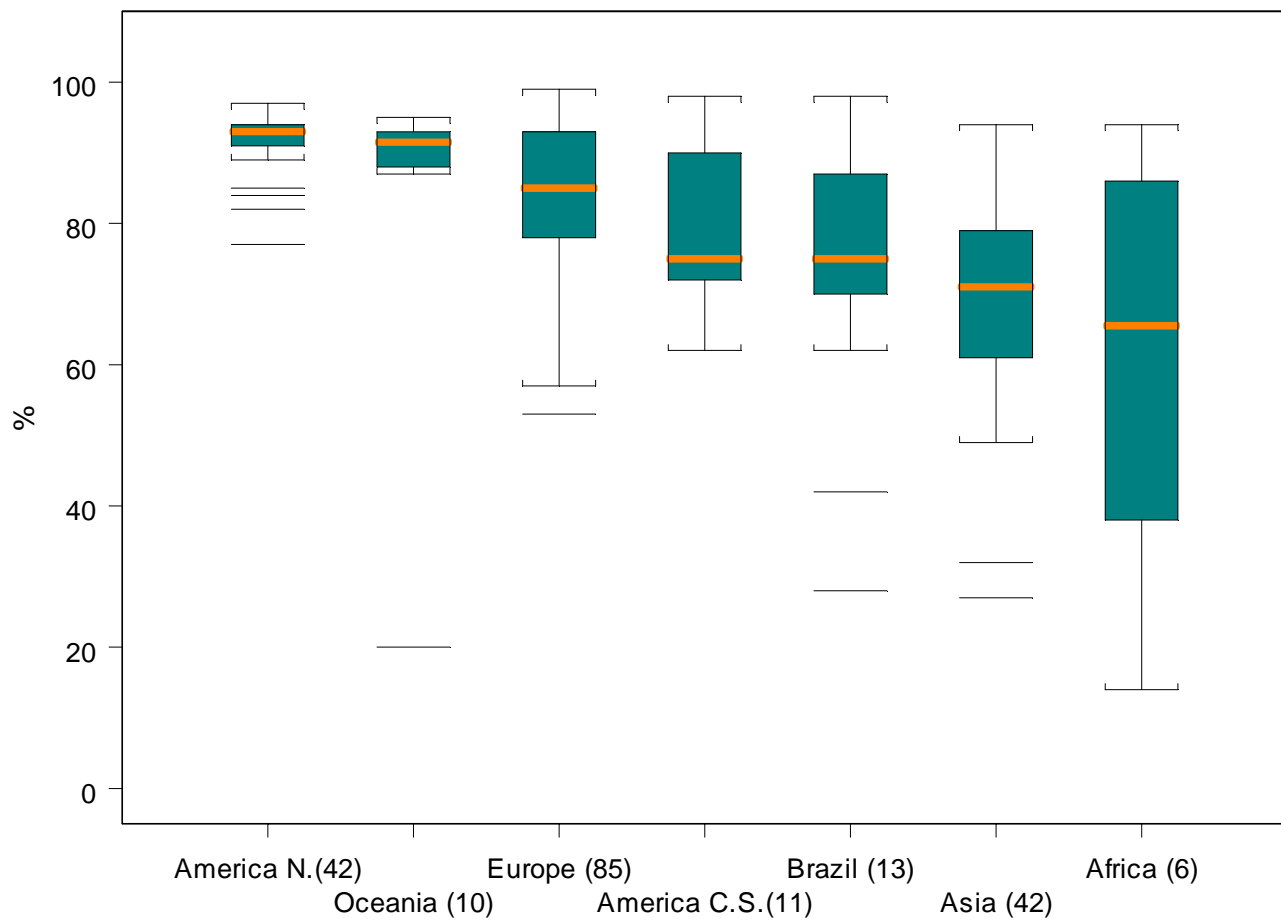
	PBCR ESTABLISHED																				
	1967-1980	1981-85	1986	1987	1988	1989	1990	1991	1992-95	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	
Aracaju				E								E									✓
Belém				E																	✓
Belo Horizonte																					✓
Campo Grande														E							✓
Cuiabá														E							✓
Curitiba											E										✓
Distrito Federal												E									✓
Fortaleza	1971 (I)	78-80	81-83;85																		✓
Florianópolis																					✓
Goiânia			E	E					1992-95												✓
João Pessoa														E							✓
Maceió													E								X
Manaus																					✓
Natal											E										✓
Palmas														E							✓
Porto Alegre	1972 (I)	79-80	81-82						1992-95												✓
Alegrete																					✓
Caxias do Sul																					✓
Santa Rosa																					✓
Recife	1967 (I)	1980							1995												✓
Rio de Janeiro									1995	E											X
Salvador										E											✓
São Paulo	1969 (I)	1978	1983						1993												✓
Campinas									1992-95												✓
Jaú																				E	✓
Teresina																					✓
Vitória																					✓
<b>Total</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Collected Data</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>13</b>	<b>12</b>	<b>9</b>	<b>5</b>		
Active PBCR	✓																				
Inactive PBCR	X																				
E - PBCR Established																					
* Without report																					

Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Source: MS/INCA/Conprev/ Information Department



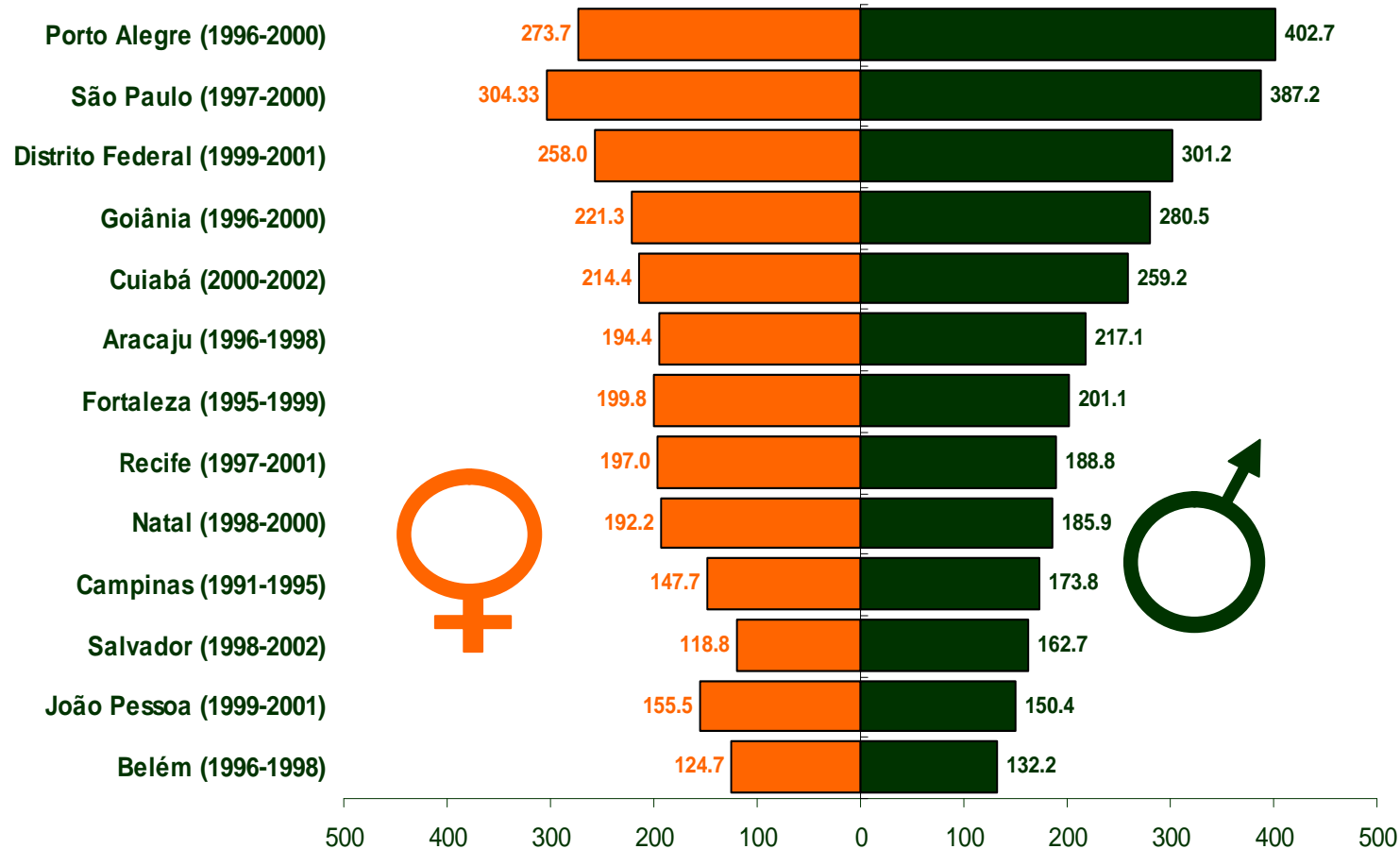
# Percentage of cases with histologically verified of diagnosis, % VH, males - PBCR with published data



Projeto Gráfico: Seção de Produção de Material Educativo / CEDC / INCA

Sources: Brazilian population-based cancer registries  
Cancer Incidence in Five Continents, Vol. VIII  
MS/INCA/Conprev/ Information Department

# Average age-adjusted incidence rates\* from all cancers but skin by sex. Brazilian PBCR



\*World Standard Population

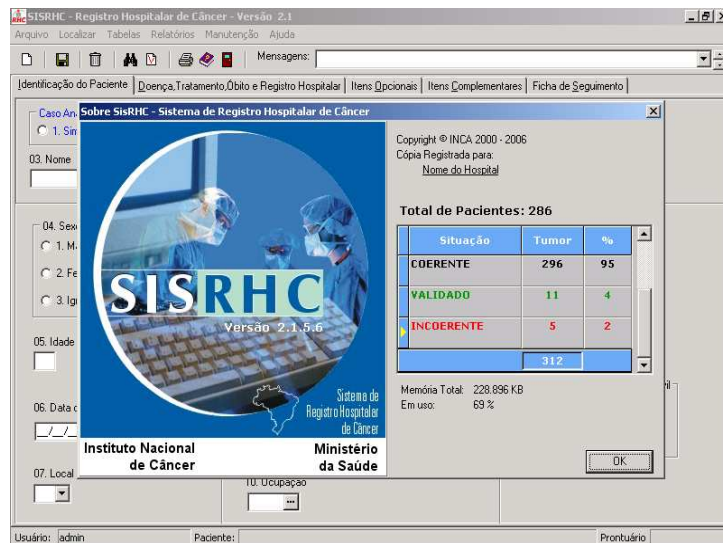
Sources: Brazilian population-based cancer registries  
 MP/Brazilian Institute of Geography and Statistics Foundation - IBGE  
 MS/INCA/Conprev/ Information Department



# Cancer registration software developed by National Cancer Institute of Brazil

## Data linkage among Cancer Registries

**HBCR**



**81% (87/107) \***

**PBCR**



**92% (23/25)**

\* **excluded 52 HBCR of São Paulo**

Source: MS/INCA/Conprev/ Information Department  
MS/INCA/COAE/ Information Technology Department

# On line Information

The image shows two overlapping browser windows. The main window displays the INCA website with a sidebar menu on the left and a central content area. A red circle highlights the 'Vigilância do câncer' link in the sidebar. The second window shows a map of Brazil under the heading 'Sistema de Câncer de Base Populacional'.

**www.inca.gov.br\vigilancia**

Source: MS/INCA/Conprev/ Information Department  
MS/INCA/COAE/ Information Technology Department

since 2004



Projeto Gráfico: Setor de Produção de Material Educativo / CECID/INCA

# Cancer Databases

Informações dos Registros de Câncer de Base Populacional - Microsoft Internet Explorer provided by INCA

Arquivo Editar Exibir Favoritos Ferramentas Ajuda

Endereço [http://www.inca.gov.br/cgi/frameset.asp?link=deftohtm.exe?cgi/def/bp\\_brasil.def](http://www.inca.gov.br/cgi/frameset.asp?link=deftohtm.exe?cgi/def/bp_brasil.def)

Ministério da Saúde

**INCA**  
INSTITUTO NACIONAL DE CÂNCER

Missão: ações nacionais integradas para prevenção e controle do câncer.

Vigilância Epidemiológica

Home » Vigilância » RCBP

Informações dos Registros de Cancer de Base Populacional

Número de Casos por Ano segundo RCBP  
Período 1990-2002

RCBP	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
ARACAJU	-	-	-	-	-	-	930	997	1.106	-	-	-	-	3.033
BELEM	-	-	-	-	-	-	1.580	735	1.324	-	-	-	-	3.639
BELO HORIZONTE	-	-	-	-	-	-	-	-	-	-	11.617	-	-	11.617
CAMPINAS	-	1.170	1.386	1.159	1.124	1.305	-	-	-	-	-	-	-	6.144
CAMPO GRANDE	-	-	-	-	-	-	-	-	-	-	916	-	-	916
CUIABA	-	-	-	-	-	-	-	-	-	1.603	1.488	1.233	-	4.324
CURITIBA	-	-	-	-	-	-	-	3.452	-	-	-	-	-	3.452
DISTRITO FEDERAL	-	-	-	-	-	-	-	-	-	5.031	5.128	5.924	-	16.083
FORTALEZA	2.709	2.358	2.246	2.374	2.232	2.313	3.635	3.572	3.387	4.407	-	-	-	29.233
JOAO PESSOA	-	-	-	-	-	-	-	-	-	812	806	827	-	2.445
MANAUS	-	-	-	-	-	-	-	-	-	1.990	-	-	-	1.990
NATAL	-	-	-	-	-	-	-	-	1.266	2.130	1.696	-	-	5.092

www.inca.gov.br/cgi/taxas/natal/tx\_bruta\_padr\_fem\_9800\_natal.pdf - Microsoft Internet Explorer provided by INCA

para Favoritos Ajuda

www.inca.gov.br/cgi/taxas/natal/tx\_bruta\_padr\_fem\_9800\_natal.pdf

66%

SECRETARIA DE SAUDE DO EST DO RIO GRANDE DO NORTE  
BP - Registro de Câncer de Base Populacional

Página: 1  
17/11/2004

**Taxas de Incidência segundo Localização do Câncer Primário**  
NATAL - ÁREA DE COBERTURA, 1998-2000, Mulheres

Confiança: 86%

Localização Primária	Número Total de Casos Novos	Taxa Bruta	Taxa Acumulada	Risco (%)	Taxa Truncada Padronizada	Taxa Padronizada por				
						População Mundial	População Brasil			
					L.S.	Tx	L.I.	L.S.	Tx	L.I.
gnc	1	0,09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
nc de mama	10	1,72	514,95	99,42	1,18	0,59	1,72	0,86	2,42	1,63
C00 - Oesôfago	4	0,16	114,47	45,15	0,09	0,66	0,31	0,04	0,06	0,11
C01 - Adesão da boca	2	0,08	160,05	69,42	0,06	0,19	0,18	0,07	0,09	0,10
C02 - Faringe	8	0,73	237,85	46,73	0,09	1,29	0,33	0,12	1,07	0,79
C03 - Outros partes da boca	17	1,14	574,99	99,69	1,01	2,42	1,57	0,72	2,29	1,44
C04 - Orelha externa	0	0,07	145,20	76,59	0,00	0,56	0,26	0,04	0,05	0,30
C05 - Outros glândulas salivares	1	0,09	28,42	24,91	0,00	0,14	0,11	0,11	0,10	0,10
C06 - Amígdala	1	0,09	39,45	24,91	0,00	0,14	0,11	0,11	0,10	0,10
C07 - Orofaringe	1	0,09	36,55	46,41	0,00	0,12	0,09	0,08	0,12	0,11
C08 - Hipofaringe	2	0,18	39,89	38,31	0,79	0,19	0,25	0,16	0,49	0,39
C09 - Localização não definida de Origo	2	0,18	48,00	33,63	0,40	0,57	0,24	0,09	0,48	0,20

[www.inca.gov.br/vigilancia](http://www.inca.gov.br/vigilancia)

Source: MS/INCA/Conprev/ Information Department  
MS/INCA/COAE/ Information Technology Department

since 2004



# Training Courses

## By 2003 to 2006

**252 professionals graduated in cancer registries courses and  
50 professionals with updated courses**

**Maintain a staff in cancer registries is a perpetual problem in all  
states of Brazil**

Source: MS/INCA/Conprev/ Information Department

# Investments – Federal funds

## Volume Investments

**Federal funds provided to 27 states (1999 to 2006):**

**U\$ 4.0 million or almost U\$ 21,200 for states by year**

**To cancer registries (surveillance ) and to risk factors health surveys**

**Governmental Decree nº 2607 - 12/28/2005** – Established, with resources of Health Surveillance Secretariat – SVS, financial support to provide funds to improve Population-Based Cancer Registries – PBCR activities.

**U\$ 500,000 by year or U\$ 22,300 for PBCR by year**

# Main challenges to Brazilian Cancer Registries

- 1 – To ensure regular maintenance and updated data collection**
- 2 – To analyze and to disseminate cancer data**
- 3 – To achieve international standards of data quality (IARC)**
- 4 – To support and strengthen mechanisms to data processing, with emphasis in cancer registration software developed by INCA - SisRHC e SisBasepop**
- 5 – To set rules to follow-up data on cancer patients to develop survival studies**

# Main challenges to Brazilian Cancer Registries

**6 – To integrate with another health areas:**

**6.1 – NCD Surveillance**

**6.2 – Mortality Information System (SIM)**

**6.3 – Health Care Management (planning, evaluation and cancer control)**

**6.4 – Cancer prevention and control programmes (cervix uteri and female breast cancer)**

**6.5 – Scientific research and educational institutions**

# The national database of HBCR

**RHCnet**  
Base Nacional de Dados dos  
Registros Hospitalares de Câncer

**for 2007**

Ministério da Saúde

**RHCnet**  
Base Nacional de Dados dos  
Registros Hospitalares de Câncer

USUÁRIO: ELISÂNGELA  
SIQUEIRA COSTA  
CABRAL

MEU CADASTRO SAIR

Envio de Dados  
Questionário de RHC  
Identificar Casos  
Monitoramento  
Tabular Informações  
Consultar Casos  
Downloads  
Unidade Hospitalar  
Usuário  
Perfil de Usuário

**Tabular Informações**

[ Tabulador Administrativo ]  
[ Tabulador Público ]  
[ Tabulador Gerencial ]

Bases de dados para TabWin:  
[ Dados Públicos ]  
[ Dados Gerenciais ]

Atualização dos tabuladores:  
\* A atualização dos tabuladores é um processo que leva alguns minutos, portanto é normal se o navegador "timeout".  
Você receberá um e-mail avisando o término do processo de atualização.

[ Atualiza Tabulador Gerencial ]  
[ Atualiza Tabulador Público ]  
[ Atualiza Tabulador Administrativo ]

Data da última atualização dos Tabuladores Gerencial e Público:  
23/10/2006 20h0m  
Data da última atualização do Tabulador Administrativo:

Instituto Nacional Ministério



## **THE EVOLUTION OF THE POPULATION-BASED CANCER REGISTRIES IN BRAZIL: A PERFORMANCE EVALUATION**

**Thank you for your kind attention !**

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