

Hotel Aqualux
Bardolino (VR)
27-28 Settembre 2024

Atti del convegno

editors **Giovanni Casiraghi & Marco Pradella**

Armonizzazione e semantica del laboratorio nelle Sepsis ICA *Marco Pradella*

Il documento sulle Sepsis di Regione Lombardia *Maristella Moscheni*

Il sistema di sorveglianza di Regione Puglia *Viviana Vitale*

La prevenzione del rischio infettivo a garanzia della qualità dell'assistenza:

"Sistema di Monitoraggio delle azioni regionali di controllo delle Infezioni Correlate all'Assistenza (SIMON)" *Paola M. Placanica*

Risvolti organizzativi correlati alle Sepsis ICA *Luca Fabbri - Annibale Raglio*

Infezioni delle vie urinarie *Fabio Manoni*

La risposta di una microbiologia alle calamità naturali *Vittorio Sambri*

Equità verticale, ICT e Sistemi Sanitari. Alcune applicazioni in Sanità *Fabrizio Clemente*

"La sfida ICA Sepsis: collaborazione tra medicina di laboratorio e clinica"

Graziella Bonetti, Andrea Patroni

Sepsis, ICA e Infezioni Ossee *Tudor Draghici*

"Progetto Pedianet" *Elisa Barbieri*

Stewardship e TDM antimicrobici, due facce della stessa medaglia? *Ines Bianco, Antonio Conti*

Sepsis, ICA e l'implementazione di una ceppoteca *Assunta Sartor*

Tubercolosi: ieri, oggi e domani *Assunta Sartor*

La diagnosi microbiologica di Sepsis e ICA integrata "One Health" *Alberto Colombo*

ICA di Genere *Paola Sabatini*

La Sepsis e le ICA: il punto di vista del Patologo Clinico *Paolo Doretto*

Data Bases Relazionali e SQL Le query dedicate Premal *Alessandro Orro*

"Discussione sulla sentenza della Corte di Cassazione III Civile n. 6386 del 3.3.2023" *Giovanni Casiraghi*

Reti collaborative microbiologiche: i POCT e gli obblighi

legali (malattie sottoposte a denunce) *Giovanni Casiraghi*

Poster Marco Toni NewMicro2024 - ECMU e IVU *Graziella Bonetti*

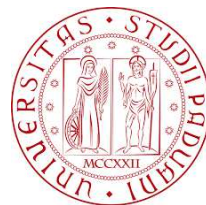


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PEDIANET

«progetto Pedianet»: L'informatica in Pediatria

Elisa Barbieri



Dipartimento di Salute Donna e Bambino,
Università degli studi di Padova



The Pedianet network...where all started





The Lancet

Volume 355, Issue 9215, 6 May 2000, Pages 1613-1614

Research Letters

Active monitoring of adverse drug reactions in children

Francesca Menniti-Ippolito MSc^a  , Roberto Raschetti MSc^a, Roberto Da Cas MSc^a,

Carlo Giaquinto MD^b, Luigi Cantarutti MD^c,

for the Italian Paediatric Pharmacovigilance Multicenter Group

The Pedianet network through the years

In March, 1996, the project was presented to 32 family paediatricians practising in the Veneto Region, who volunteered to participate. They represented 8% of all family paediatricians in the region's health service. 29 agreed to participate in the study and were trained accordingly.

Each week (from April, 1996 to March, 1997) the participating paediatricians sent, by modem, a detailed electronic report of each observed ADR to the National Institute of Public Health (Istituto Superiore di Sanità) in Rome, where data were analysed and reported back to the doctors. To calculate the incidence of ADRs by prescription, for nine of the paediatricians in the Padova province of Veneto, we retrieved from their databases all prescriptions reimbursable by the health service issued during the study period. We calculated incidence per 1000 defined daily doses of drugs causing ADRs. These doctors observed more than 50% of the ADRs reported for the reimbursable prescriptions. Each ADR was assessed according to available information about known drug side-effects—technical reports from pharmaceutical companies and commercial databases (Micromedex).



About 24 000 children were enrolled on the lists of the 29 paediatricians. We analysed 244 reports that included 388 events, with a suspected correlation with 266 prescriptions of 73 different substances.

The Pedianet network through the years

Incidence of Mucocutaneous Reactions in Children Treated With Niflumic Acid, Other Nonsteroidal Antiinflammatory Drugs, or Nonopioid Analgesics

Miriam Sturkenboom, Alfredo Nicolosi, Luigi Cantarutti, Salvatore Mannino, Gino Picelli, Antonio Scamarcia, Carlo Giaquinto and for the NSAIDs Paediatric Research Group

Pediatrics 2005;116;26-33; originally published online Jun 1, 2005;



IDENTIFYING POTENTIALLY DRUG-INDUCED ACUTE LIVER INJURY IN CHILDREN USING A MULTINATIONAL HEALTHCARE DATABASE NETWORK

C. Ferrajolo,^{1,2} P.M. Coloma,¹ K.M.C. Verhamme,¹ M.J. Schuemie,¹ R. Gini,³ R. Herings,⁴ G. Mazzaglia,⁵ G. Picelli,⁶ C. Giaquinto,⁷ L. Scotti,⁸ P. Avillach,⁹ L. Pedersen,¹⁰ F. Rossi,² A. Capuano,² J. van der Lei,¹ G. Trifiró,^{1,11} and M.C.J.M. Sturkenboom,^{1,12} on behalf of EU-ADR consortium.

> Eur Ann Allergy Clin Immunol. 2003 Feb;35(2):47-51.

Asthma prevalence and drug prescription in asthmatic children

A Barbato¹, C Panizzolo, L Biserna, L Cantarutti, C Giaquinto, F Frati, F Marcucci, C Monciotti, R Testi, P di Blasi, M C J M Sturkenboom;
Pedianet Family Pediatricians Asthma Study Group (F-PASG)

Affiliations

Affiliation

¹ Dept of Pediatrics, University of Padova, Italy.

The Pedianet network through the years



- Potential new signals of adverse events, lying the background for more investigation through formal epidemiological studies
- Allowed for investigating diseases which are not dealt in the hospital setting

Electronic health record complement traditional spontaneous reporting systems also for signal detection and strengthening

Electronic health record complement the information on the disease burden and management non needing severe or urgent care

From database studies to primary data collection studies

The Pedianet network through the years

Rotavirus Gastro-enteritis Epidemiology and Viral Types in Europe Accounting for Losses in Public Health and Society (REVEAL) Study

Prospective multicentre observational study 7 European regions

Study population:

- children <5 years of age
- living in the defined study area
- meeting the case definition of acute gastroenteritis
- informed consent obtained

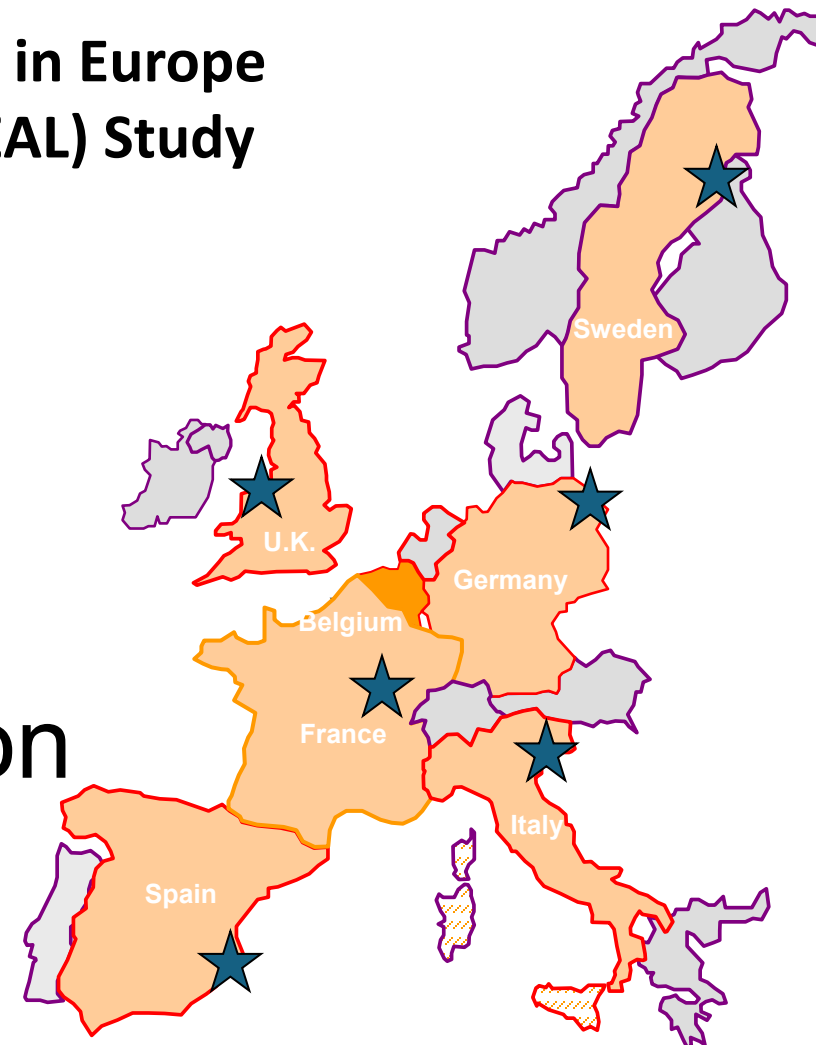
Study period:

Oct 1, 2004 – Sept 30, 2005

3 Settings

- all Hospitals in study area ($n_{\text{total}} = 12$)
- all Emergency Room in study area ($n_{\text{total}} = 16$)
- sample of GPs and/or Peadiatricians ($n_{\text{total}} = 139$)

Samples collection



REVEAL study

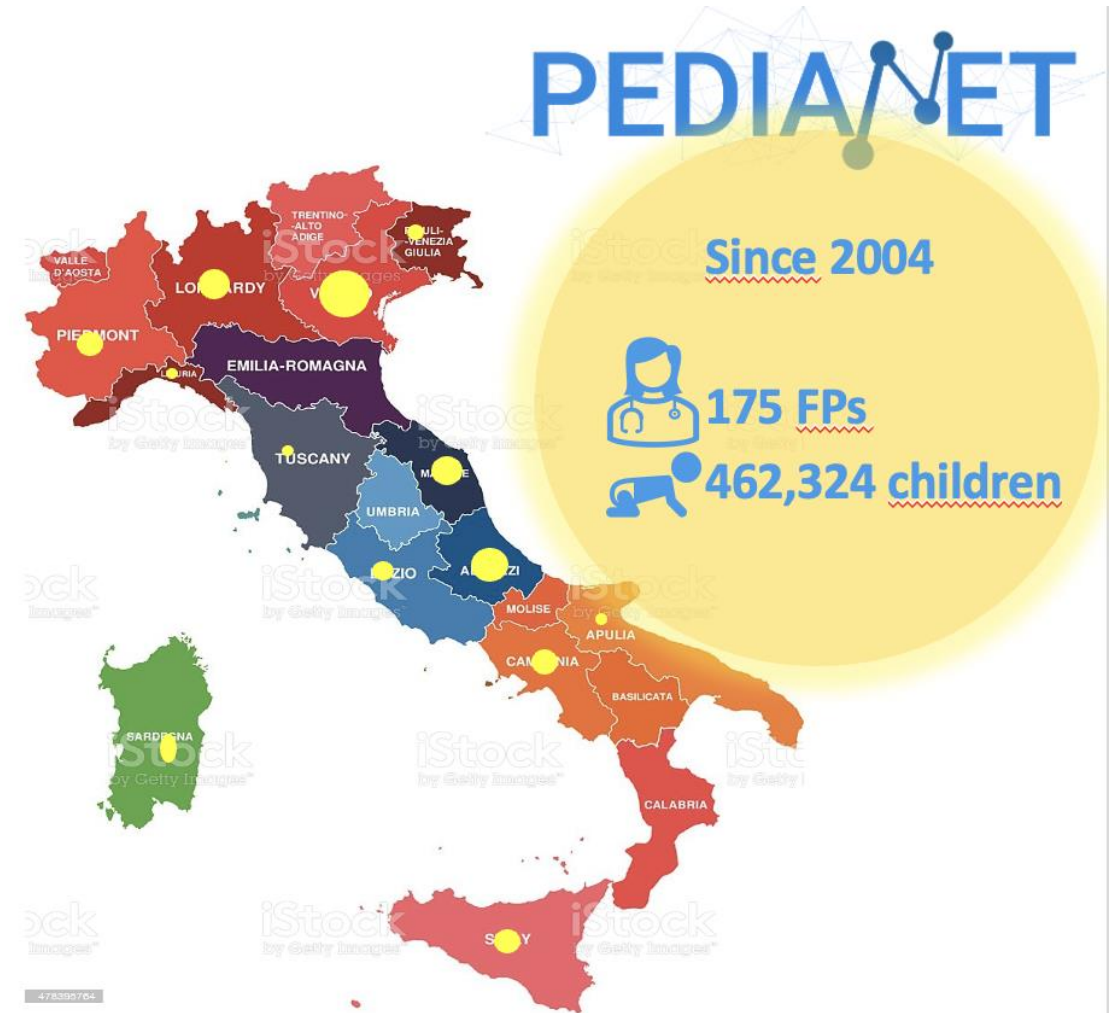
Rotavirus Gastro-enteritis Epidemiology and Viral Types in Europe Accounting for Losses in Public Health and Society (REVEAL) Study

- A prospective cohort study including primary care and hospital is feasible.
- A well-designed study will allow to address several epidemiological, clinical and health economic issues
- A common protocol can be used to compare different European settings
- The Organization of the Italian Health Care System allows the conduct of complex integrated prospective studies

The Pedianet network now

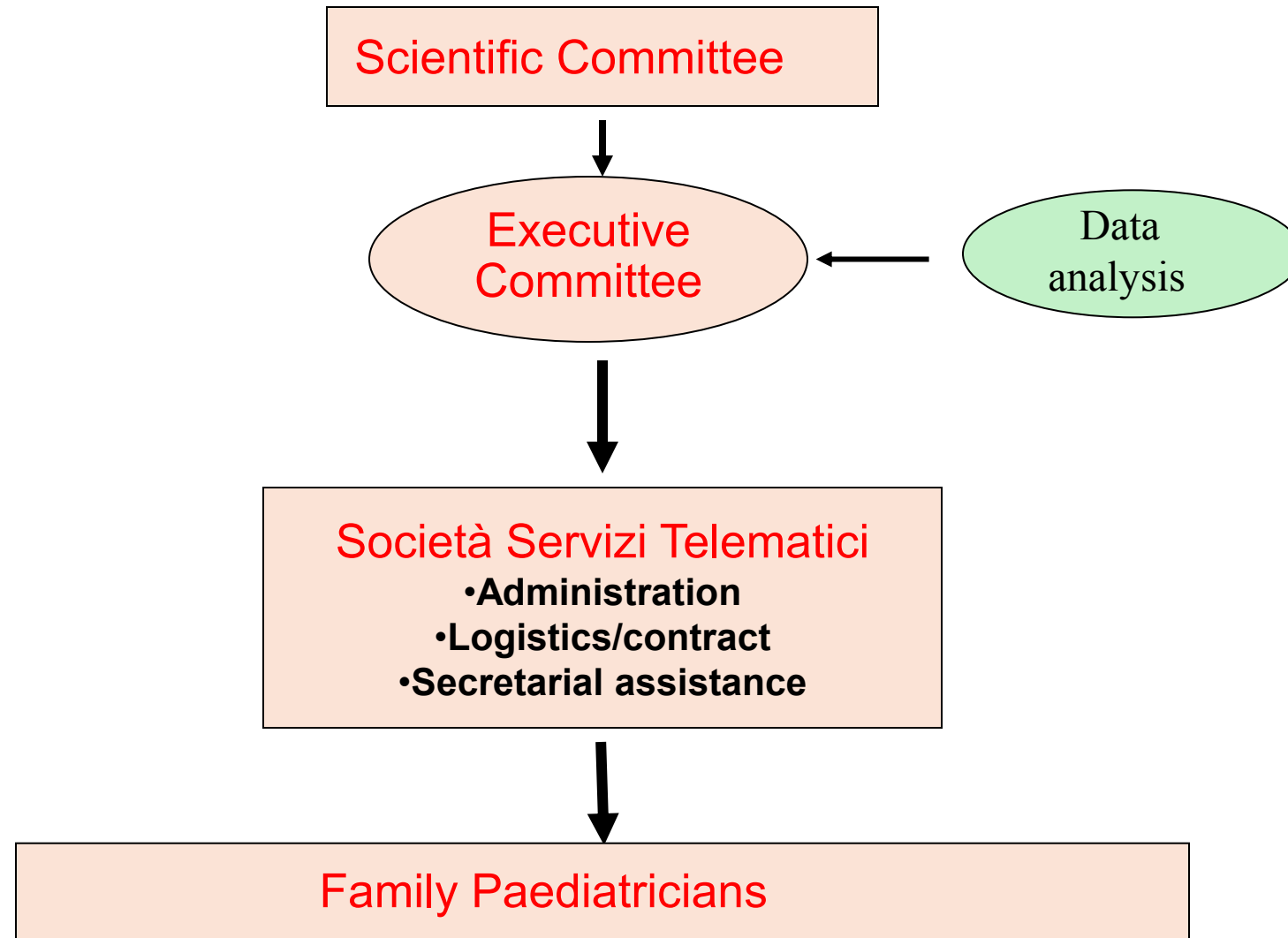
pedianet

- An organised network of around 200 family pediatricians (FPs) in Italy to collect information to be used for clinical and epidemiological research;
- All paediatricians use the same software (Junior Bit) in their professional practice
- Anonymous information required for research is collected

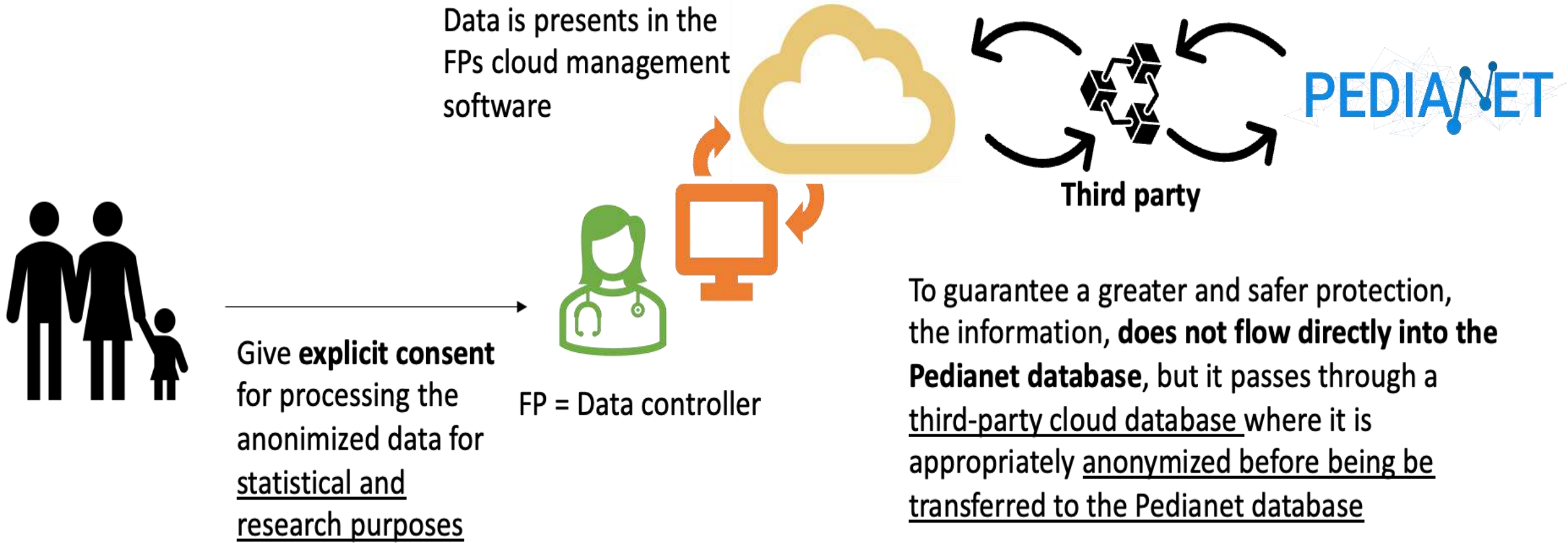


3% of the Italian pediatric population

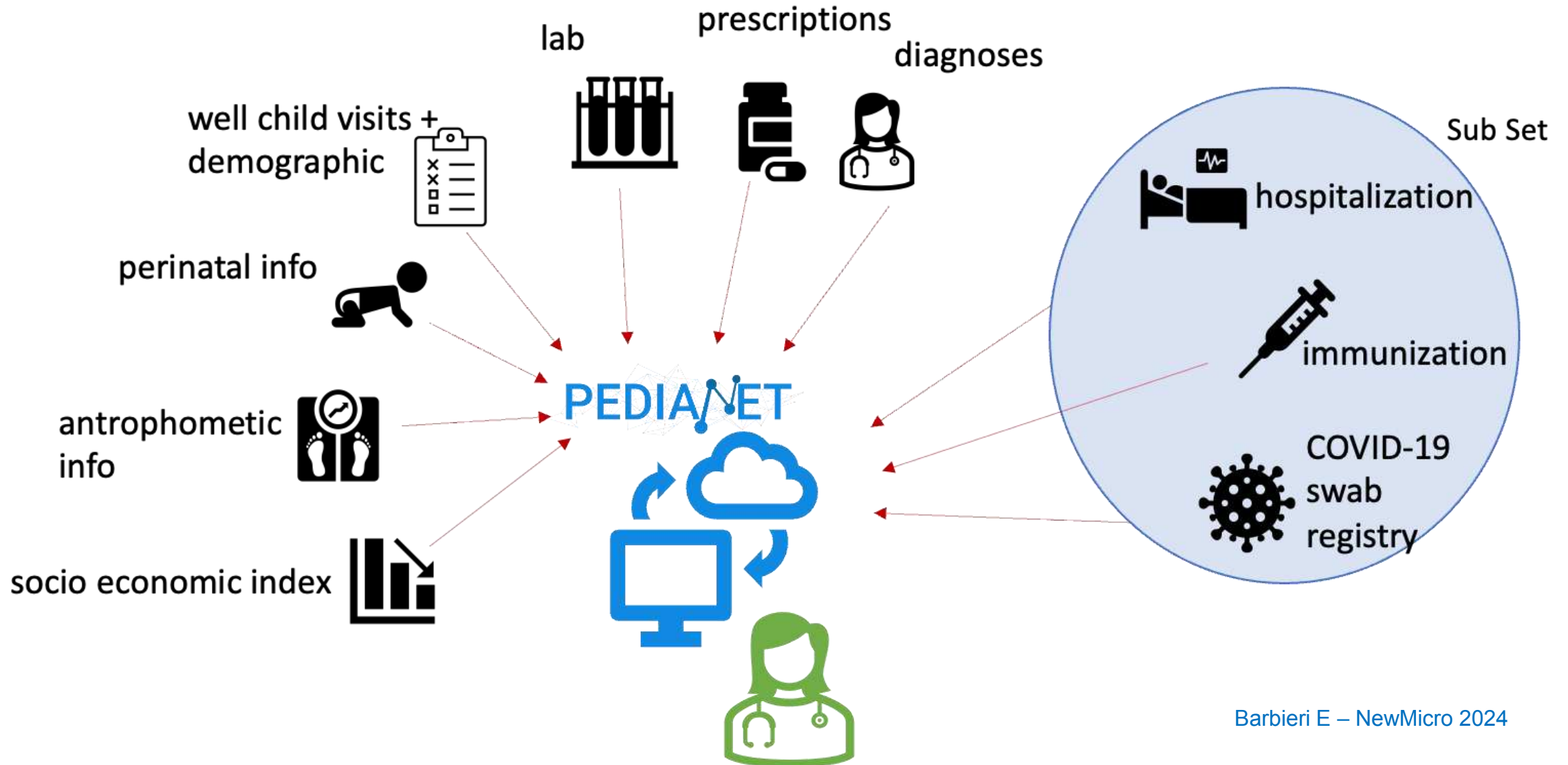
Management Structure



The Pedianet Database



The Pedianet Database



The Pedianet Database: some numbers for 2011-2021

pedianet



- 310000 children visited at least once by a family paediatrician
- 6,800,000 visits
- 2,070,000 diagnosis reported in ICD9CM codes (75% of the total) and/or free text
- 1,900,000 auxologic measurements
- 3,500,000 drug prescriptions (27% with dosing info)
- 1,400,000 specialist referrals
- 62,000 hospital admission (in Veneto region, from 2017 onwards additional hospitalization info has been made available)

Potential: from research...

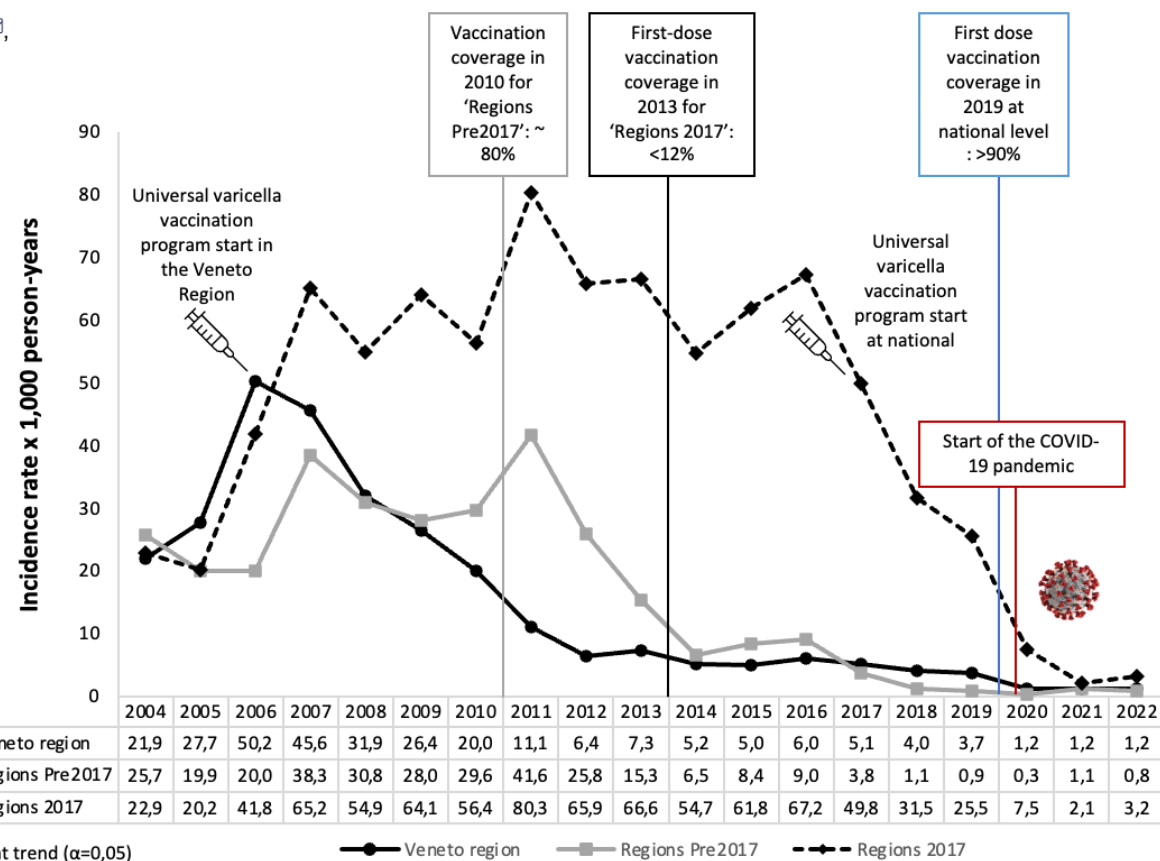
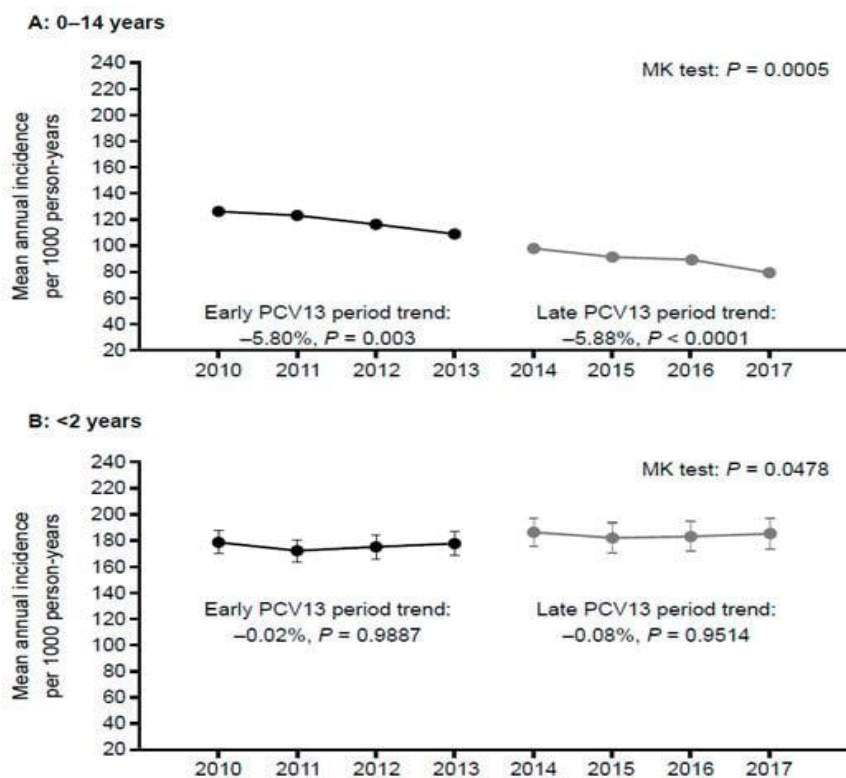
- Dataset Pedianet (20 years)

Trend analysis

A Retrospective Database Analysis to Estimate the Burden of Acute Otitis Media in Children Aged <15 Years in the Veneto Region (Italy)

by Elisa Barbieri 1,* , Gloria Porcu 2,3 , Tianyan Hu 4 , Tanaz Petigara 4 , Francesca Senese 5 , Gian Marco Prandi 5 , Antonio Scamarcia 6 , Luigi Cantarutti 6 , Anna Cantarutti 2,3 and Carlo Giaquinto 1,6

20 years of Varicella epidemiology currently under review



Potential: to more research...



- **Dataset Pedianet (18 years)**
- **Prospective studies**

Clinical outcomes following RSV infection in the toddler population (9-36 months of age) enrolled in the EVOLUTE study - StorIT study

Primary care Prospective studies

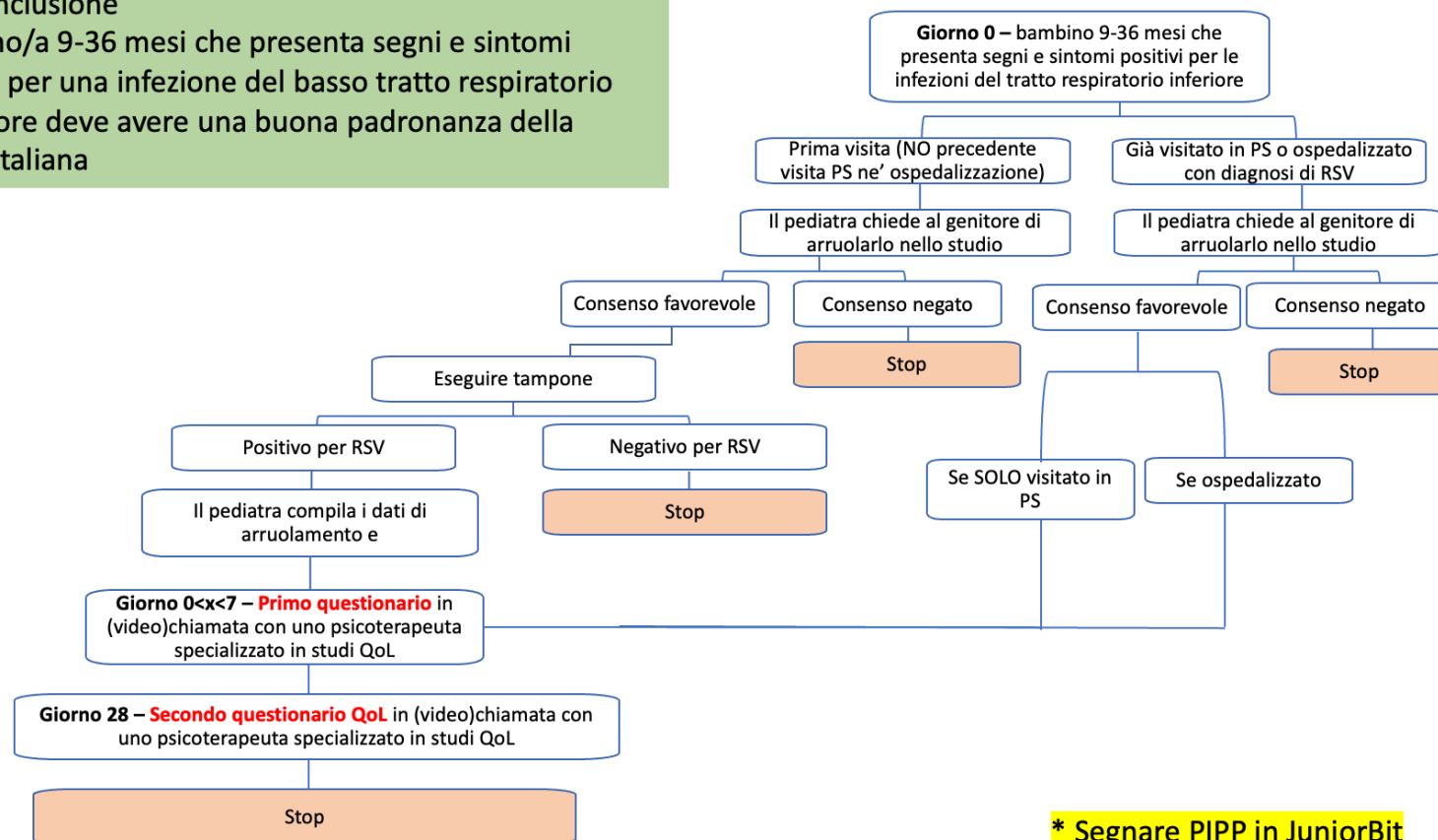
Criteria di inclusione

- bambino/a 9-36 mesi che presenta segni e sintomi positivi per una infezione del basso tratto respiratorio
- il genitore deve avere una buona padronanza della lingua italiana

Rapid point of care test

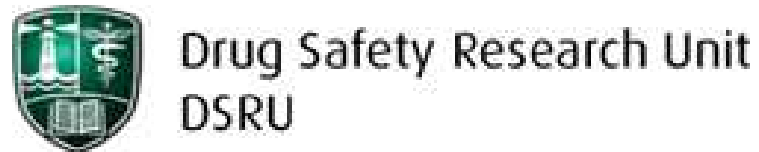
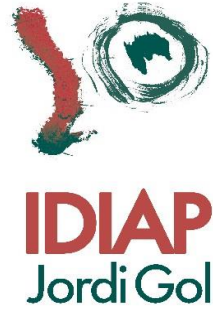
FP enrolling the patients

Clinical and demographic info already in the software → time saved to data collection



Potential: to even more research...

pedianet



Potential: to even more research...

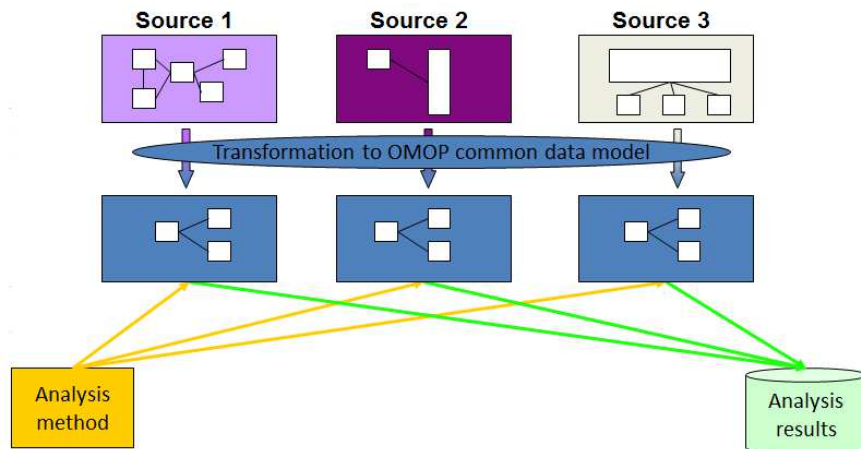
A common data model (CDM) aims to achieve both syntactic or semantic operability.

SYNTACTIC operability - > standard grammar

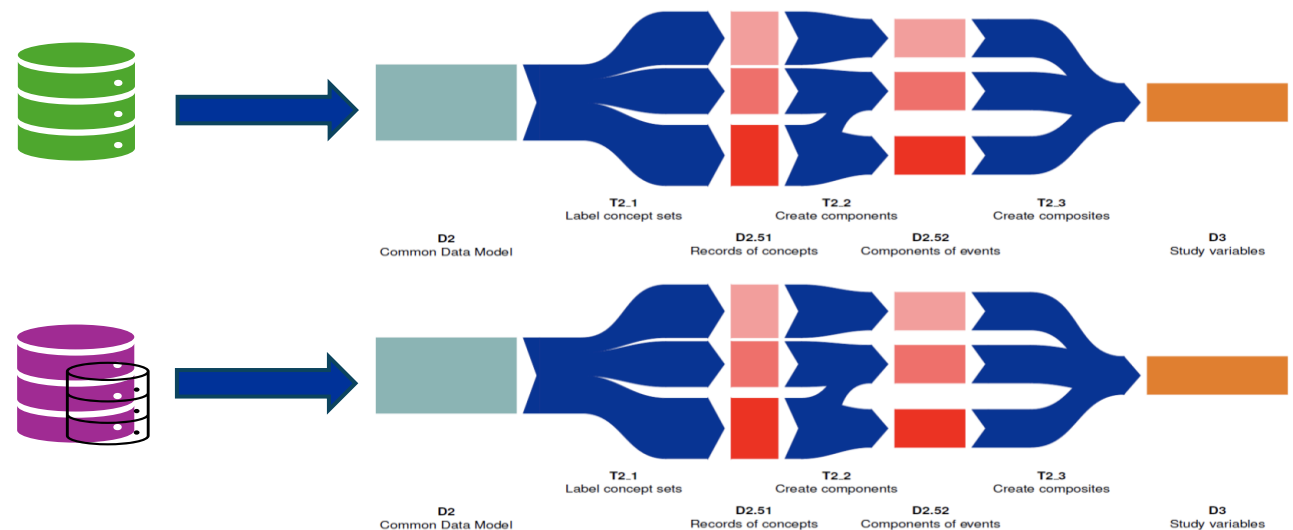
SEMANTIC operability -> standard vocabulary

Multidatabase
analysis

Transformation to OMOP CDM – syntactically and semantically



Transformation to CONCEPTION CDM – the federated approach (semantically similar)



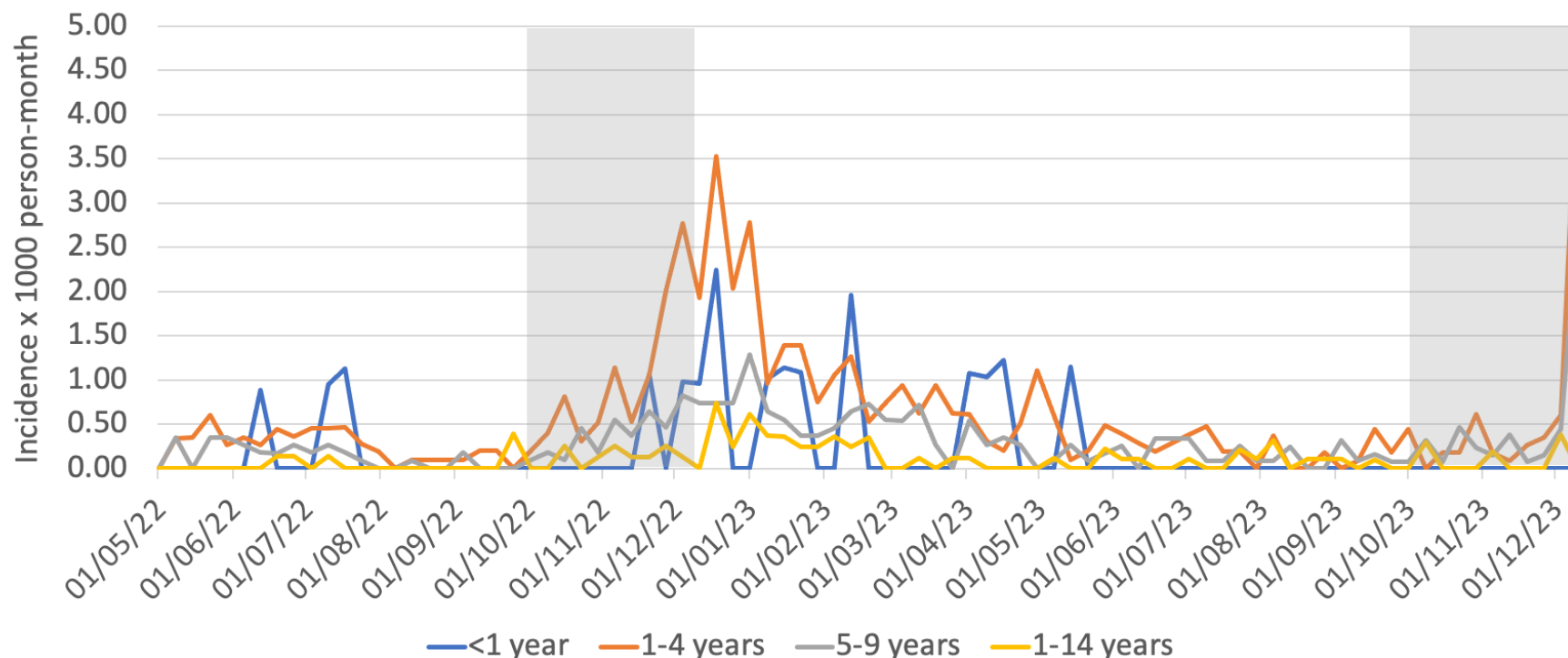
Potential: to public health tool....

- Dataset Pedianet (18 years)
- Prospective studies
- Near-real world data

Data presented on 15th December 2023



Weekly incidence of pneumonia episodes in children < 14 years of age from May 2022 to December 2023. Pedianet, 2022-2023



Suveillance studies

Overcoming
misdetection of
spontaneous
surveillance systems
+
Rapid data to info

Potential: to health outcomes evaluation tool..

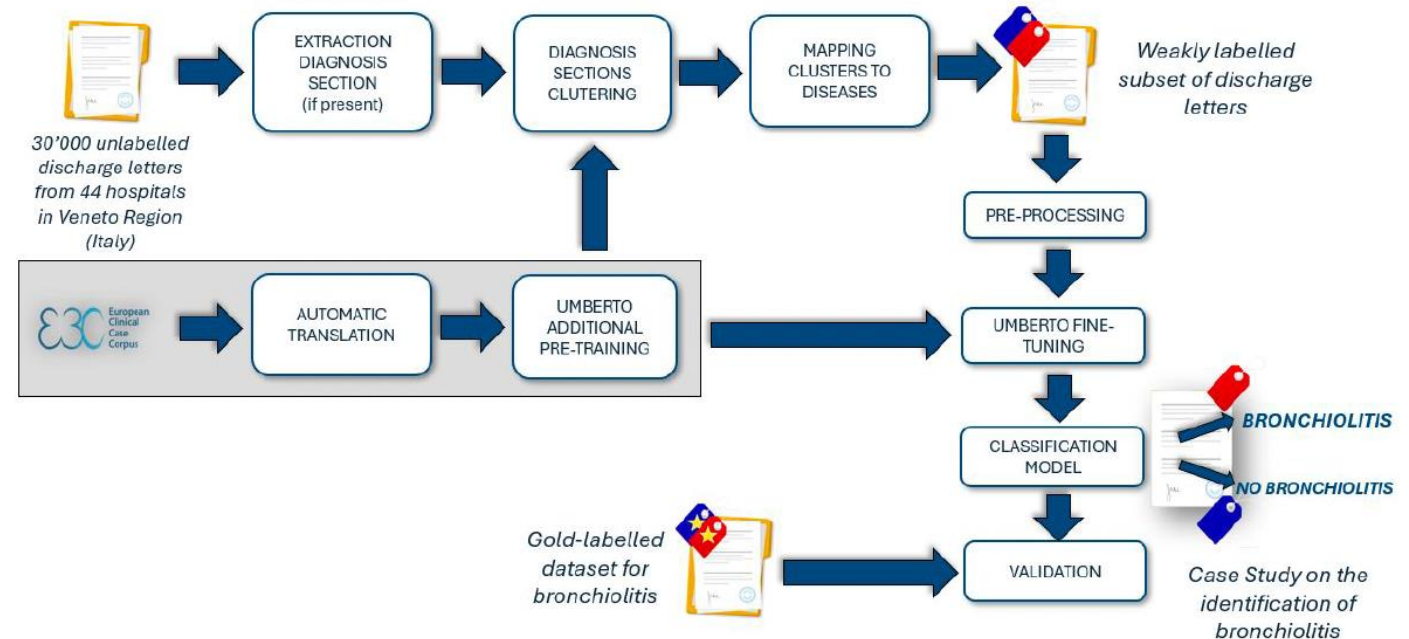
- Dataset Pedianet (18 years)
- Pedianet prospective studies
- Near-real world data
- Access to clinical notes in free text

Weakly-supervised diagnosis identification from Italian discharge letters

Vittorio Torri, Elisa Barbieri, Anna Cantarutti, Carlo Giacchino, Francesca Ieva

Diagnosis validation studies

Overcome only-coded diagnosis analysis and inform on estimation adjustment



Potential: to clinical support tool...

pedianet

- Dataset Pedianet (18 years)
- Pedianet prospective studies
- Near-real world data
- Access to clinical notes in free text
- Software as its core

Clinical
diagnosis
and treatment
supporting tool

Linee Guida Studio CAPO

INFEZIONE VIE URINARIE	Informativa
OTITE MEDIA ACUTA	Informativa
INFEZIONE DELLE BASSE VIE RESPIRATORIE	Informativa
Faringite da Streptococco gruppo A	Informativa
SINUSITE BATTERICA ACUTA	Informativa
INFEZIONE CUTE E TESSUTI MOLLI	Informativa

apri calcolatore per la dose di antibiotico

Chiudi



Agenda Rubrica Privacy BOX

Junior Bit 7 Strumenti e settaggi Bacheca appunti Comunicazioni Mio Pediatra

Pazienti Nuovo Modifica Stampa Nuova ricetta Referti specialistica Risposte laboratorio Prescrizione

Contatti Bilanci PPIP Stampe Ricoveri Anagrafica

Misure Problemi Fatture Altro

Vaccinazioni Anamnesi Altro

Neuro sviluppo Allegati

Piani terapeutici Linee Guida CAPO

Registrazioni paziente

Miopediatra Antonio (M 15/03/15 età: 9a 6m 8g) C.F. MPDNTN15C15G224W Tel. 3880483577 Esenzioni: Nessuna

1 contatto dal 23/09/2024

P	Data	Descrizione contatto
	23/09/2024 16:41	OMA - Otite media acuta

Dettagli contatto (età: 9a 6m 8g)

Data / Ora: 23/09/2024 16:41 Ambulatorio Leggera/Nulla

Motivo del contatto

Segni e sintomi

Diagnosi: OMA - Otite media acuta

The future: lessons from the hospital setting

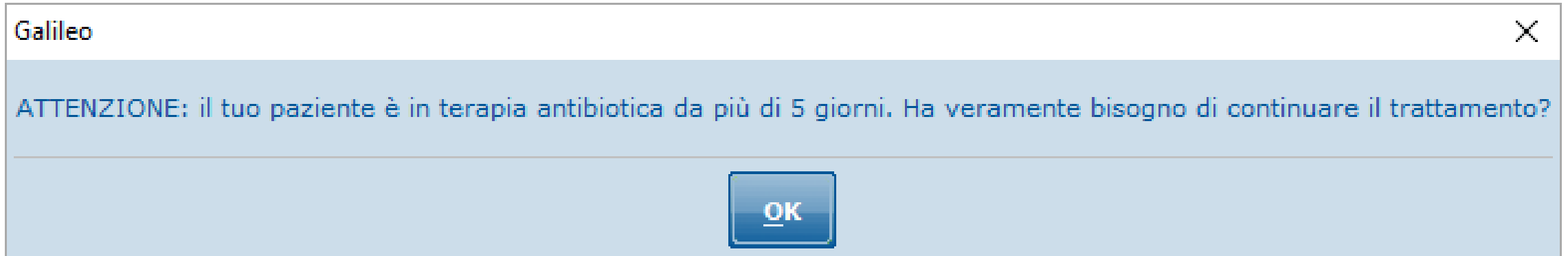
- Alert for specific **microbiological findings** → promptly act starting/changing or stopping the antimicrobial treatment + early detection of epidemic (i.e. pertussis)

The screenshot shows a web application interface for managing messages. At the top, there is a search bar labeled "Messaggi per" followed by a redacted area. Below the search bar are two checkboxes: "Show old messages" and "Attiva cancellazione automatica". The main part of the interface is a table with the following columns: "Sender", "Subject", "Date", "Type", "Confirmed", and a column with red 'X' icons. The table contains several rows of messages, all from "ADMIN" with the subject "Messaggio Alert Mercurio". The dates range from 25/09/24 to 26/09/24. Below the table, there is a "Note" section with a text area containing the following text: "25/09/2024 20:48- evento: MIC_AO_20248058553- paz: 50852469 [redacted] 9008058553 del 24/09/2024 - Sangue da via bianca - - Emocoltura da via bianca positiva - Esame microscopico: Gram positivi tipo s". At the bottom right of the interface is a "Chiudi" button.

Sender	Subject	Date	Type	Confirmed	
ADMIN	Messaggio Alert Mercurio	26/09/24 16.16	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	26/09/24 16.16	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	26/09/24 13.36	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	26/09/24 13.36	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	26/09/24 12.48	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	26/09/24 12.48	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	Messaggio Alert Mercurio	25/09/24 20.48	CONFIRM	<input type="checkbox"/>	<input type="checkbox"/>

25/09/2024 20:48- evento: MIC_AO_20248058553- paz: 50852469 [redacted]
9008058553 del 24/09/2024 - Sangue da via bianca - - Emocoltura da via bianca positiva - Esame microscopico: Gram positivi tipo s

The future: lessons from the hospital setting



- Alert for specific **microbiological findings** → promptly act starting/changing or stopping the antimicrobial treatment
- Alert for specific **antibiotic extended duration** → (or not first line molecule prescription) reduce broad spectrum prescriptions

Questions?

