CHRIS Covid-19 Study

Vaccination status

Version 1.0

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1. Introduction

This module stores information related to the SARS-CoV-2 vaccination status.

The CHRIS COVID-19 study was designed to estimate the distribution of SARS-CoV-2 infection cases in Val Venosta/Vinschgau since 1 February 2020, as well as the proportion of asymptomatic individuals among positive cases, to characterize transmission within households, to assess the relationship between antibody response and disease severity, to observe the evolution of antibody response over time, to identify environmental, molecular and genetic risk factors, to identify long-term sequelae.

The CHRIS COVID-19 study was organized in three stages:

Stage 1: A stratified random sample of 1812 CHRIS study participants was selected to represent the adult population of the Val Venosta/Vinschgau district. Out of this sample, 845 CHRIS participants replied to an online or paper questionnaire, underwent a molecular test based on a nasopharyngeal swab and a serum antibody test.

Stage 2: All 13,393 CHRIS study participants and their consenting cohabitants were invited to fill in an online questionnaire on their past and current health status, and on SARS-CoV-2 (potential) exposure and testing. Each CHRIS participant received ten access tokens to let them and their cohabitants register online. A shorter questionnaire was then sent repeatedly to all participants every 4 weeks for an update on their symptoms, COVID-19 exposure, and testing. All individuals at risk of positivity to SARS-CoV-2 infection and their cohabitants have been invited for a nasopharyngeal swab molecular test and a serum antibody test at the CHRIS study center.

Stage 3: To trace and monitor antibody response over time, all individuals testing positive to either the nasopharyngeal or the serum test in Stages 1 or 2 have been invited to repeat the serum antibody test every three months for a year, since their first measurement.

Information on vaccination was either collected in the online survey or at the time of the blood drawing for serum antibody testing.

2. History version changes

Data cleaning process

variables added: ccvacount

3. Data cleaning

1. The SARS-CoV-2 vaccination information from the CHRIS COVID-19 longitudinal information dataset was loaded in Stata and the SARS-CoV-2 vaccination information collected during the serological screening was attached to it.
2. Entries which did not report vaccination dates were excluded.
3. Inconsistencies between entries of the same participant (e.g., distance in days between the vaccine doses) were checked and manually corrected.
4. The dataset was reshaped to one vaccine dose per line.
5. Duplicates and entries which did report a previously stated vaccination event were excluded.

6. The distance in days between the vaccine doses was checked again.
7. The count variable ccvacount was created.
8. The SARS-CoV-2 vaccination status dataset was saved.

Stata v16.1 was used for the data cleaning process. The cr_08_create_vaccination do-file is not available because it includes participants' identifier.

4. Data structure

The variables listed in table 1 constitute all the variables associated with the SARS-CoV-2 vaccination status.

Observations are defined as vaccine doses. Multiple observations per participants are possible (see count variable ccvacount).

Table 1. SARS-COV-2 vaccination variables list

Variable	Description	Unit of reference	Coding	Filter	Notes	Version	Available	Derived
ccva21	SARS-CoV-2 vaccination status at time of assessment		1 Vaccination completed 2 Vaccination ongoing				Yes	No
ccva22	Date of SARS-CoV-2 vaccination		<date>				Yes	No
ccvacount	Counter of SARS-CoV-2 vaccine doses		1 First 2 Second 3 Third				Yes	Yes
ccvadate	Date of SARS-CoV-2 vaccination status assessment		<date>				Yes	No
ccvaresp	For whom are you filling out this questionnaire?		1 For myself 2 For an adult person living in my household 3 For a minor person or a person with legal guardian living in my household 4 For a participant at the serology screening				Yes	No

5. Advices for the analysis

The structure of the dataset is by vaccination dose. The vaccination campaign in Italy started on December 27th, 2020. Priority was granted to health workers and nursing home residents. Starting October 2021, the third dose was available for health workers and frail individuals, i.e. anyone above 79 years old and anyone with some at-risk comorbidities.

6. References

Pattaro C, Barbieri G, Foco L, Weichenberger CX, Biasiotto R, De Grandi A, Fuchsberger C, Egger C, Amon VSC, Hicks AA, Mian M, Mahlknecht A, Lombardo S, Meier H, Weiss H, Rainer R, Dejaco C, Weiss G, Lavezzo E, Crisanti A, Pizzato M, Domingues FS, Mascalzoni D, Gögele M, Melotti R, Pramstaller PP. Prospective epidemiological, molecular, and genetic characterization of a novel coronavirus disease in the Val Venosta/Vinschgau: the CHRIS COVID-19 study protocol. Pathog Glob Health. 2022 Mar;116(2):128-136. Doi: 10.1080/20477724.2021.1978225. PubMed PMID: 34637685

Italian Health Ministry COVID-19 webpage: https://www.salute.gov.it/portale/nuovocoronavirus/dettaglioFaqNuovoCoronavirus.jsp?lingua=italiano&id=255