Editorial

Vacina Brasil Movement and immunization training and development strategies

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The National Immunization Program (PNI), created in 1973 – earlier than the creation of the Brazilian National Health System (SUS) in 1988 –, has been a determining factor for successful control of vaccine-preventable diseases in Brazil. The Program's work has contributed above all to important improvements in the health situation of the Brazilian population. Examples include: eradication of smallpox; elimination of poliomyelitis and urban yellow fever, elimination of the circulation of the measles virus (2016) and the rubella virus (2015); as well as reduction in the incidence of diphtheria, whooping cough, meningitis caused by type B *H. influenzae* , tetanus, tuberculosis in the under fifteen year-olds and, more recently, meningitis and pneumonia.[1] Reduction in vaccine-preventable disease incidence and mortality, especially in the first years of life, has had notable repercussions on increased life expectancy and reduced hospitalizations.[2-4]

The list of vaccines offered by the SUS has increased over time. Nineteen vaccines are currently provided against more than twenty diseases. The National Vaccination Schedule, in the same way as in developed countries, covers not only children, but also adolescents, adults, seniors, pregnant women and indigenous peoples.[5]

PNI's success and its growing complexity have, however, become an obstacle for maintaining adequate vaccination coverage. While people are no longer living alongside death and disabilities caused by vaccine-preventable diseases, they have become oblivious to the risk these diseases represent to their own health and to that of their family members and the community.[6] Within this scenario, fear of adverse events and spreading of fake news about immunobiologics emerge and outweigh knowledge about the importance and benefits of vaccination. Anti-vaccination movements,[7] although they are not very active in Brazil, are increasingly frequent and persuasive, and spread scientifically unfounded information about the risks of vaccination. In addition, operational factors such as restricted health center opening hours and under-recording of vaccine dose administration on the National Immunization Program Information System (SI-PNI), hinder both access to immunobiologics and monitoring of vaccination targets.

The intense migratory movement seen in a country bordering Brazil, with an initial influx in the Brazilian state of Roraima, has contributed to the propagation of the measles virus, which is now circulating once more in Brazil, especially in the states located in the country's Northern region. More than 10,000 cases of the disease were confirmed in 2018,[8] and 646 cases distributed over eight states had been conformed as at July 2019. This demonstrates that additional efforts need to be mobilized in order to maintain adequate vaccination coverage.[9]

In order to reverse the decline in vaccination coverage in Brazil, on April 9th 2019 the Ministry of Health launched the *Vacina Brasil* Movement, during the XXII March to Brasília in Defense of the Municipalities, as part of the agenda of the first 100 days of the new Federal Administration. The aim of the initiative is to mobilize the three levels of health service management (federal, state and municipal) and diverse sectors of Brazilian society and alert as to the importance of vaccination as the main measure for controlling vaccine-preventable diseases, and as the only measure capable of avoiding the reappearance of diseases that have already been eliminated in Brazil. Its first actions have been directed towards publicizing the influenza vaccination campaign, by means of posters, banners, films and images for use in social media. On May 3rd the Christ the Redeemer (*Cristo Redentor*) statue in Rio de Janeiro was illuminated with the Movement's projected logo. Apart from actions already carried out, intensified vaccination is planned against yellow fever, as well as vaccination against yellow fever and measles in the country's border regions, in order to scale up vaccination coverage and disease control.

Strategies intended to reverse vaccination coverage reduction need to take into consideration the diverse factors that contribute to this situation. Use of the media, which has been the main *Vacina Brasil* Movement strategy so far, is fundamental for scaling up access to information based on scientific evidence, especially regarding the benefits of vaccination. In addition to spreading information via traditional and electronic media, these strategies also need to include active tracing of unvaccinated people in key populations, partnerships with schools and universities,

vaccination centers with longer opening hours, civil society mobilization and collaboration from scientific societies in partnership with the three levels of health service management, as well as establishment of intra and intersectoral partnerships. Moreover, fostering production of knowledge, through vaccine coverage surveys and studies on factors associated with non-vaccination, taking into consideration the country's different regions, can contribute to defining complementary strategies for overcoming the current situation.

Immunization training and development initiatives are a fundamental component of this process. Considering that Brazil has more than 36,000 immunization rooms, such strategies need to mobilize a corresponding force in order to reach thousands of health professionals directly involved in vaccination services, as well as millions of other workers who one way or another can contribute to achieving the targets that have been set. As such, implementing an immunization training program depends on the efforts of the three SUS management levels, the necessary engagement of public and private teaching institutions and the support of social movements and the population at large, so as to effectively release the potential of the expected effects of these efforts.

The virtuous protagonism of the Technical School Network, Public Health Schools, SUS and Ministry of Health Training Centers, working directly or in partnership with other institutions, will be able to bolster the development of a two-pronged strategy as specified below.

Prong 1 – Middle education level staff training and development (nursing technicians and auxiliaries, Endemic Control Agents [ACE] and Community Health Agents [ACS]), covering: (i) production of support materials for education initiatives to train these professionals (e.g. videos and handbooks), with the possibility of being widely publicized and having multiple applications; (ii) development of self-instructional courses using distance education methodology, on vaccine-related topics (cold chain, vaccination schedule, active tracing strategies, vaccination of special groups, vaccination room organization, good vaccination room practices, SI-PNI); (iii) support with development of classroom courses in partnership with State and Municipal Health Departments; and (iv) provision of specialized technical training in vaccination for vaccine room professionals, in partnership with State and Municipal Health Departments.

Prong 2 – Higher education level staff training and development, including: (i) production of support materials for education initiatives (videos, interviews, executive summaries); (ii) induction to production and dissemination of summaries of scientific evidence that reinforce the benefits of vaccination actions and the safety of immunobiologics used by the PNI; (iii) widespread dissemination of technical publications and their updates (manuals, guides, informative notes); (iv) development of self-instructional courses using distance education methodology, on well-structured themes (e.g., National Vaccination Schedule; vaccination of special groups; post-vaccination adverse events; vaccination activity planning, monitoring and evaluation); (v) strengthening of themes related to vaccine-preventable diseases as part of health professional training – the need to articulate with the Health Ministry's Health Work and Education Management Secretariat (SGTES/MS) and with the Ministry of Education (inclusion of these themes in university degree courses; encouragement of extracurricular initiatives; articulation with other initiatives, such as the Pro-Residency and Pro-Internship initiatives); (vi) postgraduate specialization in immunization, in partnership with SGTES/MS and Higher Education Institutions; and (vii) advanced fellowships in immunization at national and international institutions of excellence.

Most health surveillance actions, in particular immunization, take place within SUS in a decentralized manner. Municipal health services, particulary in smaller municipalities, face difficulties in carrying out vaccination actions owing to lack of training, turnover and shortage of staff who work in vaccination rooms. Training and development strategies should also be directed towards local government managers, including Municipal Health Secretaries and mayors. When local government managers have access to information, they are able to recognize the value of surveillance actions and prioritize them. This has positive repercussions on the way actions are organized and on the practices of health professionals.[10]

Recognizing the key nature of human resources for health surveillance actions, in keeping with the National Health Surveillance Policy (PNPS),[11] SUS worker training and development are essential for achieving vaccination coverage targets. Incorporating these strategies into the next stages of the *Vacina Brasil* Movement, together with the initiatives already underway, will enable thousands of SUS workers and managers to be reached throughout the national territory, and drive forward the reversal of the decline in vaccine coverage.

Carla Magda Allan Santos Domingues[1] – orcid.org/0000-0003-1463-4939
Francielli Fontana Sutile Tardetti Fantinato[1] – orcid.org/0000-0002-0110-2266
Elisete Duarte[1] – orcid.org/0000-0002-0501-0190
Leila Posenato Garcia[2] – orcid.org/0000-0003-1146-2641

[1]Ministry of Health, Health Surveillance Secretariat, Brasília, DF, Brazil
[2]Institute of Applied Economic Research, Social Studies and Policies Directorate, Brasília, DF, Brazil

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