A mixed-methods study on the design of AI and data science-based strategies to inform public health responses to COVID-19 in different local health ecosystems within Colombia (COLEV)

Duration:

Up to 20 months **(February 2021 - September 2022)**

Position:

Full time research assistant

Academic requirements:

Masters degree in a relevant discipline (e.g. social sciences) or equivalent research experience.

Availability:

Normal working hours from Monday to Friday, with some early morning or evening work where necessary (e.g. for conducting interviews)

Project summary:

The Universidad de Los Andes is spearheading a five-pronged interdisciplinary research endeavor, based on artificial intelligence (AI) methods and data science, aimed at developing, implementing, and communicating useful evidence for COVID-19-related challenges, response, and recovery in Colombia, South America.

The first objective will be the identification of stakeholders' preferences, needs, and their use of AI and data science relative to other forms of evidence, taking into account technical, ethical, and social aspects, and tracing barriers and facilitators to the uptake of interventions based on AI and data science for different local health system contexts. The second objective is aimed at developing long-term, real-time, gender-specific, and locally relevant mathematical models powered by deep learning algorithms that will shed light on the possible impact, trajectories, geographical spread, and uncertainties of disease progression as well as risk assessment based on sociodemographic, behavioral, and medical history heterogeneities. The third objective focuses on estimating the effect of COVID-19 on other diseases, particularly on disease incidence, the resurgence of

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other infectious diseases, changes in chronic disease frequency and severity, gender disparities, and mental health. Recognizing the social impact of COVID-19 and its significant importance in the current public conversation, the fourth objective intends to analyze popular social networks to identify healthrelated trending interest for vulnerable groups or populations, common reactions to policies and events of social importance, and critical users that act as 'super spreaders' for information and misinformation diffusion. Finally, the fifth objective of this research aims at designing disruptive cross-media and multimodal communication strategies, tailored to different societal groups according to age, gender, regional, and socioeconomic characteristics, to confront mis- and dis-information around COVID-19, with particular emphasis on creating meaningful visualizations and fostering advanced interactions with an extensive set of audiences. The five objectives come together, to address specific and urgent needs for public health action regarding COVID-19 in Colombia.

Catalina Gonzalez, School of Medicine, Universidad de los Andes, is principal investigator of the study The postholder will work closely with Dr Simon Turner, co-investigator, on the delivery of objective one of the study, which will involve undertaking qualitative research, drawing on stakeholder interviews and ethnographic work to trace the use of AI and data science in 'real-world' decision-making processes. The qualitative research will identify stakeholders' preferences for AI and data science in relation to pressing public health challenges related to COVID-19 and focus on public health decision-making processes that involve the use of data science in Colombia (up to nine applications of AI will be studied in total).

In order to support the delivery of objective 1 of the study, and contribute to the wider study objectives, we are recruiting one full-time research assistant.

Person specification and experience:

▶▶ Bilingual with excellent written and oral communication in English and Spanish.

▶▶ Masters degree in a relevant discipline or equivalent research experience.

▶▶ Conducting qualitative research (including interviews) in health care or public planning.

▶▶ Manage time efficiently and work to deadlines.

▶▶ Demonstrate excellent interpersonal skills.

▶▶ Able to write scientific reports clearly and quickly.

▶▶ Ability to design and implement research studies (e.g. question formulation).

▶▶ Ability to develop new techniques, projects, and outputs.

▶▶ Experience of working within multi-disciplinary teams.

▶▶ Proven ability and commitment to carrying out high quality original research.

▶▶ Ability to work as part of a fast-moving team, and collaborate with people from a range of disciplinary backgrounds.

▶▶ A high level of personal credibility and ability to maintain confidence of various service providers.

▶▶ The highest ethical and professional standards in research and impact.

▶▶ Highly self-motivated and hard working.

Main duties and responsibilities:

▶▶ Carry out qualitative research on the study under the direction of Dr Simon Turner, with specific duties to include:

> ▶ Liaising closely with project team members based at the university and other stakeholders (e.g. members of local and national health systems) to contribute to the success of the study;

> ▶ Carrying out qualitative fieldwork (interviews, documentary analysis, and non-participant observations) in the participating health system organisations.

▶▶ Review the relevant literatures on health system change and responses to COVID-19 specifically, including material from organisational and management studies, health services research, and science and technology studies;

▶▶ Ensure that appropriate ethical clearance and research governance approvals are obtained and maintained for all empirical research activity;

▶▶ Contribute to the development and refinement of qualitative research instruments, including interviews, non-participant observations and documentary analysis;

- Contribute to the analysis of qualitative data;
- Assist in the delivery of dissemination activities, both virtually and face-to-face;
- Contribute to drafting papers arising from this project for publication;
- Help draft progress reports for the funder, including summaries;
- Contribute to presenting findings to different audiences and attend relevant conferences, both virtually for example 'webinars' and face-to-face;
- Carry out any other reasonable duty commensurate with the level and purpose of the post.

Compensation and contract:

The candidate selected will be hired by Universidad de los Andes with a laboral contract and a compensation of $4.000.000 plus fringe benefits.

Application process:

To apply for the position available, please send your CV and a cover letter (both in English) explaining your reasons for applying, how your meet the person specification, and what you would contribute to this important project to **s.turner@uniandes.edu.co**, **colev@uniandes.edu.co** and **ma.cortes140@uniandes.edu.co**. Shortlisted candidates will be interviewed and will be asked to deliver a short presentation in English as part of the interview.

Closing Date: **Feb 14/2021**