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## CRVS Fellowship profile

Assessing the completeness of  
death registration in Colombia,  
Daniel Lancheros

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### *CRVS course prospectuses*

These resources outline the context, training approach, course content and course objectives for the suite of CRVS trainings delivered through the Bloomberg Philanthropies Data for Health Initiative. Each course focuses on a specific CRVS intervention or concept, and is designed to support countries to strengthen their CRVS systems and data.

### *CRVS Fellowship reports and profiles*

The CRVS Fellowship Program aims to build technical capacity in both individuals and institutions to enhance the quality, sustainability and health policy utility of CRVS systems in Fellows' home countries. *Fellowship reports* are written by Fellows as a component of the program, and document, in detail, the research outcomes of their Fellowship. *Fellowship profiles* provide a summary of Fellows' country context in relation to CRVS, an overview of the Fellowship experiences, the research topic and the projected impact of findings.

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Interactive and practical resources designed to influence and align CRVS processes with established international or best-practice standards. These resources, which are used extensively in the Initiative's training courses, aim to change practice and ensure countries benefit from such changes by developing critical CRVS capacity among technical officers and ministries.

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# Fellowship profile: Assessing the completeness of death registration in Colombia, Daniel Lancheros

From February to March 2020, Daniel Lancheros from the Instituto de Salud Pública (Institute of Public Health) in Colombia undertook a Civil Registration and Vital Statistics (CRVS) Fellowship through the Bloomberg Philanthropies Data for Health (D4H) Initiative at University of Melbourne (UoM), assessing the completeness of death registration in 14 municipalities in Colombia.

This profile documents Daniel's personal experiences and outcomes and the broader impact his Fellowship might have on improving the quality of mortality data in Colombia.

For more information on the CRVS Fellowship Program, including information on how to apply for a Fellowship, visit the CRVS Knowledge Gateway at:

<https://crvsgateway.info/fellowship>



## Pre-Fellowship: Daniel's workplace

Graduating from the National University of Colombia in 2018 with an undergraduate degree in statistics, Daniel applied for and was accepted as a statistician with Colombia's *Instituto de Salud Pública* (Institute of Public Health). Created in 2015 at the Javeriana University in Bogotá, the Institute of Public Health is an interdisciplinary academic unit that carries out research and teaching on public health. In line with its mission to address the social determinants of health inequalities, the Institute assesses the quality of public health-related data in order to measure the impact of, and provide evidence for, health policy and legislation.<sup>1</sup>

Whilst he was still studying, Daniel gained work experience through a student job at the National University analysing survey data on psychological wellbeing among students, with this experience greatly contributing to his successful application to Institute of Public Health. Still engaged as a statistician at the Institute today, Daniel's day-to-day duties revolve primarily around data analysis. The Institute is engaged in consultancies, research and university teaching, with Daniel's role focused on analysing health, mortality and epidemiological data for research and consultancy projects. Juggling several health-related projects simultaneously – from analysis of dengue cases to COVID-19 mortality data – means that Daniel uses a range of analytical methods in his daily work and is responsible for deciding the most appropriate statistical methods or models to use depending on the project.

<sup>1</sup> Instituto de Salud Pública. 'Quienes somos'. 2020. Pontificia Universidad Javeriana. Available from: <https://www.javeriana.edu.co/ins-salud-publica/quienes-somos>



Colombia is continuing to prioritise registration of vital events in rural areas.

### Box 1: CRVS in Colombia

In recent years, the Government of Colombia has demonstrated its commitment to maximising the health and wellbeing of its population.<sup>2</sup> In order to do so, Colombia is collaborating with the Bloomberg Philanthropies Data for Health (D4H) Initiative to improve its civil registration and vital statistics (CRVS) system. A strong CRVS system captures data on vital events, like births and deaths, in order to produce reliable health statistics – statistics which decision-makers rely on for informing effective health policy and planning.<sup>2</sup>

Whilst Colombia has made great strides in CRVS-strengthening, there remains work to be done. Registration of vital events in rural areas is a key area of focus, with 98% of Colombia’s rural population falling into the lowest quintiles of wealth within the country.<sup>2,3</sup> Poverty, combined with restricted access to health and social services has resulted in rural populations in particular suffering from poorer health outcomes.<sup>2,4</sup>

Although most births and deaths in Colombia are notified and certified online (in 2015, for instance, around 95% of births are estimated to have been certified, as well as around 86% of deaths<sup>1</sup>), disparities between municipalities persist. In rural municipalities, it is often difficult to collect high-quality data – a fact that is reflected in low rates of death registration completeness, for example (Box 3).<sup>2</sup>

## Applying for the Fellowship

Daniel’s colleagues encouraged him to apply for the Fellowship, as the knowledge he learned would not only improve his own skills, but would contribute to capacity and skills development among his colleagues and other CRVS stakeholders.

Daniel’s colleagues and supervisors encouraged him to apply for the Fellowship, as the knowledge he learned would not only improve his own skills, but would also contribute to capacity and skills development among his colleagues and other CRVS stakeholders. To develop his application, Daniel worked with a colleague to decide on a broad research topic of importance to continued CRVS development in Colombia, agreeing on an assessment of the impact of a recently completed D4H project known as *Colombia Rural Vital. Rural Vital* was rolled out in 2018, and involved the application of verbal autopsy (VA) (Box 2) in selected municipalities in order to collect birth and death data.

### Box 2: What is verbal autopsy (VA)?

Verbal autopsy (VA) is a method for collecting information about an individual’s signs and symptoms before their death from their family or next of kin, and interpreting these to diagnose the likely or most probable COD.<sup>5</sup>

The VA process consists of three steps:

1. Setting up an interview by a trained VA staff member at home (or another appropriate place)
2. Conducting a structured interview to collect information on signs and symptoms of illnesses and events that the deceased had before death
3. Interpreting the interview data to diagnose the most probable COD.<sup>6</sup>

2 Colombia Implementation Working Group. Colombia: A strategy to improve the registration and certification of vital events in rural and ethnic communities. CRVS country reports. Melbourne, Australia: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Improvement, the University of Melbourne; 2018

3 The World Bank. The World Bank Country Data: Colombia. Overview. 2018. Available at: [data.worldbank.org/country/colombia](http://data.worldbank.org/country/colombia)

4 Marmot, M. Social determinants of health inequalities. *The Lancet* 2005; 365(9464):1099-1104.

5 de Savigny et al. Integrating community-based verbal autopsy into civil registration and vital statistics (CRVS): system-level considerations. *Global Health Action* 2017; 10:1272882.

6 University of Melbourne. Challenges associated with automated VA training and rollout. CRVS best-practice and advocacy. Melbourne, Australia: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Improvement, The University of Melbourne; 2018.

Daniel's research objectives included calculating death registration completeness in 14 Colombian municipalities and assessing the impact of *Rural Vital* on the national CRVS system.

After being selected to undertake the Fellowship, Daniel further narrowed down his research agenda, setting out to accomplish two objectives:

1. To calculate completeness of death registration in 14 rural municipalities (see **Box 3**)
2. To assess the impact of the birth and death data collected through *Rural Vital* on the national CRVS system overall.

### Box 3: What is registration completeness and why is it important?

Unregistered deaths may have a different COD profile than registered deaths, so registration completeness is important for governments to make planning and policy decisions with confidence, based on the knowledge that vital registration data are unbiased and complete.<sup>7</sup> The completeness of registration is defined as the percentage of actual births or deaths in a population that are registered. Put another way, it is the number of registered births or deaths divided by the actual number of births or deaths in a population.<sup>7</sup>

$$\text{Completeness of death registration (\%)} = \frac{\text{number of registered deaths}}{\text{actual number of deaths}} \times 100$$

## Undertaking the Fellowship

One of Daniel's most useful learnings was a method for assessing the completeness of death registration (developed by the University of Melbourne), taught to him by his Fellowship supervisor, Dr Tim Adair.

Upon Daniel's arrival in Melbourne, experienced D4H technical staff hosted a CRVS Bootcamp, which provides generalised CRVS training – including the introduction of several CRVS-related concepts and tools – over two half-days. At this training, Daniel was able to not only share Colombia's experiences in improving its mortality data, but also learn about other country perspectives from the four other Fellows undertaking a Fellowship at the same time.

The Bootcamp laid the foundation for Daniel to complete his first objective: assessing the completeness of death registration in 14 municipalities. One of the most useful things Daniel reported to learn was a method for assessing the completeness of death registration (developed by UoM), taught to him by his Fellowship supervisor, Dr Tim Adair.<sup>7</sup> Learning how to apply this method enabled Daniel to successfully address the first of his two research objectives.

For his second objective, assessing the impact of the *Rural Vital* project, Daniel was able to compare births and deaths registered under *Rural Vital* with birth and death rates excluding those registrations. In order to better understand the impact of the project, he assessed whether the differences between the birth and death data were statistically significant.

Whilst Daniel encountered challenges throughout his Fellowship (at the start of his project, for instance, he was unsure which data from the *Rural Vital* project were available for analysis), colleagues from UoM were able to support him in addressing these hurdles. Daniel commented that whenever he didn't understand anything, UoM staff and other Fellows were always more than willing to help.

As for Daniel's favourite part of the Fellowship? "Meeting new people," he explained. "Our countries are different... the best part has been to learn about people."

Daniel is currently in the process of writing a paper on his research findings from the Fellowship, with the intention to publish in a peer-reviewed journal.

<sup>7</sup> Adair, T., and Lopez, AD. Estimating the completeness of death registration: An empirical method. *PLoS ONE* 2018; 13(5):e0197047.



## Moving forward

One of the first things Daniel planned on doing upon his return home was to share his Fellowship learnings with his immediate colleagues, and CRVS stakeholders at Colombia's Ministry of Health.

Although Daniel was only in Melbourne for six weeks, work on his Fellowship project did not end when he returned to Colombia and resumed work at the Institute of Public Health. He remarked that his work was “a continuous process”, and one of the first things he planned on doing upon his return was to share his Fellowship learnings with his colleagues from the Institute of Public Health as well as the Ministry of Health. Sharing this knowledge will play an important role in guiding plans for expansion of the project to other municipalities.

Once published, Daniel's findings will highlight both the strengths and blind spots of Colombia's CRVS system. By assessing the completeness of death registration in rural municipalities, Daniel's research will help inform the focus of Colombia's CRVS improvement efforts. As CRVS stakeholders continue to build on their successful improvement efforts to date, Colombia will be able to ensure that their CRVS system is equipped to count every one of the country's 50 million people – making certain that no one is left behind.<sup>8,9</sup>

8 The World Bank. The World Bank Country Data: Colombia. Overview. 2018. Available at: [data.worldbank.org/country/colombia](https://data.worldbank.org/country/colombia)  
9 Setel PW, Macfarlane SB, Szreter S et al, on behalf of the Monitoring of Vital Events (MoVE) Writing Group. A scandal of invisibility: making everyone count by counting everyone. *The Lancet* 2007; 370:1569-1577.

The program partners on this initiative include: The University of Melbourne, Australia; CDC Foundation, USA; Vital Strategies, USA; Johns Hopkins Bloomberg School of Public Health, USA; World Health Organization, Switzerland.

Civil Registration and Vital Statistics partners:



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