

Outpatient follow-up and home care of patients with suspected or confirmed COVID-19.

Ingrid Spessotti - Fiorella De La Lama

GHCon2020



Topics

- Elaboration of Biosecurity Protocols, Triage and usage of EPP
- Epidemiological workflow: contact tracing, training, suspected case definition
- Proposal of a Module for Contact Tracing
- Training
- Meetings
- Statistics

Elaboration of Biosecurity Protocols

Institutional Protocols

- Healthcare: Hospitals and Primary Health Care Centers, Triage, PPE, Contact Tracing, Pathological Wastes.
- Out-of-hospital: Police, Prefecture, Firefighters, Assistance Centers (Women).
- Funeral homes and Cemetery.
- Waste Collection and Cleaning Staff
- Clubs, Gyms, Sports Institutions, Recreational activities.
- Geriatrics, Closed Institutions (e.g. Penitentiary).
- Merchants, Companies.
- Carriers

Domiciliary Protocols

TRIAGE

Method of identifying patients associated with COVID-19 symptoms.
Implementation of triage first at institutional level and then at local and departmental level.

Definition of cases according to epidemiological dynamics.

Identification:

- Travellers
- Contacts of Confirmed cases (Family members, friends)
- Work Activity (Doctors, nurses, EMT workers)

PPE

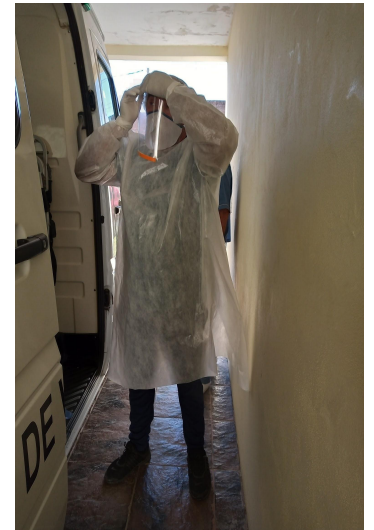
Use of PPE according to the type of intervention and/or assistance to confirmed and suspected COVID-19 patients.

PPE are:

- Mob_cap
- Gloves
- Camisole or Overroll
- Surgical or N95 masks
- Boots
- Face mask or safety glasses

Implementation

- Optimization of resources due to economic impact



Contact Tracing

It begun on March with users who returned from places with community circulation, who remained in home isolation until the evolution of symptoms.

If symptoms were detected, the suspected cases were admitted to the San José Hospital to perform the Nasopharyngeal Swab. This study could confirm the diagnosis of COVID-19, rule out the suspicion and / or continue with the measures of home isolation and / or hospitalization.

In addition to the follow-up we started the monitoring of signs and symptoms associated with the pathology. The signs and symptoms are body temperature, heart rate, respiratory rate and typical symptoms such as anosmia and dysgeusia.

Biosecurity Protocols

Use of PPE



Biosecurity Protocols



Epidemiological Training

- Identification of an probable/confirmed case and its contacts
- Community and conglomerate transmission.
- Outbreak controls according to the epidemiological situation.
- Triage
- Contact Tracing.
- Home-based care monitoring or Hospitalization
- Hospitalization Notification
- Discharges
- Deaths

Isolation at Home: Suspected Case and Contacts

- Home isolation is indicated in symptomatic patients and it is proportional to the maximum incubation period of the disease (14 days). *
- Daily monitoring for clinical signs and symptoms and the clinical evolution of the contacts, also asymptomatics.
- Signs and complications (secuels) according to age groups.
- For patients with risk factors as chronic diseases the pharmacodynamics related with COVID is studied.
- The characteristics of the new outbreak are established, the new evidence is registered and published by the local Health Emergency Organization Committee (COES in Spanish).
- Strategies are redirected according to the evidence.



Suspected COVID-19 case

There are two suspected case definitions A or B:

A) A person who meets the clinical AND epidemiological criteria:

Clinical criteria:

1. Acute onset of fever AND cough; OR
2. Acute onset of ANY THREE OR MORE of the following signs or symptoms: fever, cough, general weakness/fatigue , headache, myalgia, sore throat, coryza, dyspnoea, anorexia/nausea/vomiting, diarrhoea, altered mental status.

Suspected COVID-19 case

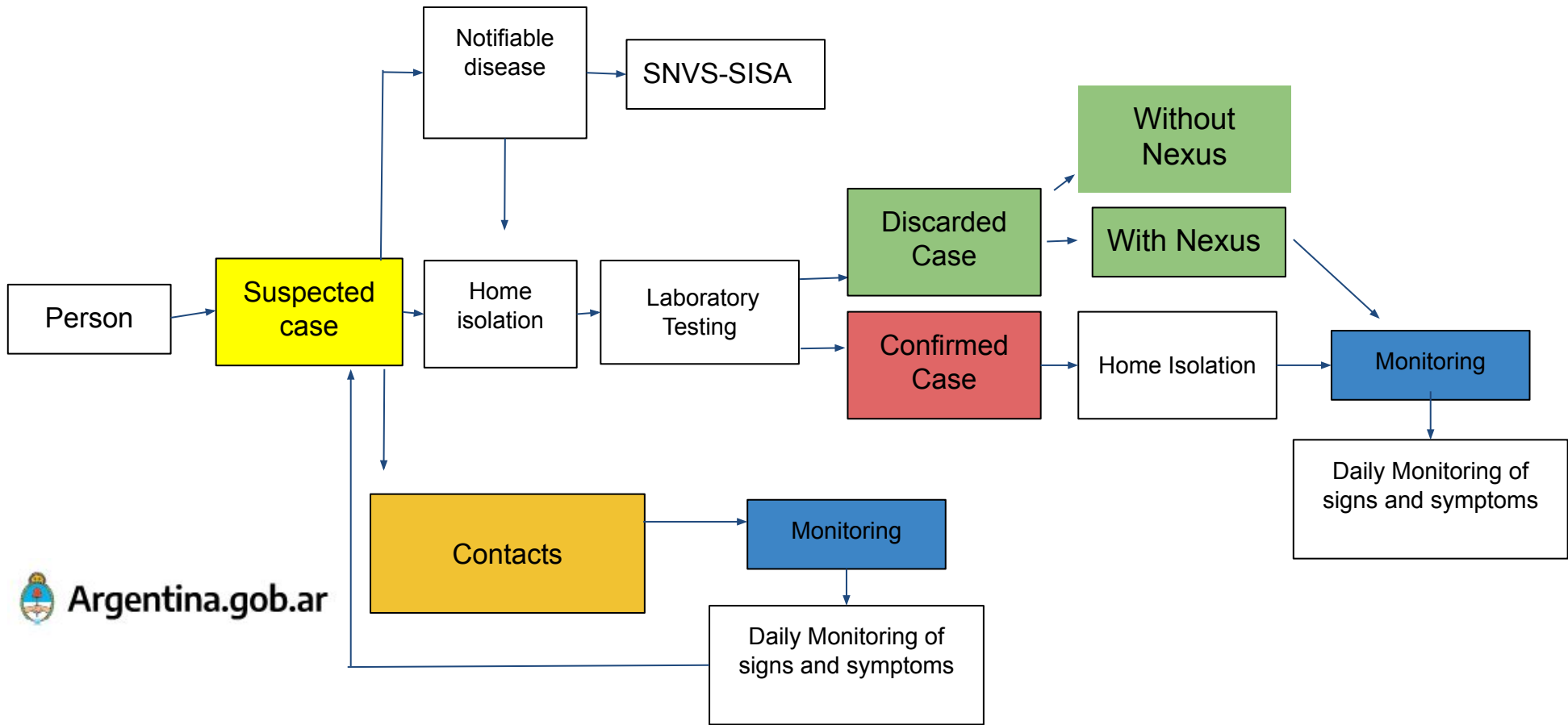
Epidemiological criteria:

1. Residing or working in an area with high risk of transmission of the virus; OR
 2. Residing in or travel to an area with community transmission; OR
 3. Working in health setting, including within health facilities and within household.
- B) A patient with severe acute respiratory illness (SARI: acute respiratory infection with history of fever or measured fever of $\geq 38\text{ C}^\circ$; and cough; with onset within the last 10 days; and who requires hospitalization).


Project

“Implementation of an Information System based on libre software for the local management of epidemics in Municipalities.”





On Paper Records for Monitoring

 **Ministerio de SALUD**
Gobierno de Entre Ríos

SEGUIMIENTO DE CONTACTO ESTRECHO DE CASO CONFIRMADO DE COVID-19

NOMBRE Y APELLIDO


DNI	EDAD
TELÉFONO	DOMICILIO

GRUPO FAMILIAR CONVIVIENTE

NOMBRE Y APELLIDO	DNI	EDAD	FACTOR DE RIESGO

NECESIDADES ALIMENTARIAS

AGUA POTABLE

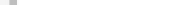
 **Ministerio de SALUD**
Gobierno de Entre Ríos

HOJA DE SEGUIMIENTO

	FECHA Y HORARIO	FECHA Y HORARIO	FECHA Y HORARIO	FECHA Y HORARIO	FECHA Y HORARIO	FECHA Y HORARIO	FECHA Y HORARIO
SÍNTOMAS							
FIEBRE 37,5 °C O MÁS							
TOS							
DOLOR DE GARGANTA							
DIFICULTAD RESPIRATORIA							
FALTA DE GUSTO							
FALTA DE OLFATO							
Personal que realizó el seguimiento							

OBSERVACIONES

Proposal: Reduce the Fragmentation

A screenshot of the SNVS web application. The interface is in Spanish and shows a form for registering a case. It includes fields for 'Evento', 'Fecha apertura', 'Fecha de recolección en papel / registro en sistema de origen', 'Establecimiento de carga', 'Código VII', 'Clasificación automática del caso', 'Clasificación manual del caso', 'Vigilancia Activa', 'Observaciones', and 'Validación de caso'. There are also buttons for 'Enviar datos e ir a Clínica', 'Enviar datos e ir a Laboratorio', and 'Cancelar'. The interface is annotated with numbered circles 1 through 5, highlighting specific fields.

Notifiable Disease
Form-COVID-19

Monitoring and
evaluation of
COVID-19 cases and
contacts



Webservice (ws 400) -
Nominal Event Registration
-SNVS 2.0



National Health
Surveillance System.

GNU Health COVID-19 Module

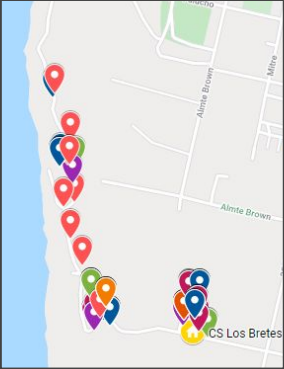
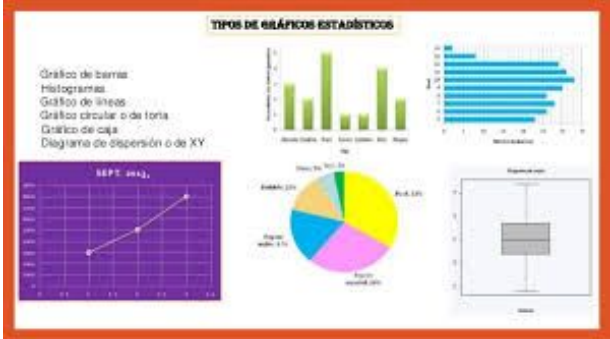
Notifiable Disease Form-COVID-19



Monitoring and evaluation of COVID-19 cases and contacts

Reports:

- Isolation Certification.
- Discharge Certification.
- Geolocalization Maps
- Notifiable Disease Form
- Case and Contact Statistics



Contact Tracing Module

- The module allows the decentralized monitoring.
- Notifiable disease form (Argentine integrated health information system - SISA)
- Automatic Notification (on development)
- Generation of cases and contacts
- Knowledge of Risk Factors, Chronic diseases, Geolocalization, Family, etc
- Record of callings and the monitoring of signs and symptoms
- Reports y Statistics
- Data Visualization and Access Rights according to User's Role (Case Administrators - Callers)

Module

ENO

ENOS

Identificación de la Institución

Institución:

Localidad: Provincia:

Profesional de la salud: Teléfono celular:

Identificación de Caso/Evento

Paciente:

Persona Privada de su libertad: Se declara pueblo indígena:

Provincia: Departamento:

Calle: Número de casa:

Departamento: Código postal:

Seguimiento de Contactos

1 / 113

Buscar

Actualmente siguiendo Seguimientos Cerrados Todos

Icono de Llamada	Geo Ref	Fuente	Patología	Fecha de prim	Fecha de alta	Contacto	Sector Operaci	Contexto	Comentarios
■ Seguimiento finalizado	◆ No georef		U07.1 : COVID	26/08/2020	06/09/2020		Centro		
■ Para llamar	◆ No georef			28/08/2020	11/09/2020				
■ Seguimiento finalizado	◆ No georef			26/08/2020	09/09/2020				
■ Para llamar	◆ No georef			30/09/2020	25/09/2020				
■ Seguimiento finalizado	◆ No georef			28/08/2020	11/09/2020				
■ Seguimiento finalizado	◆ No georef		U07.1 : COVID	30/09/2020	18/09/2020				paciente asma
■ Para llamar	◆ No georef			15/09/2020	29/09/2020				
■ Para llamar	◆ No georef			01/09/2020	15/09/2020				
■ Para llamar	◆ No georef			13/09/2020	27/09/2020				
■ Para llamar	◆ No georef			06/09/2020	20/09/2020				
■ Para llamar	◆ No georef			14/09/2020	28/09/2020				
■ Para llamar	◆ No georef			25/08/2020	09/09/2020				
■ Para llamar	◆ No georef			15/09/2020	29/09/2020				

Información de la Enfermedad

Patología: Contacto:

Exposición: Fecha:

Contexto:

Contactos de seguimientos del Paciente

Contactos de seguimiento

Fecha	Operador	¿Como considera que es su salud respecto al día de ayer?	¿Como considera que es su salud al día de hoy?

Contactos de seguimiento

Operador: Fecha: 11:28:07

¿Tiene dolores en las articulaciones?:

¿Tiene diarrea y vomito?:

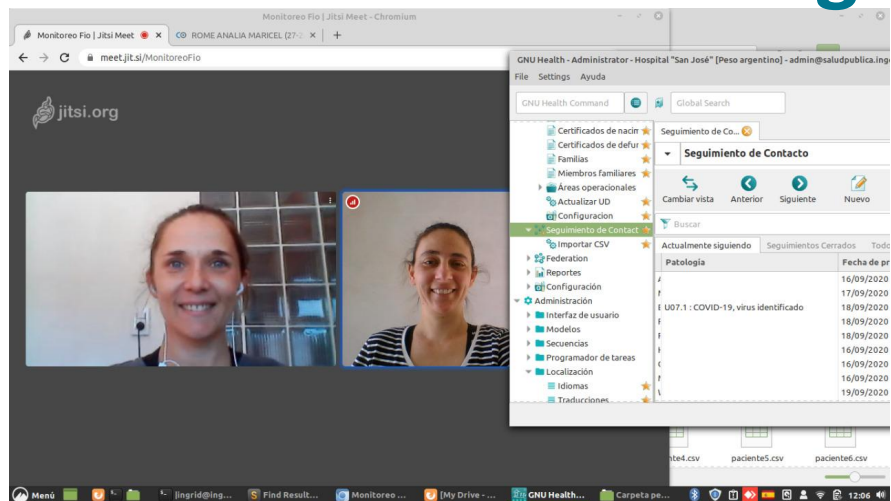
¿Presenta dificultad respiratoria?:

¿Presenta fiebre superior a 37,5?:

¿Tiene tos?:

¿Tiene dolor de cabeza?:

Trainings and Meetings



Trainings



Conferences

CICLO DE ENCUENTROS

Inteligencia artificial y ciencia de datos: potencial y desafíos para la gestión de crisis sanitarias.

Laura Toledo

Facultad de Ingeniería | Municipalidad de DIAMANTE | Municipio de Oro Verde | Agencia I+D+i

Implementación de un sistema de información sanitario basado en software libre para la gestión local de epidemias en municipios

Dr. Bioing. Fernando Sassetti | Bioinga. Ingrid Spessotti

JADOCKY | AGENCIAS | ZOOPLAN | Argentina

Usted está viendo la pantalla de Ingrid Spessotti

Proyecto

"Implementación de un sistema de información basado en software libre para la gestión local de epidemias en municipios."

JIS Go Live 2020

Ingrid Spessotti

AGENCIA NACIONAL DE PROMOCION CIENTIFICA Y TECNOLOGICA

Facultad de Ingeniería | Municipalidad de DIAMANTE | Municipio de Oro Verde

Recording LIVE on Custom Live Streaming Service

Webinar is now streaming live on Custom Live Streaming Service

Fernando Sassetti | Enzo Tagliazucchi | Carla Pallavicini | Rodrigo Castro | Luis Berdun | Jorge Finocchio | Emi Griego | Cecilia Sleiman | Carlos Pais | Valeria | Esteban Feuerstein | Laura Toledo | Silvia Saavedra (Entre Rios) | Ingrid Spessotti

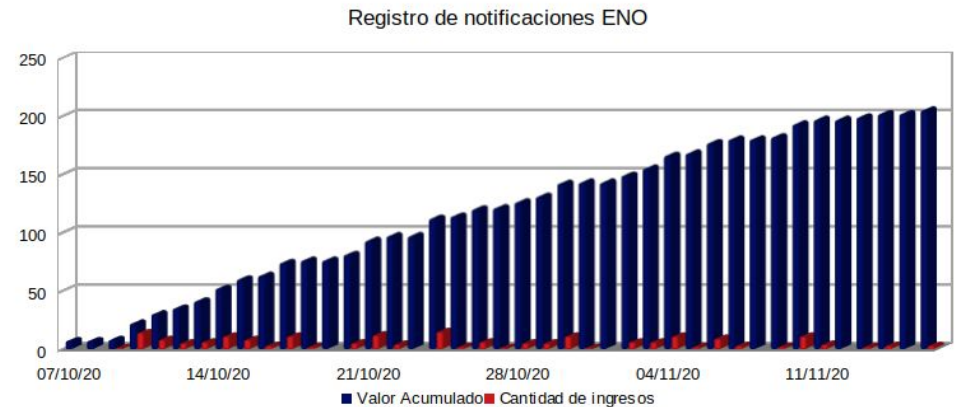
Zoom Meeting 40-Minutes

Recording...

Miguel Ángel | Ingrid Spessotti | Mara | Agustín Aresia | Milton Sgrilli, Caps... | Estefania Gares | Usuardi | Alicia Zapata | caps Rabén Ghiggli | Fernando Sassetti | Guillermina | maria escobar | ZAIDA | Gastón Marchetti | Daiana Luckia Sgriggli... | Carlos scotta | marcia | Francisco Maria Moya... | Diego Perez | Maia

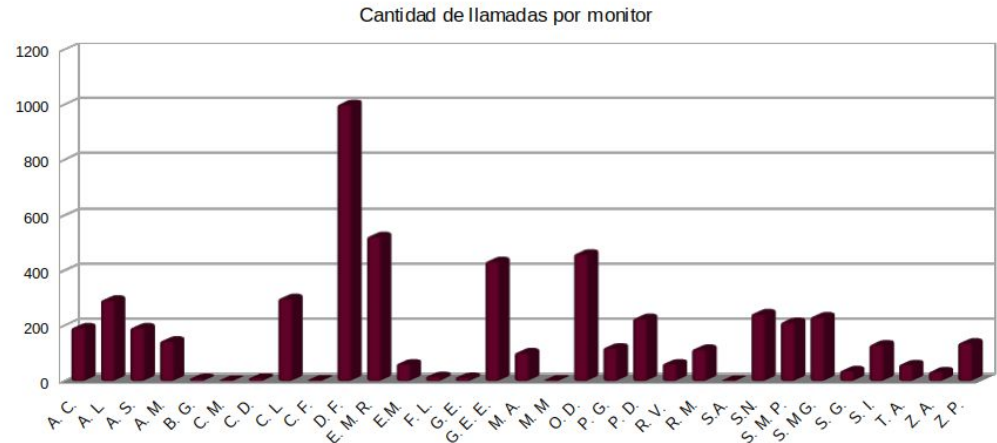
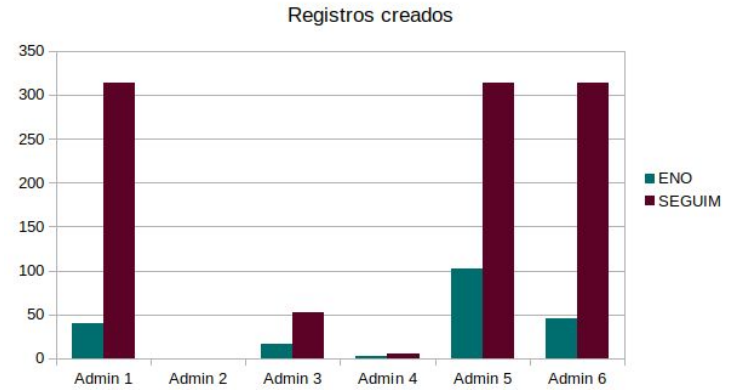
Some Statistics

- Number of records through time.
- Records of contact Tracings
- Record of Notifiable Diseases Form



Some Statistics

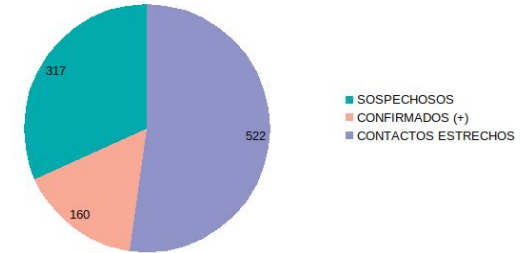
- Number of records created for each case administrator.
- Records of callings made for each Monitor



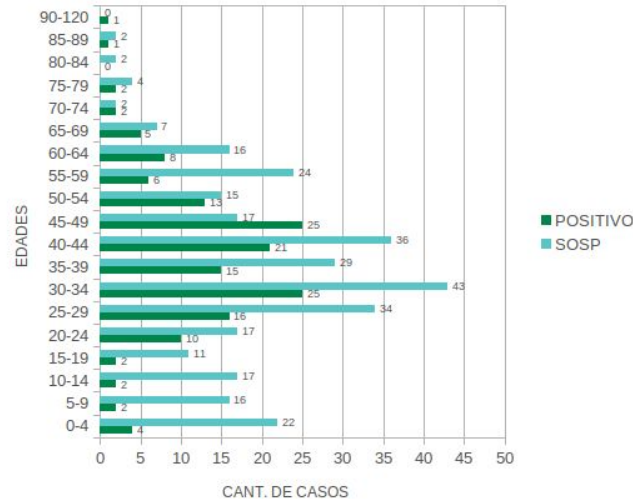
Some Statistics

- Type of cases: Confirmed, Suspected and Contacts.
- Cases per gender.
- Cases per type.

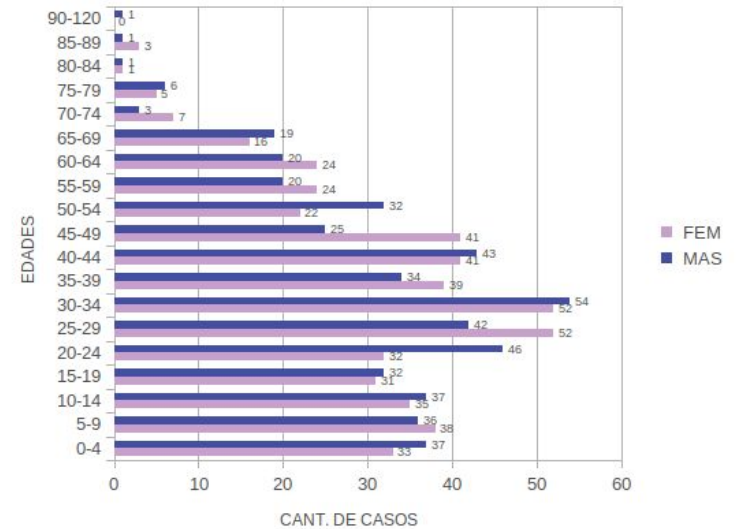
TIPOS DE CASOS



RESUMEN DE CASOS



CASOS TOTALES POR SEXO



Acknowledgment

- Engineering Faculty
 - The Study Group on Public Health and Applied Technologies
- Municipality of Diamante
 - Norma Salcedo
 - Ulises Zapata
- San José Hospital
 - Gaston Marchetti
 - Zaida Gazali
 - Tulio Perez
- The Team of Monitors from different health care centers.

Work Team

1- Operative Team



2- Municipalities Team



3- Support staff



4- Investigators



Thanks!

saludpublica@ingenieria.uner.edu.ar

https://gitlab.com/gnuhealth_fiuner