

\* Original Article

## THE BRAZILIAN GOVERNMENT'S INFORMATION AND SECURITY SYSTEM IN THE FACE OF BIOTERRORIST THREATS

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### Summary

Terrorism aims to cause as many deaths as possible and to create psychological, economic, social and environmental instability. There are innumerable tools of communication, such as the Internet, that can be used to mobilise a population faced with an attack of this type. The objective of this study was first to investigate whether a security and information system is currently provided by the Brazilian government via the Internet, which a citizen could easily access to learn how to proceed in the event of bioterrorism and, second, to compare this system with the communication model of the *Centers for Disease Control and Prevention* in the United States. In May 2011, an exploratory study using a qualitative approach was performed that used Google to search for the terms bioterrorism, terrorism, terrorist attack, biological warfare, terrorist act, biological weapon, risk, public health and emergency. The study indicated that no formal centralised channel of communication exists in Brazil concerning bioterrorism and that locating any official or summarised information on terrorist attacks using biological agents would be difficult for a Brazilian citizen. It is suggested that the National Secretary of Civil Defence expand its information model, as it was the only consulted site that offered a clear channel of communication with the public. This site also contains information on biological agents and emergency protocols for illnesses stemming from bioterrorism, in addition to preventative information on bioterrorist attacks.

**Key words:** Biosecurity; Bioterrorism; Information and Security System; Terrorist attack.

### Introduction

Terrorism has been a phenomenon since the earliest history of humanity, manifesting in various forms (CONCEIÇÃO, 2008) and aimed at creating economic, social and environmental instability (SILVA AND LOPES, 2005). The objective of terrorism is to cause the highest possible number of deaths and to be as visible as possible (MAXWELL *in* WELLAUSEN, 2002). Attacks using biological, chemical and radioactive weapons disseminate fear, panic, anxiety and insecurity, thus destroying not only the psychological and emotional balance of the population but also their confidence in governmental authorities (CARDOSO AND CARDOSO, 2011).

In a globalised world, terrorism assumes new dimensions (SEIXAS, 2008; WINSECK, 2008); the availability of increasingly modern resources and services, such as air transport, can, for example, facilitate the rapid spread of illnesses throughout the world (ERCOLE AND COSTA, 2003). According to Wellausen (2002), a terrorist act spreads terror using the strategy of the unexpected. The author argues that the efficacy of the attack hinges on the brutality of the act, which affects both well-known personalities and anonymous figures in a crowd, in addition to revealing the vulnerabilities of the population (LEÓN-ROSALES *et al.*, 2001).

Once a theoretical possibility, terrorism is now a real risk (DOMÍNGUEZ, 2002), requiring the mobilisation of defensive and offensive resources in an attempt to neutralise or mitigate threats (KOTTOW, 2003). According to Poletto (2009), there is no universal counter-terrorism formula. This author believes that a war against terrorism cannot follow a script; what is fundamental is an international cooperative response.

Domínguez (2002) emphasises that to face terrorism, each country should reinforce its public health structures. Institutions and their leaders should be ready to efficiently manage the consequences of biological (ERCOLE AND COSTA, 2003), chemical (LAITA *et al.*, 2001) or even radioactive weapons (GUERRA-JÚNIOR, 2006). Beale (2002) emphasises the importance of a special financial branch that manages the organisation, investigation and training of personnel in addition to modernising and structuring a network of laboratories and hospitals to provide vital support. Brava *et al.* (2004) recalled the 2001 bioterrorist attack using *Bacillus anthracis* spores in the United States to emphasise that the absence of both a rapid diagnosis and efficient communication between health professionals can result in a disaster for any nation. Based on this case and with the goal of avoiding future bioterrorist acts, the North American government significantly expanded its public health and information system resources to counter biological and chemical weapons.

According to Curto *et al.* (2009), it is essential to provide ongoing training courses to all teams that should respond in an integrated manner to provide an *initial evaluation* (the evaluation of the situation's development, site evaluation, mobilisation of experts and laboratory support); *medical assistance* (first aid, field hospitals, transport of victims, vaccines, medicines, psychological and psychosocial support); *urban intervention and rescue* (decontamination of people and buildings and the removal and cleaning of residue); *evacuation areas* (shelters, food distribution, reception centre and transport control); and *means of informing the public* (a rapid alert system, communication and logistics, a control centre and provision of safety information). It is also important to take into account, as a crucial aspect of planning, the training of professionals who would protect and promote the mental health of the affected community in the event of a terrorist act (COMPTON *et al.*, 2005).

Poletto (2009) believes that counter-terrorism should consider as a determining factor the "motivation" or "goal" of the organisation it intends to combat. For the researcher, an adequate response depends on the collection and processing of this information, which impacts the capacity of each nation to prevent or respond to the threats that may occur in its territory.

Information is therefore vital for the identification and neutralisation of terrorist cells and also helps to define the response to incidents of biological and chemical terrorism. Wamsley and Schroeder (1996) in Avery and Zabriskie-Timmerman (2009) emphasise that North American policies on disasters and terrorist attacks generally arose after such disasters occurred, as the organisation of these policies always arises from necessity; recently, however, this narrow view of risk has been modified. Expert analysis of terrorist events does permit the identification of errors in the organisation of the responses to each attack in the hopes of improving future emergency plans. For example, through the study conducted by Okumura *et al.* (1998) in Laita *et al.* (2001) on the failure of the first-aid and hospital teams in the 1995 terrorist attempt in the Tokyo subway, response strategies were developed to respond to an incident concerning multiple victims.

There are countless communication strategies that can be used to mobilise a population. Strategies, according to Moraes (2008), are provisions that facilitate the process of transferring information that, when well understood, can save lives. With the dizzying expansion of the Internet, governments have investigated this vehicle of information in terms of its characteristics, such as its speed and instantaneity, which could allow for immediate responses to crises and the capitalisation of resources (PINHO, 2003; BROWN AND KROFF, 2009). Brava *et al.* (2004) reviewed the literature on this subject, finding that in the United States, only 217 information and support systems exist for cases of terrorist attacks, of which 55 are detection systems, 23 are diagnostic, 18 concern administrative aspects, 90 are surveillance systems, 26 concern communication and 7 integrate surveillance, communication and the command and control of responses.

A good example of the investment of the American government in communication systems available to the population is the site of the *Centers for Disease Control and Prevention* (CDC/Atlanta/United States) [1]. This site offers objective information for professionals and laymen on preparing and responding to specific threats, covering not only bioterrorism agents but also chemical emergencies, natural disasters and recent outbreaks and incidents.

The objective of the present study was to ascertain whether a Brazilian communication and security system is available on the Internet that is provided by the Brazilian government, which a citizen could easily access to learn how to proceed in the event of a terrorist attack with biological agents and, second, to compare this system with the CDC communication model.

## Methodology

Working from the perspective of a citizen searching for official information produced by the Brazilian government on terrorist threats using biological agents (bioterrorism), an exploratory study was performed in May 2011 using a qualitative approach (RAUPP AND BEUREN, 2006). In this study, the term "bioterrorism" was used in performing a Google search. To expand the research, the following terms were also used, either in isolation or in relation to each other: terrorism, terrorist attack, biological warfare, terrorist act, biological weapon, risk, public health and emergency. The criteria for inclusion in the study were that the sites [2] were those of Brazilian governmental institutions or agencies available on the first ten pages of Google.

To perform a comparative analysis of the Brazilian government's information system and the information provided by the CDC regarding terrorist attacks with biological agents, the sites were accessed through Google using the search term "bioterrorism".

## Results and Discussion

The research performed on Google indicated that in Brazil, no formal, centralised and up-to-date channel for communication within the criteria for inclusion adopted for the present study is available when using the search term "bioterrorism". Google is one of the most accessible search engines in the world (CARVALHO AND PEREIRA, 2008; GOULART AND MONTARDO, 2008) and has 75% of existing indexed pages on the Internet in its database (Search Engine Watch in BRANSKI, 2004).

The information offered by governmental organisations is summarised on the Oswaldo Cruz Foundation site [3] in concise text, conceptualising bioterrorism and addressing only the *Bacillus anthracis* contamination and the transmission of the virus causing smallpox. A primer created by the International Chamber of Commerce of the Ministry of Development, Industry and International Business [4] outlines the demands for food export to the North American market. This information would not be useful to a citizen in the event of a bioterrorist attack.

When using the other search terms, the information obtained was scarce and divided among the websites of various ministries and organisations. The site for the Institutional Security Cabinet of the President of Brazil [5] provided a publication containing questions related to security that referred to possible terrorist acts in Brazil.

Accessible on the site of the Ministry of Foreign Relations [6] was Decree 5.639, from 12/26/2005, which promoted the Inter-American Convention against Terrorism.

The information provided by the Health portal of the Ministry of Health [7] consisted of a glossary of diseases from A to Z. For each entry, there was a basic description of the disease: general information (microorganism responsible for transmission, symptoms, means of transmission, treatment and prevention); technical information (clinical, laboratory and environmental factors and control measures); epidemiological location (documentation and notification of suspected cases); and vaccination (if available). No information was provided concerning protective measures in the event of bioterrorism.

On the site of the Brazilian Intelligence Agency (Agência Brasileira de Inteligência - ABIN) [8], information on the National Programme of Nation-Business Integration in the Area of Sensitive Items [9] (Programa Nacional de Integração Estado-Empresa na Área de Bens Sensíveis - Pronabens) was provided and detailed the objectives, implemented actions, seminars performed and legislation. The link "Actions" only included the number of visits held from 2004-2006 in the Brazilian chemical, nuclear and biological

industrial sectors. The most recent information provided was from 2006, which was in the form of seminars that were promoted in collaboration with the Ministry of Science and Technology (Ministério de Ciência e Tecnologia – MCT). Anyone interested could also access articles on terrorism in the Brazilian Journal of Intelligence, published by ABIN, from 2005-2009. The information on bioterrorism was scarce, obsolete and non-objective.

Within the Ministry of National Integration, the National Secretary of Civil Defence [10] coordinates the National System of Civil Defence (Sistema Nacional de Defesa Civil – Sindec), which aims to reduce the impact of a disaster through prevention, preparation for emergencies and disasters and the formulation of responses and proposals for reconstruction.

Although the Civil Defence site does not address the topic of bioterrorism, it was the only consulted site that offered a channel of communication with the public, displayed well-organised information in easily understood language and provided a contact phone number that was available 24 hours per day (Figure 1).

**Figure 1** – Site of the National Secretary of Civil Defence, which offers direct guidelines on proceeding in the event of various types of disasters. <http://www.defesacivil.gov.br/index.asp>. Accessed on 5/21/2011

The screenshot shows the website 'Defesa Civil BRASIL' with the following elements:

- Header:** 'Ministério da Integração Nacional', 'Destques do Governo', and 'BRASIL' logo.
- Navigation:** 'Mapa do Site', 'Fale Conosco', and 'Links'.
- Sub-header:** 'Secretaria Nacional de Defesa Civil'.
- Sidebar (Left):**
  - Histórico
  - Sistema Integrado de Informações Sobre Desastres
  - Política Nacional de Defesa Civil
  - Codificação de Desastre, Ameaças e Riscos
  - Centro Nacional de Gerenciamento de Riscos e Desastres
  - Ocorrência de Desastres
  - Situação de Emergência e Estado de Calamidade Pública
  - Solicitação de Recursos
  - Cartão de Pagamento de Defesa Civil - CPDC
  - Prestação de Contas
  - Descentralização Destaque de Recursos
  - Capacitação
  - 1ª Conferência de Defesa Civil e Assistência Humanitária
- Main Content Area:**
  - Date: 'Brasília, 26 de junho de 2012'.
  - Event: 'IX FÓRUM NACIONAL DE DEFESA CIVIL' in 'Angra dos Reis (RJ)' on '04, 05 e 06 de Junho'.
  - Section: 'Defesa Civil nos Estados' with a dropdown menu set to 'UF'.
  - Section: 'Últimas Notícias' with a list of news items:
    - 25 / 06 - Aviso Meteorológico (11h) - INMET
    - 25 / 06 - Defesa Civil reconhece emergência em 25 municípios de nove estados
    - 23 / 06 - Aviso Meteorológico (11h) - INMET
    - 22 / 06 - Em Questão - Comitês estaduais atuam no combate aos efeitos da seca
  - Section: 'Alertas de Desastres' with a link 'Mais Notícias'.
  - Section: 'A Defesa Civil' with sub-sections: 'No Município', 'Na Comunidade', 'Na Escola', and 'Na Mídia'.

In general, when a natural disaster occurs on a grand scale, it is difficult for the authorities to access the affected area, forcing the population to mobilise to minimise the post-event consequences. Therefore, a well-informed community is necessary (KOBAYAMA et al., 2004). Given the aforementioned statement, the Civil Defence created the project "Alert 199 – Civil Defence Announcements on Social Networks", which uses social networks – Facebook, Twitter, Orkut, YouTube – in the dissemination of information required for decision-making in emergency situations. A link informs the public how to act during gales, hailstorms, frost, flooding, tornados, forest fires and storms, and the link provides the option of receiving an alert in the aftermath of such an event.

It is the consensus that a nation's authorities should reinforce the public health structures to face a terrorist act and should establish a formal channel of communication with the population. The

communication of risks, according to Almeida (2007), is an interactive and deliberate process, an exchange of information between individuals and institutions concerning situations that could threaten health, security or the environment. Its objective is not only to disseminate information but also to communicate – in a comprehensible and useful manner – the complexities and uncertainties associated with the process of risk evaluation and management. This same author explained that the goal of the communication of risks is to influence the target audience’s behaviour and perception, making the public a collaborator involved in the process, in particular in crises, without, however, hiding or masking the inherent uncertainty in any evaluation of risk. Once inappropriate communication has undermined public trust and support for the recommended measures, the effectiveness of the control measures is compromised (WHO in ALMEIDA, 2007).

When the Brazilian government’s information and security system is compared with that of the United States, it becomes evident how little objectivity, clarity and data are present on the Brazilian sites researched in the present study. Cardoso and Cardoso (2011) believe that Brazil must consider bioterrorism to be a real threat and that the best manner to combat it, according to the authors, would be through the spreading of information, the dissemination of knowledge and the training of all professionals responsible for acting in crises.

First, the CDC website[11] can be easily found using the search term “bioterrorism” in Google. Once the search is performed using the corresponding term, the visitor locates an information portal with a vast quantity of information on this topic, all focused on biological agents.

The layout of the CDC webpage is concise and organised into three sections: specific agents related to bioterrorism, general information for the public and information for professionals. This information is available in English and in other languages, including Spanish (Figure 2).

**Figure 2** – The website of the CDC, found using a Google search on “bioterrorism,” providing information on preparation and response in an emergency – <http://www.bt.cdc.gov/bioterrorism/>. Note the specific link for the general public (arrow). Accessed on 5/21/2011.

CDC Home  
**CDC** Centers for Disease Control and Prevention  
 CDC 24/7: Saving lives, protecting people, reducing health costs

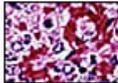
A-Z Index [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

## Emergency Preparedness and Response

[Emergency Preparedness & Response](#) > [Specific Hazards](#)

**Emergency Preparedness & Response**

- Specific Hazards
- **Bioterrorism**
- Chemical
- Gulf Oil Spill 2010
- Radiation
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- Preparedness for All Hazards
- What CDC Is Doing
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- [A-Z](#)
- [List by Category](#)

### Info for the General Public

- [Overview](#)
- [Agent-Specific Fact Sheets](#)

### Info for Professionals

- [Case Definitions](#)
- [Training](#)
- [First Responders](#)
- [Lab Info](#)
- [Surveillance](#)
- [Preparation & Planning](#)
- [Communicating in the First Hours: Initial Communication With the Public During a Potential Bioterrorism Event](#)

In this portal, by clicking on *link overview*, under *info for the general public*, the visitor will find data on the concept of bioterrorism, categories of biological agents according to their mode of spreading and the severity of the illness, as well as an A-Z list of the most commonly used agents in bioterrorist attacks. For each agent, for example, a citizen has access to information on historical facts, videos, interviews and scientific publications on this topic; case studies, including primary symptoms; and a summary of treatment, in addition to contact information (with contacts and phone numbers) for a list of health departments.

Also available on this same link is information on preparing for bioterrorism (*What you can do to prepare for bioterrorism*), offering a preparation and emergency guide for handling catastrophes (such as hurricanes and floods) as well as terrorist attacks and pandemics (Figure 3).

**Figure 3** – Preparation and emergency response guide for bioterrorism and other unexpected events available through the CDC <http://emergency.cdc.gov/preparedness/>. Accessed on 5/21/2011.

## Emergency Preparedness and You

The possibility of public health emergencies arising in the United States concerns many people in the wake of recent hurricanes, tsunamis, acts of terrorism, and the threat of pandemic influenza. Though some people feel it is impossible to be prepared for unexpected events, the truth is that taking preparedness actions helps people deal with disasters of all sorts much more effectively when they do occur.



To help, Centers for Disease Control and Prevention (CDC) and the American Red Cross have teamed up to answer common questions and provide step by step guidance you can take now to protect you and your loved ones.

### 1 Get a Kit



#### Gather Emergency Supplies

By taking time now to prepare emergency water supplies, food supplies and disaster supplies kit, you can provide for your entire family.

### 2 Make a Plan



#### Develop a Family Disaster Plan

Families can cope with disaster by preparing in advance and working together as a team.

### 3 Be Informed



#### Learn How to Shelter in Place

Centers for Disease Control and Prevention (CDC) and the American Red Cross have teamed up to answer common questions and provide step by step guidance you can take now.



#### Understand Quarantine and Isolation

When quarantine and isolation may be called for, what they are, and how they work.



#### Maintain a Healthy State of Mind

Tools for coping with disaster for adults, parents, children, students, and seniors.

Risk management requires everyone involved, including citizens, to know their respective tasks and roles to work in a systematic and synergistic manner in the face of difficulties (SANTOS JÚNIOR AND TAPPARO, 2010). The information provided to the general public seeks to create autonomy, with the goal of the better handling of public health problems, which hinges on the development of greater capabilities for analysis and the co-responsibility to care for oneself, others, the environment and, ultimately, life (CAMPOS *et al.*, 2004).

Therefore, the goal is to trigger concrete actions for cooperation and collaboration, wherein citizens feel effectively involved in the problem that must be solved and share the responsibility for its solution (HENRIQUES AND PINHO NETO, 2001). This goal does not mean that the state has no responsibility to care for life conditions or to create legislation that prevents exposure to risk situations, which would reduce the vulnerability of the population (CAMPOS *et al.*, 2004).

The CDC also uses social networking tools – *Facebook* and *Twitter* – and blogging in its communication process, adapting to the topics and language of the public. The CDC uses current resources such as the film “Resident Evil”, for example, to explain how to create an emergency plan for a *Zombie Apocalypse* that could be implemented in a real emergency situation (Figure 4).

**Figure 4** – Information provided through the CDC network using video as a tool for explaining emergency plans. Accessed on 5/21/2011.



Centers for Disease Control and Prevention  
Your Online Source for Credible Health Information

## Emergency Preparedness and Response

### Social Media: Preparedness 101: Zombie Apocalypse

The following was originally posted on CDC Public Health Matters Blog on May 16th, 2011 by Ali S. Khan.



In every section of the CDC website, an icon that allows a citizen to “*report an emergency*” is available. When this icon is clicked, it opens a page with the primary telephone contact information. The CDC emphasises its 24-hour a day, seven days a week, availability.

Therefore, the CDC seeks to establish, using its internet portal, a specific channel of communication with the general public, who do not seek literal, detailed or technically complex information but rather essential information for understanding a future situation (REYNA inGOLDIM, 2009). The ease of obtaining information found on the CDC website was not experienced on the sites of the Brazilian government that were analysed in the present study regarding bioterrorism.

In addition to the CDC portal, Chaffee (2008) launched a series of sites available in the United States regarding bioterrorism and weapons of mass destruction. In his article, the author comments that since the 2001 attack on the World Trade Center in New York, which altered our perception of risk, the North American government, allied with state and local branches, has shifted into high gear to develop, implement and revise plans that respond rapidly to terrorist acts.

In Brazil, the only information portal with an easily understood language directed at the public was the site of the National Secretary of Civil Defence; however, this site did not specifically concern the subject of bioterrorism. While being aware that the American reality on questions of bioterrorism is very different from the Brazilian reality, we cannot discard information as an essential component, given that the nation will host major world events in the future.

For Moraes (2008), information is a strategy for health interventions. The communication of risk during an outbreak, for example, is framed by risk communication in crises and emergencies (ALMEIDA, 2007). The reduction of vulnerability for the first response units, health establishments and the general population is the basis for preventive action.

An intrinsic responsibility, for health authorities as much as for individuals, extends beyond alerting the population of a health problem. Everyone must collaborate in overcoming material, cultural and political obstacles to protect and promote mobilisation (MORAES, 2008), in particular in an act of terrorism.

Henriques and Pinho Neto (2001) underscore this idea, emphasising that in projects of social mobilisation, the communication effort must aim at creating and maintaining connections between people. These authors believe that it is necessary to create a level of co-responsibility among the various parties that acts as a solid and durable connection between them to reach the intended objectives. Campos *et al.* (2004) believe that to achieve this goal, it is necessary to systemise, consolidate and divulge information and evidence concerning public health.

## Conclusions

Given the results obtained through the analysis performed in this study, it is clear that a Brazilian citizen would have difficulty in accessing consolidated, summarised, official information on bioterrorism. It should not be expected that an individual in an emergency, faced with a suspected bioterrorist attack, experiencing stress, fear and insecurity, would be able to refine this Internet search. Eager for information and support, such an individual would be unable to distinguish, based on the available Internet tools, which institution is the most important and has the most resources in the vast field on terrorism in Brazil.

Therefore, all countries, including those not involved in today's wars, such as Brazil, must invest in a security and information system, which could assist not only health professionals by providing protocols to care for illnesses caused by bioterrorism but also the general public by offering citizens information that would enable them to better face crises.

The communication model of the National Secretary of Civil Defence on natural disasters could be extended to include information on biological agents, for example, and an emergency protocol for illnesses resulting from bioterrorism, in addition to providing information on mitigating biological attacks.

## Notes

[1] <http://www.cdc.gov/>

[2] <http://www.bt.cdc.gov/bioterrorism/>

[3] <http://www.fiocruz.br/biosseguranca/Bis/infantil/bioterrorismo.htm>

[4] <http://www.mdic.gov.br/arquivo/secex/camex/leiBioterrorismo/Regulamentacao/CartilhaCAMEX.pdf>

[5] <http://geopr1.planalto.gov.br/saei/images/publicacoes/livroterrorismo.pdf>

[6] [http://www2.mre.gov.br/dai/m\\_5639\\_2005.htm](http://www2.mre.gov.br/dai/m_5639_2005.htm)

[7] [http://portal.saude.gov.br/portal/saude/Gestor/area.cfm?id\\_area=1498](http://portal.saude.gov.br/portal/saude/Gestor/area.cfm?id_area=1498)

[8] [http://www.abin.gov.br/modules/mastop\\_publish/?tac=PRONABENS](http://www.abin.gov.br/modules/mastop_publish/?tac=PRONABENS)

[9] The goods and technologies used for the production of weapons of mass destruction (WMD).

[10] <http://www.defesacivil.gov.br/index.asp>

[11] <http://www.bt.cdc.gov/bioterrorism/>

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