



 **19th International Conference on  
Health Promoting Hospitals & Health Services**

# **Hepatitis B vaccination among health care workers in Belo Horizonte, Minas Gerais State, Brazil**

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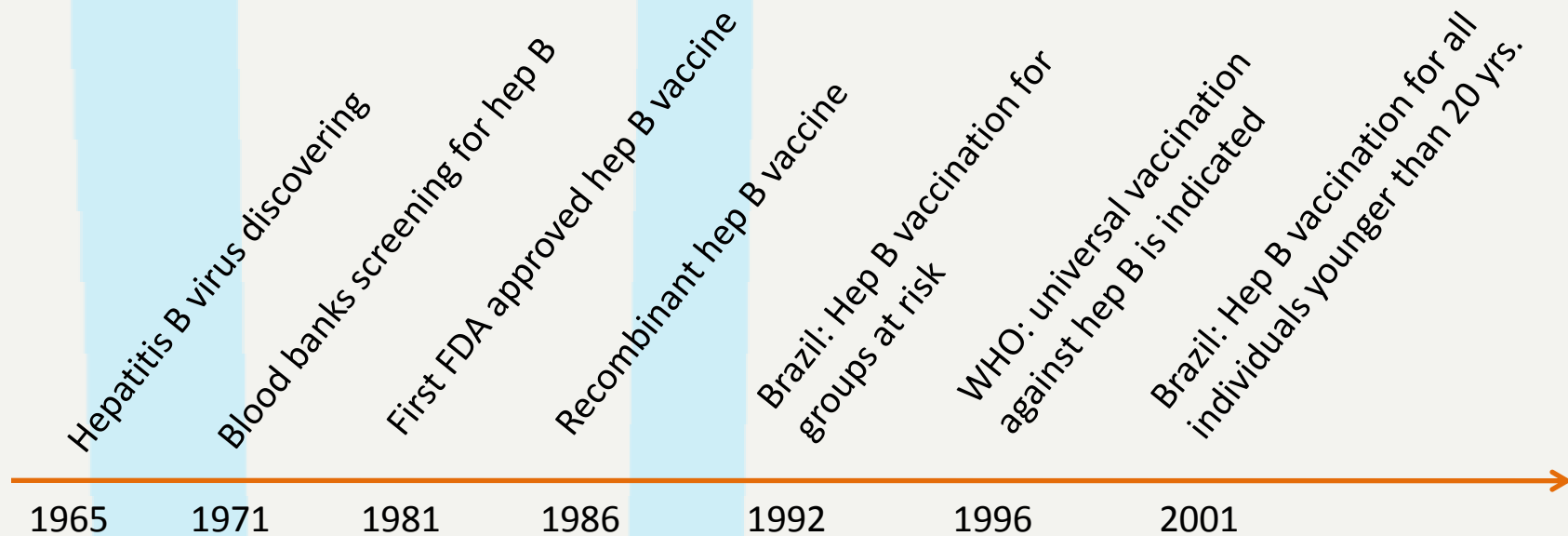
# Hepatitis B vaccination among health workers

## Hepatitis B - Context overview

- 360 million chronic hepatitis B carriers around the world
- A third of all reported cases of cirrhosis
- Highly infectious and stable agent in the environment
- Increased risk to more exposed population
  - Health workers
  - Haemodialysis patients
  - Newly born to HBSag positive mothers

# Hepatitis B vaccination among health workers

## Hepatitis B vaccine timeline



# Hepatitis B vaccination among health workers

## Hepatitis B and the health workers

- High exposure
- Low vaccination rates in Brazil
  - Basic units workers in Santa Catarina: 64,61%
  - Anaesthesiologists in Goiás: 65,6%
  - Hospital workers in São Paulo: 74,5%
  - Dentists in Minas Gerais: 75%
- Availability of the vaccine
- Reasons not to vaccinate:
  - Difficulties of access to vaccine
  - Vaccine costs
  - Fear about side effects
  - Lack of information: risk of infection and mode of transmission

# Hepatitis B vaccination among health workers

## Aims

- To identify factors associated with the history of vaccination against hepatitis B and vaccination with full scheme among health workers in Belo Horizonte, Brazil.



# Hepatitis B vaccination among health workers

## Methods

- Study design: cross sectional
- Study population: workers from municipal public health system in 2008/09

Survey

13602 health workers

Study sample

1808

Respondents

1770



# Hepatitis B vaccination among health workers

## Methods

- Sampling:
  - Job position
  - Geographic area
  - Health attention level

Basic health units  
Specialized ambulatories  
Urgency and emergency units  
Administration offices

Health Districts of Belo Horizonte



# Hepatitis B vaccination among health workers

## Methods: variables

- Dependent:
  - Vaccination status
  - Full scheme vaccination
- Independent:
  - Gender
  - Age
  - Marital status
  - Schooling
  - Smoking habit
  - Occupation
  - Working time
  - Employment contract
  - Use of personal protective equipment
  - Contact with biological material
  - Complexity level in health system
  - Health district

# Hepatitis B vaccination among health workers

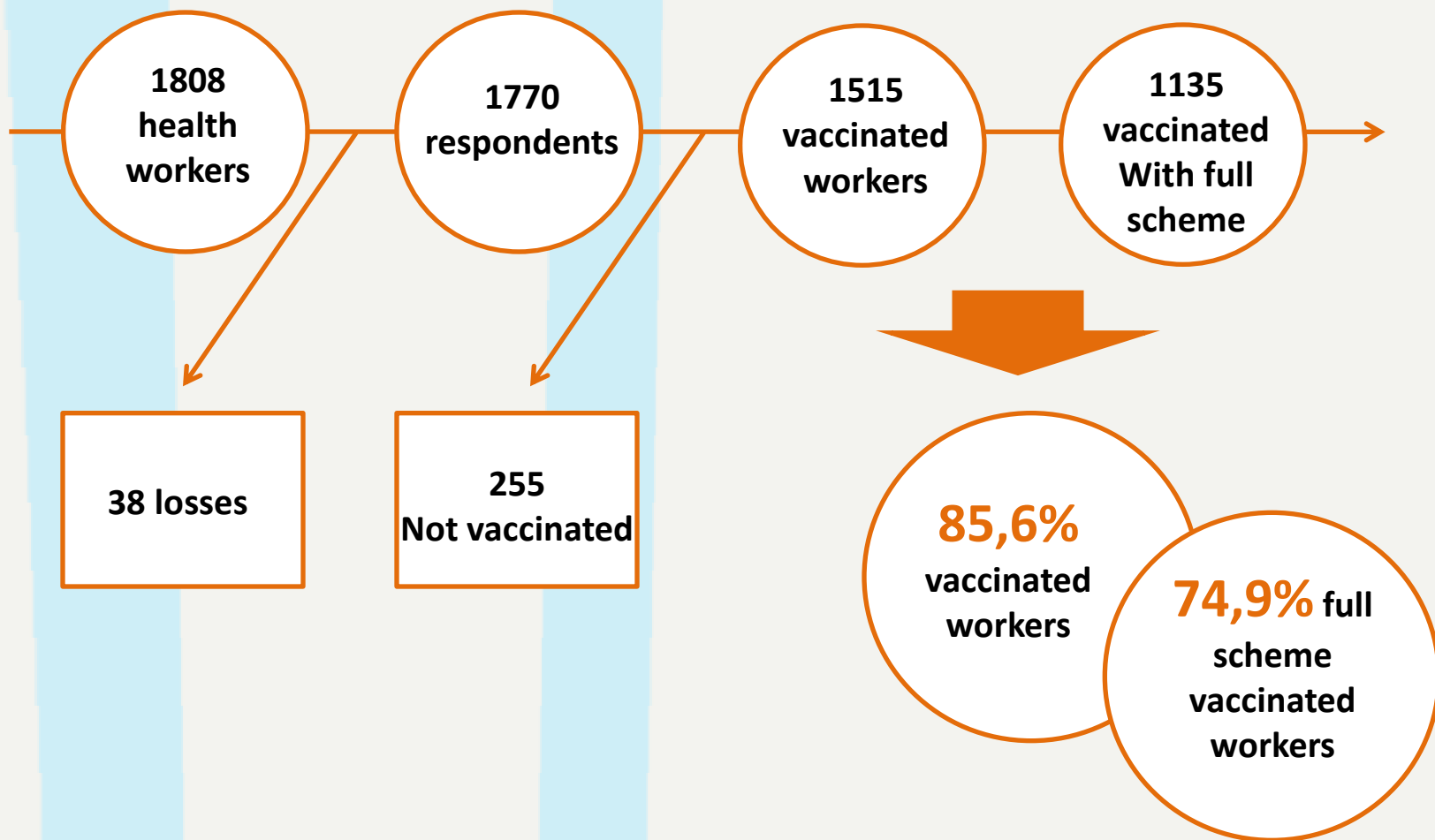
## Methods

- Univariate Analysis
- Multivariate Binary Analysis
  - Inclusion criteria: variables with  $p < 0.2$
- Ethical Aspects:
  - UFMG – IRB: (number 542/07)
  - Confidential informed consent required from all participants

# Hepatitis B vaccination among health workers

## Results

- Prevalence of vaccination in the study



# Hepatitis B vaccination among health workers

## Results

- Multivariate Final Model: Factors associated with previous vaccination against hepatitis B.

	PR (IC95%)	P >  z
<b>Marital status</b>		
Lives with partner	1.00	-
Lives without partner	0.95 (0.91-0.99)	<b>0.01</b>
<b>Schooling</b>		
College degree or post graduation	1.00	-
High school, technical course or incomplete college degree	0.95 (0.91-1.00)	<b>0.043</b>
Basic education	0.93 (0.83-1.04)	0.211
<b>Occupation</b>		
Physicians	1.00	-
Nurses	1.01 (0.97-1.06)	0.508
Other professionals with college degree	0.98 (0.94-1.03)	0.468
Technicians involved in surveillance	0.71 (0.62-0.82)	<b>&lt;0.001</b>
Community health agents	0.98 (0.91-1.06)	0.694
High school graduated technicians	1.01 (0.95-1.07)	0.703
Administrative servers, general service staff and others.	0.83 (0.76-0.91)	<b>&lt;0.001</b>
<b>Use of personal protective equipment</b>		
Yes	1.00	-
No	0.89 (0.84-0.94)	<b>&lt;0.001</b>

**Significant variables with p<0,05**

# Hepatitis B vaccination among health workers

## Results

- Multivariate Final Model: Factors associated with complete vaccination scheme against hepatitis B.

	PR(IC95%)	P >  z
<b>Occupation</b>		
Physicians	1,00	-
Nurses	1.02(0.98-1.04)	0.277
Other professionals with college degree	0.96(0.93-1.00)	0.06
Thecnicians involved in surveillance	0.94(0.88-0.99)	<b>0.044</b>
Community health agents	0.96(0.92-0.99)	<b>0.041</b>
High school graduated thecnicians	0.95(0.91-0.98)	<b>0.006</b>
Administrative servers, general service staff and others	0.90(0.86-0.93)	<b>&lt;0.001</b>
<b>Health district</b>		
Barreiro	1,00	-
Center-South	1.00(0.95- 1.05)	0.97
East	0.95(0.90-0.99)	<b>0.028</b>
Northeast	0.99(0.95-1.04)	0.806
Northwest	1.00(0.96-1.05)	0.728
North	0.97(0.93-1.02)	0.313
West	0.97(0.93-1.02)	0.229
Pampulha	0.97(0.92-1.02)	0.28
Venda nova	0.99(0.95-1.03)	0.652

**Significant variables with p<0,05**

# Hepatitis B vaccination among health workers

## Conclusions

- One in four health workers has not been still vaccinated or was vaccinated with an incomplete scheme.
- Occupation was significantly associated with both a positive history of vaccination against hepatitis B as well as with a history of vaccination with a complete scheme.
- An effort to increase the vaccination coverage against Hepatitis B among health workers should be sought, given the disease burden both for individuals and society.

# Hepatitis B vaccination among health workers

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