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Project Title

The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency *(La sindrome post-Covid: far fronte ad una nuova emergenza di sanità pubblica con una gestione innovativa e il network building)*

Principal Investigator

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Executive Summary

Summarize aims, strategy and expected results.
(maximum 5000 characters) – 4,343 characters

The post-acute Covid Syndrome (PASC) is an emergent chronicity which has the potential to heavily impact not only individual health, but also local communities. Its features and burden are not well defined, nor are the models and protocols for its care by Health Care Systems. These challenges require a multidisciplinary approach, in order to define PASC in magnitude and describe it in features. A plan for systematic, structured intervention must be devised and implemented. This plurality of tasks requires the involvement of different institutions, with the construction of a network to deal with such a demanding work.

The overarching aim of the present project is to develop a solid network linking local health providers (ASSTs), a Scientific Institute for Research, Hospitalization and Health care (IRCCS), central health institutions (ATSs), General Practitioners and Universities to fill the current gap of knowledge on PASC from an epidemiological, clinical, and public health perspective. This multidisciplinary approach will be crucial for the design of effective intervention plans for the monitoring and management of PASC. The project will also explore the impact of the pandemic on contraction and changes in the provision of health-care services (namely outpatient services and screening tests) and disrupted care management of fragile patients, to locate priorities of intervention, particularly for the continued care of persons with chronicity and/or fragility.

In order to investigate the main features of the PASC, the project will first perform an epidemiological study on administrative health data regarding Covid-19 patients, from the beginning of the epidemic on, to characterize patients in terms of severity of the disease, path of care and PASC characteristics. Based on the epidemiological study, it will design and develop a clinical follow-up study on Covid-19 patients to determine the real incidence of PASC, its known and possibly yet-unknown manifestations in the population residing in the territories of the partner ASSTs and IRCCS. A GDPR-compliant digital infrastructure, available to all ATSs, will be created to show to the clinicians of each ASST and IRCCS the list of patients to follow-up and the visit or exams they need to perform. The same platform will allow the clinicians to visualize patients' information from administrative databases concerning the primary infection, previous hospitalization for Covid-19, comorbidities and vaccination status. The platform will allow to collect the results of the examinations planned during the follow-up and the data of interest from previous clinical records.
The epidemiological and clinical data from the first two studies will be integrated with clinical databases on Covid-19 patients already existing in the partner ASSTs and IRCCS. Such integration would serve not only for the objectives of the present project, but it will also be the basis for a prospective, observational, long-period cohort study which will follow Covid-19 patients in their various outcomes of disease. The so acquired information will be used to develop plans for the monitoring and management of the new PASC-related chronicity, both at patient- and system-level, with a strong focus on organizational models and digital health solutions, which can support the network and monitoring activities. The feasibility and efficacy of such intervention plans will be then evaluated and validated together with GP cooperatives included in the network. Finally, administrative health data will be used to evaluate the indirect effects of the epidemic on the Health-Care System, in terms of contraction and changes in health services (outpatient services and screening) and the short-term effects on emergency care access and emergency hospitalization due to a decrease in preventive services.

The main novelty of the project stands in its thoroughly exploration of the public health and social implications of PASC, through a combination of epidemiological, clinical, health-managerial, and economic methods. We expect, from the integration of all the competences of the various components of the network, to develop a clinically sound model, adequately dimensioned on epidemiological data, economically sustainable and easily implementable trough health management innovations.

Background and project rationale

Explore the existing knowledge and background literature on Post Acute Sars-Cov2 Syndrome. Describe the clinical and social welfare needs. Identify the gap[s] the project intends to fill in terms of effective collaboration between health care organizations. Specify in which way[s] this project represents a significant step forward.

(maximum 20.000 characters) – 9,244 *characters*

Post-acute Covid Syndrome, or PASC (Post-Acute Sequelae of Covid-19), is defined as a set of signs and symptoms that develop during or after an infection consistent with COVID-19, continue for more than 12 weeks and are not explained by alternative diagnoses.
NICE guidelines identify four types of Covid-related syndromes, according to the length of clinical manifestations:[1]

- Acute Covid-19: signs and symptoms of Covid-19, lasting until 4 weeks;
- Ongoing symptomatic Covid-19: signs and symptoms of Covid-19 lasting 4 to 12 weeks;
- Post-Covid-19 syndrome: signs and symptoms of Covid-19 lasting more than 12 weeks and not explained by an alternative diagnosis;
- Long Covid: signs and symptoms which appear or persist after an acute infection by Sars-Cov-2. It includes ongoing symptomatic Covid-19 and post-Covid-19 syndrome (signs and symptoms lasting over 4 weeks).

This project will deal with the post-Covid-19 syndrome (> 12 weeks of signs and symptoms). The list of persisting symptoms reported by patients is extensive: dyspnea, cough, anosmia, ageusia, asthenia, and neuropsychiatric symptoms.[2,3] Several studies, based on administrative health data on hospital admissions and risk of re-admission, have shown that patients discharged following a Covid-19 hospitalization present an increased risk of suffering again from respiratory diseases, and of incurring in cardiovascular, hepatic, renal diseases, and diabetes.[4] Studies dealing with Covid-19 patients follow-up showed analogous results. An US multicentric observational cohort study, evaluating 1,250 Covid-19 patients at 60-days from discharge, found that one-third of patients who completed a telephone survey reported persistent symptoms, of which about 20% with new or worsened ones.[5] The most common symptom was dyspnea while walking up the stairs (23%), and other symptoms included cough (15%) and persistent ageusia/anosmia (13%). Similar findings were reported from studies in Europe. A French study on 150 non-critical Covid-19 survivors described symptoms persistence in around 65% of individuals at 60 days, with 30% declaring to feel worse than at diagnosis.[6] Symptoms persistence was reported in about 90% of patients that had been hospitalized after 60 days from symptoms onset in an Italian post-acute outpatient service report.[7] The most commonly reported symptoms were fatigue in more than half of the patients, followed by dyspnea, joint and chest pain. Half of the patients were experiencing three or more symptoms and 44% of patients reported a decline in quality of life. Other studies, including follow-up studies at 8–12 weeks after hospital admission of 110 Covid-19 patients in the United Kingdom[8] and 277 survivors in Spain at 10–14 weeks after onset,[9] as well as 183 survivors in the United States at 35 days,[10] survey studies of 100 patients in the United Kingdom at 4–8 weeks post-discharge,[11] and 120 patients discharged from hospital in France, at 100 days following admission,[12] reported similar findings. In these studies, approximately 30% or more participants at the time of follow-up reported fatigue, dyspnea and neuropsychiatric symptoms, such as post-traumatic stress disorder (PTSD), depression, anxiety and sleep and concentration abnormalities. Factors associated with the presence or persistence of symptoms, pulmonary function/radiographic abnormalities, and reduction in health-related quality of life scores are admission to an intensive care unit and/or requirement for non-invasive/invasive mechanical ventilation.[8,11,13]
Sex differences also seem to matter, with women more likely to experience anxiety/depression and fatigue at 6 months follow-up, similar to SARS survivors.[13] While other comorbidities (e.g. diabetes, obesity, chronic cardiovascular or kidney disease, cancer and organ transplantation) are established determinants of increased severity and mortality related to acute Covid-19,[14,15] their association with post-acute Covid-19 outcomes in those who have recovered remains to be determined.

Clinical data about PASC among children are limited. A 2020 Swedish case report with systematic review first suggested that PASC in children may be similar to adults: persistent symptoms and signs included dyspnea, fatigue, heart palpitations/chest pain, headaches, difficulty concentrating, muscle weakness, dizziness, and sore throat at 6 to 8 months after primary infection; a case of myopericarditis was described

in the study.[16] A follow-up letter in early 2021 depicted the follow-up of 35 Swedish children with long-term symptoms similar to the initial report.[17] An Italian cross-sectional study observed 129 children diagnosed with Covid-19: when assessed 120 days after diagnosis 29 of those completing follow-up (42%) were still distressed with symptoms, including insomnia, respiratory symptoms (chest tightness and pain), fatigue, nasal congestion, muscle and joint pain, and concentration difficulties. Three children developed Multisystem Inflammatory Syndrome (2%) and two had myocarditis (1.6%).[18] A Latvian cohort study on 236 pediatric Covid-19 patients with a median follow-up time from acute symptom onset of 73.5 days found that at the time of interview almost three-quarters of children reported at least one persistent symptom, with the majority of patients (53%) having two or more concurrent symptoms.[19]

The post-Covid-19 syndrome appears sizeable in magnitude, with around one case of PASC every 10 Covid patients estimated for UK in November 2020[20] and younger women seem to be more exposed, with a doubled chance of suffering from PASC.[9,21] However, evidence on the clinical characteristics of the syndrome, its prevalence, risk factors or differential incidence and features among vaccinated and unvaccinated patients is still limited.
The overarching aim of the present project is to develop a solid network linking local health providers (ASSTs), a Scientific Institute for Research, Hospitalization and Health care (IRCCS), central health institutions (ATSs), General Practitioners and Universities to fill the gap of knowledge on PASC, from an epidemiological, clinical and public health perspective, which will be crucial for the design of effective intervention plans for its monitoring and management. As PASC is now established as a new emerging chronicity, a joint effort is in fact needed by the soon-to-be constituted local health providers, like the "Case della Comunità", "Ospedali di Comunità", "Centrali Operative Territoriali" (Districts of the ASSTs), and their dedicated health professionals (community and family nurses) in tight connection with hospitals (Departments of ASSTs) and primary care physicians, supported and coordinated by the Agencies for Health Protection (ATSs). The present project intends to provide a rationale, based on increased scientific knowledge on PASC and on the estimation of the actual prevalence of its different manifestations, to build an organizational model which will include all the aforementioned actors in the monitoring and management of PASC patients. This is crucial to meet the actual needs of the studied population, shaping supply and organizational aspects of the local health system on its actual demand.

Secondarily, the project will explore the impact of the pandemic on contraction and changes in the provision of health-care services (namely outpatient services and screening tests) and disrupted care management of fragile patients, to locate priorities of intervention, particularly for the continued care of persons with chronicity and/or frailty. As a matter of fact, still little is known about the indirect effects of the epidemic, in terms of reduction and modification of health-care provision, and in terms of obstacles to the fruition of outpatient services and screening. Some preliminary studies show a reduction in the utilization of health-care services not only for routine services, but for emergency care as well, and for chronicity.[22] Nevertheless, some studies suggest the existence of a rebound effect in the provision of outpatient services, meaning the tendency to return to pre-pandemic volumes of supplied medical care.[23] Data on missed oncologic diagnoses is of particular concern: the Italian National Observatory on Screening, by comparing the first nine months of 2019 and the first nine months of 2020, estimated a reduction of over one million calls for cervical screening (-40%), almost a million calls for mammography (-34%), and almost two million calls for colorectal cancer screening (-42%).[24] A February 2021 OECD report showed how the reduction in the utilization of health services has been driven not only by organizational factors related to the emergency (supply side), but also by personal motivation, like the reluctance to visit hospitals during the pandemic (demand side).[25] For this reason, it is the intention of National Health System to experiment in local providers for health promotion, prevention, care and rehabilitation of various categories of fragile patients. The success of such experiment crucially depends on the definition of the epidemiological features of the population of interest, and on the construction of proper indicators, related to real health needs.

Relevance to the call

Provide information about project's aims and expected results exploring how these fit in with objectives and strategy as stated in the Call.

(maximum 10,000 characters) - 6,746 characters

In accordance with the key priorities set in the current Call for Proposal, the project focuses on the epidemiological, clinical and social aspects of the post-Covid-19 syndrome, with the aim of developing intervention plans to effectively respond to this newly emerged chronicity and associated health-care needs.

In particular, the project aims at creating a network across central health institutions (ATSs), local health providers (ASSTs), a Scientific Institute for Research, Hospitalization and Healthcare (IRCCS), General Practitioners and Universities, that will:

- perform an epidemiological study on administrative health data regarding Covid-19 patients, from the beginning of the epidemic on, to characterize patients in terms of severity of the disease, path of care and characteristics of the PASC;
- exploit such epidemiological evidence to design and develop a clinical follow-up study on Covid-19 patients to determine the real incidence of PASC, of its known and possibly yet unknown manifestations in the population residing in the territories of the partner ASSTs and IRCCS;
- integrate epidemiological and clinical data from these studies, with clinical databases on COVID-19 patients already existing in the partner ASSTs and IRCCS. Such integration would serve for the objectives of the present project but would also be the basis for a prospective, observational, long-period cohort study which will follow Covid-19 patients in their various outcomes of disease;
- use all the acquired information to develop plans for the monitoring and management of the new PASC-related chronicity, both at patient- and system-level, with a strong focus on organizational models and digital health solutions, which can support the network and monitoring activities. The feasibility and efficacy of such intervention plans will be then evaluated and validated together with GP cooperatives included in the network;
- use administrative health data to evaluate the indirect effects of the epidemic on the Health-Care System, in terms of contraction and changes in health services (outpatient services and screening) and the short-term effects on emergency care access and emergency hospitalization due to a decrease in preventive services.

The network will be realized through the creation of a shared information system, which will integrate the collected epidemiological data of the population, administrative health data covering periods before, during and after the pandemic, and clinical information retrospectively (through consultation of medical records) and prospectively collected.

The involvement of several partners and stakeholders in the activities planned will allow for fruitful interactions in the definition of objectives and methods, as well as in the dissemination of the main findings and the implementations of the actions and policy initiatives at the local level.

Within this project, we expect to accomplish noteworthy results:
- a crucially needed gain in knowledge of PASC, in its epidemiological, clinical and social features;
- the establishment of an efficient and integrated system of follow-up, based on the actual health needs of the population;
- a plan for the catching-up with the missed and overdue screening services, and for the recovery of the disrupted services for chronicity care.

The pandemic is spurring a profound transformation for health-care strategies and structures, at both organizational and ecosystem levels. Besides clinical interventions, this scenario is assigning more and more relevance to managerial aspects and models for innovation implementation, with special attention to the rethinking of care pathways. In such a context, the new PASC-related chronicity plays a central role, for its implication on how healthcare is organized across spaces and territories, and on society as a whole. Indeed, PASC stretches the effect of the disease across space and time, affecting how healthcare systems are reorganizing themselves over territories and along the entire patient journey. It pushes - upstream - the rethinking of principles and processes for prevention and diagnosis, and - downstream - an expansion of goals, scope, and timelapse for follow-up activities.
The COVID epidemic has in fact highlighted that, when territorial health services are too fragmented, they are not able to respond adequately. During the epidemic phases, as well as in the surveillance phases, new organizational models have emerged, really ‘taking charge’ of the COVID patient. The experience of the pandemic has also highlighted:
-the importance of being able to adequately exploit the most advanced technologies
-the need to develop higher digital, professional, and managerial skills for health workers
-the necessity to establish new processes for the provision of services and care and
-the urge for a more effective connection between research, epidemiological data analysis, and delivered care and their programming at the system level. The goal is to build a common language for the overall evaluation, which contains not only the individual care plan but also the health path and prevention activities. In the new integration models pictured in the Piano Nazionale di Ripresa e Resilienza (PNRR), the strengthening of proximity networks, structures and telemedicine systems for territorial health care is

considered central. The PNRR strategy includes multidimensional interventions for improvements in chronic disease care, including the combination of multi-pronged strategies as a model for the treatment also of emerging pathologies. In the ATS of Milan, organizational models have been developed in some ASST based on the integration between hospital specialists, general practitioners, with the use of telemedicine tools for surveillance and the construction of multidimensional assessment techniques, also shared with the Municipalities and other socio-sanitary actors in the area.[26] With this project, the new and more articulated models of management developed for acute Covid will be now translated and adapted to the new chronic condition represented by the long-term effects of Covid-19, characterized by a combination of pathologies with differences between children, adults and the elderly. As PASC is now established as a new emerging chronicity, a joint effort is in fact needed by the the soon-to-be constituted local health providers, like the "Case della Comunità", "Ospedali di Comunità", "Centrali Operative Territoriali" (Districts of the ASSTs), and their dedicated health professionals (community and family nurses) in tight connection with hospitals (Departments of ASSTs) and primary care physicians, supported and coordinated by the Agencies for Health Protection (ATSs).

Experimental plan

Describe: i) actions planned and methods; ii) expected outputs; iii) milestones and deliverables; iv) monitoring and assessment indicators; v) a tentative timetable (Gantt); vi) consider potential pitfalls and caveats, discussing possible difficulties and limitations.

(maximum 25.000 characters excluding figures, tables and pictures) – 23,644 characters

WP-1 Retrospective epidemiological study

Organizational structure of WP1 is shown in Table 1

Table 1: organizational structure of WP1

	Lead	Coordinator	Partners/Supporting Stakeholders involved
WP1	ATS Milano	Antonio Giampiero Russo	ATS Bergamo, ATS Brescia, ATS Brianza, ATS Montagna, ATS Pavia, ATS Valpadana, UCSC

OBJECTIVES:
WP1 will delineate the population impact of PASC using administrative health data, clarifying the role of severity of the clinical manifestations, type of assistance received, infection/reinfection and previous vaccination on PASC.

TASKS:
- T1.1 – Cohort selection: The seven partner ATSs will conduct an epidemiological study, including all patients with a Covid-19 diagnosis (positive PCR nasopharyngeal swab test) in the period 1 March 2020-31 March 2021, residing in their territories (about 800,000 cases). To investigate Coronavirus sequelae in asymptomatic Covid-19 patients, also cases with a serologic test confirming previous infection in an unvaccinated person will be included.
- T1.2 – Health data collection and stratification: for each case we will recover the medical history, using administrative health data available to ATSs. Analyses will be stratified by severity of infection, type of assistance (treated at home, hospitalized in acute wards/ICU), and infection/reinfection. This last stratum will allow to investigate if a second Covid-19 infection in previously recovered individuals can cause different sequelae. We will develop specific algorithms in order to identify from administrative health data, like emergency department visits and hospitalizations, specific outcomes of interest, such as acute cardiovascular events, thromboembolisms, and respiratory emergencies. We will also evaluate patients' vital status and cause of death through the mortality registers of the ATSs, and the issuing of co-payment exemptions for PASC-related illnesses starting 12 weeks or later after the acute infection. We will also consider repeated outpatient services utilization for pneumological, cardiologic, neurologic or psychiatric visits and develop an algorithm specific for pediatric patients. With the same methodology, we also plan to evaluate possible differences in PASC between vaccinated and unvaccinated patients, by analyzing all cases of Covid-19 between 1 January 2021 and 31 March 2022 in people fully vaccinated, and separately for those infected after the third dose, stratifying for type of vaccine received. We will extract data for the period preceding Covid-19 infection from administrative health data, to describe already present comorbidities

and the consumption of certain drug categories (e.g. antidepressant, bronchodilators) for pre-post comparison. Table 2 shows the distribution of cases across ATSs.

Table 2: distribution across the network ATSs of the cases included in the epidemiological study

ATS of residence	Frequency	Percentage	Cumulative freq.
ATS Bergamo	63973	8,3%	63973
ATS Brescia	124553	16,1%	188526
ATS Brianza	115715	15,0%	304241
ATS Milano	333618	43,1%	637859
ATS Montagna	16799	2,2%	654658
ATS Pavia	47900	6,2%	702558
ATS Valpadana	70975	9,2%	773533

- T1.3 – Sampling for clinical follow-up: to perform the tasks of WP2, we will select samples of the cohort defined in T1.2 residing in each Partner ASST and distribute them to ASSTs to perform clinical follow-up (WP2). We will extract a representative case sample, performing a stratified randomization by gender, age class, acute-phase manifestation (asymptomatic, symptomatic by symptom type/aggregation) and by infection/reinfection. To evaluate the sample size needed to detect the existence of each PASC abnormality, we executed a review of existing literature regarding their prevalence in the convalescent Covid-19 population. We performed a sample size calculation[27] using the formula

$$n = \frac{Z^2 P(1-P)}{d^2}$$

where n is the sample size, Z the value from the standard normal distribution reflecting the confidence level that will be used, P the expected prevalence of the symptom or sign derived from literature, d is precision. We chose a level of confidence of 95%, and we selected d according to the value of P, with the conservative value $d = P * 0.2$. Table 3 shows the estimated sample sizes.

Table 3: estimated sample sizes

Finding	Test	Hospitalized patients	
		Estimated finding prevalence	Sample size
Anomalous pulmonary volumes	spirometry	0,42	133
Anomalous pulmonary imaging	chest CAT	0,5	96
Anomalous DLCO	DLCO	0,22	341
Myocardium inflammation	heart MR	0,15	544
Left systolic dysfunction	heart US	0,31	214
Hematological abnormalities	blood panel	0,13	643
Neurologic/Psychiatric alterations	neurologic/psychiatric examination	0,4	144

It is difficult to estimate the prevalence of abnormalities in patients who underwent a mild form of the disease, since scant evidence is available in the literature regarding mild and asymptomatic infections, and most of it regards clinical, self-reported symptoms. Few studies investigated the prevalence of pathologic findings through imaging or other instrumental tests in this subset of patients. Conversely, the needed sample size can be calculated for previously hospitalized patients, for which prevalence estimations are available in literature. Regarding neurologic and psychiatric examinations, we will select the sample of 144 patients to refer to either of the disciplines through a first-level screening process performed during pneumological, cardiological or GP examination, utilizing validated simplified tests and selecting patients that more likely need a specialist assessment. Hematologic abnormalities can refer to either inflammation markers or signs of decreased renal function. Available literature on the inflammation markers analyzes differences in markers' levels between individuals with or without previous Covid-19 infection, but does not deal with the prevalence of findings over normal threshold. Conversely, prevalence of decreased renal function as compared to the period preceding infection has been described. For all blood tests, the sample

size has thus been calculated utilizing the prevalence of increased creatinine with respect to the pre-infection period (13%).[13] Regarding the clinical examinations, the sample size has been calculated estimating a prevalence equal to the lower prevalence among those estimated for the tests which require the presence of the specialist (e.g. for pneumological examination: specialist required for spirometry and for DLCO; estimated prevalence of anomalous spirometry in the population = 42%, estimated prevalence for anomalous DLCO = 22%; estimated prevalence for pneumological examination = 22%). For GP examination we calculated a sample size able to detect anomalous findings with an estimated prevalence of 8%, resulting in 1825 patients. We will distribute the sample between the partner ASSTs proportionally to the number of Covid-19 cases registered among the residents in their territory. We will also extract a sample of pediatric patients. The sample size will be redetermined after preliminary exploration of administrative data, given the lack of reliable prevalence estimates. Tables 4 and 5 depict the distribution of cases across network ASSTs/IRCCS and the prospected sample division, respectively.

Table 4: distribution of Covid-19 cases across partner ASSTs

Partner ASST	Cases	Perc.	Cumulative cases
ASST DI CREMA	12295	6,4%	12295
ASST DELLA FRANCIACORTA	22596	11,7%	34891
ASST DEL GARDA	37085	19,2%	71976
ASST DI LODI	19833	10,3%	91809
ASST OVEST MILANESE	43076	22,3%	134885
ASST DI PAVIA/IRCCS SAN MATTEO	47290	24,5%	182175
ASST DELLA VALCAMONICA	10710	5,6%	192885

*Table 5: allocation of tests across partner ASSTs**

Test	Total sample size	ASST DI CREMA	ASST DELLA FRANCIA-CORTA	ASST DEL GARDA	ASST DI LODI	ASST OVEST MILANESE	ASST DI PAVIA IRCCS SAN MATTEO	ASST DELLA VALCA-MONICA
Pneumologic ex.	**341**	22	40	65	35	76	83	19
Chest CAT	**96**	6	11	18	10	21	24	5
Spirometry	**133**	8	16	25	14	30	33	7
DLCO	**341**	22	40	65	35	76	83	19
Cardiologic ex.	**214**	14	25	41	22	48	52	12
Heart ultrasonography	**214**	14	25	41	22	48	52	12
Cardiac MR	**544**	35	64	105	56	122	133	30
Neurologic/Psychiatric ex.	**144**	9	17	28	15	32	35	8
Blood tests	**643**	41	75	124	66	144	158	36
GP examination	**1104**	70	129	212	114	247	271	61

**the distribution has been calculated as the total number of specific tests for the diagnostic category multiplied for the proportion of cases in that ASST over the total cases of all partner ASSTs*

Table 6 shows milestones and deliverables for WP1

Table 6: milestones and deliverables for WP1

Milestone	Description	Estimated period (project months)
M1.1	Identification of the cohort of Covid-19 subjects and sampling for WP2	1-3
M1.2	Development of algorithms to detect PASC events from administrative data	4-10
M1.3	Results of epidemiologic analysis to detect determinants of PASC	8-13
Deliverable	**Description**	
D1.1	List of Covid-19 patients to be followed for PASC detection	
D1.2	Research report on data analysis and policy implications	
D1.3	WP and publication on peer reviewed international journals	
D1.4	Presentation, workshop and other dissemination activities both to academic and non-academic audiences.	

WP-2 Prospective clinical study

Organizational structure of WP2 is shown in Table 7

Table 7: organizational structure of WP2

	Lead	Coordinator	Partners/Supporting Stakeholders involved
WP2	Steering committee of ASSTs, IRCCS and GPs representatives	President of the steering committee	ASST Crema, ASST Franciacorta, ASST Garda, ASST Lodi, ASST Milano Ovest, ASST Pavia, ASST Valcamonica, IRCCS Policlinico San Matteo, ATS Bergamo, ATS Brescia, ATS Brianza, ATS Milano, ATS Montagna, ATS Pavia, ATS Valpadana, UCSC

OBJECTIVES:
WP2 will delineate the clinical impact of PASC through a follow-up of Covid-19 patients. Subjects will be examined by GPs or by specialists, clarifying the role of infection seriousness, type of assistance received, infection/reinfection and previous vaccination on PASC.

TASKS:
- T2.1 – Development of protocols for specialists and GPs: the evaluation of different aspects of PASC will be performed by the network ASSTs and IRCCS, according to their specializations and clinical interests. The ASSTs and IRCCS will cooperatively develop specific protocols for the identification, monitoring and control of the neurological, cardiological, pneumological or psychiatric sequelae of Covid-19. The associations of GPs included in the network will be involved in the definition of the protocol and will perform clinical examinations and questionnaires administration of patients treated at home. Previously hospitalized patients will be referred to hospitals to undergo more complex tests. A dedicated protocol will be developed for mountainous areas, favoring tele-monitoring. ASSTs with specific specialist competences could be dedicated to more intense screening for a specific clinical area. The issue of post Covid-19 rehabilitation will also be investigated. Based on literature evidence regarding Covid-19 and infections from other coronaviruses, we can anticipate that the following tests and procedures could be included in the protocols:
GPs: pulse oximetry, peak expiratory flux, blood pressure measurement, clinical questionnaire administration;[28]
all areas: pulse oximetry, blood pressure measurement, clinical questionnaire administration, chest CAT, blood panel for evaluation of organ damage and inflammatory state (creatinine, CRP, IL-6, NT-proBNP, ferritin, D-dimer);[2,13,29-33]
pneumology: test of lung function through spirometry and DLCO;[2,34-38]
neurology/psychiatry: evaluation of cognitive impairment, anxiety and depression through validated scales;[2,39-42]
cardiology: transthoracic echocardiography, cardiac MR.[2,43-47]
Components of the network possessing particular technological resources can investigate certain features of the disease in greater depth, principally through advanced laboratory examinations.
- T2.2 – Infrastructure for data collection: ATSs Valpadana will develop a GDPR-compliant digital infrastructure, available to all ATSs, to show to the clinicians of each ASST and IRCCS the list of patients to

follow-up and the visit or exams they need to perform. The same platform will allow the clinicians to visualize patients' information from administrative databases concerning the primary infection, previous hospitalization for Covid-19, comorbidities and vaccination status. The platform will allow to collect the results of the examinations planned during the follow-up and the data of interest from previous clinical records. A data manager, shared between the ATSs, will have data quality control and data abstraction functions.

- T2.3 – Patients' follow-up and extraction of previous health status from clinical records: utilizing the samples extracted in WP1, each network ASST and IRCCS will perform the follow-up of the sampled patients residing in its territory. All included cases will undergo the tests and examination agreed in T2.1 for the specific types of patients and settings. The medical records of all the sampled patients which were hospitalized as a consequence of the acute infection will be reviewed during the follow-up, to extract the information on the primary infection symptoms and severity, blood test and functional parameters. This information will be compared with data collected during follow-up in order to evaluate changes over time. We will then perform sub-sample analyses to identify potential differences between genders or age classes. We also plan to evaluate Covid-19 sequelae in infections following vaccination in hospitalized patients: we will analyze the sequelae of a subsample of cases of Covid-19 between 1 January 2021 and 31 March 2022 in fully vaccinated patients, and separately for patients who received a third dose. Each case will be treated with the methodology stated above, stratifying for type of vaccine received, in order to ascertain possible differences in PASC between vaccinated and unvaccinated patients.
- T2.4 - Validation of the algorithms to detect PASC from administrative health databases: the algorithms to detect the presence of PASC and its specific manifestations (e.g., acute cardiovascular events, thromboembolisms, respiratory emergencies) from administrative databases (T1.2) will be validated against the data collected during the clinical follow-up study. We will calculate for every algorithm, corresponding to a clinical event, and for PASC as a whole, the sensibility, sensitivity and predictive values.

Table 8 shows milestones and deliverables for WP2.

Table 8: milestones and deliverables for WP2

Milestone	Description	Estimated period (project months)
M2.1	Definition of clinical follow-up protocols	1-4
M2.2	Execution of clinical follow-up of the sampled patients	5-12
Deliverable	**Description**	
D2.1	Standardized clinical follow-up protocols	

WP-3 Model for a long-term, prospective cohort study for Covid-19 patients

Organizational structure of WP3 is shown in Table 9

Table 9: organizational structure of WP3

Lead	Coordinator	Partners/Supporting Stakeholders involved
UNIMIB	Maria Grazia Valsecchi	ASST Crema, ASST Franciacorta, ASST Garda, ASST Lodi, ASST Milano Ovest, ASST Pavia, ASST Valcamonica, IRCCS Policlinico San Matteo, ATS Bergamo, ATS Brescia, ATS Brianza, ATS Milano, ATS Montagna, ATS Pavia, ATS Valpadana

OBJECTIVES:
WP-3 intends to create a model to perform long-term follow-up of COVID-19 patients by means of

- defining a model for the integration of administrative data and clinical data from this project and the clinical databases (with biological samples, if available) on COVID-19 patients already existing in the Partner and collaborating ASSTs;
- to develop a sound methodology for the long-term outcome data analysis.

TASKS:

- T3.1 Estimation of the prevalence of PASC symptoms. The data from the clinical follow-up study (T2.2), linked with the administrative data (T1.2), will be used to estimate the prevalence of the different symptoms of PASC, overall and in the defined subgroups (pediatric patients, vaccinated vs. non-vaccinated, hospitalized in ICU vs. hospitalized non-ICU vs. never hospitalized patients, patients with previous respiratory, cardiovascular and metabolic comorbidities). Also, data will be analyzed i) to detect the presence or the combination of not previously reported findings and ii) to differentiate hospitalized patients according to length of stay, including sub-acute and Covid-19 ward transfers.
- T3.2 - Definition of a model to integrate administrative and clinical data: we will develop a model to integrate administrative data from the ATS, concerning infection, vaccination status, hospitalization and PASC syndrome events and clinical databases collecting data (and samples) at hospitalization of Covid-19 patients already existing in some ASSTs (study partners or supportive stakeholders). The integration will allow to model PASC occurrence and outcome with the inclusion of additional clinical details collected at hospitalization, thus on more severe cases, in the ASSTs, and may generate aetiological hypothesis to be tested in biological samples collected at hospitalization. The integration approach will be developed as a case-study on one of the clinical databases with a potential for generalizability on all clinical databases.
- T3.3 – Outcome analysis: occurrence of morbidities and mortality will be analysed with survival and event-history methodology and related to subject characteristics as collected in administrative as well as clinical data bases (in the case-study of T3.2). In addition, a comparison of event-history data in patients enrolled or not in the PASC follow-up will be performed, accounting for the complex sampling design and refusal to be enrolled in the clinical follow-up. For this reason, in the sampling of WP1, a "control" sample will be extracted with the same stratification criteria and not included in the clinical follow-up study. The morbidity and survival outcomes assessed in those with a clinical follow-up will be compared to the outcome in those not included (cohort of controls), based on health administrative data only. The comparison, performed at 6 months from the beginning of the follow-up program will allow to assess the effect of the clinical follow-up and related intervention. In addition, based on the outcome analysis, the frequency, severity, and timing of PASC following complete vaccination and dose booster will allow evaluating whether Covid-19 vaccination changed the severity and the timing of Covid-19 infection. Based on this, we will explore the possibility to simulate different scenarios aimed to assess how different policies of vaccination coverage with tailored strategies based on risk stratification models could affect the occurrence and frequency of PASC. We will consider the use of compartmental mathematical modelling methods that evaluate the transition of cases from susceptible, exposed, infected, and recovered to implement these simulations.

Table 10 shows milestones and deliverables for WP3.

Table 10: milestones and deliverables for WP3

Milestone	Description	Estimated period (project months)
M3.1	Definition of the integration model	4-8
M3.2	Estimation of prevalence of the different symptoms	10-14
M3.3	Analysis of morbidity and survival outcomes of patients in the case study (administrative and clinical data) and of sampled patients not included vs. included in the follow-up (administrative data only)	12-14
Deliverable	**Description**	
D3.1	Technical report on modalities of administrative and clinical data integration	
D3.2	Epidemiological report and publication on peer reviewed international journals of the estimated symptom prevalence and on the long-term outcome as related to patients characteristics and follow-up interventions	
D3.3	Presentation, workshop and other dissemination activities both to academic and non-academic audiences	

WP-4 Evaluation of the indirect effects of the epidemic on the Health System

Organizational structure of WP4 is shown in Table 11.

Table 11: organizational structure of WP4

	Lead	Coordinator	Partners/Supporting Stakeholders involved
WP4	UCSC	Claudio Lucifora	ATS Milano, ATS Bergamo, ATS Brescia, ATS Brianza, ATS Montagna, ATS Pavia, ATS Valpadana

OBJECTIVES:
WP4 will empirically evaluate the effects of the Covid-19 epidemic in terms of contraction and changes in the provision of health-care services (namely outpatient services and screening tests), as well as the short-term effects of such contraction on emergency care access and hospitalization, between 31 May 2018 and 31 May 2021. The empirical analysis will be carried out using high-frequency register data from network's ATSs on outpatient services and Covid-19 databases, with information on daily contagions, performed swabs, ICU admissions and Covid-19 deaths. In particular, the pre-and post-emergency effects will be investigated in terms of both organizational factors, such as bottle-necks and congestion (supply side), as well as behavioral effects, such as hesitancy to visit hospitals during the pandemic (demand side). Event study methodologies will be used in the empirical analysis.
In particular, WP4 will:

- Evaluate the impact of the Covid-19 epidemic on outpatient treatments and screening services;
- Assess the intensity of delayed medical care and explore congestion effects on health-care providers;
- Investigate the short-term effects of delayed or forgone critical preventive and diagnostic treatments on emergency care use and hospital admissions.
- Identify and profile different categories of fragile patients in need of prevention, care, and rehabilitation measures.

TASKS:

- T4.1 – Data cleaning and processing. Data cleaning, definition of the sample and variables of interest, data preparation;
- T4.2 – Analysis of impact of Covid-19 on the provision of health-care services. Exploit high-frequency data to compare daily trends of outpatient and screening services (mammographies, fecal occult blood tests, pap-tests) for specific monthly intervals before and after the hit of Covid-19. The issue of delayed medical care will also be evaluated in terms of intensity, measured as the number of months of activity that would be needed to fill the gap, should the provision of outpatients and screening tests proceed at the same pace with respect to the same months of the pre-epidemic years. Data on daily number of positive subjects, swabs, ICU admissions and deaths for Covid-19 (at the ZIP code level) will be used to analyze the congestion effect on health-care provides. Heterogeneous effects across category of diagnosis, age class and chronicity will also be explored;
- T4.3 – Analysis of the short-term effects of foregone preventive care on access to emergency care and hospital admissions for selected diagnostic categories, and identification of prevention, care and rehabilitation measures for selected categories of fragile patients.

Table 12 shows milestones and deliverables for WP4.

Table 12: milestones and deliverables for WP4

Milestone	Description	Estimated period (project months)
M4.1	Outline a thorough characterization of the trends in the provision of health-care services (outpatients and screening tests) throughout Covid-19 epidemic	4-10
M4.2	Evaluate the intensity of delayed medical care, also considering congestion effects on health-care providers	6-12
M4.3	Identify short-term effects on emergency care and hospital admissions	10-15
Deliverable	**Description**	
D4.1	Research report, working paper and publication on peer reviewed international journals	
D4.2	Presentation, workshop and other dissemination activities both to academic and non-academic audiences	

WP-5 Development of plans for PASC management

Organizational structure of WP5 is shown in Table 13.

Table 13: organizational structure of WP5

Lead	Coordinator	Partners/Supporting Stakeholders involved
UNIPV	Stefano Denicolai	ASST Crema, ASST Franciacorta, ASST Garda, ASST Lodi, ASST Milano Ovest, ASST Pavia, ASST Valcamonica, IRCCS Policlinico San Matteo, ATS Bergamo, ATS Brescia, ATS Brianza, ATS Milano, ATS Montagna, ATS Pavia, ATS Valpadana, UCSC

OBJECTIVES: to provide a better understanding of organizational implications in managing and monitoring PASC through a multidisciplinary approach, combining clinical, epidemiological and management standpoints. In such a context, digital health is accounted as a key enabler as well as a driver of change. First, technologies like artificial intelligence, sensors, mobile APPs and wearable devices play a central role for ex-ante preventing and ex-post managing effects of PASC. Besides health care, technology has an effect on society as a whole and on workplaces. Second, a better exploration and integration of digital datastreams - overcoming siloing issues and combining different sources, including both clinical, epidemiological and administrative data - is a key consideration to make a step forward in the field, towards a 'digital innovation strategy'.
Due to the prospected strengthening of local health services, WP5 also aims at developing innovative patterns of collaboration among the different agents of the whole health-care system, with a particular focus on novel solutions recently introduced by institutional bodies (e.g., PNRR), and on chronicity issues.
The methodology consists of a desk analysis on data and organizational materials provided by partners. Principles of 'experimental design' are taken into account.

TASKS:
- T5.1 – Review of existing literature: extensive review of both medical and management studies, conducted through the "systematic literature" method. Grey literature will also be considered, though in a separated section and accounting for differences compared to scientific papers.
- T5.2 – Data and information gathering
- T5.3 – Desk analysis on administrative data and organizational materials provided by partners (e.g., charts, previous report, procedure, partner websites, etc.) and analysis of information through 'Topic modeling' and text mining methods, for an in-depth understanding of materials and to capture latent insights. Outcomes will be evaluated by a multidisciplinary team.
- T5.4 – Dissemination and networking workshop. Findings will be shared with partners and stakeholders through a scientific report and a workshop, also aimed at stimulating networking among health-care agents.

Table 14 shows milestones and deliverables for WP5.

Table 14: milestones and deliverables for WP5

Milestone	Description	Estimated period (project months)
M5.1	Identification of key management issues over management and monitoring of PASC	4-6
M5.2	Definition and validation - through project review with partners and a panel of experts - of recommendations for follow-up protocols	6-12
M5.3	Definition of an innovative organizational model and transformation journey principles for management and monitoring of PASC	10-14
Deliverable	**Description**	
D5.1	Recommendations for models and plans aimed at managing and monitoring PASC, together with the GP cooperatives included in the network. Special attention goes to key factors of success in leading this health-care transformation	
D5.2	Report on "Fighting PASC through health-care innovation and digital transformation: guidance and recommendations"	
D5.3	Presentation, workshop and other dissemination activities both to academic and non-academic audiences	

Dissemination Plan

Lead	Coordinator	Partners/Supporting Stakeholders involved
UCSC	Communication and dissemination Manager	ATSs, UCSC, UNIMIB, UNIPV

The dissemination plan will be focused on promoting and facilitating the use of effective intervention plans for the monitoring and management of PASC. All partners of the Network along with supportive stakeholders will play an active role in the dissemination, exchange and communication activities of the project to transfer knowledge and the main findings. To this end, a multi-channel dissemination strategy has been established in order to maximize the impact of the dissemination activities, carefully adjusting the materials and tools to the specific needs, interests and involvement of the target audience. The dissemination plan is going to be flexible and regularly updated. The following dissemination tools and activities have been planned:

1. Website and general repository at the ATS, ASST, IRCCS and GP levels

A dedicated website will be implemented and hosted at the CRILDA-Università Cattolica Research Center, and linked to other partner institutions' websites. The website will serve as general repository for intermediate results, minutes of the scientific committee meetings and other project's deliverables. The website will provide constant updates and easy access to the scientific community, public health institutions, as well as other stakeholders through cross-links with institutions and territorial supportive stakeholders. In addition, we plan to create an infrastructure for data collection, at the Valpadana ATS which will serve as data-hub for clinical data (i.e. patients to follow-up and visits or exams they need).
A communication manager will be in charge of the design and development of the website, while a data manager will be responsible for data-hub.

2. Public events and distance-learning activities for GPs and specialists involved in PASC diagnostic

We plan to organize a number of thematic workshops aimed at specialists active in the diagnostic of PASC, as well as public event for GPs operating in the territory of the seven partner ATSs, in order to share plans for the monitoring and management of PASC-related chronicity. The workshops and other events are intended disseminate information on the designed protocol for PASC diagnostic and treatment. We also plan to promote activities of distance-learning for all GPs in the Lombardy region.

3. Video-training on PASC diagnostic and treatment
To reach the vast audience of specialists, GPs, nurses and other stakeholders involved in PASC management, we plan to create video-training on PASC diagnostic and treatment as self-learning tools.

4. Scientific workshops
The project's findings will be shared with partners and stakeholders in intermediate and in a final workshop. These evidence-based interventions will be organized with the involvement of the academic institutions to disseminate the scientific research outputs and stimulate networking among health-care agents.

5. Policy briefs
Policy briefs and short articles delivered through online medical journals (i.e. "Quotidiano sanità", "Doctor33", "DottNet", etc.)

Monitoring and assessment indicators

Table 15 depicts the indicators for each WP, with relevant time-thresholds.

*Table 15: monitoring and assessment indicators for each WP, with relevant time-thresholds**

WP	Indicator	Description	Thresholds	
			Value	Time
WP-1	I-M1.1	Proportion of ASSTs for which the cohort identification and sampling for WP2 has been completed. We plan the sampling phase to last roughly three months: I-M1.1 should be 0.25 at three weeks, 0.5 at six, 0.75 at nine.	0.25	week 3
			0.5	week 6
			0.75	week 9
WP-2	I-M2.1	Proportion of diagnostic categories for which a clinical follow-up protocol has been completed (GPs, pneumology, cardiology, neurology/psychiatry, and diagnostic procedures common to all areas). We plan the protocol devising phase to last roughly four months: I-M2.1 should be 0.5 at two months.	0.5	month 2
	I-M2.2A	Proportion of patients from the sample for which the execution of the clinical follow-up has started, measured for each ASST level according to the portion of the sample attributed. The entire follow-up phase should last 8 months; I-M2.2A should be 0.5 after 4 months, and 1 after 7 months from the start of the clinical follow-up phase.	0.5	month 4
			1	month 7
	I-M2.2B	Proportion of patients from the sample for which the execution of the clinical follow-up has been completed, measured for each ASST level according to the portion of the sample attributed. The entire follow-up phase should last 8 months; I-M2.2B should be 0.25 after 4 months, and 0.5 after 6 months from the start of the clinical follow-up phase.	0.25	month 4
			0.5	month 6
WP-3	I-M3.1	Advancement of M3.2 and M3.3 should run in parallel with the progress of the clinical study (WP2), since they rely on the analysis of its data. We plan to integrate in M3.2 and M3.3's analyses the information from enrolled and examined patients not later than a month from the communication of the data by the ASSTs/IRCCS.	1	one month from communication of the data
WP-4	I-M4.1 - I-M4.2	Advancement of M4.1 and M4.2 should run in parallel with WP5 concerning the reorganization of public health systems. The analysis of delayed medical care and congestion effects should be completed by month 12.	1	month 12
WP-5	I-M5.2	Advancement of M5.2 should run in parallel with the beginning of the clinical study (WP2), as the managerial and organizational evaluations of M5.2 should be integrated with the clinical follow-up protocols. The first organizational reccomandations will be developed within 4 months and will be then updated regurarly during the project, based on observation.	1	month 8

**time values are calculated from the start of the descripted phase of the project*

Potential pitfalls and solutions

An evaluation of potential risks and mitigation strategy is described in Table 16, along with actions to be taken to minimize their effects.

Table 16: potential risks and mitigation strategy

Description of risk	WPs involved	Probability	Impact	Mitigation strategy
Underestimation of the timing planned for the execution of WPs	all WPs	likely	moderate	PI and partners will monitor progress of work in accordance to the task defined in the experimental plan. If needed, a redistribution of tasks or alternative approaches will be considered to reach deadlines.
Slow entrollment of patients in the clinical trials	WP2	quite likely	low-moderate	Due to the large number of ASSTs participating, we do not envisage particular problems in the enrollment of patients in the clinical trial (see project timeline. In the event of slow enrollment, an additional sample will be added to match the target number of patients for the analysis to be successful.
Ethical and privacy concerns with data collection	WP1-2-3	not very likely	moderate	Clearance of the Ethical Committe will be sought immediately after the project approval by all partners. Any problem of ethical or privacy concerns with data collection will be dealt with, reorganizing activities according with the issues raised. The studies conducted in the context of the present project will be performed according to EU regulation 2016/679 and EU directive 2016/680 (GDPR).
Management and coordination of the network	all WPs	low	low-moderate	The strong link and the long-standing cooperation among partners (Health Agencies and Associations) should mitigate this concern. A project manager will guarantee the coordination of activities among partners, the exchange of information and sharing of data, as well as meeting the deadlines.
Organizational and cultural resistance against change	all WPs	likely	moderate-high	Adoption of and experimental and incremental approach, aimed at showing benefits in a "safe" environment and capturing feedback in real-time; high effort on internal communication activities.
Difficulties in the development of data infrastructure	WP2	not very likely	high	Assistance by specialized professionals from ATS Valpadana, and by an ad-hoc contract data manager

Timetable (GANTT)

Table 17 depicts the tentative timetable for the project.

Table 17: GANTT

Workpackage	Partner responsible	Task	Month													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
WP-1: Retrospective epidemiological study	ATSs	T1.1	■	■	■												
		T1.2				■	■	■	■	■	■	■	■	■	■		
		T1.3	■	■	■												
WP-2: Prospective clinical study	ASSTs	T2.1	■	■	■	■											
		T2.2	■	■	■	■											
		T2.3					■	■	■	■	■	■	■	■			
WP-3: Long-term, prospective cohort study for Covid-19 patients	UNIMIB	T3.1										■	■	■	■	■	
		T3.2				■	■	■	■	■							
		T3.3												■	■	■	
WP-4: Evaluation of the indirect effects of the epidemic on the Health System	UCSC	T4.1	■	■	■	■	■	■									
		T4.2							■	■	■	■	■	■			
		T4.3										■	■	■	■	■	■
WP-5: Development of plans for PASC management	UNIPV	T5.1	■	■													
		T5.2		■	■	■	■	■									
		T5.3					■	■	■	■	■	■	■	■	■	■	
		T5.4															■

Project originality and innovation

Indicate how the project introduce novel approaches or methods in care pathways.

(maximum 3000 characters) 2,779 characters

We believe this project to be both ambitious in scope and innovative in methods. To the best of our knowledge, PASC, its public health and social implications have not yet been explored thoroughly, especially through a combination of epidemiological, clinical, health-managerial, and economic methods. The integration of all the competences of the various components of the network will allow to develop a clinically sound model, adequately dimensioned on epidemiological data, economically sustainable and easily implementable trough health management innovations. The development of novel models, paths and plans for management and monitoring of the PASC-related chronicity is grounded on principles of precision medicine from an organizational perspective.[48] The project aims at further innovating in this field by investigating how digital health and artificial intelligence can enable improvements in the healthcare systems designed for preventing patients with high risk of PASC, clustering types of PASC and then optimizing care and patient journey around specific features of people (precision). The model will also allow to develop participatory form of healthcare, integrating data capabilities from different sources of agents (network-based view).

The development of an innovative new care pathway for PASC will be based on real needs through epidemiological evaluation and on-field clinician involvement, both GPs and specialists, designed with original managerial approach exploiting digital medicine possibilities also in smaller care providers, and with a focus on coordinating the activity of local health providers with that of hospitals, in the spirit to provide integrated multifaceted personalized interventions with a one-health approach, also along the lines of the PNRR. The clinical guidelines developed with this approach will be formalized and diffused through the network to the health professionals of the region with both digital and traditional formats, to improve the actual management of PASC at any level of care. Also, the original managerial and organizational aspects of the project will be discussed with the general directorates of the Partners, to establish dedicated integrated pathways, tailored also on the specific age group and geographic and population characteristic of each ASST, and improve the experience of care of PASC patients. Seven out of eight ATSs of the Lombardy region will participate into the project, together with 8 Partners ASSTs and 5 more ASSTs that have expressed their interest. We thus believe that the innovative developed model could be easily implemented also in other ASSTs and IRCCS, and not only in the partners of the present project and serve as a model for future integrated health policy initiatives.

Impact

Describe how the project would improve PASC Syndrome patients' pathways. Explain how the proposed solutions can be a blueprint for other pathologies or in other communities. Indicate the impact on health care professionals.

(maximum 15,000 characters) – 3,935 *characters*

The project will impact population health in several ways: i) through a crucially needed progress in the scientific knowledge of PASC, both on its epidemiology (in terms of quantification and risk factors) and on its clinical characteristics; ii) through the development of an efficient and integrated system of clinical follow-ups, based on the actual health needs of the population; through intervention plans for the catching up with the missed and overdue screening services, and for the recovery of the disrupted services for chronicity care.

The cooperative development of specific protocols for the identification, monitoring and control of Covid-19 sequelae by ASSTs, IRCCS and associations of GPs will guide the follow-up of patients through clinical examinations and questionnaires administration, with the aim of clarifying the role of infection severity, type of assistance received, infection/reinfection and vaccination, and ultimately improve PASC patients' pathways. Moreover, the established multidisciplinary network of epidemiological, clinical, health-managerial and research institutions will serve as a blueprint for future collaborations, in all cases where a public health challenge requires an integrated management able to delineate its features and possible solutions.

All professionals included in the network will greatly benefit from the interdisciplinary cooperation, through an exchange of expertise which can continue even after the project conclusion. The externalities of the project will also be relevant to all professionals which might benefit from the developed plans and recommendations, not only for the management of PASC, but possibly as a model for the care and management of other chronicities as well.

The main impacts, divided into scientific and public health impacts, are listed below.

SCIENTIFIC IMPACT

- Provide robust evidence on PASC through different data sources (clinical data, administrative data and experimental data from follow-up studies).

- Development of a data integration model that contributes to

o a more refined prediction of the infection outcome and PASC;

o the generation of etiological hypotheses worth testing in stored biological samples;

o the design of prospective, observational and cohort studies on the long-term follow-up of Covid-19 patients for different health outcomes, identified on the basis of the results of this project (already known or newly found).

- Provide a comprehensive analysis of organizational issues regarding management and monitoring of PASC, aimed at the definition and validation of recommendations for follow-up protocols.

- Provide an assessment of the impact of the Covid-19 pandemic on the provision of health-care services and on the short-term effects of disrupted care on emergency care access and hospitalizations.

PUBLIC HEALTH IMPACT

- Development of a vast multidisciplinary network across the various levels of the Health Care System – ATSs, ASSTs/IRCCS both in their local (Districts) and hospital (Departments) components, General Practitioners – and Universities, which will allow

o the dissemination of recent scientific evidence on PASC;

o the definition of specific protocols for the identification, monitoring and control of Covid-19 sequelae to guide clinical follow-ups of Covid-19 patients;

o a solid and efficient cooperation among key actors of the Health Care System to cope with future public health challenges.

- Rising awareness on the specific needs of Covid-19 patients.

- Development of recommendations for the design of intervention plans for the catching up with missed and overdue screening services, and for the recovery of the disrupted services for chronicity care.

- Design of an innovative organizational model and intervention plans for the management and monitoring of PASC by the National Health Care System, which can guarantee patients' care, treatment, and long-term follow-ups.

Partnership, governance and scientific committee

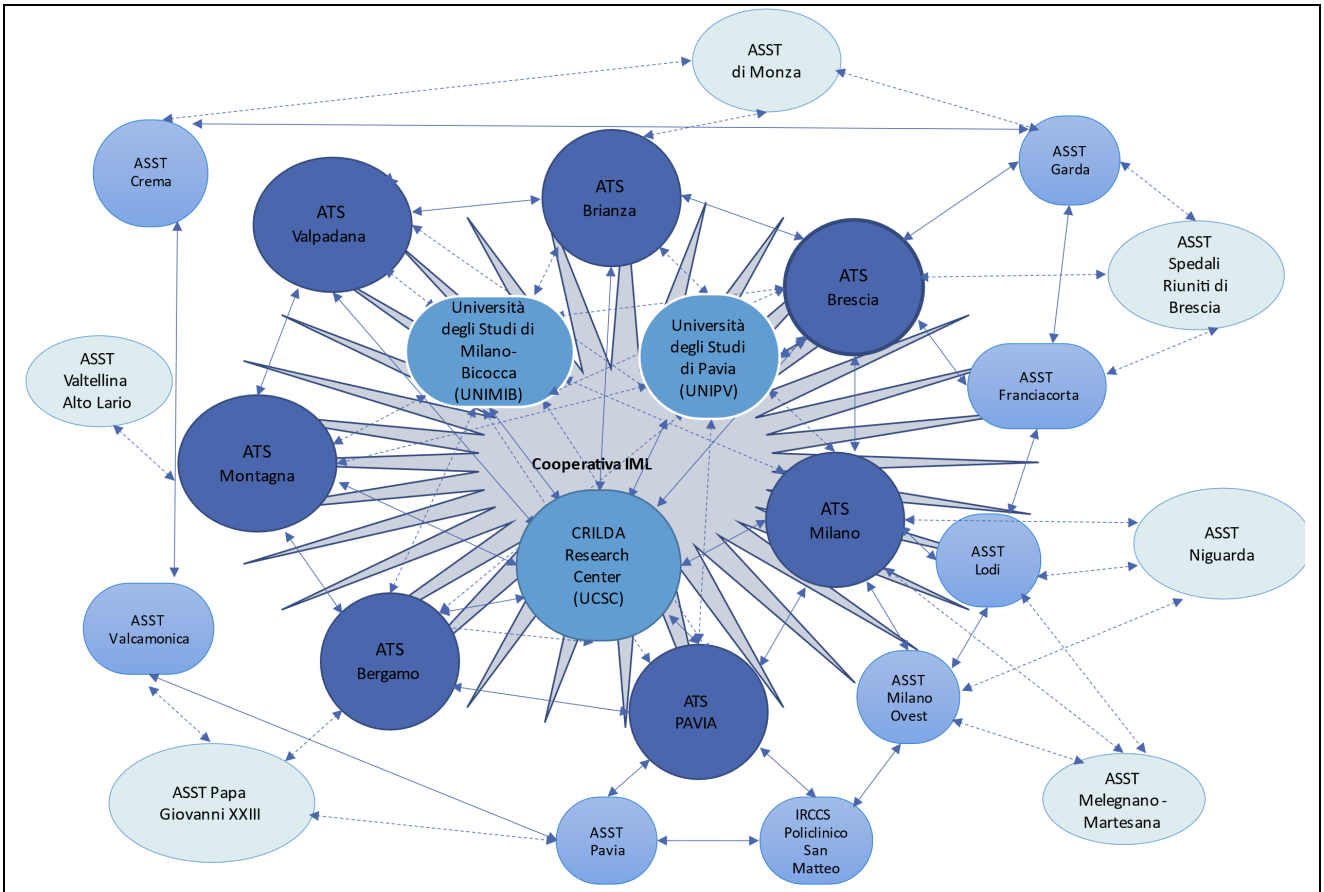
Describe all organizations involved in the project, their role, and the facilities provided. List partners, third parties and other organizations involved in the project. Describe the project's governance and how the scientific committee represent an add value for the project's management.

(maximum 15000 characters excluding figures, tables and pictures) - 12,945 *characters*

Partnership

The network of the project consists of 18 partners, 6 supporting institutions and an external service provider representing general practitioners as shown in Figure 1. A detailed description of all partners and institutions involved is provided below.

Figure 1 Composition of the Project Network



- ATS, ASST and IRCCS: ATS Milano – ASST Lodi, ASST Ovest; ATS Valpadana – ASST Crema; ATS Bergamo; ATS Brescia – ASST Garda, ASST Franciacorta; ATS Brianza; ATS della Montagna – ASST Valcamonica; ATS Pavia – ASST Pavia, IRCCS Policlinico San Matteo
- Universities: CRILDA Research Center at Università Cattolica del Sacro Cuore (UCSC), Department for Economic and Business Science of Università di Pavia (UNIPV), Centro Interdipartimentale Bioinformatics Biostatistics and Bioimaging Centre - B4 of Università Milano-Bicocca (UNIMIB)
- General Practitioners Cooperative – Iniziativa Medica Lombarda (IML)
- Supporting institutions: ASST Niguarda, ASST Melegnano Martesana, ASST Spedali Riuniti di Brescia, ASST Monza, ASST Papa Giovanni XXIII, ASST Valtellina e Alto Lario

The different partners will share data and competences to reach the objectives of the project, which will unfold in several directions. In particular, the ATSs will use their budget to provide the digital platform for data collection and merging of health administrative and clinical data, and to recruit a data manager for the duration of the project who will guarantee data quality and perform data extraction for the whole network. They will also perform the epidemiological studies and provide to ASSTs, IRCCS and GPs the list of patients to be included in the clinical follow-up. The partner ASSTs and IRCCS will perform the clinical follow-up of hospitalized patients, their budget to recruit temporary contract health professionals, while general practitioners will follow-up patients treated at home as an external contract service. The specialists from both partner ASSTs, ASSTs participating as supporting institutions, IRCCS and representatives from general practitioners' cooperatives will deal with the elaboration of protocols regarding the monitoring of PASC clinical manifestation, sharing it with other actors of the network.
The involved Universities will provide methodological support in the different phases of the project. UCSC, as leading partner, will coordinate the overall project, taking charge of several Project's tasks which are shared by all partners – such as the coordination of a Project manager, Audit services, as well as services that are provided by third parties to the Project (such as IML). These coordination tasks and additional services will be paid out from the Coordinator's budget. UCSC will also lead WP4 investigating the indirect effects of the epidemic on the provision of health care. In particular, using register data from partner ATSs,

the analysis will assess the reduction of outpatient services and screening tests due to the emergency phase, as well as the post-emergency congestion effects (supply side). Also, behavioral effects, such as the reluctance to visit hospitals during the pandemic, will be investigated (demand side) with the purpose of identifying and profile different categories of fragile patients in need of specific prevention, care, and rehabilitation pathways. To perform these tasks UCSC will use part of the budget to hire a contract-researcher for 12 months. UNIMIB will develop the integration of administrative and clinical data to perform a long-term evaluation on the resulting cohort, including the comparison between outcomes of patients enrolled or not in the PASC follow-up. UNIPV will identify the key management issues for the definition of a new organizational model for the management and monitoring of PASC patients, involving innovative patterns of collaboration among the different agents within the health-care system. Both UNIMIB and UNIPV will use their budget mainly to hire a contract-researcher for 12 months.
The project will file ethical approuval before one of the Partners' Ethical committee. Clearance by the Ethical committee will be the first action before the start of clinical activities. The studies conducted in the context of the present project will be performed according to EU regulation 2016/679 and EU directive 2016/680 (GDPR). Information about involved individuals will be stored and handled abiding to art. 13 EU regulation 2016/679 and to Italian privacy laws. Privacy of data will be guaranteed through the use of a GDPR-compliant digital infrastructure where the extracted variables from administrative data and the clinical data from the project will be stored. Specific subsets of data will be analyzed in the GDPR-compliant digital infrastructure of the Universities and the ATS. All data transfers between components of the network will be performed through high-security, GDPR-compliant systems. The Data Protection Officer of the ATS providing the digital infrastructure (Valpadana) will oversee the agreements for data sharing within the network.

PARTNERS

UNIVERSITA' CATTOLICA DI MILANO (UCSC) – Leading institution

The "Centro di Ricerca sul Lavoro Carlo Dell'Aringa" (CRILDA-UCSC) research center, directed by Claudio Lucifora (PI) is part of the Università Cattolica del Sacro Cuore which includes 14 faculties, 62 departments and 93 research centers. CRILDA gathers researchers in different fields, to design multi-disciplinary approaches in its research, evaluation and consultancy activities and offer all the facilities required for the development of high-quality research studies (e.g., rooms and furniture, high-speed internet access, and access to multiple resources). The ALTEMS School of Public health at Università Cattolica del Sacro Cuore will also cooperate, providing expertise in the analysis of Covid-19 data and management of public health system. The school during the pandemic has been leader in providing a weekly report on the diffusion of Covid-19 (see https://altems.unicatt.it/altems-covid-19) and a stress test on public health systems. Within this project, UCSC is the leading institution, responsible for WP4 as well as of the project design, its implementation and dissemination activities. It will coordinate other partners and will be responsible for the communication with Fondazione Cariplo.

UNIVERSITA' DEGLI STUDI DI MILANO-BICOCCA (UNIMIB)

Università degli Studi di Milano-Bicocca (UNIMIB) is a public University funded in 1998. It counts 14 departments and around 1000 researchers. The interdepartmental Bicocca Bioinformatics Biostatistics and Bioimaging Centre - B4 aims to bring together in a single University structure the methodologies and computational skills necessary to face the challenges of quantitative and personalized medicine, and to apply them for the enhancement and dissemination of multidisciplinary research in the area of life science. Within the present project, UNIMIB will provide support to the UCSC team in the development of the project and will be responsible for WP3.

UNIVERSITA' DEGLI STUDI DI PAVIA (UNIPV)

Università degli Studi di Pavia (UNIPV) is one of the world's oldest academic institutions, with its foundations existing as early as the 9th Century. It counts about 26,000 students, 1,800 researchers and administrative staff. The Department of Economics and Management and its 'Digita4good' Lab will support the research activities of the project. Digita4good promotes research on how digital data streams can support health-care management and emergency events, together with leading digital companies and international universities (https://www.digita4good.unipv.it/).

UNIPV will provide support to the UCSC team in the development of the project and will be responsible for WP5, while participating to the activities in WP2.

AGENZIE DI TUTELA DELLA SALUTE (ATS) – Agency for Health Protection
ATS Città Metropolitana di Milano (ATS-MI)
ATS Pavia (ATS-PV)
ATS Valpadana (ATS-VP)
ATS Bergamo (ATS-BG)
ATS Brescia (ATS-BS)
ATS Brianza (ATS-BR)
ATS Montagna (ATS-Montagna)

ATSs are public institutions of the Lombardy Region, which have the mission to put into practice the health plans devised by the Lombardy Region on their area of competence. They guarantee the provision of essential health services (*Livelli Essenziali di Assistenza - LEA*) through health-care facilities, both public and private. They also oversee the integration of health and social services provided by the public authorities.
Within the present project, ATSs will be responsible of and carry out WP1 and will be involved in WP2. ATSs also play a key role in providing access to health data registry (big data), as well as for the dissemination of results to stakeholders and general practitioners. ATS Milano will also participate in WP3. Moreover, ATS-MI, UCSC research team, UNIMIB and UNIPV already cooperated on a number of research projects, PhD programs and their research activities are regulated by different memorandum of agreement (MoA 2018-20 'UCSC & ATS-MI'; MoA 2017-20 'UCSC & FOND FERRERO'; Defap PhD program 'UCSC & UNIMIB', MoA 'UNIMIB & ATS-MI Scuola Specializzazione Statistica Sanitaria, MOA 2021-24 'UNIMIB & ATS-MI per tirocini curriculari').

AZIENDE SOCIO SANITARIE TERRITORIALI (ASST) – Local Health Care Public Body
ISTITUTO DI RICERCA E CURA A CARATTERE SCIENTIFICO (IRCCS) - Scientific Institute for Research, Hospitalization and Healthcare

ASST Crema (ASST-CR)
ASST Franciacorta (ASST-FRC)
ASST Garda (ASST-GRD)
ASST Lodi (ASST-LD)
ASST Milano Ovest (ASST-MIO)
ASST Pavia (ASST-PV)
ASST Valcamonica (ASST-VCM)
IRCCS Policlinico San Matteo (IRCCS-SM)

ASSTs are public institutions of the Lombardy Region, which provide inpatient and outpatient health services to the population of the territory they cover. They are articulated in hospital (Departments) and territorial (Districts) services, and they also coordinate the primary care and the pharmaceutical services part of the public National Health Care System. Within the project, ASSTs will be responsible of and carry out WP2 defining follow-up protocols, performing clinical follow-up, and being Involved in the interpretation of the results of the incidence analyses relating to the various syndromic manifestations. They will also implement the organizational models and digital health solutions developed for the follow-up of the PASC as part of the project. ASSTs will also participate in WP3 on a voluntary basis.

IRCCSs are biomedical institutions of relevant national interest, which drive clinical assistance in strong relation to research activities. Their mission is the continuous upgrade of healthcare. The IRCCS title is granted by Italian Department of Health to a very limited number of institutes throughout the nation. They are committed to be benchmark for the whole public health system for both the quality of patient care and the innovation skills in the field of organization. Within the project they will have the same role as ASSTs.

SUPPORTING INSTITUTIONS

Cooperativa IML

ASST Niguarda
ASST Melegnano Martesana

ASST Spedali Riuniti di Brescia
ASST Monza
ASST Papa Giovanni XXIII
ASST Valtellina e Alto Lario

SCIENTIFIC COMMITTEE

The scientific committee will include the lead researcher of each institution (Claudio Lucifora, Stefano Denicolai, Grazia Valsecchi, Anita Andreano, Pietro Perotti, Marco Villa, Alberto Zucchi, Luca Cavalieri d'Oro, Giovanni Maifredi, Anna Clara Fanetti, Vincenzo Belcastro, Stefano Rusconi, Giuseppe La Piana, Luigi Magnani, Anna Bussi, Gabriele Zanolini, Raffaele Bruno, Maurizio Morlotti) and Dr. Antonio Giampiero Russo as the coordinator of the activities of the ATSs. Moreover, clinicians representing the supporting ASSTs and members of the Cooperative of GPs IML, will be designated if the project will be funded. Among the supporting ASSTs there are some of the largest in Lombardy and most involved during COVID-19 epidemics (Niguarda, Monza, Bergamo Papa Giovanni XXIII, Brescia Spedali Riuniti) and their contribution will be valuable to the project, both in terms of practical experience and scientific knowledge. The scientific committee will meet at the beginning of the project, to determine its internal functioning, to validate the developed follow-up protocols, to examine the results of each work-package, and to approve dissemination initiatives.

Coordination and management

The scientific committee will coordinate all the activities and supervise the accomplishments of the project's tasks, through regular meetings, either in person or in web-conference, at least every month in the preliminary phase (months one to three), and every two months for the remainder of the project (months four to fifteen).

Steering committees with PIs and the representatives of ATSs and ASSTs will meet every 2-3 months to monitor the ongoing of the clinical follow-ups and the definition of the different protocols for PASC diagnostics, with the aim of sharing information, implementing awareness initiatives, and organizing participative discussions of the research results also at the local level.

Project team

Provide, for PIs and key members, the following information

UCSC

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Lucifora	Claudio	Università Cattolica del Sacro Cuore – full professor of Economics (since 2001) Director, CRILDA Research Centre	21.02.1960
Education and training			
Ph.D. Economics (1991) University of Warwick M.A. Economics (1986) University of Warwick			
Research and Professional experience			
Professional experience Associate Professor, Università di Palermo (1998-99); Università Cattolica di Piacenza (1999-2000) Senior Lecturer, London School of Economics (1996)			

Visiting professor: Université Dauphine; University of New South Wales; Université Paris I; Australian National University; Universitat Autonoma de Barcelona; Universidad Catolica Argentina.

Research experience

Director of CRILDA, Università Cattolica del Sacro Cuore (to date).

Expert counselor, Consiglio Nazionale dell'Economia e del Lavoro (2017-2022).

Research fellow at IZA (Bonn), fRDB (Bocconi, Milan), CHILD (Turin), IRS (Milan), research advisor REF (Milan).

President of the Scientific Committee of IRPET (Tuscany Region)

Member of Scientific Committee of Eurofound (2017-2020)

Past-President (2014-2017) of the Italian Association of Labour Economists.

Executive Committee member and Treasurer, European Association of Labour Economics (2000-2008).

Policy and expert advisor to the European Parliament, World Health Organization, European Commission, Ministry of labour.

Research director labour and public policy at AREL (National think-tank, Rome).

Conference organization: Counterfactual Policy Evaluation - COMPIE Conference (UCSC 2016), Healthy Ageing and the Labour Market (UCSC 2016), Health International Workshop (Dauphine, 2015), Italian association of labour economists (2010 AIEL), World conference of Labour Economists (2000 SOLE-EALE), Health at Work International Workshop (2011).

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 142 (95 English, 47 Italian); Citations (tot. #3,312; since 2013 #1,297);

H-index: 30 (google scholar); i10-index: 63 (google scholar); H-index: 18 (Scopus);

Brilli Y., Lucifora C., Russo A. and Tonello M. "Influenza vaccination behavior and media reporting of adverse events", *Health Policy*, 124 (12), 2020, 1403-1411

Brilli Y., Lucifora C., Russo A. and Tonello M. "Vaccination take-up and health: evidence from a flu vaccination program for the elderly", *Journal of Economic Behavior & Organization*, 179, Nov. 2020, 323-341

Lucifora C. *"Public-Private differences in management practices in the Health Sector", in Public sector Jobs fRDB Annual Report, 2020*

Lucifora C., *Russo M, Pucciarelli F, Piccoli B.) "Work hazards and workers' mental health: an investigation based on the fifth European Working Conditions Survey", La Medicina del Lavoro, 2019, 110(2):115-29.*

Lucifora C. and *D. Vigani, "Healthcare Utilization at Retirement: The Role of the Opportunity Cost of Time", Health Economics, 2018*

Lucifora C. and M. Tonello, "Cheating and social interactions. Evidence from a randomized experiment in a national evaluation program", *Journal of Economic Behavior and Organization,* Vol. 115, 2015, 45–66.

Cappellari L., and C. Lucifora "Work, Retirement and Health: An Analysis of the Socio-economic Implications of Active Ageing and their Effects on Health", in G. Riva et al. (Eds.) *Active Ageing and Healthy Living,* IOS Press, 2014

Cottini E. and Lucifora C. "Mental Health and Working Conditions in European Countries", *Industrial and Labor Relations Review,* ILRReview, 66(4), July 2013, 958-988.

Grants

2020-2022 - European Commission, "Employer Representation in Collective Bargaining", Total grant: 89,602 €

2017-2019 - European Commission, "Collective Bargaining and Extensions: effects on workers well-being", Total grant: 100,800 €
2013-2016 - European Parliament, Framework Project "Health and safety at work" (Lot 3)

2012-2013 - Consiglio Nazionale dell'Economia e del Lavoro, "Analysis of migration patterns in Italy", Total grant: 35,000 €

2010-2013 - D.3.2 Strategic Project UCSC "Analysis of demographic patterns: Aging, Family and Fertility", Total grant: 35,000 €

2012-2015 - European Commission, 7th Framework Programme for Research and Technological Development, "Health Care Reform: the iMpact on practice, oUtcomes and costs of New roles for health pROfeSsionals, Mapping skills and competences of the health professionals", Total grant: 199,000 €

2008-2012 - European Commission, 7th Framework Programme for Research and Technological Development, "Health at Work, An inquiry into the health and safety at work; a European Union perspective", Total grant: 73,416 €

2009-2011 - fRDB, Università Bocconi "Executive compensation and Employees' performance related pay. Workers' satisfaction, productivity and well-being", Total grant: 25,000 €

2009-2011 - European Commission, 6th Framework Programme "Network of Excellence: Economic change, quality of life and social cohesion" (FP6); Total grant: 25,000 €

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator; responsible for WP3; member of Scientific committee and steering group; support for all WPs; coordination of communication and dissemination activities.	*5 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Vigani	*Daria*	*Department of Economics and Finance, Università Cattolica del Sacro Cuore, Post-doc research fellow (since 2017)* *Researcher at CRILDA*	*17/10/1987*

Education and training

Ph.D. Economics (2017) Università Cattolica del Sacro Cuore
Master Degree in Economics (2012) Università Cattolica del Sacro Cuore
Bachelor Degree in Economics (2009) Università Cattolica del Sacro Cuore

Research and Professional experience

Research experience

Post-doc research fellowship, Department of Economics and Finance, Università Cattolica del Sacro Cuore (since 2017)
Researcher, CRILDA (since 2017)
VisitINPS Scholar, INPS, (since 2019)
Researcher, Memorandum of Agreement Università Cattolica del Sacro Cuore /ATS Milano (since 2015)
Visiting Student, Université Paris-Dauphine and CREST – 2015
Research Assistant, Istituto per la Ricerca Sociale (IRS) – Milano, (2014-2015)
Visiting Student, Université de Strasbourg BETA (2013)

Teaching experience

Lecturer, Empirical Methods in Health Economics, DEFAP Graduate School (since 2021)
Lecturer, Principles of Economics, Bachelor in Sociology, University of Milan-Bicocca (2018-2021)
T.A., Econometrics, PhD in Economics, University of Milan-Bicocca (2018-2019)
T.A., Micro and Macroeconomics, Bachelor in Sociology, University of Milan-Bicocca (2013-2018)
T.A., Microeconomics, Bachelor in Economics, Catholic University of Milan (2013-2018)
T.A., Labor Economics, M.Sc. in Economics, Catholic University of Milan (2014-2015)
T.A., Macroeconomics, Bachelor in Economics, Catholic University of Milan (2014-2015)
Lecturer, Introductory STATA course, M.Sc. in Economics, Catholic University of Milan (2013)
Lab Assistant, Bocconi University (2013)

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 8 (4 English, 4 Italian);
H-index: 5 (google scholar)

Publications in peer-reviewed journals
Lucifora, C. and D. Vigani "Losing control? Unions' Representativeness, Pirate Collective Agreements and Wages", *Industrial Relations*, 60(2), 2021, 188-218 - DOI:10.1111/irel.12278.

Lucifora, C. and D. Vigani "What if your boss is a woman? Evidence on gender discrimination at the workplace", *Review of Economics of the Household*, 2021 - https://doi.org/10.1007/s11150-021-09562-x.

Lucifora, C. and D. Vigani "Healthcare utilization at Retirement: the role of the opportunity cost of time", *Health Economics*, 27(12), 2018, 2030-2050 - DOI:10.1002/hec.3819.

Attanasi, G., Georgantzìs, N., Rotondi, V. and D. Vigani "Lottery- and survey-based risk attitudes linked through a multichoice elicitation task", *Theory and Decision*, 84(3), 2018, 341-372 - DOI: 10.1007/s11238-017-9613-0

Other publications

Vigani, D. “Invecchiamento, precarietà e disagio psicologico dei lavoratori” in Invecchiamento attivo, mercato del lavoro e benessere, a cura di C. Cappellari, C. Lucifora and A. Rosina, 2018, eds. Il Mulino, Bologna. ISBN: 9788815279217.

Lucifora, C. and D. Vigani “Decisioni di pensionamento e investimento in salute”, in Invecchiamento attivo, mercato del lavoro e benessere, a cura di C. Cappellari, C. Lucifora and A. Rosina, 2018, eds. Il Mulino, Bologna. ISBN: 9788815279217.
WPs

Lucifora, C., Russo, A. and D. Vigani “Does prescriptive appropriateness reduce health expenditure? Main effects and some unintended outcomes”, Dipartimento di Economia e Finanza, 2021, WP No. 103

Cottini, E., Lucifora, C., Turati, G. and D. Vigani “Children use of emergency care: differences between natives and migrants in Italy”, Dipartimento di Economia e Finanza, 2020, WP No. 93

Vigani, D. "Job insecurity, Employability and Psychological well-being in Europe”, HALM WP, 2016, No.3-2016

Grants

- *2020-2022 - European Commission, “Employer Representation in Collective Bargaining”*
- *2017-2019 - European Commission, “Collective Bargaining and Extensions: effects on workers well-being”*
- *2019-present - D.3.2 Strategic Project UCSC “Fight against poverty: empirical research in support of public policies”*
- *2016-2019 - D.3.2 Strategic Project UCSC “The socio-economic effects of migration. Counterfactual analysis and policies for integration" (ESEM)*
- *2012-2015 Doctoral Fellowship, Italian Ministry of Education*
- *2015 – CEPREMAP, Research Grant.*

Role in the project

Role	*Total Effort (person/months)*

Researcher UCSC team	*3 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Villar	Elena	Researcher at Centro di Ricerca sul Lavoro Carlo dell'Aringa (CRILDA)	07/05/1988

Education and training

Ph.D in Economics (2015), DEFAP Graduate School
Visiting Research Student (2016), University of Paris Ouest Nanterre
Executive Master in Applied Labor Economics for Development (2013-2015), Sciences Po Paris (joint with UNITO and ITC-ILO)
Master Degree in Economics (2010-2013), University of Milan-Bicocca
EXCHANGE Program (2012-2013), Queen Mary University of London
ERASMUS Program (2011), University of Aberdeen

Research and Professional experience

Lecturer, Empirical Methods in Health Economics, DEFAP Graduate School (since 2021)
Lecturer, Research Methods, DEFAP Graduate School (2020-2021)
Teaching Assistant, Microeconomics, University of Milan-Bicocca (2018-2020)
Teaching Assistant, Labor Economics, Università Cattolica di Milano (2017-2018)
Internship, International Training Centre of the ILO, Turin (2014)
Teaching Assistant, Investment Management, Queen Mary University of London (2013)

Scientific Publications and Congresses or other Oral Communications

Publications in peer-reviewed journals
Lucifora, C., Meurs, D. and **Villar, E.** The "mommy track in the workplace". Evidence from a large French firm. *Labour Economics*, 72, 2021, 102035
Other publications
Bologna, E., Lucifora, C. and E. Villar "Invecchiamento attivo: come vivere più a lungo". Vita e Pensiero, 2020, 2, 70-77.

25-26/11/2021 36th AIEL Conference
19-21/09/2019 31st EALE Conference, Uppsala, Sweden
14-16/05/2018 67th AFSE Congress, Paris, France

Grants

- 2015-2018 - Doctoral Fellowship, Italian Ministry of Education
- 2012-2013 - Grant for EXCHANGE Program, Queen Mary University of London
- 2011 - Grant for ERASMUS Program, University of Aberdeen

Role in the project

Role	*Total Effort (person/months)*
Researcher UCSC team	*3 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Cottini	*Elena*	*Università Cattolica del Sacro Cuore - associate professor in economics*	*11.05.1978*

Education and training

Ph.D. Economics- 2008, Università Cattolica del Sacro Cuore
M.A. Economics- 2003, University College London
B.A. Economics- 2002, Università Cattolica del Sacro Cuore

Research and Professional experience
Senior Assistant Professor, 2018-2021, Università Cattolica del Sacro Cuore Junior Assistant Professor, 2013-2018, Università Cattolica del Sacro Cuore Post Doc, 2012-2013, Bocconi University Post Doc, 2008-2011 Università Cattolica del Sacro Cuore Researcher at Aarhus School of Business, 2007, Aarhus, Denmark Visiting professor: Aarhus School of Business, Copenhagen Business School, Ente Einaudi per l'Economia e la Finanza-Rome, IESEG School of management.
Scientific Publications and Congresses or other Oral Communications
Total number of publications: 19; Citations (tot. #743 since 2016 #543); *H-index: 11 (google scholar); i10-index: 13 (google scholar); H-index: 6 (Scopus);* *Selected publications:* Cottini E. and Ghinetti, P. (2020). Health Effects of Risky Lifestyles and Adverse Working Conditions: Are Older Individuals More Penalized? British Journal of Industrial Relations, vol. 58 (4), 9731003. Cottini E. and Ghinetti, P. (2018). Employment insecurity and employees' health in Denmark. Health Economics, vol. 17 (2), 426439. Buhai S., Cottini E. and N. Westergaard Nielsen (2017). How productive is workplace Health and Safety? Scandinavian Journal of Economics, vol. 119(4), 1086-1104. Blasquez M., Cottini E. and Herrarte A. (2014). Socioeconomic gradient in health: how important is material deprivation?" The Journal of Economic Inequality, vol.12 (2), 239264. Cottini E. and Lucifora C. "Mental Health and Working Conditions in European Countries", *Industrial and Labor Relations Review,* ILRReview, 66(4), July 2013, 958-988.
Grants
- EIEF Visiting Grant, duration 1/2/2015-1/4/2015 (amount EUR.5000), - EIEF Research Grant on the project "Job Disamenities and Worker Risk Profiles", duration 1/6/2014-1/6/2015 (amount EUR 5000) - GINI-FP7 Research Stimulus Agreement Grant to study health inequalities, 1/1/2012-31/12/2012 (amount EUR 5000).

Role in the project	
Role	*Total Effort (person/months)*
Researcher UCSC team	*2 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Robone	*Silvana Maria*	*University of Insubria (Varese)* *Associate Professor, Economics (since 2017)* *Vice-Director of the BA program in Economics and Management* *Member of the Board of the PhD Program in Methods and Models for Economic Decisions*	*11.11.1976*

Education and training
Ph.D. Economics (2008) University of York and University of Bologna M.A. Economics and Management of Public Utilities (2002) Bocconi University M.A. Economics (2001) Bocconi University B.A. Economic and Social Sciences (1984) Bocconi University
Research and Professional experience
Professional experience Assistant Professor (RU), University of Insubria (2014-2017) Assistant Professor (RTD-A), University of Bologna (2012-2014) Research Fellow, Centre for Health Economics, University of York (UK) (2006-2012) Analyst, Italian Regulatory Authority for Electricity and Gas, Milan (2002-2004)

Visiting professor: World Health Organization, University of York, Paris School of Economics

Research experience

External Affiliate at Health Econometrics and Data Group (HEDG) (University of York), Centre for Research on Social Dynamics and Public Policy (Bocconi University), Hospinnomics (Paris School of Economics) and Dipartimento di Economia e Finanza (Università Cattolica del Sacro Cuore)

Award of the National Scientific Qualification to function as Full Professor in Italian Universities in the scientific sectors 13/A2 (Politica Economica) and 13/A3 (Scienza delle Finanze) in 2018

Professional Memberships: IHEA - International Health Economics Association, EuHEA - European Health Economics Association, SIEP - Italian Society of Public Economics, SIE - Italian Society of Economics, AIES - Italian Association of Health Economics, SIEDS - Italian Society of Economics, Demography and Statistics (member of the Scientific Board since 2017)

Farmafactoring award given by AIES to the best paper in Health Economics written by Italian authors in 2019 (2020)

Award of AIES for the best paper presented by a young economist at the 2003 Conference (2004)

REFEREEING ACTIVITY (most relevant): Journal of Health Economics, Health Economics, Journal of Economic Behaviour and Organization, Economic Letters, British Journal of Industrial Relations, Social Science and Medicine, PlosONE, LABOUR: Review of Labour Economics and Industrial Relations, Regional Science and Urban Economics, Regional Studies, Journal of Economic Psychology, American Journal of Agricultural Economics, Health Policy, International Journal of Health Care Finance and Economics, European Journal of Health Economics

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 24 (peer-reviewed articles and book chapters) (22 English, 2 Italian); Citations (tot. #822; since 2016 #523);
H-index: 14 (google scholar); i10-index: 18 (google scholar);

The Good Outcomes of Bad News. A Randomized Field Experiment on Formatting Breast Cancer Screening Invitations (with M. Bertoni and L. Corazzini), *American Journal of Health Economics*, (2020), 6 (3), 372.409.

Does fiscal decentralization affect regional disparities in health? Quasi-experimental evidence from Italy (with C. Di Novi, M. Piacenza and G. Turati), *Regional Science and Urban Economics*, (2019) 78, 1-14.

How do hospital-specialty characteristics influence health system responsiveness? An empirical evaluation of in-patient care in the Italian Region of Emilia-Romagna (with G. Fiorentini and R. Verzulli), *Health Economics*, (2018), 27(2), 266-281.

Can we use vignettes to address response-scale heterogeneity in the EQ-5D? Not if but how, *Health Economics*, (2017), 26(3), 395-397.

Are bad health and pain making us grumpy? An empirical evaluation of reporting heterogeneity in rating health system responsiveness (with G. Fiorentini and G. Ragazzi), *Social Science and Medicine* (2015), 144, 48-58.

Vignettes and Health Systems Responsiveness in Cross-Country Comparative Analyses (with N. Rice and P.C. Smith). *The Journal of the Royal Statistical Society A* (read paper) (2012) 175(2), 337-369.

Health Systems` Responsiveness and its Characteristics: a Cross-Country Comparative Analysis (with N. Rice and P.C. Smith). *Health Services Research* (2011), 46(6), 2079-2100.

Inequality and Polarization in Health Systems Responsiveness: a Cross-Country Analysis (with A.M. Jones, N. Rice and P. Rosa Dias). *Journal of Health Economics* (2011), *30 (4), 616-625.*

Analysis of the Validity of the Vignette Approach to Correct for Heterogeneity in Reporting Health System Responsiveness (with N. Rice and P.C. Smith). *The European Journal of Health Economics* (2011), 12 (2), 141-162.

Contractual Conditions, Working conditions, Health and Well-Being in the British Household Panel Survey (with A.M. Jones and N. Rice). *The European Journal of Health Economics* (2011), 12(5), 429-444.

The Geography of Hospital Admission in a National Health Service with Patient Choice: Evidence from Italy (with D. Fabbri). *Health Economics* (2010), *19 (9), 1029-1047.*

Grants

- *2019-2021 - Fondazione Cariplo "Health, Accessibility, Public Transport Policies for Elderly" Total grant: 200,000 euros (application supporter and team member)*
- *2015-2019 - Spanish Ministry of Economy and Competitiveness and the European Regional Development Fund "Evaluation of Health Care system Responsiveness" Total grant:36,000 € (co-investigator)*
- *2015-2017 - University of Insubria International Mobility Grant "Health Shocks and Financial Risk Preferences" Total grant: 3,500 euros (Principal-investigator)*

Role in the project

Role	*Total Effort (person/months)*
Researcher UCSC team	*2 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Turati	*Gilberto*	*Università Cattolica del Sacro Cuore – full professor of Public Finance (since 2018)*	*20-08-1971*

Education and training

Ph.D. Finance (2003) Università Cattolica del Sacro Cuore
M.Sc. Economics (1999) University of York (Uk)
B.A. Finance (1995) Università Cattolica del Sacro Cuore

Research and Professional experience

Associate Professor (2016-2018), Università Cattolica del Sacro Cuore
Associate Professor (2011-2016), Università di Torino
Assistant Professor (2002-2011), Università di Torino
Invited visiting research scholar at University of Rennes and IEB-Universitat de Barcelona
Member of the Board of the European Public Choice Society (EPCS) (2012-2015)
Member of the Board of the Società Italiana di Economia Pubblica (SIEP) (since 2018, current vice-president)

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 43 international journals, 28 national journals, 20 book chapters, 3 edited books, 2 books;
Citations (google scholar tot. #2,031; since 2016 #997);
H-index: 24 (google scholar); i10-index: 45 (google scholar); H-index: 14 (Scopus);
Selected scientific publications since 2015
Di Giacomo M., Piacenza M., Siciliani L., Turati G. (2022), The effect of co-payments on the take-up of prenatal tests, Journal of Health Economics, forthcoming.
Costa-Font J. Levaggi R., Turati G. (2020), Resilient Managed Competition during Pandemics: Lessons from the Italian experience during COVID-19, Health Economics, Policy and Law, forthcoming.
Barbetta G. P., Sorrenti G., Turati G. (2021), Multigrading and Child Achievement, Journal of Human Resources, 56(3), 940-968.
Berta P., Martini G., Piacenza M., Turati G. (2020), The strange case of less C-sections: Hospital ownership, market concentration, and DRG-tariff regulation, Health Economics, 29(S1), 30-46.
Bordignon M., Coretti S., Piacenza M., Turati G. (2020), Hardening Sub-national Budget Constraints via Administrative Subordination: The Italian Experience of Recovery Plans in Regional Health Services, Health Economics, 29(11), 1378-1399.
Bordignon M., Gamalerio M., Turati G. (2020), Manager of professional politician? Local fiscal autonomy and the skills of elected officials, Regional Science and Urban Economics, vol. 83, 103529.
Di Novi C., Piacenza M., Robone S., Turati G. (2019), Does fiscal decentralization affect regional disparities in health? Quasi-experimental evidence from Italy, Regional Science and Urban Economics, 78, 103465, 1-14.
Le Moglie M., Turati G. (2019), Electoral cycle bias in the media coverage of corruption news, Journal of Economic Behavior and Organization, vol. 163, 140-157.
Perucca G., Piacenza M., Turati G. (2019), Spatial Inequality in Access to Health care: Evidence from an Italian Alpine Region, Regional Studies, vol. 53, n. 4, 478-489.
Joan Costa-i-Font, Gilberto Turati (2018), Regional health care decentralization in unitary states: equal spending, equal satisfaction?, Regional Studies, vol. 52, n. 7, 974-985.
M. Di Giacomo, M. Piacenza, L. Siciliani, G. Turati (2017), Do Public Hospitals Respond to Changes in DRG Price Regulation? The Case of Birth Deliveries in the Italian NHS, Health Economics, vol. 26, n. S2, 23-37.
L. Cappellari, A. De Paoli, G. Turati (2016), Do Market Incentives for Hospitals Affect Health and Service Utilization? Evidence from PPS-DRG Tariffs in Italian Regions, Journal of the Royal Statistical Society: Series A, vol. 179, n. 4, 885-905.
M. Di Giacomo, M. Piacenza, F. Scervini, G. Turati (2015), Should we resurrect 'TIPP flottante' if oil price booms again? Specific taxes as fuel consumer price stabilizers, Energy Economics, vol. 51, 544-552.

Grants

Role in the project

Role	*Total Effort (person/months)*
Researcher UCSC team	*2 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Cicchetti	*Americo*	*Università Cattolica del Sacro Cuore – full professor management (since 2006)* *Director, ALTEMS, Advanced School of Health Economics and Management*	*21.06.1969*

Education and training

Ph.D. Management (1998) University of Bologna

B.A. Economics & Management (1987) University of Rome, Tor Vergata

Research and Professional experience

Professional experience

Associate Professor, Università di Chieti-Pescara (2002-06)

Researcher, Università Cattolica del Sacro Cuore (1998-2002)

Visiting professor: Thomas Jefferson University, Philadelphia PA, USA (Center for Reaserch in Medical Education and Healthcare).

Research experience

Director of ALTEMS Advanced School of Health Economics and Management, Università Cattolica del Sacro Cuore (to date).

Member of Scientific Committee of European Healthcare Management Association (to date)

Executive Committee member and Treasurer, Health Technology Assessment International (to date).

Past-President Italian Society of Health Technology Assessment

Associate Partner of the European Network of Health Technology Assessment

Member of the Innovation Steering Group of the National HTA Program for Medical Devices (Ministry of Health, Italy)

Fondazione Policlinico "A. Gemelli", Chief of Research, Health Technology Assessment Unit

Conference organization:

2012, Chairman Scientific Committee of the Annual Meeting of the Italian Association of Health Economics

2015, Chairman Scientific Committee of the Annual Meeting of the Italian Association of Organization Studies

2017, Chairman Scientific Committee of the Annual Meeting of Health Technology Assessment International

Scientific Publications and Congresses or other Oral Communications

Author of 346 articles and books in national and international journals

Total Citations 3396 (1815 since 2016); H Index 29 (24 since 2016); i10-index 66 (50 since 2016). Selected papers and books:

Cicchetti A., Mascia D., Leone F.E. (Eds). (2008) Ricerca Scientifica e trasferimento tecnologico, Franco Angeli, Milano.

Cicchetti, A. 2004. La progettazione organizzativa: Principi, strumenti ed applicazioni nelle organizzazioni sanitarie, Franco Angeli, Milano.

Cicchetti, A. 2002. L'organizzazione dell'ospedale: fra tradizione e strategie per il futuro, Vita e Pensiero. Milano.

Favaretti C., Cicchetti A., Ricciardi G., Marchetti M. (2009). Health Technology Assessment in Italy, *Int J Technol Assess Health Care*, Jul;25 Suppl 1:127-33

Cicchetti A., Ruggeri M. (2009) Economic evaluation of Ranibizumab vs Pegaptanib or vs photodynamic therapy. *Italian Journal of Public Health*, 6(2), suppl. 3: S31-S44

Mascia D, Cicchetti A, Fantini Mp, Damiani G, Ricciardi W. Physicians' propensity to collaborate and their attitude towards EBM: a cross-sectional study. *BMC Health Serv Res*. 2011 Jul 25; 11:172.

Mascia D, Cicchetti A. (2011) Physician social capital and the reported adoption of evidence-based medicine: Exploring the role of structural holes. Soc Sci Med. 2011 Jan 19.

Cicchetti A., Ruggeri M., Mennini F., Gitto L. (2010) Extending FLU vaccination to individuals aged 50-64. A budget impact analysis, *International Journal of Technology Assessment in Health Care*, 26(3): 288-293.

Cicchetti A., Ruggeri M. (2009) Economic evaluation of Ranibizumab vs Pegaptanib or vs photodynamic therapy. *Italian Journal of Public Health*, 6(2), suppl. 3: S31-S44

Cicchetti A., Addesso D., Leone F., Amato A., Angerame L., D'aversa A., Fraticelli M., Nicora C., Sfreddo E., Fumarola M., Porcino R., Cocciolo G., Re S., & Scaccabarozzi S. (2020). Valorization of clinical trials from the Italian National Health Service perspective: definition and first application of a model to estimate avoided costs. *Global & Regional Health Technology Assessment*, 7(1), 26-32

Di Bidino R, Cicchetti A. (2020) Impact of SARS-CoV-2 on Provided Healthcare. Evidence From the Emergency Phase in Italy. *Front Public Health* Nov 23;8:583583. doi: 10.3389/fpubh.2020.583583. PMID: 33330324; PMCID: PMC7719765.

Ruggeri M, Di Brino E, Cicchetti A. (2020) Estimating the fiscal impact of three vaccination strategies in Italy. Int *J Technol Assess Health Care*. Apr;36(2):133-138. doi: 10.1017/S0266462320000069. Epub 2020 Feb 13. PMID: 32052725.

Cicchetti A. et al. (2021) Analysis of the organizational models of response to Covid-19 in Italy: evidence from 32 Altems' Instant Reports, *Giornale Italiano di Health Technology Assessment*, n. 14 (Suppl. 1).

Grants

Joint Action 3, European Union, European Network of Health Technology Assessment (2016-2020); Team Leader, Associated Partner, Catholic University of the Sacred Heart.

European Union, Horizon 2020, "Improved methods and Actionable Tools for enhancing HTA" (2018-2020). Co-PI

European Union, VII Framework Program, ADHOPHTA Project Program Leader, "Adopting Hospital Based Health Technology Assessment" (2012-2015), Co-PI.

Ministry of Health, Healthcare System Planning Directorate. Project "Sanità 2.0", CIG 7390436CB5 Pon-Gov 2015-2020 (National PI).

Ministry of Health, System for the Evaluation of the effectiveness of the Health system (SIVEAS), "Creation of a monitoring system for the dissemination of the departmental organizational model in the National Health System" (2008-2012) (National PI)

MIUR, Ministry of University and Scientific Research (Decree No. 328/2010; 2011 - 2013). Cardiovascular diseases: role of acquired genetic factors, new therapeutic approaches and optimal organizational conditions for the production of knowledge ". (National PI)

Role in the project

Role	*Total Effort (person/months)*
Researcher UCSC team	*2 months*

UNIMIB

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Valsecchi	*Maria Grazia*	*University of Milano Bicocca, School of Medicine and Surgery. Professor of Medical Statistics*	*15/08/1954*

Education and training

Degree in Mathematics, 14 July 1980, University of Milan.
MSc in Biostatistics, 18 August 1989, University of Washington, Seattle, USA (Winner of a Fullbright Scholarship)

Professional experience

1980-1991 part-time researcher and 1991-1998 assistant professor, Department of Biostatistics (Istituto di Statistica Medica e Biometria), University of Milan.
1989 part-time research assistant at the Department of Biostatistics, University of Washington, Seattle.
1991-1998 Researcher at the Department of Biostatistics (Istituto di Statistica Medica e Biometria), University of Milan.
1998-2001 Associate Professor in Medical Statistics at the Department of Public Health, University of Verona.
2001-2003 Associate Professor in Medical Statistics at the Department of Clinical Medicine and Prevention, University of Milano-Bicocca
2003- Full Professor in Medical Statistics at the School of Medicine and Surgery, University of Milano-Bicocca

Awards and Honors
Dean of the School of Medicine and Surgery, University of Milano-Bicocca (1 Oct 2015 – 30 Sept 2021)
Director of the Department of Health Sciences, University of Milano-Bicocca (1 Oct 2013 – 30 Sept 2015)
President of the International Biometric Society (IBS), Italian Region (2013 -2016).
Vice-president (2001-2) and President (2003-4) of the International Society for Clinical Biostatistics (ISCB);
Associate Editor of Journals related to Medical Statistics (Statistics in Medicine, Biometrics, SMAP);

Scientific Publications and Congress or other Oral Communications

342 papers, H-index 69, 17120 citations in 15 years

Russo AG, Decarli A, Valsecchi MG. Strategy to identify priority groups for COVID-19 vaccination: A population based cohort study. Vaccine. 2021 Apr 28;39(18):2517-2525. doi: 10.1016/j.vaccine.2021.03.076. Epub 2021 Mar 26. PMID: 33824037 Free PMC article.

Severe Covid-19 GWAS Group, Ellinghaus D, Degenhardt F, Bujanda L, et al.. Genomewide Association Study of Severe Covid-19 with Respiratory Failure. N Engl J Med. 2020 Oct 15;383(16):1522-1534. doi: 10.1056/NEJMoa2020283. Epub 2020 Jun 17. PMID: 32558485; PMCID: PMC7315890.

Rebora P, Rozzini R, Bianchetti A, Blangiardo P, Marchegiani A, Piazzoli A, Mazzeo F, Cesaroni G, Chizzoli A, Guerini F, Bonfanti P, Morandi A, Faraci B, Gentile S, Bna C, Savelli G, Citerio G, Valsecchi MG, Mazzola P, Bellelli G; CoViD-19 Lombardia Team. Delirium in Patients with SARS-CoV-2 Infection: A Multicenter Study. J Am Geriatr Soc. 2021 Feb;69(2):293-299. doi: 10.1111/jgs.16969. Epub 2020 Dec 8. PMID: 33411332; PMCID: PMC7753490.

Coppadoro A, Benini A, Fruscio R, Verga L, Mazzola P, Bellelli G, Carbone M, Mulinacci G, Soria A, Noè B, Beck E, Di Sciacca R, Ippolito D, Citerio G, Valsecchi MG, Biondi A, Pesci A, Bonfanti P, Gaudesi D, Bellani G, Foti G.

Helmet CPAP to treat hypoxic pneumonia outside the ICU: an observational study during the COVID-19 outbreak. Crit Care. 2021 Feb 24;25(1):80. doi: 10.1186/s13054-021-03502-y. PMID: 33627169; PMCID: PMC7903369.

Capici S, Sala L, Galimberti S, Valsecchi MG, Squillace N, Gustinetti G, Cazzaniga ME, Bonfanti P. The Role for Tocilizumab in COVID-19 Patients: Reflections on Monza Cohort Data. Infect Drug Resist. 2021 Apr 13;14:1389-1392. doi: 10.2147/IDR.S304414. PMID: 33880043; PMCID: PMC8053531.

Graziano F, Valsecchi MG, Rebora P. Sampling strategies to evaluate the prognostic value of a new biomarker on a time-to-event end-point. BMC Med Res Methodol. 2021 Apr 30;21(1):93. doi: 10.1186/s12874-021-01283-0. PMID: 33941092; PMCID: PMC8091513.

Morandi A, Rebora P, Isaia G, Grossi E, Faraci B, Gentile S, Bo M, Valsecchi MG, Deiana V, Ghezzi N, Miksza J, Blangiardo P, Bellelli G. Delirium symptoms duration and mortality in SARS-COV2 elderly: results of a multicenter retrospective cohort study. Aging Clin Exp Res. 2021 Aug;33(8):2327-2333. doi: 10.1007/s40520-021-01899-8. Epub 2021 Jun 26. PMID: 34176083; PMCID: PMC8234761.

Faverio P, Luppi F, Rebora P, Busnelli S, Stainer A, Catalano M, Parachini L, Monzani A, Galimberti S, Bini F, Bodini BD, Betti M, De Giacomi F, Scarpazza P, Oggionni E, Scartabellati A, Bilucaglia L, Ceruti P, Modina D, Harari S, Caminati A, Valsecchi MG, Bellani G, Foti G, Pesci A. Six-Month Pulmonary Impairment after Severe COVID-19: A Prospective, Multicentre Follow-Up Study. Respiration. 2021;100(11):1078-1087. doi: 10.1159/000518141. Epub 2021 Aug 19. PMID: 34515212; PMCID: PMC8450855.

Grants

ENCCA, FP7-HEALTH-ENCCA-EUROPEAN NETWORK for CANCER research in CHILDREN and ADOLESCENTS ; 2009; (responsible of WP5)
MEUSIX, FP7 –USHTHER - Clinical trial of gene therapy with dual AAV vectors for retinitis pigmentosa in patients with Usher syndrome type IB; 2012
USHTHER - H2020, Clinical trial of gene therapy with dual AAV vectors for retinitis pigmentosa in patients with Usher syndrome type IB; 2017
PRIN, Innovative Statistical methods in biomedical research on biomarkers: from their identification to their use in clinical practice, 2017 (coordinator);
IMMUN-HUB (Lombardy Region) IMMUN-HUB - Sviluppo di nuove molecole di seconda generazione per immunoterapia oncologica, 2019.

Role in the project

Role	*Total Effort (person/months)*
Principal Investigator UNIMIB; member of Scientific committee	*3 months*

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Antolini	*Laura*	*University of Milano Bicocca, School of Medicine and Surgery. Associate Professor of Medical Statistics*	*18/11/1972*

Education and training

Degree in Statistics, 1998, University of Bologna.
PhD in Statistics, 2003, University of Padova.

Professional experience

2003-2005 Research Collaborator at IRCCS di Milano.
2006-2015 Researcher in Medical Statistics at the Department of Clinical Medicine and Prevention, University of Milano-Bicocca
2015- Associate Professor in Medical Statistics at the School of Medicine and Surgery, University of Milano-Bicocca

Awards and Honors
2013 - Member of the coordinating Board of the PhD Program in Public Health, University of Milano-Bicocca
2020 - Member of the Ethical Committee of University of Milano-Bicocca
2016-2020 Member of the Board of directors of the Italian Region of the International Biometric Society

Scientific Publications and Congress or other Oral Communications

84 papers, H-index 27, 2352 citations

Russotto V, Myatra SN, Laffey JG, Tassistro E, Antolini L, Bauer P, Lascarrou JB, Szuldrzynski K, Camporota L, Pelosi P, Sorbello M, Higgs A, Greif R, Putensen C, Agvald-Öhman C, Chalkias A, Bokums K, Brewster D, Rossi E, Fumagalli R, Pesenti A, Foti G, Bellani G; INTUBE Study Investigators. Intubation Practices and Adverse Peri-intubation Events in Critically Ill Patients From 29 Countries. JAMA. 2021 Mar 23;325(12):1164-1172. doi: 10.1001/jama.2021.1727. Erratum in: JAMA. 2021 May 24;:null. PMID: 33755076; PMCID: PMC7988368.

Bellani G, Grasselli G, Cecconi M, Antolini L, Borelli M, De Giacomi F, Bosio G, Latronico N, Filippini M, Gemma M, Giannotti C, Antonini B, Petrucci N, Zerbi SM, Maniglia P, Castelli GP, Marino G, Subert M, Citerio G, Radrizzani D, Mediani TS, Lorini FL, Russo FM, Faletti A, Beindorf A, Covello RD, Greco S, Bizzarri MM, Ristagno G, Mojoli F, Pradella A, Severgnini P, Da Macallè M, Albertin A, Ranieri VM, Rezoagli E, Vitale G, Magliocca A, Cappelleri G, Docci M, Aliberti S, Serra F, Rossi E, Valsecchi MG, Pesenti A, Foti G. Noninvasive Ventilatory Support of Patients with COVID-19 outside the Intensive Care Units (WARd-COVID). Ann Am Thorac Soc. 2021 Jun;18(6):1020-1026. doi: 10.1513/AnnalsATS.202008-1080OC. PMID: 33395553; PMCID: PMC8456729.

Missaglia R, Belingheri M, Antolini L, De' Angelis M, Brivio L, Riva MA, Genovesi S. SARS-CoV-2 pandemia in Lombardy: the impact on family Paediatricians. Ital J Pediatr. 2020 Dec 21;46(1):184. doi: 10.1186/s13052-020-00950-0. PMID: 33349254; PMCID: PMC7751264.

Coppo A, Bellani G, Winterton D, Di Pierro M, Soria A, Faverio P, Cairo M, Mori S, Messinesi G, Contro E, Bonfanti P, Benini A, Valsecchi MG, Antolini L, Foti G. Feasibility and physiological effects of prone positioning in non-intubated patients with acute respiratory failure due to COVID-19 (PRON-COVID): a prospective cohort study. Lancet Respir Med. 2020 Aug;8(8):765-774. doi: 10.1016/S2213-2600(20)30268-X. Epub 2020 Jun 19. PMID: 32569585; PMCID: PMC7304954.

Arisido MW, Antolini L, Bernasconi DP, Valsecchi MG, Rebora P. Joint model robustness compared with the time-varying covariate Cox model to evaluate the association between a longitudinal marker and a time-to-event endpoint. BMC Med Res Methodol. 2019 Dec 3;19(1):222. doi: 10.1186/s12874-019-0873-y. PMID: 31795933; PMCID: PMC6888912.

Tassistro E, Bernasconi DP, Rebora P, Valsecchi MG, Antolini L. Modeling the hazard of transition into the absorbing state in the illness-death model. Biom J. 2020 May;62(3):836-851. doi: 10.1002/bimj.201800267. Epub 2019 Sep 12. PMID: 31515830.

Antolini L, Tassistro E, Valsecchi MG, Bernasconi DP. Graphical representations and summary indicators to assess the performance of risk predictors. Biom J. 2019 Nov;61(6):1417-1429. doi: 10.1002/bimj.201700186. Epub 2018 Oct 5. PMID: 30290002.

Bernasconi DP, Rebora P, Iacobelli S, Valsecchi MG, Antolini L. Survival probabilities with time-dependent treatment indicator: quantities and non-parametric estimators. Stat Med. 2016 Mar 30;35(7):1032-48. doi: 10.1002/sim.6765. Epub 2015 Oct 26. PMID: 26503800.

Grants

ENCCA, FP7-HEALTH-2010;
PRIN, 2017;
IMMUN-HUB, 2019.

Role in the project

Role	*Total Effort (person/months)*
Researcher UNIMIB team	*2 months*

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Lapadula	*Giuseppe*	*University of Milano Bicocca, School of Medicine and Surgery. Lecturer/Assistant Professor of Infectious Diseases*	*10/12/1977*

Education and training

Degree in Medicine and Surgery, University of Bari (2002)
Specialization in Infectious Diseases, University of Brescia (2006)
PhD in Methodology of Clinical Experimentation, University of Brescia (2009)

Professional experience

2006-2008 Research Fellow, Centre for Tropical and Infectious Diseases, University of Brescia.
2008-2021 Staff Physician in the Infectious Diseases Clinic, "San Gerardo" Hospital, Monza.
2021 - Lecturer/Assistant Professor of Infectious Diseases at the School of Medicine and Surgery, University of Milano-Bicocca

2012-today Collaboration to several international cohort and research consortiums on HIV infections (Cohere, D:A:D, TB:HIV, MAGNIFICENT consortium, Antiretroviral Therapy Cohort Collaboration, Sehere, Icona Foundation, Virolab) and tuberculosis (TB-PAN NET)

Scientific Publications and Congress or other Oral Communications

87 papers, H-index 25, 3999 citations in the last 5 years

Lapadula G, Bernasconi DP, Soria A, Valsecchi MG, Bonfanti P. (2021) Beware of biases in observational studies on anti-spike monoclonal antibodies. *Clin Infect Dis*. May 20:ciab467. doi: 10.1093/cid/ciab467. PMID: 34015133

Goldman DL, Aldrich ML, Hagmann SHF, Bamford A, Camacho-Gonzalez A, Lapadula G, Lee P, Bonfanti P, Carter CC, Zhao Y, Telep L, Pikora C, Naik S, Marshall N, Katsarolis I, Das M, DeZure A, Desai P, Cao H, Chokkalingam AP, Osinusi A, Brainard DM, Méndez-Echevarría A. (2021) Compassionate Use of Remdesivir in Children With Severe COVID-19. Pediatrics. May;147(5):e2020047803. doi: 10.1542/peds.2020-047803. PMID: 33883243

Soria A, Lapadula G, Bonfanti P. (2021) COVID-19 Mortality and Stress to the Hospital System From High Patient Load. *JAMA Intern Med*. Aug 1;181(8):1134. doi: 10.1001/jamainternmed.2021.0599. PMID: 33843959

Soria A, Galimberti S, Lapadula G, Visco F, Ardini A, Valsecchi MG, Bonfanti P. (2021) The high volume of patients admitted during the SARS-CoV-2 pandemic has an independent harmful impact on in-hospital mortality from COVID-19. *PLoS One*. Jan 28;16(1):e0246170. doi: 10.1371/journal.pone.0246170. eCollection 2021. PMID: 33507954

Lapadula G, Bernasconi DP, Bellani G, Soria A, Rona R, Bombino M, Avalli L, Rondelli E, Cortinovis B, Colombo E, Valsecchi MG, Migliorino GM, Bonfanti P, Foti G (2020) Remdesivir Use in Patients Requiring Mechanical Ventilation due to COVID-19Remdesivir-Ria Study Group. *Open Forum Infect Dis.*, 13;7(11):ofaa481. doi: 10.1093/ofid/ofaa481. eCollection PMID: 33204761 Free PMC article.

Sterne JAC, Diaz J, Villar J, Murthy S, Slutsky AS, Perner A, Jüni P, Angus DC, Annane D, Azevedo LCP, Du B, Dequin PF, Gordon AC, Green C, Higgins JPT, Horby P, Landray MJ, Lapadula G, Le Gouge A, Leclerc M, Savović J, Tomazini B, Venkatesh B, Webb S, Marshall JC (2020) Corticosteroid therapy for critically ill patients with COVID-19: A structured summary of a study protocol for a prospective meta-analysis of randomized trials. WHO COVID-19 Clinical Management and Characterization Working Group. Trials. 24;21(1):734. doi: 10.1186/s13063-020-04641-3. PMID: 32831155
Grein J, Ohmagari N, Shin D, Diaz G, Asperges E, Castagna A, Feldt T, Green G, Green ML, Lescure FX, Nicastri E, Oda R, Yo K, Quiros-Roldan E, Studemeister A, Redinski J, Ahmed S, Bernett J, Chelliah D, Chen D, Chihara S, Cohen SH, Cunningham J, D'Arminio Monforte A, Ismail S, Kato H, Lapadula G, L'Her E, Maeno T, Majumder S, Massari M, Mora-Rillo M, Mutoh Y, Nguyen D, Verweij E, Zoufaly A, Osinusi AO, DeZure A, Zhao Y, Zhong L, Chokkalingam A, Elboudwarej E, Telep L, Timbs L, Henne I, Sellers S, Cao H, Tan SK, Winterbourne L, Desai P, Mera R, Gaggar A, Myers RP, Brainard DM, Childs R, Flanigan T. (2020) Compassionate Use of Remdesivir for

Patients with Severe Covid-19. *N Engl J Med.* 11;382(24):2327-2336. doi: 10.1056/NEJMoa2007016. Epub 2020 Apr 10. PMID: 32275812 Free PMC article.
Grants
Unrestricted Grant Gilead (PI of the randomized controlled trial "Swear") 2014 Gilead Fellowship Program 2015 ICAR – CROI Award for Young Italian HIV Investigator 2018
Role in the project

Role	*Total Effort (person/months)*
Researcher UNIMIB team	*2 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Tassistro	*Elena*	*University of Milano-Bicocca, School of Medicine and Surgery. Postdoctoral Researcher*	*15/10/1991*

Education and training
Degree in Statistica Matematica e trattamento Informatico dei Dati, 25 October 2003, University of Genoa. MSc in Biostatistics, 30 March 2016, University of Milano-Bicocca. PhD in Public Health at the School of Medicine and Surgery, thesis discussion in January/February 2022, University of Milano-Bicocca.
Professional experience
2013 Internship at the Italian Bone Marrow Donor Registry at Galliera Hospital, Genoa. 2016-2018 Research Fellowship at the School of Medicine and Surgery, University of Milano-Bicocca. 2021 Collaboration as Biostatistician at the School of Medicine and Surgery, University of Milano-Bicocca. 2021 Tutoring activity for the "Data Analysis" course of the master degree in Medical biotechnology, School of Medicine and Surgery, University of Milano-Bicocca. 2021- Research Grant at the School of Medicine and Surgery, University of Milano-Bicocca.
Scientific Publications and Congress or other Oral Communications
9 papers, H-index 4, 43 citations in 5 years Tassistro E, Bernasconi DP, Rebora P, Valsecchi MG, Antolini L. Modeling the hazard of transition into the absorbing state in the illness-death model. Biom J. 2020 May;62(3):836-851. doi: 10.1002/bimj.201800267. Epub 2019 Sep 12. PMID: 31515830. Antolini L, Tassistro E, Valsecchi MG, Bernasconi DP. Graphical representations and summary indicators to assess the performance of risk predictors. Biom J. 2019 Nov;61(6):1417-1429. doi: 10.1002/bimj.201700186. Epub 2018 Oct 5. PMID: 30290002. Russotto V, Myatra SN, Laffey JG, Tassistro E, Antolini L, Bauer P, Lascarrou JB, Szuldrzynski K, Camporota L, Pelosi P, Sorbello M, Higgs A, Greif R, Putensen C, Agvald-Öhman C, Chalkias A, Bokums K, Brewster D, Rossi E, Fumagalli R, Pesenti A, Foti G, Bellani G; INTUBE Study Investigators. Intubation Practices and Adverse Peri-intubation Events in Critically Ill Patients From 29 Countries. JAMA. 2021 Mar 23;325(12):1164-1172. doi: 10.1001/jama.2021.1727. Erratum in: JAMA. 2021 May 24;:null. PMID: 33755076; PMCID: PMC7988368. Ferrara MC, Andreano A, Tassistro E, Rapazzini P, Zurlo A, Volpato S, Mussi C, Corsi M, Lunardelli ML, Martini E, Castoldi G, De Filippi F, Pizzonia M, Monacelli F, Barone A, Pilotto A, March A, Ungar A, Capelli R, Galmarini V, Franzoni S, Terragnoli F, Bianchetti A, Cazzulani I, Gandossi C, Valsecchi MG, Bellelli G; GIOG study group. Three-year National report from the Gruppo Italiano di Ortogeriatria (GIOG) in the management of hip-fractured patients. Aging Clin Exp Res. 2020 Jul;32(7):1245-1253. doi: 10.1007/s40520-020-01488-1. Epub 2020 Feb 5. PMID: 32026420. Morandi A, Inzitari M, Udina C, Gual N, Mota M, Tassistro E, Andreano A, Cherubini A, Gentile S, Mossello E, Marengoni A, Olivé A, Riba F, Ruiz D, de Jaime E, Bellelli G; Italian Study Group of Delirium. Visual and Hearing Impairment Are Associated With Delirium in Hospitalized Patients: Results of a Multisite Prevalence Study. J Am

Med Dir Assoc. 2021 Jun;22(6):1162-1167.e3. doi: 10.1016/j.jamda.2020.09.032. Epub 2020 Nov 4. PMID: 33160873.

Maloberti A, Bossi I, Tassistro E, Rebora P, Racioppi A, Nava S, Soriano F, Piccaluga E, Piccalò G, Oreglia J, Vallerio P, Pirola R, De Chiara B, Oliva F, Moreo A, Valsecchi MG, Giannattasio C. Uric acid in chronic coronary syndromes: Relationship with coronary artery disease severity and left ventricular diastolic parameter. Nutr Metab Cardiovasc Dis. 2021 May 6;31(5):1501-1508. doi: 10.1016/j.numecd.2021.01.023. Epub 2021 Feb 6. PMID: 33810962.

Mazzola P, Tassistro E, Di Santo S, Rossi E, Andreano A, Valsecchi MG, Cherubini A, Marengoni A, Mossello E, Bo M, Inzitari M, Di Bari M, Udina C, Latronico N, Paolillo C, Morandi A, Bellelli G. The relationship between frailty and delirium: insights from the 2017 Delirium Day study. Age Ageing. 2021 Sep 11;50(5):1593-1599. doi: 10.1093/ageing/afab042. PMID: 33792656.

Genovesi S, Salvi P, Nava E, Tassistro E, Giussani M, Desimone I, Orlando A, Battaglino M, Lieti G, Montemerlo M, Antolini L, Parati G. Blood Pressure and Body Weight Have Different Effects on Pulse Wave Velocity and Cardiac Mass in Children. J Clin Med. 2020 Sep 12;9(9):2954. doi: 10.3390/jcm9092954. PMID: 32932663; PMCID: PMC7565974.

Grants
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Role in the project	
Role	*Total Effort (person/months)*
Researcher UNIMIB team	*2 months*

UNIPV

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Denicolai	*Stefano*	*University of Pavia - Department of Economics and Management Full Professor*	*24.2.1975*

Education and training
Ph.D. Management, University of Pavia Master in Organization and Information Technologies, University of Pavia Degree in Management, University of Pavia

Research and Professional experience
Full Professor of Innovation Management, University of Pavia Head of the Master Degree in International Business and Entrepreneurship, University of Pavia Vice-Director of the Executive Master for Healthcare manager, University of Pavia Vice-Director of the Executive MBA, University of Pavia Director of the Digita4good Lab, University of Pavia Responsible for Third Mission and relationship with companies for the Department of Economics and Management, University of Pavia Visiting professor / scholar: Harvard Business School, University of Sussex - SPRU, Université Jean Moulin Lyon 3. Member of the Data-Driven Covid19 Task Force, working with the Italian Ministry of Innovation.

Scientific Publications and Congresses or other Oral Communications
H-Index: 16 (scholar); 21 (scholar - i10-index); 12 (scopus) *Citations: 1796 (scholar), 772 (scopus)* **Pubblication related to Healthcare crisis and emergencies (selection):** Cobianchi, L., Dal Mas, F., Denicolai S. et al. (2021). Team dynamics in emergency surgery teams: results from a first international survey. World Journal of Emergency Surgery, 16(1), 1-13. Denicolai S., Previtali P. (2020), Precision Medicine: Implications for value chains and business models in life sciences, Technological Forecasting and Social Change, 151(1) Farronato C., Denicolai C. et al., How to Get People to Actually Use Contact-Tracing Apps, Harvard Business Review – online, July 15, 2020 Marcin Bartosiak, Stefano Denicolai, et al. (2022), Advanced Robotics as a Support in Healthcare Organizational Response. A COVID-19 Pandemic case, Healthcare Management Forum (in press)

Other Relevant Pubblications (selection):

Denicolai, S., Zucchella, A., & Magnani, G. (2021). Internationalization, digitalization, and sustainability: Are SMEs ready? A survey on synergies and substituting effects among growth paths. Technological Forecasting and Social Change, 166, 120650.

Zucchella hella A., Hagen B., Dudinskaya, E. (2019), When less family is more: Trademark acquisition, family ownership, and internationalization, International Business Review 28(2), pp. 238-251

Denicolai S., J. Tidd, M. Ramirez (2016), Overcoming the false dichotomy between internal R&D and external knowledge acquisition: Absorptive capacity dynamics over time, Technological Forecast & Social Change, 104. pp. 57-65.

Denicolai S., Tidd J., Ramirez M. (2014), Creating and Capturing Value from External Knowledge: The Moderating Role of Knowlegde-Intensity, R&D Management.

Denicolai S., Zucchella A., Strange R. (2014), 'Knowledge Assets and Firm International Performance', International Business Review, Volume 23, Issue 1, Pages 55–62.

Denicolai S., Cioccarelli G. Zucchella A. (2010) "Resource-based local development and networked core-competencies for tourism excellence", Tourism Management, n° 31/2, pp. 272-278.

Denicolai S., Zucchella A., Palamara G. "The drivers of the early internationalization of the firm." Journal of world business 42.3 (2007): 268-280.

Grants

FIRB – Futuro in Ricerca, progetto "Knowledge-oriented technologies for enterprise aggregation in Internet" (2006-2009)

FIRB, Project RISC - RBNE039XKA: "Research and entrepreneurship in the knowledge-based economy: the effects on the competitiveness of Italy in the European Union" (2007-2009)

International Recruitment Call 2010, Fondazione Cariplo - Progetto: "The internationalization of Italian firms: the role of intangibles, managerial resources, and corporate governance" (2012-2014)

PRIN, progetto "Scientific research and competitiveness. Variety of organizations, support systems and performance levels" (Grant No. 2010744K3S_007) (2013-2015)

HORIZON2020: "Developing Innovative Market Orientated Prediction Toolbox to Strengthen the Economic Sustainability and Competitiveness of European Seafood on Local and Global markets (PRIMEFISH)" - Call: H2020-BG-2014-2; Topic: BG-10-2014; Type of action: RIA; Proposal number: SEP-210177362; Grant agreement No: 635761

Role in the project

Role	*Total Effort (person/months)*
Principal Investigator UNIPV team; member of Scientific committee	*3 months*

ATS-MI

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Andreano	*Anita*	*Agency for Health protection of Milan, Epidemiologist, Coordinator of the Hospital Performance and Monitoring systems Section of the Epidemiology Unit*	*20/06/1980*

Education and training

2017 Post-graduate Specialty in Medical Statistics and Biometry, University of Milan
2011 Master degree in Medical Statistics and Biometry, University of Milan
2009 Post-graduate Specialty in Radiodiagnostics, University of Milan Bicocca
2005 Medical Degree (Laurea in Medicina e Chirurgia), University of Milan Bicocca

Research and Professional experience

2018-2021 Epidemiologist, Epidemiology Unit, ATS Milano, Italy
2018-2018 Contract researcher, Center of Biostatistics for Clinical Epidemiology University of Milan Bicocca, Monza, Italy
2010-2011 Radiologist, Gerardo Hospital, Department of Radiology, Monza, Italy
2010-2010 Contract researcher, Bioimaging center, University of Milan Bicocca, Monza, Italy

Awards and Honors

2015-2017 Honorary Research Associate – University College London (UCL), Division of Internal medicine and FARR Insitute, London, UK
Premio Ballardini at 39th Congress of Società Italiana di Statistica Medica ed Epidemiologia Clinica (SISMEC), Roma, 25-28 Settembre 2013

Scientific Publications and Congresses or other Oral Communications

64 indexed publications, Scopus H-Index: 17, ORCID: 0000-0002-9667-7010

Gervasi F, Andreano A, Russo AG. (2021) Metabolic syndrome and risk of COVID-19-related hospitalization: a large, population-based cohort study carried out during the first European outbreak of SARS-CoV-2 infection in the Metropolitan area of Milan (Lombardy Region, Northern Italy). *Epidemiol Prev*.45:In press. doi: 10.19191/EP21.6.115. PMID: 34791868.

Andreano A, Murtas R, Tunesi S, Gervasi F, Magnoni P, Russo AG. (2021) Development of a multivariable model predicting mortality risk from comorbidities in an Italian cohort of 18,286 confirmed COVID-19 cases aged 40 years or older. *Epidemiol Prev*. 45(1-2):100-109. doi: 10.19191/EP21.1-2.P100.044. PMID: 33884848.

Murtas R, Andreano A, Gervasi F et al. (2021) Association between autoimmune diseases and COVID-19 as assessed in both a test-negative case-control and population case-control design. *Auto Immun Highlights*. 11(1):15. doi: 10.1186/s13317-020-00141-1. PMID: 33023649

Sandrini M, Andreano A, Murtas R et al. (2020) Assessment of the Overall Mortality during the COVID-19 Outbreak in the Provinces of Milan and Lodi (Lombardy Region, Northern Italy). *Epidemiol Prev*. 44(5-6 Suppl 2):244-251. doi: 10.19191/EP20.5-6.S2.124. PMID: 33412816.

Tunesi S, Murtas R, Riussi A, Sandrini M, Andreano A et al. (2020) Describing the epidemic trends of COVID-19 in the area covered by Agency for Health Protection of the Metropolitan Area of Milan. *Epidemiol Prev*. 44(5-6 Suppl 2):95-103. doi: 10.19191/EP20.5-6.S2.107. PMID: 33412799 English.

Andreano A, Bergamaschi W, Russo AG. (2021) Immune checkpoint inhibitors at any treatment line in advanced NSCLC: Real-world overall survival in a large Italian cohort. *Lung Cancer*. 159:145-152. doi: 10.1016/j.lungcan.2021.06.019. Epub 2021 Jul 17. PMID: 34340111

Andreano A, Valsecchi MG, Russo AG, Siena S; Lombardy Lung Cancer Working Group (2021) Indicators of guideline-concordant care in lung cancer defined with a modified Delphi method and piloted in a cohort of over 5,800 cases. *Arch Public Health*. 79(1):12. doi: 10.1186/s13690-021-00528-0. PMID: 33494836.

Andreano A, Bosio M, Russo AG. (2020) Emergency attendance for acute hyper- and hypoglycaemia in the adult diabetic population of the metropolitan area of Milan: quantifying the phenomenon and studying its predictors. *BMC Endocr Disord*. 20(1):72. doi: 10.1186/s12902-020-0546-1. PMID: 32429960

Grants

Project team of the Ricerca Finalizzata Project founded from the Italian Ministry of Health "From the measure of guidelines adherence in oncology to the assessment of Health System Performance, RF 2011-02348959, CUP: E42114000120003 for a total amount of 178.189,16 euro **from 2013 to 2016**

Role in the project

Role	*Total Effort (person/months)*
Principal Investigator ATS-Milano; member of Scientific committee	*5 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Russo	*Antonio Giampiero*	*Agency for Health protection of Milan, Medical Statistician* *Director of Epidemiology Unit*	*03/07/1963*

Education and training

2004 Post-graduate Specialty in Medical Genetics, University of Milan
1992 Post-graduate Specialty in Medical Statistics, University of Milan
1988 Medical Degree (Medical Degree (Laurea in Medicina e Chirurgia)) University of Florence

Research and Professional experience

2016-2021 Director of Epidemiology Unit, ATS Milano
2010-2015 Director of Epidemiology Unit and Cancer Registry, Local Health Authority of Milan
2008-2018 Director of Epidemiology Unit, San Carlo Borromeo Hospital of Milan
2001-2008 Director of Cancer Registry Epidemiology, Unit Local Health Authority of Milan
1998-2001 Medical Epidemiologist at Department of Epidemiology, Cancer Center of Florence
1994-1998 Medical Epidemiologist at Cancer Epidemiology Unit, Cancer Center of Aviano
1992-1993 Associate Medical Researcher, National Cancer Institute of Milan
1991-1992 Associate Medical Researcher, Cancer Institute of Genoa

Awards and Honors

Member of Oncological Committee of Lombardy Region (2009-2016)
President of Ethical Committee of San Carlo Borromeo Hospital (2008-2013)
Member of Ethical Committee of San Gerardo Hospital (2013-2016)
Expert member of the National Committee PNE – Ministry of Health (2017-2020)

Scientific Publications and Congresses or other Oral Communications

216 indexed publications, Scopus H-Index: 56
https://www.scopus.com/authid/detail.uri?authorId=7402518728

Russo AG, Tunesi S, Consolazio D, Decarli A, Bergamaschi W. (2021) Evaluation of the anti-COVID-19 vaccination campaign in the Metropolitan Area of Milan (Lombardy Region, Northern Italy). *Epidemiol Prev*.:In press. doi: 10.19191/EP21.6.114. PMID: 34791867 English.

Murtas R, Morici N, Cogliati C, Puoti M, Omazzi B, Bergamaschi W, Voza A, Rovere Querini P, Stefanini G, Manfredi MG, Zocchi MT, Mangiagalli A, Brambilla CV, Bosio M, Corradin M, Cortellaro F, Trivelli M, Savonitto S, Russo AG. (2021) Algorithm for Individual Prediction of COVID-19-Related Hospitalization Based on Symptoms: Development and Implementation Study. *JMIR Public Health Surveill*. 7(11):e29504. doi: 10.2196/29504. PMID: 34543227

Magnoni P, Murtas R, Russo AG. (2021) Residential exposure to traffic-borne pollution as a risk factor for acute cardiocerebrovascular events: a population-based retrospective cohort study in a highly urbanized area. *Int J Epidemiol*. 50(4):1160-1171. doi: 10.1093/ije/dyab068. PMID: 34279611 Free PMC article.

Russo AG, Decarli A, Valsecchi MG. (2021) Strategy to identify priority groups for COVID-19 vaccination: A population based cohort study. *Vaccine* 39(18):2517-2525. doi: 10.1016/j.vaccine.2021.03.076. Epub 2021 Mar 26. PMID: 33824037 Free PMC article.

Russo AG, Faccini M, Bergamaschi W, Riussi A. (2021) Strategy to reduce adverse health outcomes in subjects highly vulnerable to COVID-19: results from a population-based study in Northern Italy. *BMJ Open*. 11(3):e046044. doi: 10.1136/bmjopen-2020-046044. PMID: 33692188 Free PMC article.

Murtas R, Decarli A, Russo AG (2021) Trend of pneumonia diagnosis in emergency departments as a COVID-19 surveillance system: a time series study. *BMJ Open*. 11(2):e044388. doi: 10.1136/bmjopen-2020-044388. PMID: 33558358 Free PMC article.

Crocetti E, Bergamaschi W, Russo AG (2021) Population-based incidence and prevalence of inflammatory bowel diseases in Milan (Northern Italy), and estimates for Italy. *Eur J Gastroenterol Hepatol*. doi: 10.1097/MEG.0000000000002107. Online ahead of print. PMID: 33784448

Crocetti E, Cattaneo S, Bergamaschi W, De Servi S, Russo AG. (2021) Effectiveness and Safety of Non-Vitamin K Oral Anticoagulants in Non-Valvular Atrial Fibrillation Patients: Results of A Real-World Study in a Metropolitan Area of Northern Italy. *J Clin Med*. 10(19):4536. doi: 10.3390/jcm10194536. PMID: 34640554 Free PMC article.

Grants

- Coordinator: BANDO CARIPLO: DATA SCIENCE FOR SCIENCE AND SOCIETY - 2020 - Enhancing healthcare and well-being through the potential of big data: an integration of survey, administrative, and open data to assess health risk in the City of Milan with data science. for a total amount of 125.000,00 euro
- Coordinator: Regione Lombardia - Direzione Generale Sanità - Innovative Project 2011 (field of innovative research): Integration of tumor registries with DIPO, ASL Milano1, Cremona and Monza Brianza for a total amount of 90.000,00 euro from 2011 to 2013
- Coordinator: Italian Ministry of Health "FROM THE MEASURE OF GUIDELINES ADHERENCE IN ONCOLOGY TO THE ASSESSMENT OF HEALTH SYSTEM PERFORMANCE, RF 2011-02348959, CUP: E42114000120003 for a total amount of 178.189,16 euro from 2013 to 2016

Role in the project	
Role	*Total Effort (person/months)*
Researcher ATS-Milano; *member of Scientific committee*	*3 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Salvatori	*Andrea*	*Agency for Health protection of Milan, Epidemiologist*	*31/10/1984*

Education and training

2021 Post-graduate Specialty in Medical Statistics and Biometry, University of Milan
2017 Medical Degree (Medical Degree (Laurea in Medicina e Chirurgia)), University of Perugia
2011 Master Degree in Diplomatic Studies, SIOI Rome
2009 Master Degree in International Relations, University of Bologna
2006 Bachelor Degree in International Relations, University of Bologna

Research and Professional experience

Professional experience

2021- Epidemiologist at Epidemiology Unit, Agency for Health Protection of Milan
2020-2021 Epidemiologist at Hospital Health Direction, San Gerardo Hospital of Monza
2018-2021 Primary Care Physician at Agency for Health Protection of Brianza
2018-2018 Primary Care Physician at Local Health Authority of South-East Tuscany

Scientific Publications and Congresses or other Oral Communications

Salvatori A, Andreano A, Decarli A, Russo AG. (2021) Age-period-cohort effects in utilization of diagnostic procedures leading to incidental colorectal cancer detection. *Eur J Cancer Prev*. doi: 10.1097/CEJ.0000000000000662. Epub ahead of print. PMID: 33443960.

Edefonti V, De Vito R, Salvatori A, Bravi F, Patel L, Dalmartello M, Ferraroni M. (2020) Reproducibility of A Posteriori Dietary Patterns across Time and Studies: A Scoping Review. *Advances in Nutrition*, 11(5), 1255–1281. doi: 10.1093/advances/nmaa032

Edefonti V, De Vito R, Bravi F, Dalmartello M, Salvatori A, Ferraroni M. (2020) Reproducibility and Validity of a Posteriori Dietary Patterns: A Systematic Review. *Advances in Nutrition*, 11(2), 293–326. doi: 10.1093/advances/nmz097. PMID: 31578550; PMCID: PMC7442345. PMID: 32298420; PMCID: PMC7490165.

Grants

Role in the project	
Role	*Total Effort (person/months)*
Researcher Partner ATS-Milano	*3 months*

ATS-PV

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Perotti	*Pietro Giovanni*	*Agency for health protection Pavia (since 1991)* *Medical Director of Epidemiological Unit (since 2018) /Epidemiological Observatory – Agency for health protection Pavia*	*07.08.1961*

Education and training

Medical Degree (Laurea in Medicina e Chirurgia) (1988) University of Pavia (Italy)
Post-graduate Specialty in Internal Medicine (1996) University of Pavia (Italy)
Health Statistics Specialist (2000) University of Pavia (Italy)

Research and Professional experience

Professional experience
Medical Statistician Director at ATS Pavia (since 1991), with experience in data management, data analysis, statistical and epidemiological methodology. In particular, the statistical activity has been focused on the assessment of the health needs of the population in order to optimize the supply of health services, by analysing data of the health structures of the territory.
Use of electronic health archives for health planning and public health studies.
Use of adequate statistical software (STATA, SAS) and development of opportune statistical and epidemiological methodologies.

Scientific Publications and Congresses or other Oral Communications

***Total number of publications and Congresses Communications**: 54 publications including scientific articles, Congresses Communications and book chapters.*

Bergamaschi, R., Agnello, M., Colombo, E., Della Giovanna, M., Montomoli, C., Perotti, P., ... & Zaffaroni, M. (2014). Detection of clinical relapses in multiple sclerosis cohorts: construction and validation of a model based on administrative data. *Neurological Sciences*, *35*(2), 265-269.

Ponzio, M., Perotti, P. G., Monti, M. C., Montomoli, C., Bartolomeo, P. S., Iannello, G., & Mariani, S. (2010). Prevalence estimates of alcohol related problems in an area of northern Italy using the capture–recapture method. *European journal of public health*, *20*(5), 576-581.

Grants

2000-2003 – Coordinator of the triennial program of Lombardy region with impact on the whole province territory " "IL PERCORSO DI VALUTAZIONE DEI TRATTAMENTI PER LA TOSSICODIPENDENZA – EVALUATION PATHWAY OF DRUG DEPENDENCE TREATMENTS", (National law n.45/99, provisions for the National Drug Intervention Fund) - € 76.689,26

2008-2010 – Scientific coordinator and supervisor for the monitoring and the assessment of the results of the program entitled "Attività dei servizi ad elevata integrazione per il trattamento dei cocainomani - Activities of the high integration services for the cokeheads treatment" (ordinance n. 6116/2007) in the context of the National Cocaine Program financed by the General Direction for Families and Social Solidarity of Lombardy Region as per the decree law n.3767 of 16th April 2008 - € 45.000

2008-2011 – Contact person for ASL (Local Health Agency) of Pavia and member of the Scientific and Technical Committee for the multi-center National program "Qualità di vita e ICF in pazienti oncologici – Quality of life and ICF (International Classification of Functioning Disability and Health) for oncological patients" (Alliance against cancer – National Institute of Health), leaded by IRCCS [Scientific Research and Treatment Institute] Maugeri Foundation - Scientific Institute of Montescano (Pavia, Italy).
Aim of the program was to check the applicability of the ICF model (International Classification of Functioning Disability and Health – World Health Organization – 2001) € 48.000

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Pavia; member of Scientific Committee	*3 months*

ATS-VP

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Villa	*Marco*	*Agency for Health protection Val Padana, Director of Epidemiology* *Chief Information Officer*	*09.01.1964*

Education and training

M.Sc. Medical Statistics (2003) University of Milan

Master Degree Matemathics (1993) University of Milan

Research and Professional experience

Jan 2021 to present	Head of Unit of Epidemiology, Local Health Agency of Val Padana (ATS della Val Padana)
Jul 2017 to present	Head of IT and Management Systems, Local Health Agency of Val Padana (ATS della Val Padana)
Sep 2016 to Jun 2017	Data analysis and IT manager, Health System Monitoring Agency (ACSS), Lombardia region
Jan 2015 to Sep 2016	Head of IT Unit, Local Health Authority of Monza e Brianza (ASL di Monza)
Jun 2013 to Jan 2015	Unit of Statistical Analysis and Research Projects, Local Health Authority of Cremona (ASL di Cremona)
Apr 2004 to May 2013	Unit of Epidemiology, Local Health Authority of Cremona (ASL di Cremona)
Sep 1999 to Apr 2004	Department of Epidemiology and Medical Informatics, Institute of Biomedical Technologies, National Research Institute (Consiglio Nazionale delle Ricerche)

Scientific Publications and Congresses or other Oral Communications

H-index: 22 (google scholar); i10-index: 28 (google scholar)

Willame C, Dodd C, van der Aa L, Picelli G, Emborg HD, Kahlert J, Gini R, Huerta C, Martín-Merino E, McGee C, de Lusignan S, Roberto G, Villa M, Weibel D, Titievsky L, Sturkenboom MCJM. Incidence Rates of Autoimmune Diseases in European Healthcare Databases: A Contribution of the ADVANCE Project. Drug Saf. 2021 Jan 19. Online ahead of print.

Braeye T, Emborg HD, Llorente-García A, Huerta C, Martín-Merino E, Duarte-Salles T, Danieli G, Tramontan L, Weibel D, McGee C, Villa M, Gini R, Lehtinen M, Titievsky L, Sturkenboom M. Age-specific vaccination coverage estimates for influenza, human papillomavirus and measles containing vaccines from seven population-based healthcare databases from four EU countries - The ADVANCE project. Vaccine. 2020 Apr 3;38(16):3243-3254.

Masclee GMC, Straatman H, Arfè A, Castellsague J, Garbe E, Herings R, Kollhorst B, Lucchi S, Perez-Gutthann S, Romio S, Schade R, Schink T, Schuemie MJ, Scotti L, Varas-Lorenzo C, Valkhoff VE, Villa M, Sturkenboom MCJM. Risk of acute myocardial infarction during use of individual NSAIDs: A nested case-control study from the SOS project. PLoS One. 2018 Nov 1;13(11):e0204746.

Schink T, Kollhorst B, Varas Lorenzo C, Arfè A, Herings R, Lucchi S, Romio S, Schade R, Schuemie MJ, Straatman H, Valkhoff V, Villa M, Sturkenboom M, Garbe E. Risk of ischemic stroke and the use of individual non-steroidal anti-inflammatory drugs: A multi-country European database study within the SOS Project. PLoS One. 2018 Sep 19;13(9):e0203362.

Giaquinto C, Gabutti G, Baldo V, Villa M, Tramontan L, Raccanello N, Russo F, Poma C, Scamarcia A, Cantarutti L, Lundin R, Perinetti E, Cornen X, Thomas S, Ballandras C, Souverain A, Hartwig S. Impact of a vaccination programme in children vaccinated with ProQuad, and ProQuad-specific effectiveness against varicella in the Veneto region of Italy. BMC Infect Dis. 2018 Mar 5;18(1):103.

Arfè A, Scotti L, Varas-Lorenzo C, Nicotra F, Zambon A, Kollhorst B, Schink T, Garbe E, Herings R, Straatman H, Schade R, Villa M, Lucchi S, Valkhoff V, Romio S, Thiessard F, Schuemie M, Pariente A, Sturkenboom M, Corrao G; Safety of Non-steroidal Anti-inflammatory Drugs (SOS) Project Consortium.. Non-steroidal anti-inflammatory drugs and risk of heart failure in four European countries: nested case-control study. BMJ 2016; 354:i4857.

Centenari C, Donà D, Fillol F, Picelli G, Mozzo E, Villa M, Cantarutti L, Giaquinto C. Retrospective Evaluation of the Incidence of Acute Gastroenteritis and Rotavirus Gastroenteritis in Italy. J Pediatr Infect Dis 2015; 10:47–52.

Villa M. Budget Impact – Linee Guida BPCO: proposta per coniugare appropriatezza ed efficienza economica. Economia & Politica del Farmaco. Settembre 2015.

Valkhoff VE, Schade R, 't Jong GW, Romio S, Schuemie MJ, Arfe A, Garbe E, Herings R, Lucchi S, Picelli G, Schink T, Straatman H, Villa M, Kuipers EJ, Sturkenboom MC; Safety of Non-steroidal Anti-inflammatory Drugs (SOS) project. Population-based analysis of non-steroidal anti-inflammatory drug use among children in four European countries in the SOS project: what size of data platforms and which study designs do we need to assess safety issues? BMC Pediatr. 2013 Nov 19;13:192.

Villa M, Black S, Groth N, Rothman KJ, Apolone G, Weiss NS, Aquino I, Boldori L, Caramaschi F, Gattinoni A, Malchiodi G, Crucitti A, Della Cioppa G, Scarpini E, Mavilio D, Mannino S. Safety of MF59-Adjuvanted Influenza Vaccination in the Elderly: Results of a Comparative Study of MF59-Adjuvanted Vaccine Versus Non-Adjuvanted Influenza Vaccine in Northern Italy. Am. J. Epidemiol. 2013; 178(7): 1139-1145

Mannino S, Villa M, Apolone G, Weiss NS, Groth N, Aquino I, Boldori L, Caramaschi F, Gattinoni A, Malchiodi G, Rothman KJ. Effectiveness of Adjuvanted Influenza Vaccination in Elderly Subjects in Northern Italy. Am J Epidemiol. 2012 Sep 15;176(6):527-33.

Mannino S, Villa M, Lucchi S, Brunelli G, Locatelli GW, Zenoni S, Longo F. Variazioni delle performance dei MMG in relazione dalle forme associative. Mecosan 2009; 70: 75-97.

Bogani P, Galli C, Villa M, Visioli F. Postprandial anti-inflammatory and antioxidant effects of extra virgin olive oil. Atherosclerosis. 2007 Jan;190(1):181-6.

Apolone G, Mangano S, Compagnoni A, Negri E, Mosconi P, Mannino S, Villa M, Zuccaro P; Cancer Pain Outcome Research Study Group (CPOR SG). A multidisciplinary project to improve the quality of cancer pain management in Italy: background, methods, and preliminary results. J Ambul Care Manage. 2006 Oct-Dec; 29(4):332-41.

Mantovani LG, Monzini MS, Mannucci PM, Scalone L, Villa M and Gringeri A for The Conan Study Group. Differences between patients', physicians' and pharmacists' preferences for treatment products in haemophilia: a discrete choice experiment. Haemophilia 2005; 11:589-597.

Visioli F, Caruso D, Grande S, Bosisio R, Villa M, Galli G, Sirtori C, Galli C. Virgin Olive Oil Study (VOLOS): vasoprotective potential of extra virgin olive oil in mildly dyslipidemic patients. Eur J Nutr. 2005 Mar;44(2):121-7.

Romano F, Recchia G, Staniscia T, Bonitatibus A, Villa M, Nicolosi A, De Carli G, Mannino S. Rise and fall of asthma-related mortality in Italy and sales of b2-agonists, 1980–1994. European Journal of Epidemiology 16(9): 783-787, 2000.

Nicolosi A, Villa M, Correa Leite ML. The dynamics of human immunodeficiency virus type 1 transmission among injecting drug users. Journal of Biological Regulators and Homeostatic Agents, Vol. 11, No. 1/2 (1997): 20-26.

Grants

- 2013-2019 - Innovative Medicines Initiative (IMI), ADVANCE (Accelerated development of vaccine benefit-risk collaboration in Europe), Total grant: 212.006 €

- 2008-2012 - European Commission, FP7-HEALTH-2007-B, SOS (Safety Of non-Steroidal anti-inflammatory drugs), Total grant: 212.940 €

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Valpadana; Leader of setup of the information system and its management; member of Scientific Committee	*3 months*

ATS-BG

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Zucchi	*Alberto*	*Agency for Health Protection Bergamo* *Full Commitment Director of Epidemiology Unit*	*12/10/1960*

Education and training

2018 Extension - Managerial Master (Direzione di struttura complessa), Eupolis- Scuola Superiore di Sanità
2011 Extension - Managerial Master (Direzione di struttura complessa), Eupolis- Scuola Superiore di Sanità
2005 Managerial Master (Direzione di struttura complessa), IREF-Scuola Superiore di Sanità
1996 Master in Health Economics, IREF-Scuola Superiore di Sanità
1993 Post-graduate specialty in Medical Statistics, University of Milan
1988 Medical Degree (Laurea in Medicina e Chirurgia) University of Milan

Research and Professional experience

Professional experience
Since 1991 he has worked in Publich Health Epidemiology for various Agencies

Other professional activities
• Member of AIE (Associazione Italiana Epidemiologia), Associaciòn Epidemiologia Sociocultural Latino Americana, EUPHA (European Public Health Association);
• Member of Scientific Committee for the impact evaluation of "Caravaggio-Orio al Serio" airport activities on health;
• Member of Province Technical Committees: "PDTA Malattia di Parkinson", "PDTA Diabete", "PDTA Epatopatie", "PDTA Asma";
• Member of Technical-Scientific Committee "Comitato Provinciale per lo studio e la Cura delle Demenze";
• Tutor, Specialty in Hygene and Preventive Medicine, Università Vita-Salute San Raffaele (MI)

Awards and Honors
2010 - 2° prize at "Meridian Awards Competition", competition for advanced and innovative methodology and application in Geographical Information Systems

2000 - winner of prize "Premio Rosa Camuna – Medico d'Eccellenza anno 2000" for excellence in Medical Professions, for the publication of "La mortalità oncologica in provincia di Bergamo- Atlante di epidemiologia geografica"-"Neoplasic Mortality in Bergamo Province-A Geographical Epidemiologic Atlas".

Teaching Experience

Since 1993 he has taught:

- 14 academic courses (master level) at University of Bergamo, University of Milan, University of Milan -Bicocca, Catholic University of Rome, University of Parma and University of Pavia
- 18 non-academic courses at Local Health Authority Bergamo, Local Health Authority Milano 1, Habilita Zingonia, GISED (Gruppo Italiani Studi Epidemiologici in Dermatologia) Firenze, RSA Anni Azzurri Bergamo and POLIS Lombardia.

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 89; Citations (tot. #1.096); Oral communications (Congresses or Other): 135
H-index: 12 (google scholar); i10-index: 15 (google scholar).

Generali, E., De Santis, M., Isailovic, N., Palermo, B., Guidelli, G. M., Ceribelli, A., & Selmi, C. (2020). Rheumatoid factor and anti-citrullinated peptide antibodies in the general population: hepatitis B and C virus association and 15-year-risk of rheumatoid arthritis. *Clinical and Experimental Rheumatology* 39(1):38-43.

Pezzolo, E., Ciampichini, R., Cazzaniga, S., Sampietro, G., Zucchi, A., & Naldi, L. (2021). Psoriasis severity matters when dealing with all-cause mortality in psoriasis patients: a record linkage analysis in Northern Italy. *Archives of dermatological research*, 313(4), 255-261.

Signorelli, C., Zucchi, A., Tersalvi, C. A., Ciampichini, R., Beato, E., Balzarini, F., & Middleton, J. (2020). High seroprevalence of SARS_COV-2 in Bergamo: evidence for herd immunity or reason to be cautious?. International Journal of Public Health, 65(9), 1815-1817.

Conti, S., Ferrara, P., Mazzaglia, G., D'Orso, M. I., Ciampichini, R., Zucchi, A., & Mantovani, L. G. (2020). Magnitude and time-course of excess mortality during COVID-19 outbreak: population-based empirical evidence from highly impacted provinces in northern Italy. ERJ open research, 6(3).

Carugno, M., Imbrogno, P., Zucchi, A., Ciampichini, R., Tereanu, C., Sampietro, G., & Consonni, D. (2018). Effects of aircraft noise on annoyance, sleep disorders, and blood pressure among adult residents near the Orio al Serio International Airport (BGY), Italy. La Medicina del lavoro, 109(4), 253.

Generali, E., Isailovic, N., De Santis, M., Ceribelli, A., Alborghetti, F., Colloredo, G., & Selmi, C. (2017, October). Prevalence and Predictive Value over 16 Years of Serum Rheumatoid Factor and Anti-Cyclic Citrullinated Peptide Antibodies in the General Population. In Arthritis & Rheumatology (Vol. 69).

Cavallone, M., Magno, F., & Zucchi, A. (2017). Improving service quality in healthcare organisations through geomarketing statistical tools. The TQM Journal, 29(5), 690-704.

Tiraboschi, M., Ghidoni, S., Zucchi, A., Carobbio, A., Ghirardi, A., Casati, M., & Brucato, A. (2017) I determinanti della mortalità a breve termine dei pazienti non oncologici ricoverati in medicina interna: un'esperienza sul campo. Italian Journal of Medicine 5(5), 40-48.

Cazzaniga, S., Castelli, E., Di Landro, A., Zucchi, A., & Naldi, L. (2016). Development of a teledermatology system for the melanoma diagnosis. The pilot experience of the project Clicca il neo. Recenti progressi in medicina, 107(8), 440-443.

Ceresoli, M., Zucchi, A., Allievi, N., Harbi, A., Pisano, M., Montori, G., & Coccolini, F. (2016). Acute appendicitis: Epidemiology, treatment and outcomes-analysis of 16544 consecutive cases. World journal of gastrointestinal surgery, 8(10), 693.

Selmi, C., Ceribelli, A., Generali, E., Scirè, C. A., Alborghetti, F., Zucchi, A., & Meroni, P. L. (2016). Serum antinuclear and extractable nuclear antigen antibody prevalence and associated morbidity and mortality in the general population over 15 years. Autoimmunity reviews, 15(2), 162-166.

Ceresoli, M., Zucchi, A., Pisano, M., Allegri, A., Bertoli, P., Coccolini, F., & Falcone, F. (2015). Epidemiology of Acute Cholecystitis and its treatment in Bergamo District-Northern Italy. Minerva Chir, 71(2),106-113.

Muscio, C., Tiraboschi, P., Chitò, E., Nicoli, P., Sala, M., Greco, A., & Defanti, C. A. (2015). Efficacy of an Italian psychosocial intervention for caregivers of alzheimer's patients. In 12th International Conference on Alzheimer's and Parkinson's Diseases and Related Neurological Disorders-AD/PD 2015 (Vol. 15, No. Suppl. 1, pp. 1056-1056). Karger.

Andreano, A., Anghinoni, E., Autelitano, M., Bellini, A., Bersani, M., Zucchi, A., & OSSERVA Working Group (2016). Indicators based on registers and administrative data for breast cancer: routine evaluation of oncologic care pathway can be implemented. Journal of evaluation in clinical practice, 22(1), 62-70.

Pisano, M., Ceresoli, M., Campanati, L., Coccolini, F., Falcone, C., Capponi, M. G., & Zucchi, A. (2014). Should We must push for primary surgery attempt in case of acute cholecystitis? A retrospective analysis and a proposal of an evidence based clinical pathway. Emergency Med, 4(201), 2.

Russo, A., Andreano, A., Anghinoni, E., Autelitano, M., Bellini, A., Bersani, M., & Zucchi, A. (2014). Indicatori per il monitoraggio dei percorsi diagnostico-terapeutici del tumore della mammella. Epidemiol Prev, 38(1), 16-28.

AIRTUM Working Group. (2014). I tumori in Italia-Rapporto 2014. Prevalenza e guarigione da tumore in Italia. Epidemiol Prev, 6.

Grants	
Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Bergamo; member of Scientific Committee	*3 months*

ATS-BR

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Cavalieri d'Oro	*Luca*	*Agency for Health protection Brianza Director of Epidemiology Unit - Director of Cancer Registry of Brianza*	*June 29, 1963*

Education and training

M.A. Epidemiology (2003) University of Torino
Post-graduate Specialty in Hygiene and Preventive Medicine (1996) University of Pavia
Post-graduate Specialty in Pharmacological Research Specialist (1993) Istituto di Ricerche Farmacologiche "Mario Negri" Milan
Medical Degree (Laurea in Medicina e Chirurgia) (1990) Università degli Studi di Milano

Research and Professional experience

Professional experience

Researcher ISS Analytic Epidemiology Unit at Istituto di Ricerche Farmacologiche "Mario Negri" (1989-1993)

1st level Medical Director (Hygene, Epidemiology and Public Helath) ASL Provincia di Lodi – Servizio di Igiene Pubblica (1993-1998)

Medical Director of Unit of Health Evaluation and Control – Nuclei Operativi di Controllo ASL Città di Milano – Direzione Generale – Servizio di Epidemiologia -. 1998 - 2004

Director of Epidemiology Unit and Head of Cancer Registry, ASL Monza e Brianza/ASL della Provincia di Milano 3 / ASL Provincia di Monza e Brianza / ATS della Brianza (since 2005)

Scientific Publications and Congresses or other Oral Communications *(selection)*

Total number of publications: 70 (45 English, 25 Italian); Citations (google scholar) (tot. #3,502; since 2016 #2,422); H-index: 14 (google scholar); i10-index: 15 (google scholar);

Trama A, Tittarelli A, Barigelletti G, Botta L, Gatta G, Tagliabue G, Contiero P, Guzzinati S, Andreano A, Manneschi G, Falcini F, Castaing M, Filiberti RA, Gasparotti C, Cirilli C, Mazzucco W, Mangone L, Iacovacci S, Vitale MF, Stracci F, Piffer S, Tumino R, Carone S, Sampietro G, Melcarne A, Ballotari P, Boschetti L, Pisani S, Cavalieri D'Oro L, Cuccaro F, D'Argenzio A, D'Orsi G, Fanetti AC, Ardizzone A, Candela G, Savoia F, Pascucci C, Castelli M, Storchi C, Bernasconi A Excess risk of subsequent malignant neoplasms in adolescent and young adult cancer survivors: Results from the first Italian population-based cohort. Cancer ,2021 Sep;(): Publisher ISSN: 0008-543X, ESSN: 1097-0142 PubMedid: 34582036

Polo Friz H, Orenti A, Brambilla M, Caleffi A, Pezzetti V, Cavalieri d'Oro L, Giannattasio C, Vighi G, Cimminiello C, Boracchi P. Short and long-term mortality in elderly patients with suspected not confirmed pulmonary embolism. Eur J Intern Med. 2020 Mar;73:36-42. doi: 10.1016/j.ejim.2019.10.024.

Perego S, Zambon A, Nistri S, Bruni A, Motta S, Cavalieri D'Oro L, Rossi E, Annoni G, Bellelli G. Prevalence, clinical correlates, and burden of undiagnosed aortic stenosis in older patients: a prospective study in a non-cardiologic acute hospital ward. Aging Clin Exp Res. 2020 Aug;32(8):1533-1540. doi: 10.1007/s40520-020-01471-w. Epub 2020 Jan 22. PMID: 31970672

Polo Friz H, Orenti A, Gelfi E, Motto E, Primitz L, Cavalieri d'Oro L, Giannattasio C, Vighi G, Cimminiello C, Boracchi P. Predictors of medium- and long-term mortality in elderly patients with acute pulmonary embolism. Heliyon. 2020 Sep 14;6(9):e04857. doi: 10.1016/j.heliyon.2020.e04857. eCollection 2020 Sep. PMID: 32984589

Odone A, Lugo A, Amerio A, Borroni E, Bosetti C, Carreras G, Cavalieri d'Oro L, Colombo P, Fanucchi T, Ghislandi S, Gorini G, Iacoviello L, Pacifici R, Santucci C, Serafini G, Signorelli C, Stival C, Stuckler D, Tersalvi CA, Gallus S. COVID-19 lockdown impact on lifestyle habits of Italian adults.
Acta Biomed. 2020 Jul 20;91(9-S):87-89. doi: 10.23750/abm.v91i9-S.10122. PMID: 32701921

DiFrancesco JC, Pina A, Giussani G, Cortesi L, Bianchi E, Cavalieri d'Oro L, Amodio E, Nobili A, Tremolizzo L, Isella V, Appollonio I, Ferrarese C, Beghi E.
Generation and validation of algorithms to identify subjects with dementia using administrative data. Neurol Sci. 2019 Oct;40(10):2155-2161. doi: 10.1007/s10072-019-03968-3. Epub 2019 Jun 12. PMID: 31190251

Bellelli G, Carnevali L, Corsi M, Morandi A, Zambon A, Mazzola P, Galeazzi M, Bonfanti A, Massariello F, Szabo H, Oliveri G, Haas J, d'Oro LC, Annoni G. The impact of psychomotor subtypes and duration of delirium on 6-month mortality in hip-fractured elderly patients. International journal of geriatric psychiatry, 2018 May

Amodio E, d'Oro LC, Chiarazzo E, Picco C, Migliori M, Trezzi I, Lopez S, Rinaldi O, Giupponi M. Emergency department performances during overcrowding: the experience of the health protection agency of Brianza. AIMS public health ,2018 ;5(3):217-224 ISSN: 2327-8994, ESSN: 2327-8994 PubMedid: 30280113

Pesatori A.C., Consonni D., Cacace R., Sindaco R., Cavalieri D'Oro L., Rognoni M. Bertazzi P.A. Cohort study of the population exposed to dioxin after the Seveso, Italy accident: Cancer incidence results, 1977-2012 - Conference of the International Society for Environmental Epidemiology (ISEE). Roma, 1-4 settembre 2016

Consonni D., Pesatori AC., Cavalieri D'Oro L., Rognoni M., Bertazzi P.A. Cohort study of the population exposed to dioxin after the Seveso, Italy accident: Mortality results, 1976-2013 - Conference of the International Society for Environmental Epidemiology (ISEE). Roma, 1-4 settembre 2016

Cavalieri d'Oro L., Rognoni M., Consonni D., Pesatori A.C., Bertazzi P.A. Prevalence of Diabetes Mellitus in the Seveso (Lombardy) Cohort: Diabetes results, 2006-2014 - Conference of the International Society for Environmental Epidemiology (ISEE). Roma, 1-4 settembre 2016

Andreano A., Anghinoni E., Autelitano M., Bellini A., Bersani M., Bizzoco S., Cavalieri D'Oro L., Decarli A., Lucchi S., Mannino S., Panciroli E., Rebora P., Rognoni M., Sampietro G., Villa M., Zocchetti C., Zucchi A., Valsecchi M.G. and Giampiero Russo A.G.Indicators based on registers and administrative data for breast cancer: routine evaluation of oncologic care pathway can be implemented. Journal of Evaluation in Clinical Practice 2016;. 22, Issue 1 : pp. 62–70.

Russo A, Andreano A, Anghinoni E, Autelitano M, Bellini A, Bersani M, Bizzoco S et al. E gruppo OSSERVA. Analisi dei percorsi diagnostico terapeutici in oncologia: i tumori della mammella. Epidemiol Prev 2014; 38 (1), allegato.

Cavalieri D'Oro L, Rognoni M, Consonni D, Bertazzi PA, Pesatori AC. Prevalence of diabetes mellitus in the Seveso cohort 30 years after the accident– EUROEPI2010 XXXIV Convegno annuale dell'Associazione Italiana di Epidemiologia. Firenze, 6-9 Novembre 2010

Cavalieri d'Oro L, Rognoni M, Marchiol L, Repossi M, Merlo E, Di Maggio A. Preliminary evaluation of cancer mortality for people who live in municipalities close to an incineration plant using data from the registry of causes of death – EUROEPI2010 XXXIV Convegno annuale dell'Associazione Italiana di Epidemiologia. Firenze, 6-9 Novembre 2010

D Consonni, AC Pesatori, C Zocchetti, R Sindaco, L Cavalieri d'Oro, M Rubagotti, PA Bertazzi
Mortality in a Population Exposed to Dioxin after the Seveso, Italy, Accident in 1976: 25 Years of Follow-Up
American Journal of Epidemiology 2008;167:847-858.

The European Mode of Delivery Collaboration (Protocol Committee: Parazzini F, Bortolus R, Cavalieri d'Oro L, et al.).
Elective cesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission: a randomised clinical trial.
Lancet 1999;353:1035-9.

Cavalieri d'Oro L, Merlo E, Ariano E, et al. A toxinogenic Vibrio cholerae outbreak in Lombardy, Italy. Emerging Infectious Diseases 1999;5:300-301.

Liver cirrhosis and the risk of primary liver cancer. La Vecchia C; Negri E; Cavalieri d'Oro L; Franceschi S. Eur J Cancer Prev 1998;7:315-20.

Parazzini F, Cavalieri d'Oro L, Naldi L, et al. Number of sexual partners, condom use and risk of Human Immunodeficiency Virus infection.
Int J Epidemiol 1995;24:1197-1203

Cavalieri d'Oro L, Parazzini F, Naldi L, La Vecchia C. Barrier metrhods of contraception, spermicides, and sexually transmitted diseases: a review.
Genitourin Med 1994:70:410-7.

Naldi L, Zucchi A, Brevi A, Cavalieri d'Oro L, Cainelli T. Corticosteroids and post-herpetic neuralgia. Lancet 1990;336:947.

Grants	
Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Brianza; member of Scientific Committee	*3 months*

ATS-BS

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Maifredi	*Giovanni*	*Agency for Health protection Brescia* *Medical Director Epidemiology Unit (Dirigente Medico UO Epidemiologia) – since 2019*	*17/09/1980*

Education and training

Post-graduate specialty in Hygene and Preventive Medicine (2011) University of Brescia
Medical Degree (Medical Degree (Laurea in Medicina e Chirurgia)) (2006) University of Brescia

Research and Professional experience

Medical Director Epidemiology Unit (Dirigente Medico UO Epidemiologia) – since 2019
Medical Director at Distretto Sociosanitario e Dipartimento Cure Primarie ASL/ATS Brescia (2012-2019)
Lecturer, Bachelor degree in Infermieristica e Assistenza sanitaria, University of Brescia - since 2018
Secretary of Scientific Association APRIRE – Assistenza Primaria In Rete – Salute a Km 0 - since 2016

Scientific Publications and Congresses or other Oral Communications

Book chapters

I livelli essenziali di assistenza (LEA) in "Interventi assistiti con gli animali. Manuale per operatori". Scarcella C., Vitali. R., Brescianini F. 2019. Maggioli Editore

Scientific papers

Maifredi G, Donato F, Magoni M, Orizio G, Gelatti U, Maiolino P, Zani C, Vassallo F, Scarcella C. Polychlorinated biphenyls and non-Hodgkin's lymphoma: a case-control study in Northern Italy. Environ Res. 2011;111:254-9

Maifredi G, Orizio G, Bressanelli M, Domenighini S, Gasparotti C, Perini E, Caimi L, Schulz PJ, Gelatti U. Italian hospitals on the web: a cross-sectional analysis of official websites. BMC Med Inform Decis Mak. 2010;10:17.

Crea N, Pata G, Della Casa D, Minelli L, Maifredi G, Di Betta E, Mittempergher F. Improvement of metabolic syndrome following intragastric balloon: 1 year follow-up analysis. Obes Surg. 2009;19:1084-8

Chimini C, Brignoli B, Donato F, Maifredi G, Poli A, Proto C. Indagine SICOA-SIMG su "conoscenze e comportamento dei MMG e dei cardiologi in relazione alla sindrome metabolica". Cardiology Science. VOL 7 MARZO-APRILE 2009

Casasco M, Biffi A, Campagna S, Gheza A, Maifredi G, Bianchi G. The usefulness of a basal electrocardiogram in the certification of good health for non-competitive sporting physical activity. Med. dello Sport 2008;61:45-55.

Comunicazioni orali, poster

Rossi A., Di Napoli A, G. Maifredi et al. Monitoraggio dell'epidemia da SARS-CoV-2 nella popolazione straniera in Italia: risultati preliminari di un progetto interregionale. Atti XLV Convegno dell'Associazione Italiana di Epidemiologia

M Magoni, G. Maifredi, AC Fanetti, D. Cereda, O. Leoni. Incidenza e letalità da COVID-19 in Regione Lombardia: confronto tra italiani e stranieri nella prima fase dell'epidemia. XLIV Convegno dell'Associazione Italiana di Epidemiologia. 2-6 Novembre 2020.

C. Scarcella, G. Maifredi.Primary Health Care e protagonismo degli assistiti. 51° Congresso Nazionale Società Nazionale di Igiene (SItI). Riva del Garda, 17-20 ottobre 2018

Scarcella C, Vassallo F, Speziani F, Carasi S, Maifredi G. Un nuovo strumento informatizzato di comunicazione interna. XII Conferenza Nazionale di Sanità Pubblica. Roma 12-15 Ottobre 2011

Franchino G, Pennacchietti L, Maifredi G, et al. (Consulta degli specializzandi SItI). Studio sulle conoscenze e analisi dei bisogni formativi in materia di Medical Management dei medici in formazione specialistica in Igiene e Medicina Preventiva. XII Conferenza Nazionale di Sanità Pubblica. Roma 12-15 Ottobre 2011

Carasi S, Maifredi G . Epidemiologia locale della intossicazione acuta da CO nella provincia bresciana. Medicina Subacquea e Iperbarica. Anno XXXII n. 2 Novembre 2010. XIX Congresso Nazionale "SIMSI 2010" - Verona-Villafranca 18-21Novembre 2010

Maifredi G, Prota D, Guaccero A, Franchino G, et al. Consulta nazionale degli specializzandi in igiene e medicina preventiva Salute globale e formazione: studio sulle conoscenze e il bisogno formativo dei medici in formazione specialistica in igiene in tema di salute globale. 44° Congresso Nazionale S.It.I. – Venezia 3-6 Ottobre 2010

Gimigliano A, Prota D, Guaccero A, Maifredi G, et al. Consulta nazionale degli specializzandi in igiene e medicina preventiva. Attività e prospettive della Consulta degli Specializzandi S.It.I. 44° Congresso Nazionale S.It.I. – Venezia 3-6 Ottobre 2010

Gimigliano A, Prota D, Guaccero A, Franchino G, Maifredi G, et al. Consulta nazionale degli specializzandi in igiene e medicina preventiva. Confronto del percorso formativo in Igiene e Medicina Preventiva svolto dagli specializzandi italiani e francesi. 44° Congresso Nazionale S.It.I. – Venezia 3-6 Ottobre 2010.

Franchino G, Prota D, Guaccero A, Maifredi G, et al. Consulta nazionale degli specializzandi in igiene e medicina preventiva. Proposta di stabile adozione, nel core curriculum dei medici in formazione specialistica in Igiene e Medicina Preventiva, della tematica Salute Globale. 44° Congresso Nazionale S.It.I. – Venezia 3-6 Ottobre 2010

Zani C, Gasparotti C, Maifredi G, Martignone G, Limina RM, Bergonzi R, Apostoli P, Donato F. Studio caso-controllo sul possibile ruolo dei policlorobifenili (PCB) nell'eziologia dell'epatocarcinoma (HCC). 44° Congresso Nazionale S.It.I. – Venezia 3-6 Ottobre 2010.

Biasiolo E, Cereda D, Fanesi M, Tafuri S, Proto D, Ciotti E, Franchino G, Maifredi G, et al.. Consulta degli specializzandi In Igiene e Medicina Preventiva. Questionario per la valutazione della tematica "Salute Globale" nel percorso formativo dei medici in formazione specialistica in igiene e medicina preventiva. XI Conferenza Nazionale di Sanità Pubblica - SItI. Napoli 15-17 Ottobre 2009.

Gimigliano A, Fanesi M, Tafuri S, Proto D, Ciotti E, Franchino G, Maifredi G, et al. Consulta degli specializzandi In Igiene e Medicina Preventiva. Analisi e valutazione del percorso formativo degli specializzandi in Igiene e Medicina Preventiva. XI Conferenza Nazionale di Sanità Pubblica - SItI. Napoli 15-17 Ottobre 2009.

Maifredi G, Orizio G, Bressanelli M, Domenighini S, Gasparotti C, Perini E, Caimi L, Schulz P, Gelatti U Gli ospedali italiani nell'era del Web 2.0: studio trasversale dei siti Internet ufficiali. XI Conferenza Nazionale di Sanità Pubblica - SItI. Napoli 15-17 Ottobre 2009.

Gelatti U, Maifredi G, Orizio G, Bressanelli M, Domenighini S, Gasparotti C, Perini E, Caimi L, Schulz P. The Italian hospital in the web: a cross-sectional analysis of the official website. 2nd European Public Health Conference, Lodz 25-28 November 2009.

Maifredi G, Orizio G, Domenighini S, Bressanelli M, Schulz P, Rubinelli S, Caimi L, Gelatti U. . Patients-consumers in the "web" of online pharmacies. 8th European Conference on health promotion and education Turin, Italy, 9-13 September 2008.

Maifredi G Donato F, Magoni M, Orizio G, Maiolino P, Vassallo F, Scarcella C. Policlorobifenili e linfoma non-Hodgkin: studio caso-controllo nel comune di Brescia. Comunicazione orale al XXXII Congresso Annuale dell'Associazione Italiana di Epidemiologia, Milano, 15-17 Ottobre 2008.

Donato F, Rosati C, Gasparotti C, Festa A, Maifredi G, Gelatti U, Comincini F, Facchi G, Scarcella C. Indagine campionaria sull'uso di alcol e di tabacco tra gli studenti delle scuole secondarie di secondo grado di Brescia. Inviato al 43° Congresso nazionale SItI, Bari 1-4 Ottobre 2008

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Brescia; member of Scientific Committee	*3 months*

ATS-MON

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Fanetti	*Anna Clara*	*Agency for Health protection Montagna – Director of Epidemiology Unit*	*05/02/1975*

Education and training

Ph.D. Public Health (2009) University of Milan

Post-graduate specialty in Occupational Medicine (2006) University of Milan

Medical Degree (Laurea in Medicina e Chirurgia) (2001) University of Milan

Research and Professional experience

Professional experience

Director of Epidemiology Unit at Agency for Health protection Montagna, Medico Competente – since 2011

Post-doc fellow at University of Milan – Department of Occupational Medicine. (Attività di consulenza medico legale nell'ambito di diagnosi di tecnopatia. Attività di medico competente) (2009-2010)

Ph.D. in Public Health at University of Milan (2006-2009)

Post-graduate specialty in Occupational Medicine at University of Milan. Collaboration with the European Commission's JRC – Ispra and scientific secretarial activities for the EC DG SANCO, pesticides risk assessment. (2002-2006)

Research experience

Director of Epidemiology Unit at Agency for Health protection Montagna and Head of Cancer Registry.

Research activity at University of Milan – Department of Occupational Medicine on health consequences of pesticides, chemical pollutants (PVC), indoor pollution and atmospheric particulate matter. Participation in international research projects on the health effects of indoor pollutants (EnVie e EBoDe).

Conference organization: member of Scientific Secretariat - 7th Global Meeting WHO Collaborating Centres for Occupational Health, Stresa , 2005

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 56 (in PubMed as author or member of working group);

Trama A, et al. LUME study WG. Treatment patterns among patients with malignant pleural mesothelioma: An Italian, population-based nationwide study. Thorac Cancer. 2020 Jun;11(6):1661-1669. doi: 10.1111/1759-7714.13456. Epub 2020 May 4. PMID: 32364316; PMCID: PMC7262944.

Bernasconi A, et al. Adolescent and Young Adult Cancer Survivors: Design and Characteristics of the First Nationwide Population-Based Cohort in Italy. J Adolesc Young Adult Oncol. 2020 Oct;9(5):586-593. doi: 10.1089/jayao.2019.0170. Epub 2020 Apr 13. PMID: 32283044.

Zorzi M, et al ; IMPATTO COLONRETTO working group.Screening for colorectal cancer in Italy: 2011-2012 survey. Epidemiol Prev. 2015 May-Jun;39(3 Suppl 1):108-14. PMID: 26405782.

Hänninen O, et al. Environmental burden of disease in Europe: assessing nine risk factors in six countries. Environ Health Perspect. 2014 May;122(5):439-46. doi: 10.1289/ehp.1206154. Epub 2014 Feb 28. PMID: 24584099; PMCID: PMC4014759.

Maroni M, Fanetti AC. Liver function assessment in workers exposed to vinyl chloride. Int Arch Occup Environ Health. 2006 Jan;79(1):57-65. doi:10.1007/s00420-005-0018-y. Epub 2005 Aug 10. PMID: 16091976.

Maroni M, Mocci F, Visentin S, Preti G, Fanetti AC. Periportal fibrosis and other liver ultrasonography findings in vinyl chloride workers. Occup Environ Med. 2003 Jan;60(1):60-5. doi: 10.1136/oem.60.1.60. PMID: 12499459; PMCID: PMC1740378.

Fanetti AC et al . La vaccinazione antiinfluenzale nel personale sanitario dell'Ospedale L. Sacco di Milano G Ital Med Lav Ergon. 2007 Jul-Sep;29(3 Suppl):764-5. Italian. PMID: 18409948.

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ATS Montagna; member of Scientific Committee	*3 months*

ASST-CR

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
La Piana	Giuseppe Emanuele	ASST Crema Head of Department for Health Prevention and Rehabilitation Director of Respiratory Rehabilitation Unit at ASST Crema PO Santa Marta Rivolta D'Adda (CR)	15-07-1978

Education and training

Managerial Master (direzione di struttura complessa) EUPOLIS Lombardia (2017-2018)

2nd Level Master Course in Sleep Medicine (2014-2015)

Post-graduate specialty in Respiratory Diseases at University of Brescia

Medical Degree (Laurea in Medicina e Chirurgia), University of Brescia (1997-2004)

Research and Professional experience

Professional experience

Pneumologist Medical Director, Pneumology Unit, UTIR and Respiratory Rehabilitation Unit - ASST Crema

Interne senior at Service de Pneumologie et Rèanimation Groupe Hospitalier Pitiè-Salpetriere Paris

Lecturer, Bachelo degree in Scienze infermieristiche, University of Milan - Crema (2013-2018)

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 13 on Pub MED international journals, 3 on national journals and 9 abstracts in national and international conferences and congresses.

Tommaso Gilli, Gianpaolo Benelli, Elisabetta Buscarini, Ciro Canetta, Giuseppe La Piana, Alessandro Scartabellati, Giovanni Viganò, Giuseppe Lauria. SAR-COV-2 comorbidity network and outcome in hospitalized patients in Crema, Italy. PLOS One (2021) Mar 25, (16)3:e0248498

Ciro Canetta, Silvia Accordino, Elisabetta Buscarini, Gianpaolo Benelli, Giuseppe E. La Piana, Alessandro Scartabellati, Giovanni Viganò, Giuseppe Lauria. Syncope at SAR-COV-2 onset. Auton Neurosci, (2020) Dec 229, 102734

Elisabetta Buscarini, Guido Manfredi, Gianfranco Brambilla, Fernanda Mezzi, Claudio Londoni, Giuseppe E. La Piana, Alessandro Scartabellati, Giovanni Viganò, Giuseppe Lauria. GI symptoms in early signs of COVID-19 in hospitalized Italian Patients. GUT (2020) Aug 69(8), 1547-1548

La Piana GE, Scartabellati A, Chiesa L, Ronchi L, Raimondi P, Carro MA, Zibetti S, Aiolfi S. Long-term adherence to CPAP treatment in OSAS patients. Importance of educational trial. Patient Preference and Adherence 2011;5:555-62.

Corda L, Novali M, Montemurro LT, La Piana GE, Redolfi S, Braghini A, Modina D, Pini L, Tantucci C. Predictors of nocturnal oxyhemoglobin desaturation in COPD. Respiratory Physiology and Neurobiology. 2011 Dec 15;179(2-3):192-7

GE La Piana; L Corda, L Taranto Montemurro, E Bertella, L Pini, C Tantucci. Dose-response curve to salbutamol during acute and chronic treatment with formoterol in COPD. International Journal of Chronic Obstructive Pulmonary Disease 2011;6:399-405. Epub 2011 Jul 12.

Corda L, Medicina D, La Piana GE, Bertella E, Moretti G, Bianchi L, Pinelli V, Savoldi G, Baiardi P, Facchetti F, Gatta N, Annesi-Maesano I, Balbi B. Population Genetic Screening for Alpha1-Antitrypsin Deficiency in a High-Prevalence Area. Respiration. 2011 Apr (82)5:418-25

Luciano Corda, Stefania Redolfi, Luigi Taranto Montemurro, Giuseppe E. La Piana, Enrica Bertella, Claudio Tantucci Short and long-term effects of CPAP on upper airway anatomy and collapsibility in OSAH. Sleep and Breathing 2009 May;13(2):187-93

Luciano Corda, Enrica Bertella, Giuseppe E. La Piana, Enrico Boni, Stefania Redolfi, Claudio Tantucci. Inhaled Corticosteroids as Additional Treatment in Alpha 1 Antitrypsin Deficiency Related COPD. Respiration, 2008; 76:61-68

Stefania Redolfi, Luciano Corda, Giuseppe E. La Piana, Sara Spandrio, Paola Prometti, Claudio Tantucci. Long-term non-invasive ventilation increases chemosensitivity and leptin in obesity-hypoventilation syndrome. Respiratory Medicine, (2007) Jun 101, 1191-1195

Participation in 38 scientific conferences in Pneumology in Italy and 1 in UK

Grants
- 2nd Level Medical Director, ASST Crema

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ASST Crema; member of Scientific Committee	*2 months*

ASST-FRC

Personal data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Gabriele	*Zanolini*	*ASST Franciacorta*	*19/03/1970*

		Director of Internal Medicine Unit - PO Chiari	

Education and training

Managerial Master (Direzione di struttura complessa) (2021)

Post-graduate specialty in Internal Medicine – Emergency Medicine (2003)

Medical Degree (Laurea in Medicina e Chirurgia) (1997)

Research and Professional experience

Professional experience

Director of Internal Medicine Unit Chiari (09/12/2021)

Since March 2020 he has been appointed Director of Codiv-19 Units (Responsabile Aziendale per le U.O. Covid-19) to coordinate the hospital's transition to *Covid-19 hospital,* managing over 2236 patients across the pandemic period.

Since March 2020 he has been appointed Bed Manager at ASST Franciacorta.

Head of Unit - Ultrasonography (since 2018)

Acting Head of Unit f.f. Unit of Internal Medicine, Chiari Hospital (since 2017)

Tutor for regional GPs training (since 2018)

Teaching activities, Physiology course, Bachelor degree in Infermieristica, University of Brescia (2009-2013)

Teaching activities, Geriatrics course, Bachelor degree in Infermieristica, University of Brescia (since 2013)

Tutor for Physicians State Exam, University of Brescia (since 2011)

Scientific Publications and Congresses or other Oral Communications

F.Perrone, M.C. Piccirillo, P.A. Ascerto, C.Salvarani, R.Parrella, .C.Gallo per l'ospedale di Chiari investigators G.Zanolini, N.Sala, P.Gnesin, E.Cogi (2020)"Tocilizumab for patients with Covid 19 pneumonia. The single-arm Tocivid-19 prospective trial" *Journal of Translational Medicine BMC* 2020 18:405 https://doi.org/10.1186/s12967-020-02573-9

L. Moretti, L.Daffini, G. Bulgari, M.Taraborelli, C.Aggiusti, N.Sala, S.Ettori, G.Zanolini, L.Giacomelli, M.C.Tacchetti (2018) The perfect serotoninergic storm: how drugs can work in phase provoking catastrophe, *Italian Journal of Medicine* Vol 12 suppl. 2 pag 84, XXIII Congresso Nazionale, Bologna 12-15 maggio 2018

Izzo C. Aggiusti, P.Pileri, G. Bulgari, S.Ettori, D. Bella, L.Moretti, G.Zanolini, N.Sala, P.Colombini, C.Fiormaini Marioni, A.Pagani (2015) "Ricoveri per broncopatia cronica ostruttiva riacutizzata tra il 2011 e il 2014: studio retroprospettico monocentrico (Azienda Ospedaliera Mellino Mellini , Chiari, Brescia), *Italian Journal of Medicine* Vol. 9 suppl. 2 pag.55, XX Congresso Nazionale Fadoi, Torino 9-12 maggio 2015

I.Izzo, E.Perger, C.Aggiusti , N.Sala, L.Moretti, S.Ettori, C.Formaini Marioni, G. Zanolini, G. Bulgari, P.Colombin, D. Bella, A.Pagani (2015) "Trombosi Mesenterica in infezione acuta da citomegalovirus in una giovane donna: caso clinico", *Italian Journal of Medicine* Vol. 9 suppl. 2 pag.55, XX Congresso Nazionale Fadoi, Torino dal 9-12 maggio 2015 e Abstract Book del V AMIT International Congress, Milano 12-13 Marzo 2015 pag. 4

I.Izzo, P. Colombini, G.Maruelli, P.gnesin, A.Tinnirelllo, C.Aggiusti, N.Sala, L.Moretti, G.Zanolini, C. Formaini-

Marioni, S. Ettori, A. Pagani, D. Bella (2014) "Epatite fulminante associata ad infezione disseminata da varicella zoster (vzv) in un paziente adulto affetto da leucemia linfatica cronica e piastrinopenia autoimmune", Abstract Book del XIII Congresso Nazionale SIMIT, Genova 26-29 ottobre 2014 pag 395

I.Izo, D. Bella, N.Sala, G.Zanolini, C.Formaini Marioni, A. Burattin, A. Pagani, P.Colombini (2013) Legionella pneumophila pneumonia complicated with idropneumothorax and portal thrombosis: a case report, *New micro biologica quaterly journal of basic and clinical microbiological science* pag 52, 4° Amit Congress Topics in infectious and Tropical Diseases, Milano 14-15 Marzo 2013

Paolo Verdecchia, Jan A Staessen, Fabio Angeli, Giovanni De Simone, Augusto Achilli, Antonello Ganau, Gianfrancesco Mureddu, Sergio Pede, Aldo P. Maggioni, Donata Lucci, Gianpaolo Reboldi, on behalf of the Cardio-Sis investigators (G. Zanolini- Chiari) (2009) "Usual versus tight control of systolic blood pressure in non-diabetic patients with hypertension (Cardio-Sis): an open label randomised trial", *Lancet*;Volume 374 Issue 9689:pag 525-33 -15/08/2009

R. Fariello, G. Zanolini, S. Ettori, M. Crippa, R.Costa, N.Sala, C. Formaini (2009) "Modificazioni emodinamiche iniziali o inizianti dell'ipertensione arteriosa?", *Abstract Book* del XIV Congresso Nazionale FADOI pag. 49

M.Crippa, S.Ettori,R.Costa, F.Zani, F. Del Magro, S. Camanini, G.Zanolini, R. Fariello (2008) "Ruolo di un centro specialistico ospedaliero nella stratificazione del rischio nei pazienti ipertesi", *Giornale della Società Italiana dell'Ipertensione Arteriosa Ipertensione e Prevenzione Cardiovascolare* Volume 15 n.3pag 168, XXV Congresso Nazionale Roma 2-5 ottobre 2008

M.Crippa, S.Ettori, R.Costa, F.Del Magro, N.Pagnoni, F.Zani, G.Zanolini, R.Fariello. (2008) "Clustering of metabolic syndrome, left ventricular hypertrophy, microalbuminuria and hypercholesterolaemia:prevalence and risk stratification in a population of hypertensive beings", 18TH SCIENTIFIC MEETING EUROPEAN SOCIETY OF HYPERTENSION Berlin 14-19 June 2008

.Ettori, G.Zanolini, N.Sala, C.Formaini Marioni, M.Crippa, R.Costa, R.Fariello (2008) "Nocturnal Increase in systolic BP and diurnal decrease in diastolic BP with ageing in hypertensive patients" 18TH SCIENTIFIC MEETING EUROPEAN SOCIETY OF HYPERTENSION Berlin 14-19 June 2008

R.Fariello, G.Zanolini, N.Sala, C.Formaini Marioni, M.Crippa, S.Ettori, R.Costa (2007) "Ageing and gender on arterial compliance and chronotropic balance" SEVENTEENTH EUROPEAN MEETING ON HYPERTENSION
Milan, June 15-19-2007

N. Sala, G. Zanolini, C. Formaini Marioni, M. Crippa, S. Ettori, R. Costa, R. Fariello (2006) "Correlazioni tra frequenza cardiaca e pressione arteriosa sistolica e diastolica :differenze legate all'età", *Giornale Italiano di Cardiologia Dicembre* Volume 7 suppl. 1 al n.12 pag 304, 67° Congresso Nazionale della Società Italiana di Cardiologia Roma 16-19 dicembre 2006

G. Zanolini, N. Sala, C. Formaini Marioni, S. Ettori, R. Costa, M. crippa, R. Fariello (2006) "Ageing and Haemodynamic changes in uncomplicated essential hypertensive patients", *Journal of Hypertension* Volume 24 pag. 357, Sixteenth European Meeting on Hypertension Madrid Giugno 12-15 2006

N. Sala, G. Zanolini, C. Formaini Marioni, M. Crippa, S. Ettori, R. Costa, R. Fariello (2006) "Relationships between heart rate, systolic and diastolic bp in essential hypertension: differences age-related", *Journal of Hypertension* Volume 24 pag. 357, Sixteenth European Meeting on Hypertension Madrid Giugno 12-15 2006

G. Zanolini, S. Ettori, N. Sala, C. Formaini Marioni, R. Costa, G. Damiani, M. Crippa, R. Fariello (2005) "Controllo farmacologico e monitoraggio dinamico della P.A. negli ipertesi di grado lieve- moderato: differenze legate al genere", *Italian Heart Journal* Volume 6/suppl.8 pag.141, 66° Congresso Nazionale della società italiana di Cardiologia

S.Ettori, G.Zanolini, N.Sala, C.Formaini Marioni, G.Daminai, R.Costa, M.Crippa, R.Fariello (2005) "Similar Clinic blood pressure control do not indicate the same reduction in whole-day ambulatory monitoring in mild to moderate uncomplicated hypertensive patients: gender differences", *Journal of hypertension* volume 23 Supplement 2

G.Zanolini, G.Damiani, R.Costa, S.Ettori, M.Crippa, R.Fariello (2004) "Ambulatory Recording and blood pressure control in mild to moderate hypertensive patients: gender differences", FOURTEENTH EUROPEAN MEETING ON HYPERTENSION Paris, 13-17 giugno 2004

G. Zanolini, G. Damiani, R. Costa, G. Moschini, S.Ettori, M. Crippa, R. Fariello (2003) "L'inibizione del recettore dell'AT-1 consente di migliorare il controllo farmacologico nelle 24-h dell'associazione ACE-I/Tiazidico negli ipertesi di grado lieve-moderato", *Annali Italiani di Medicina Interna Comunicazioni e Poster* Volume 18, Supplemento 2; 104° Congresso Nazionale della Società Italiana di Medicina Interna. Roma 4-7 Novembre 2003

R. Costa, G. Damiani, G. Zanolini, G. Moschini, S. Ettori, M. Crippa, R. Fariello (2003) "Il controllo farmacologico della PA sistolica è meno agevole con l'invecchiamento nei pazienti ipertesi non complicati", *Annali Italiani di Medicina Interna Comunicazioni e Poster* Volume 18, Supplemento 2; 104° Congresso Nazionale della Società Italiana di Medicina Interna. Roma 4-7 Novembre 2003

G.Zanolini, N. Colombini, R. Costa, G. Damiani, S. Ettori, M. Crippa, R. Fariello (2002) "Pressione differenziale in giovani e anziani con ipertensione arteriosa non complicata: comportamento delle medie orarie derivate dal monitoraggio continuo della PA nelle 24h", *Annali Italiani di Medicina Interna Comunicazioni e Poster* Volume 17, Supplemento 2; 103° Congresso Nazionale della Società Italiana di Medicina Interna. Milano 19-22 Novembre 2002

R. Costa, N. Colombini, G. Zanolini, S. Ettori, G. Damiani, M. Crippa, R. Fariello (2002) "PA sistolica e diastolica correlano meglio di PA differenziale e frequenza cardiaca negli ipertesi di grado lieve-moderato: analisi del monitoraggio dinamico delle 24-h in base al genere e all'età", *Annali Italiani di Medicina Interna Comunicazioni e Poster* Volume 17, Supplemento 2; 103° Congresso Nazionale della Società Italiana di Medicina Interna. Milano 19-22 Novembre 2002

R.Fariello, R.Costa, M.Crippa, G.Damiani, N.Colombini, G.Zanolini, S.Ettori, I.Notaristefano, E.Chiari (2002) "Gender and pulse pressure in juvenile hypertension", 19th SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION 12 th EUROPEAN MEEETING ON HYPERTENSION JUNE 23-27, 2002- Prague

M.Crippa, R.Costa, G.Damiani, G.Zanolini, S.Ettori, N.Colombini, R. Fariello (2002) "Pulse pressure in young and elderly hypertensive patients: hourly averages during 24-hour ABPM in both genders", 19th SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION 12 th EUROPEAN MEEETING ON HYPERTENSION JUNE 23-27, 2002- Prague

R.Costa, M.Crippa, G.Daminai, G.Zanolini, N.Colombini, R.Fariello (2002) "Relationship between systolic BP nocturnal fall and afternoon-siesta reduction: differences age-and gender-related", 19th SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION 12 th EUROPEAN MEEETING ON HYPERTENSION JUNE 23-27, 2002- Prague

G.Daminai, R.Costa, M.Crippa, S.Ettori, G.Zanolini, N.Colombini, R.Fariello (2002) "Gender, age and ambulatory systolic BP profile and variability in essential hypertensive patients", 19th SCIENTIFIC MEETING OF THE INTERNATIONAL SOCIETY OF HYPERTENSION 12 th EUROPEAN MEEETING ON HYPERTENSION JUNE 23-27, 2002- Prague

R. Costa, M. Crippa, G. Damiani, G. Zanolini, N. Colombini, N. Pagnoni, S. Ettori, R. Fariello (2001) "Correlazione tra calo notturno e riduzione pomeridiana della PA sistolica: differenze legate al genere e all'età", *Italian Heart Journal* Volume 2/suppl.6 pag.194, 62° Congresso Nazionale della società italiana di Cardiologia

G. Damiani, R. Costa, M. Crippa, S. Ettori, G. Zanolini, N. Colombini, R. Fariello (2001) "Variabilità della pressione arteriosa e valori delle medie orarie della sistolica monitorata da 35 a 75 anni: differente correlazione tra maschi e femmine", *Italian Heart Journal* Volume 2/suppl.6 pag.194, 62° Congresso Nazionale della società italiana di Cardiologia

R. Costa, M.Crippa, G. Damiani, G. Zanolini, N. Colombini, S. Ettori, N. Pagnoni, E. Boni, L.Corda, R. Fariello (2001) "Pressione arteriosa differenziale: Pattern "U-J" in base al genere nell'ipertensione essenziale", *Italian Heart Journal* Volume 2/suppl.6 pag.81, 62° Congresso Nazionale della società italiana di Cardiologia

R. Costa, M.Crippa, G. Damiani, S. Ettori, G. Zanolini, N. Colombini, R. Fariello (2001) "Pattern of Pulse Pressure in Juvenile Hypertension : Gender Similarities and Differences", *The Journal of Coronary Artery Disease* Volume

4, Numero 1; 4th International Congress on Coronary Artery Disease - from Prevention to Intervention – Limed Communications

Raffaella Costa,.M. Crippa, G. Damiani, G. Zanolini, N. Colombini, S.Ettori, E. Boni; L. Corda, R. Fariello (2001) "Curve con morfologia "U" e "J" della pressione arteriosa differenziale: modificazioni in base al genere all'età nei pazienti con ipertensione essenziale non complicata", *Annali Italiani di Medicina Interna* volume 16, supplemento 2 pagina 98S- esposto come poster al 102° Congresso Nazionale della Società Italiana di Medicina Interna, Roma, 23-26 Ottobre 2001, pubblicato inoltre sull' *Italian Heart Journal* Vol.2/Supp.6 pag. 81

G. Damiani, Raffaella Costa, M. Crippa, S. Ettori, G. Zanolini, N. Colombini, E. Boni, L. Corda, R. Fariello (2001) "Morfologia Media oraria e variabilità della P.A. Sistolica nei pazienti ipertesi da 35 a 75 anni: differenze legate al genere", *Annali di Medicina Interna* Volume 16 supplemento 2, ed esposto come Poster al 102° Congresso Nazionale della Società Italiana di Medicina Interna, Roma 23-26 Ottobre, pubblicato inoltre su *Italian Heart Journal* Vol. 2/Suppl.6.a pag.19

A. Marengoni, A.P. Calabrese, M. K. Ghisla, S. Cossi, G. Zanolini, M. Demartinis, R. Leonardi, V. Grassi (2001) "Stato depressivo e condizioni socio economiche e demografiche in pazienti geriatrici", *Giornale di Gerontologia* Volume XLIX Numero 8 a pag. e appeso come Poster al 46° Congresso Nazionale della Società Italiana di Gerontologia e Geriatria

M. K. Ghisla, G. Zanolini, A. Marengoni, S. Cossi, A.P. Calabrese, M. Demartinis, F. Baroni, S. Pierrottet, R. Leonardi, V. Grassi (2001) "Stato Cognitivo, Comorbidità, disabilità e depressione in anziani ospedalizzati", *Giornale di Gerontologia* Volume XLIX Numero 7 a pag.394 ed è stato esposto come Poster e il Dott Zanolini ha esposto i risultati dello studio in questione con una comunicazione il 30/11/2001 al 46° Congresso Nazionale della Società Italiana di Gerontologia e Geriatria, tenutosi ad Assisi dal 28 di Novembre al 2 di Dicembre.

A. Marengoni, M.K: Ghisla, M. De Martinis, G. Zanolini; A.P. Calabrese, F. Baroni, S. Bossoni, R. Leonardi, V. Grassi (2000) "Iperomocisteinemia e tromboembolismo arterovenoso in pazienti anziani geriatrici ospedalizzati", *Giornale di Gerontologia* Numero 11 Volume XLVIII Novembre 2000 a pag. 868 ed esposto come Poster al Congresso Nazionale della Società Italiana di Gerontologia e Geriatria, Firenze il 22-26 Novembre 2000

M.K. Ghisla,M. De Martinis, A Marengoni, A.P. Calabrese; G.Zanolini, S. Pierrottet, F. Baroni, S. Cossi, S. Bossoni, R. Leonardi, V. Grassi (2000) "Educazione alimentare e terapia farmacologica in pazienti anziani con iperomocisteinemia", *Giornale di Gerontologia* Volume XLVII Numero 11, pag 869 ed esposto come poster al 45° Congresso Nazionale della Società Italiana di Gerontologia e Geriatria.

Conferences:

- Webinar « La gestione dei pazienti con BPCO nei reparti di Medicina Interna » Update International Congress - June 2021
- "Network tra specialisti sulla gestione pratica del paziente con Asma e BPCO" SUMMEET S.R.L. – June 2021
- Webinar "La gestione dei pazienti con BPCO nei reparti di Medicina Interna" SUMMEET SRL – Dec 2020

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ASST Franciacorta; member of Scientific Committee	*3 months*

ASST-GRD

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Bussi	*Anna*	*ASST Garda*	

		Director of General Medicine at Manerbio Leno Hospital	

Education and training

Managerial Master (Direzione di struttura complessa) Polis Lombardia, University of Brescia (2021)

Master in Hospital Risk Management (2015) Consorzio universitario per l'ingegneria nelle assicurazioni Cineas, Politecnico di Milano.

Post-graduate specialty in Endocrinology (1996) University of Brescia.

Medical Degree (Laurea in Medicina e Chirurgia) (1989) University of Brescia.

Research and Professional experience

Professional experience

Director of General Medicine at Manerbio Leno Hospital, ASST Garda (since 2020)

Medical Director at Manerbio Leno Hospital, ASST Garda (2015 and 2018-2020)

Medical Director of Internal Medicine (since 1996)

Since 2020 she has an active clinical and coordination role for the management of hospitalized Covid-19 patients, with follow-up activities.

Role in the project

Role	*Total Effort (person/months)*
Principal Investigator ASST Garda; member of Scientific Committee	*3 months*

ASST-LD

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Belcastro	*Vincenzo*	*ASST Lodi* *Director of Neurology Unit Maggiore Hospital (since 2021)*	*28.05.1976*

Education and training

Ph.D. Cerebrovascular Diseases (2011) University of Perugia
Post-graduate specialty in Nervous and Mental Disease (2007) University of Messina
Medical Degree (Laurea in Medicina e Chirurgia) (2002) University of Messina

Research and Professional experience

Professional experience
Director of Neurology Unit, Maggiore Hospital, Lodi (since April 2021)
MD Neurology Unit, Department of Medicine, S. Anna Hospital, Como (2010-2021)

Research experience

- Member and past Board Member of Italian League Against Epilepsy (LICE)
- Member and Secretary of Italian Paediatric Neurology Association (SINP)
- Member of Italian Neurology Society (SIN)

Main Research areas

1. Epilepsy; migraine; Epilepsy-migraine relationships; vascular risk and epilepsy; childhood epileptic syndromes; post-stroke epilepsy.

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 164 (145 English, 19 Italian); Citations (tot. #3,263; since 2016 #2,055); H-index: 35 (google scholar); i10-index: 79 (google scholar); H-index: 33 (Scopus);
Belcastro V, Casellato S, Striano P, Capovilla G, Savasta S, Foiadelli T, Sofia V, Giuliano L, Riva A, Elia M, Cesaroni E, Bonaventura CD, Giallonardo T, Striano S, Gambardella A, Ferlazzo E, Verrotti A. Epilepsy in "Sunflower syndrome": electroclinical features, therapeutic response, and long-term follow-up. *Seizure* 93,2021, 8-12.

Lattanzi S, Belcastro V. What place do carbamazepine-related antiepileptic drugs have in the modern day treatment of epilepsy? *Expert Opin Pharmacother*. May 31, 2020, 1-4.

Belcastro V, Brigo F, Ferlazzo E, Gasparini S, Mastroianni G, Cianci V, Lattanzi S, Silvestrini M, Versino M, Banfi P, Carimati F, Grampa G, Lochner P, Gigli GL, Bax F, Merlino G, Valente M, Vidale S, Aguglia U. Incidence of early poststroke seizures during reperfusion therapies in patients with acute ischemic stroke: An observational prospective study: (TESI study: "Trombolisi/Trombectomia e crisi Epilettiche precoci nello Stroke Ischemico"). *Epilepsy Behav*, 104(Pt B), 2020, 106476.

Brigo F, Striano P, Belcastro V. A reappraisal of atypical absence seizures in children and adults: therapeutic implications. *Expert Opin Pharmacother*, 20(17), 2019, 2115-2120.

Brigo F, Striano P, Balagura G, Belcastro V. Emerging drugs for the treatment of Dravet syndrome. *Expert Opin Emerg Drugs*, 23(4), 2018, 261-269
Belcastro V, Pisani LR, Bellocchi S, Casiraghi P, Gorgone G, Mula M, Pisani F. Brain tumor location influences the onset of acute psychiatric adverse events of levetiracetam therapy: an observational study. *Journal of Neurology*, 264(5), 2017, 291-297.
Verrotti A, Mencaroni E, Cofini M, Castagnino M, Leo A, Russo E, Belcastro V. Valproic acid metabolism and its consequences on sexual functions. *Curr Drug Metab*, 17(6), 2016, 573-581.

Grants

Role in the project

Role	*Total Effort (person/months)*
Principal Investigator ASST Lodi; member of Scientific Committee	*3 months*

ASST-MIO

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Rusconi	*Stefano*	*University of Milan - Associate professor in Infectious Diseases at (since 2015)* *ASST Ovest Milanese - Director of Infectious Diseases Unit, Legnano General Hospital (since 2021)*	*15.06.1962*

Education and training

Advanced course in Advanced Bioethics I (2009) UCSC
Advanced course in Bioethics (2003) UCSC
Post-graduate specialty in Infectious Diseases (1997) University of Milan
Post-graduate specialty in Allergy and Clinical Immunology (1991) University of Milan
Medical Degree (Laurea in Medicina e Chirurgia) (1988) University of Milan

Research and Professional experience

Professional experience
Scientific secretary at Milan Area 1 Inter-hospital IRB (July 1999 to January 2017).
Association of American Medical Colleges (AAMC) Visiting Student Learning Opportunities™ (VSLO™) representative at the University of Milan (since March 2015).
EACS regional representative (2012-2016).
Member of the External Scientific Review Board of CARE: Common Action against HIV/TB/HCV across the Regions of Europe (https://www.careresearch.eu/), Horizon 2020 research project with grant agreement No 825673, call H2020-SC1-BHC-2018-2020/H2020-SC1-2018.
Teaching duties: Academic Years 2010/11-ongoing: teaching Infectious Diseases to Medical School students; 2012/13-ongoing: teaching Infectious Diseases to Prevention Health Sciences students, both at University of Milan, Italy.
Since 2012: member of HIV/AIDS ITALIAN EXPERT PANEL for Italian Guidelines.
Referee: HIVERA for European Research Projects on HIV/AIDS, International AIDS Conference, World AIDS Conference, Italian Ministry of University and Scientific Research.

Research experience
(i) experimental models of antiretroviral therapy and viral mutants in vitro;
(ii) genotypic and phenotypic analysis of resistance to antiretroviral drugs;
(iii) design and conduct of clinical trials with antiretroviral drugs.

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 285 (English);
H-index: 34 (Scopus);

Rusconi, S. et al. (2021) Impact of switching to TAF/FTC/RPV, TAF/FTC/EVG/cobi and ABC/3TC/DTG on cardiovascular risk and lipid profile in people living with HIV: a retrospective cohort study. *BMC Infectious Diseases*, 21 (1). DOI: 10.1186/s12879-021-06304-3

Rusconi, S. et al. (2021) Differences in the prevalence of sars-cov-2 infection and access to care between italians and non-italians in a social-housing neighbourhood of milan, Italy, *International Journal of Environmental Research and Public Health*, 18 (20). DOI: 10.3390/ijerph182010621

Rusconi, S. et al. (2021) Efficacy and durability of two- vs. three-drug integrase inhibitor-based regimens in virologically suppressed HIV-infected patients: Data from real-life ODOACRE cohort, *HIV Medicine*, 22 (9), pp. 843-853. DOI: 10.1111/hiv.13146

Rusconi, S. et al. (2021) Durability of Dolutegravir-Based Regimens: A 5-Year Prospective Observational Study, *AIDS Patient Care and STDs*, 35 (9), pp. 342-353. DOI: 10.1089/apc.2021.0089

Rusconi, S. et al. (2021) Nucleoside Reverse-Transcriptase Inhibitor Resistance Mutations Predict Virological Failure in Human Immunodeficiency Virus-Positive Patients during Lamivudine plus Dolutegravir Maintenance Therapy in Clinical Practice, *Open Forum Infectious Diseases*, 8 (7). DOI: 10.1093/ofid/ofab103

Rusconi, S. et al. (2021) Marked decrease in acquired resistance to antiretrovirals in latest years in Italy, *Clinical Microbiology and Infection*, 27 (7), pp. 1038.e1-1038.e6. DOI: 10.1016/j.cmi.2020.09.028

Rusconi, S. et al. (2021) Acute and long-term disruption of glycometabolic control after SARS-CoV-2 infection, *Nature Metabolism*, 3 (6), pp. 774-785. DOI: 10.1038/s42255-021-00407-6

Rusconi, S., Pezzati, L., Formenti, T., Giacomelli, A. (2021) HIV and COVID-19 pandemic collision: Turning challenges into opportunity, *Future Virology*, 16 (5), pp. 311-313. DOI: 10.2217/fvl-2020-0382

Rusconi, S. et al. (2021) Sarilumab in patients admitted to hospital with severe or critical COVID-19: a randomised, double-blind, placebo-controlled, phase 3 trial, *The Lancet Respiratory Medicine*, 9 (5), pp. 522-532. DOI: 10.1016/S2213-2600(21)00099-0

Rusconi, S. et al. (2021) The impact of DAA-mediated HCV eradication on CD4+ and CD8+ T lymphocyte trajectories in HIV/HCV coinfected patients: Data from the ICONA Foundation Cohort *Journal of Viral Hepatitis*, 28 (5), pp. 779-786. DOI: 10.1111/jvh.13488

Rusconi, S. et al. (2021) Employing a systematic approach to biobanking and analyzing clinical and genetic data for advancing COVID-19 research, *European Journal of Human Genetics*, 29 (5), pp. 745-759. DOI: 10.1038/s41431-020-00793-7

Rusconi, S. et al. (2021) Genetic mechanisms of critical illness in COVID-19, *Nature*, 591 (7848), pp. 92-98. DOI: 10.1038/s41586-020-03065-y

Rusconi, S. et al. (2021) Association of toll-like receptor 7 variants with life-threatening COVID-19 disease in males: Findings from a nested case-control study, *eLife*, 10, art. no. e67569. DOI: 10.7554/eLife.67569

Rusconi, S. et al. (2021) Shorter androgen receptor polyQ alleles protect against life-threatening COVID-19 disease in European males, *EBioMedicine*, 65, art. no. 103246. DOI: 10.1016/j.ebiom.2021.103246

Rusconi, S. et al. (2021) Early administration of lopinavir/ritonavir plus hydroxychloroquine does not alter the clinical course of SARS-CoV-2 infection: A retrospective cohort study, *Journal of Medical Virology*, 93 (3), pp. 1421-1427. DOI: 10.1002/jmv.26407

Rusconi, S. et al. (2021) Human-to-cat sars-cov-2 transmission: Case report and full-genome sequencing from an infected pet and its owner in Northern Italy, *Pathogens*, 10 (2), art. no. 252, pp. 1-6. DOI: 10.3390/pathogens10020252

Rusconi, S. et al. (2021) Accessibility to SARS-CoV-2 swab test during the Covid-19 pandemic: Did age make the difference? *Health Policy*. DOI: 10.1016/j.healthpol.2021.10.002

Rusconi, S. et al. (2021) Metabolic syndrome and body weight in people living with HIV infection: analysis of differences observed in three different cohort studies over a decade, *HIV Medicine*. DOI: 10.1111/hiv.13165

Rusconi, S. et al. (2021) Correlation between continuous Positive end-expiratory pressure (PEEP) values and occurrence of Pneumothorax and Pneumomediastinum in SARS-CoV2 patients during noninvasive ventilation with Helmet, *Sarcoidosis Vasculitis and Diffuse Lung Diseases*, 38 (2), art. no. e2021017. DOI: 10.36141/svdld.v38i2.11222

Cazzaniga, A., Scrimieri, R., Galli, M., Maier, J., Rusconi, S. (2021) Unveiling the basis of antiretroviral therapy-induced osteopenia: The effects of Dolutegravir, Darunavir and Atazanavir on osteogenesis, *AIDS*, 35 (2), pp. 213-218. DOI: 10.1097/QAD.0000000000002732

Rusconi, S. et al. (2021) Overall Tolerability of Integrase Inhibitors in Clinical Practice: Results from a Multicenter Italian Cohort, *AIDS Research and Human Retroviruses*, 37 (1), pp. 4-10. DOI: 10.1089/aid.2020.0078

Rusconi, S. et al. (2021) The impact of the SARS-CoV-2 outbreak on the psychological flexibility and behaviour of cancelling medical appointments of italian patients with pre-existing medical condition: The "impact-COVID-19 for patients" multi-centre observational study, *International Journal of Environmental Research and Public Health*, 18 (1), art. no. 340, pp. 1-21. DOI: 10.3390/ijerph18010340

Rusconi, S. et al. (2021) Enhancing care for people living with HIV: current and future monitoring approaches, *Expert Review of Anti-Infective Therapy*, 19 (4), pp. 443-456. DOI: 10.1080/14787210.2021.1823217

Rusconi, S. et al. (2020) Sitagliptin treatment at the time of hospitalization was associated with reduced mortality in patients with type 2 diabetes and covid-19: A multicenter case-control retrospective observational study, *Diabetes Care*, 43 (12), pp. 2999-3006. DOI: 10.2337/dc20-1521

Rusconi, S. et al. (2020) Switching from boosted PIs to dolutegravir in HIV-infected patients with high cardiovascular risk: 48 week effects on subclinical cardiovascular disease, *Journal of Antimicrobial Chemotherapy*, 75 (11), pp. 3334-3343. DOI: 10.1093/jac/dka

Rusconi, S. et al. (2021) PD-1 blockade counteracts post-COVID-19 immune abnormalities and stimulates the anti-SARS-CoV-2 immune response. JCI Insight. 2021 Nov 16:e146701. DOI: 10.1172/jci.insight.146701.

Grants

- NEAT Integration Grant 2009-2010 "Efficacy and safety of a switch to unboosted atazanavir among HIV-infected patients well suppressed under HAART" da parte di NEAT ID Foundation, London, UK.

- Research grant Ricerca Finalizzata 2013 “Implication for strategies of long term control of viral replication in patient with primary HIV infection (PHI) trated with multitarget antiviral therapy (MT-ART): kinetics of viral reservoir, immunological response and drug penetration in lymphoid tissues”, codice progetto NET-2013-02355333, from Health Ministry (principal investigators: Giuseppe Tambussi/Silvia Nozza).
- 2013-2014 Research grant: Investigator Initiated Research “STUDIO STRATEGICO DI TERAPIA DUPLICE CON DARUNAVIR/rtv E RILPIVIRINA QD VS TERAPIA TRIPLICE IN PAZIENTI CON VIREMIA SOPPRESSA: EFFICACIA VIROLOGICA E VALUTAZIONE DELLA MORBIDITA’ NON-HIV CORRELATA. HLS03/2012” from Janssen-Cilag SpA.
- 2015 Fellowship Program grant “Strategie di miglioramento della qualità di vita di soggetti con recente diagnosi di sieropositività per HIV-1 attraverso interventi di web counseling. Identificazione di predittori psicosociali e neuroormonali correlati alla aderenza alla HAART” from Gilead Sciences Italia S.r.l.
- 2018 Research grant “Finanziamento linea 2, 2018” DIBIC Luigi Sacco – University of Milan entitled “HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART) AND OSTEOGENIC DIFFERENTIATION: CELLULAR AND MOLECULAR STUDIES”.
- 2019 Grant for publication “Impatto dello switch a regimi STR contenenti tenofovir alafenamide con e senza cobicistat sul rischio cardiovascolare e profilo metabolico in pazienti HIV positivi in soppressione virologica stabile” from Gilead Sciences Italia S.r.l.
- 2020 Research grant for the project “SARS Transmission Obstruction Platform - COVID-19 (STOP-Cov)” from Regione Lombardia - POR FESR 2014-2020 – COVID 19 (head project: AXXAM SpA, partners: Università Vita e Salute San Raffaele and University of Milan).
- 2020 Research grant PSR Linea 2 “Molecular aereosol to downregulate ACE2 expression and prevent entry of SARS-CoV-2 in target cells” from DIBIC Luigi Sacco, University of Milan [Investigators: Cristian Loretelli (CRC Invernizzi - Pediatrics), Stefano Rusconi (Infectious Diseases)].
- 2021 Research grant “Bando COVID-19”, from DG Welfare, Regione Lombardia 2020 “Identification and evaluation of diagnostic markers and therapeutic options against SARS-CoV-2 infection”, Fondazione Romeo ed Enrica Invernizzi [Investigator: Stefano Rusconi (Infectious Diseases)].

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator ASST Milano-Ovest; member of Scientific Committee	*3 months*

ASST-PV

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Magnani	*Luigi*	*ASST Pavia - Director of Medical Department*	*31.08.1956*

Education and training

Medical Degree (Laurea in Medicina e Chirurgia) (1981) University of Pavia
Scuola di Specializzazione in Endocrinologia (1984) University of Pavia
Scuola di Specializzazione in Medicina Interna (1990) University of Pavia
Managerial Master (Direzione di struttura complessa) (2020) Polis Lombardia – Scuola di Direzione in Sanità

Research and Professional experience

Professional experience

Dal 1984 al 198, Ospedale Civile di Codogno (MI) – USSL n. 54, Associazione dei Comuni del Basso Lodigiano, Assistente di Medicina Generale
Anni scolastici 1984/85 e 1985/86, USSL n. 56, Associazione dei Comuni del Lodigiano, Insegnante presso Scuola per Infermieri Professionali
Dal 1986 al gennaio 2006, Fondazione IRCCS Policlinico San Matteo, Dirigente Medico a tempo indeterminato
Dal 1992 al gennaio 2006, Fondazione IRCCS Policlinico San Matteo, Responsabile dell’Ambulatorio di Ecografia Internistica
Dal 1998 al 15 gennaio 2012, Fondazione IRCCS Policlinico San Matteo, Consulente per l’Ecografia Internistica presso Istituto Santa Margherita
Dal 01 aprile 2010 al 15 gennaio 2012, Fondazione IRCCS Policlinico San Matteo, Responsabile della Unità Operativa Semplice di Endocrinologia e Diabetologia
Dal 16 gennaio 2012 ad oggi, Azienda Ospedaliera della Provincia di Pavia, Direttore di Struttura Complessa – Disciplina: Medicina Interna

Dal 1 aprile 2016 ad oggi, Azienda Sociosanitaria territoriale (ASST) Pavia, Direttore Dipartimento di Area Medica ASST Pavia
Scientific Publications and Congresses or other Oral Communications
Total number of publications: 179 abstracts on diabetes, dysmethabolic diseases, obesity, hypertension, cardiovascular prevention, ultrasonography. Investigator for national and international clinical trials.
Grants
Role in the project

Role	*Total Effort (person/months)*
Principal Investigator ASST Pavia; member of Scientific Committee	*12 months*

ASST-VCM

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Morlotti	*Maurizio*	*ASST Valcamonica - Socio-Health Director*	*11 Febbraio 1975*

Education and training
Degree in Biomedical Engineering (2000) Politecnico di Milano
Research and Professional experience
Professional experience Socio-Health Director, ASST della Valcamonica (to date) Director of U.O.C. Gestione Operativa, ASST di Lecco (2017-2019) Director of U.O.C. Ingegneria Clinica, ASST di Lecco (2008-2019) Associate Professor, University of Brescia (2019-2021), University of Milan (2012-2014), Politecnico di Milano (2044-2008), Università Vita e Salute San Raffaele (2002-2003)
Scientific Publications and Congresses or other Oral Communications
Grants
Role in the project

Role	*Total Effort (person/months)*
Principal Investigator ASST Valcamonica; member of Scientific Committee	*3 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Patroni	Andrea	ASST Valcamonica Hospital Medical Director, Head of Hospital Infections Committee, Bed Manager	28 aprile 1972

Education and training

Medical Degree (Laurea in Medicina e Chirurgia) (1998)

Post-graduate specialty Infectious Diseases (2002)

Ph.D. in Clinical Trial Methodology (2006)

Research and Professional experience

Professional experience

Medical Director c/o Dipartimento di Medicina ASST Valcamonica (2006)

Head of Hospital Infections Committee ASST Valcamonica (2006)

SIMPIOS regional representative (Società Italiana Multidisciplinare per la Prevenzione delle Infezioni nelle Organizzazioni Sanitarie) Lombardy region (2012)

High Specialization in "Infettivologia" (2013)

Internal representative Quality/Auditor ASST Valcamonica (2018)

Medical Director c/o Direzione Medica di Presidio ASST Valcamonica (2020)

Bed Manager ASST Valcamonica (2020)

Member of Board of experts, collaborators and researchers of AGENAS (Agenzia Nazionale per i Servizi Sanitari Regionali) (Albo degli esperti, dei collaboratori e dei ricercatori) (2020)

Hospital Medical Director ASST Valcamonica (2020)

High Specialization in "*Clinical Governance*: *bed management* e gestione infezioni correlate all'assistenza" (2021)

Research

From 1998 to 2005 he has carried out research activity at the Clinic for Infectious and tropical diseases (University of Brescia), focusing on epidemiological and clinical-diagnostical-therapeutical aspects of HIV epidemics. He has been involved in several clinical trials in clinical pharmacology, aimed at the assessment of efficacy and tolerability of several chemotherapeutics and chemoprophylactic agents during HIV infections.

Since 2005 he is involved in scientific research at ASST Valcamonica, focusing on on epidemiological and clinical-diagnostical-therapeutical aspects of HBV/HCV and hospital infections He has been involved in several clinical trials in clinical pharmacology, aimed at the assessment of efficacy and tolerability of several chemotherapeutics and chemoprophylactic agents during HBV/HCV infections. He also participated in some surveillance programs for hospital infections.

Conference organization

Lecturer and invited speaker in several courses and conferences organized by ASST Valcamonica.

Lecturer in several courses organized by SIMPIOS (Società Italiana Multidisciplinare per la Prevenzione delle Infezioni nelle Organizzazioni Sanitarie).

Lecturer, Physiology, Statistics and Clinical Epidemiology, Bachelor degree in Infermieristica, University of Brescia.

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 39 on international journals, 28 on national journals, 5 conference reports, 3 articles published on scientific journals, 25 active contributions to international conferences and 27 to national conferences.

Andrea Patroni, Angela Avanzini, Costanza Bertoni e il Gruppo Operativo del Comitato Infezioni Ospedaliere dell'ASST di Valcamonica. Intervento formativo per ridurre la contaminazione delle emocolture nella fase preanalitica. GImPIOS, Vol. 6, n. 3, luglio-settembre 2016, 85-89.

Nigritells Bianese, Alessia Zoncada, Andrea Patroni, Alice Ferraresi, Chiara Fornabaio, Paola Lanza, Silvia Lorenzotti, Ewelyn Van Hauwermeiren, Fabio Zacchi, Carmine Tinelli, Nicola Pasquali,Massimo Ravatti, Mario Mariotti, Angelo Pan. Un programma di stewardship della terapia antimicrobica in un reparto di chirurgia. GImPIOS, Vol.7, n.1, gennaio-maarzo 2017, 32-38.

Angelo Pan, Antonio Goglio, Cesarina Curti, Antonella Agoni, Andrea Patroni, Gaetano Privitera, Nigritella Brianese, Carlo Signorelli, Alessia Zoncada, Cesira Pasquarella per il gruppo di lavoro MuSICARe. Il questionario MuSICARe sui programmi di controllo dell'antimicrobico-resistenza in Italia. GImPIOS, Vol. 7, n. 4, ottobre-dicembre 2017.

Andrea Patroni, Eleonora Bettineschi. Linee guida a confronto: prevenzione, diagnosi e terapia delle infezioni da *Clostridium difficile*. GImPIOS, Vol. 8, n. 3, luglio-settembre 2018, 89-103.

C. Bretoni, B. Franzinelli, P. pellegrinelli, N. Gheza, T. Scolari, E. Maculotti, S. Ducoli, K. Botticchio, C. Fanchini, G. B. Pellegrini, P, Molinari, A. Avanzino, A. Patroni. Intervento formativo per ridurre la contaminazione delle emocolture nella fase preanalitica. Aggiornamento. GImPIOS, Vol. 8, n. 3, luglio-settembre 2018, 127-132.

Maria Teresa Montagna, Osvalda De Giglio, , Christian Napoli, Giusy Diella, Serafina Rutigliano, Antonella Agoni, Francesco Auxilia, Tatjana Baldovin, Francesco Bisetto, Luca Arnoldo, Silvio Brusaferro, Marina Busetti, Gioia Calagreti, Beatrice Casini, Maria Luisa Cristina, Rossano Di Luzio, Maurizio Fiorio, Maurizio Formoso, Giorgio Liguori, Enrica Martini, Andrea Molino, Placido Mondello, Ida Mura, Roberto Novati, Giovanni Battista Orsi, Andrea Patroni, Anna Poli, Gaetano Privitera, Giancarlo Ripabelli, Andrea Rocchetti, Francesco Rose, Mario Sarti, Sandra Savini, Antonio Silvestri, Luisa Sodano, Anna Maria Spagnolo, Stefano Tardivo, Valeria Teti, Maria Valeria Torregrossa, Emanuele Torri, Lucia Veronesi, Raffaele Zarrilli, Claudia Pacifico, Antonio Goglio, Matteo Moro, Cesarina Pasquarella. Control and prevention measures for legionellosis in hospitals: A cross-sectional survey in Italy. Environmental Research 166 (2018) 55-60.

G. Chitoni, P. Baiguini, M. Ballerini, D. Ghargozloo, E. Pellegrinelli, R. Romeo, A.M. Salvini, I. Genziani, L. Serini, C. Bertoni, A. Patroni. La sorveglianza come strumento di controllo delle infezioni del sito chirurgico oresso il reparto di otorpedia e traumatologia dell'ASST di Valcamonica. GImPIOS, Vol. 9, n. 1, gennaio-marzo 2019, 26-31.

Maurizio Galavotti, Roberta Chiesa, Maurizio Morlotti, Guido Avaldi, Silvia Brasa, Graziella Bonetti, Sandro Poggio, Alessandra Filippini, Giulia Bottanelli, Andrea Patroni, Costanza Bertoni. La gestione dell'epidemia di SARS-CoV-2 presso l'ASST della Valcamonica. GImPIOS, Vol.10, n. 1, gennaio-marzo 2020, 16-23.

A. Patroni. Attivazione e gestione di un CIO in una comunità montana e ruolo dell'infettivologo: l'esperienza dell'ASST della Valcamonica. GImPIOS, Vol.10, n. 2, aprile-giungo 2020, 77-81.

L. Taglietti, R. Cazzaniga, B. Carrara, B. Compagnoni, D. Lomiento, F. Viotti, G. Faini, M.C. Zeppieri, R. Del Giudice, S. E. Dester, S. Ruggiero, L. Baiocchi, C. Bertoni, A. Patroni. Le infezioni del sito chirurgico presso il reparto di Chirurgia Generale dell'ASST di Valcamonica. GimPIOS. Vol.10, n. 3, luglio-settembre 2020, 120-131.

Silvia Piantoni, Andrea Patroni, Paola Toniati, Roberto Furloni, Franco Franceschini, Laura Andreoli and Mirko Scarsi. Why not to use colchicines in COVID-19? And old anti-infiammatory drug for a novel auto-infiammatory disease. Rheumatology.

Graziella Bonetti, Filippo Manelli, Andrea Patroni, Alessandra Bettinardi, Gianluca Borrelli, Gianfranco Fiordalisi, Antonio Marino, Annamaria Menolfi, Sara Saggini, Roberta Volpi, Adriano Anesi and Giuseppe Lippi. Laboratory predictors of death from coronavirus disease 2019 (COVID-19) in the area of Valcamonica, Italy. Clin Chem Lab Med 13 April 2020.
Grants
Role in the project

Role	*Total Effort (person/months)*
Collaborator	*2 months*

IRCCS-PSM

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Sacchi	*Paolo*	*IRCCS Policlinico San Matteo Pavia* *Medical Director Infectious Diseases Unit* *Head of Hepatology Unit*	*24 June 1962*
Education and training			
University of Pavia and Fondazione IRCCS San Matteo -Pavia			
Research and Professional experience			
Professional experience Paolo Sacchi is a medical researcher of infectious diseases at S. Matteo Hospital University of Pavia and cooperates with several research groups. He acts as a reviewer for many important Journals and has participated in the writing of scientific papers. His main research field is actually the study of the pathophysiology clinical aspects and therapy of COVID-19, viral hepatitis and HIV-HCV-HBV coinfection. Recently he has been involved in research regarding gut microbiota and gut virome. Also, he is involved in multiple studies on infectious diseases and hepatology.			
Scientific Publications and Congresses or other Oral Communications			

He published 104 papers in international peer reviewed Journals. He has conducted several studies as principal

investigator, according to GCP. 3-year Impact Factor (ISI) >132,6

H-index 28 – 2217 citations. (SCOPUS- SEP 2021)

Giordano, G., Colaneri, M., Di Filippo, A., Blanchini, F., Bolzern, P., De Nicolao, G., Sacchi, P., Colaneri, P., Bruno, R. Modeling vaccination rollouts, SARS-CoV-2 variants and the requirement for non-pharmaceutical interventions in Italy 2021) Nature Medicine, 27 (6), pp. 993-998.

Colaneri, M., Bogliolo, L., Valsecchi, P., Sacchi, P., Zuccaro, V., Brandolino, F., Montecucco, C., Mojoli, F., Giusti, E.M., Bruno, R.,
Tocilizumab for treatment of severe covid-19 patients: Preliminary results from smatteo covid19 registry (smacore)(2020) Microorganisms, 8 (5),.

Colaneri, M., Sacchi, P., Zuccaro, V., Biscarini, S., Sachs, M., Roda, S., Pieri, T.C., Valsecchi, P., Piralla, A., Seminari, E., Matteo, A.D., Novati, S., Maiocchi, L., Pagnucco, L., Tirani, M., Baldanti, F., Mojoli, F., Perlini, S., Bruno, R., Clinical characteristics of coronavirus disease (COVID-19) early findings from a teaching hospital in Pavia, North Italy, 21 to 28 February 2020 (2020) Eurosurveillance, 25 (16)

Grants

2018 Ricerca Corrente IRCCS Total Grant € 180000

2020 (Horizon 2020) **Periscope** "Pan-European Response to the Impact of COVID-19 and future Pandemics and Epidemics" € 10 millions

Role in the project

Role	*Total Effort (person/months)*
Collaborator	*2 months*

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Bruno	*Raffaele*	*IRCCS Policlinico San Matteo Pavia* *Director of Infectious Diseases Unit* *University of Pavia - Full Professor in - Infectious Diseases*	*29 March 1966*

Education and training

University of Pavia and Fondazione IRCCS Policlinico San Matteo -Pavia

Research and Professional experience

Professional experience

Raffaele Bruno is a full professor of Infectious Diseases at University of Pavia - S. Matteo Hospital University of Pavia, Italy and Director of Infectious Diseases Unit at San Matteo Hospital. He is member of numerous scientific boards. He also cooperates with many research groups. He acts as a reviewer for many important Journals and has participated in the writing of scientific papers and clinical guidelines which are appreciated and used by doctors all over the world. He was the general secretary of AISF (Italian Association for the Study of the Liver) from February 2010 to February 2012. The Secretary General is the Chief Executive of the association for a period of 2 years after having served as a member of the Scientific Committee. His main research field is actually the study of the pathofisiology clinical aspects and therapy of COVID-19, viral hepatitis and HIV-HCV-HBV coinfection. Recently he has been involved in research regarding gut microbiota and gut virome. Also, he is involved in multiple research in infectious diseases and Hepatology.

Scientific Publications and Congresses or other Oral Communications

He published 272 papers in International peer reviewed Journals. He was a principal investigator in several studies, according to GCP. His Impact Factor (ISI) is >1500 with

h-index 53 and 10901 citations. (SCOPUS- Dec 2021)

Giordano, G., Colaneri, M., Di Filippo, A., Blanchini, F., Bolzern, P., De Nicolao, G., Sacchi, P., Colaneri, P., Bruno, R. Modeling vaccination rollouts, SARS-CoV-2 variants and the requirement for non-pharmaceutical interventions in Italy 2021) Nature Medicine, 27 (6), pp. 993-998.

Mondelli, M.U., Colaneri, M., Seminari, E.M., Baldanti, F., Bruno, R. Low risk of SARS-CoV-2 transmission by fomites in real-life conditions(2021) The Lancet Infectious Diseases, 21 (5), p. e112.

Goldman, J.D., Lye, D.C.B., Hui, D.S., Marks, K.M., Bruno, R., Montejano, R., Spinner, C.D., Galli, M., Ahn, M.-Y., Nahass, R.G., Chen, Y.-S., SenGupta, D., Hyland, R.H., Osinusi, A.O., Cao, H., Blair, C., Wei, X., Gaggar, A., Brainard, D.M., Towner, W.J., Muñoz, J., Mullane, K.M., Marty, F.M., Tashima, K.T., Diaz, G., Subramanian, A., GS-US-540-5773 Investigators Remdesivir for 5 or 10 days in patients with severe covid-19 (2020) New England Journal of Medicine, 383 (19), pp. 1827-1837.

Giordano, G., Blanchini, F., Bruno, R., Colaneri, P., Di Filippo, A., Di Matteo, A., Colaneri, M. Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy (2020) Nature Medicine, 26 (6), pp. 855-860.

Colaneri, M., Bogliolo, L., Valsecchi, P., Sacchi, P., Zuccaro, V., Brandolino, F., Montecucco, C., Mojoli, F., Giusti, E.M., Bruno, R.,
Tocilizumab for treatment of severe covid-19 patients: Preliminary results from smatteo covid19 registry (smacore)(2020) Microorganisms, 8 (5),.

Colaneri, M., Sacchi, P., Zuccaro, V., Biscarini, S., Sachs, M., Roda, S., Pieri, T.C., Valsecchi, P., Piralla, A., Seminari, E., Matteo, A.D., Novati, S., Maiocchi, L., Pagnucco, L., Tirani, M., Baldanti, F., Mojoli, F., Perlini, S., Bruno, R., Clinical characteristics of coronavirus disease (COVID-19) early findings from a teaching hospital in Pavia, North Italy, 21 to 28 February 2020 (2020) Eurosurveillance, 25 (16)

Has participated in more than 400 national and international congresses as a speaker or chair.

Grants

2018 Ricerca Corrente IRCCS Total Grant € 180000
2020 (Horizon 2020) Periscope "Pan-European Response to the ImpactS of COVID-19 and future Pandemics and Epidemics" € 10 Milion

Role in the project	
Role	*Total Effort (person/months)*
Principal Investigator IRCCS Policlinico San Matteo; member of Scientific Committee	*3 months*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Zuccaro	*Valentina*	*IRCCS Policlinico San Matteo Pavia* *Medical Doctor*	*14/05/1985*

Education and training

Medical Degree (Laurea in Medicina e Chirurgia) with honors (2011) University of Piemonte Orientale, Novara (Italia)

Post-graduate Specialty in Tropical Medicine (2018) University of Milan (Italia) 70/70 cum laude

Research and Professional experience

Professional experience

Medical Doctor – Department of Infectious Disease IRCCS Policlinico San Matteo (since 2019)

Research Activities

- Project "Gut microbiota and microbial translocation profiling during chemo-free treatment of lymphoid malignancies as biomarkers for predicting therapeutic response and immune related adverse events"
- Project "Studio di coorte in una popolazione di soggetti HIV positivi a rischio di infezione da HPV per valutare l'incidenza delle localizzazioni di HPV a livello ano-genitale, l'eventuale displasia cellulare associata, la correlazione con i parametri viro-immunologici dell'infezione da HIV e con l'immunità specifica T cellulare anti HPV"
- Project "Ledipasvir+Sofosbuvir and Sofosbuvir+Velpatasvir for Pts With Indolent Bcell Lymphoma Associated With HCV Infection"ID number FIL_BArT
- Project FUNDICO- Study Group for Infections in Critically Ill Patients (ESGCIP) and the Fungal Infection Study Group (EFISG) of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID); European Society of Intensive Care Medicine (ESICM); European Confederation of Medical Mycology (ECMM); Mycoses Study Group Education and Research Consortium (MSGERC).
- Project "PERISCOPE - Pan-European Response to the ImpactS of COVID-19 and future

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 64; Citations (tot. # 932);

H-index: 18 (google scholar); i10-index: 30 (google scholar); H-index: 16 (Scopus);

Zuccaro, V., Celsa, C., Sambo, M et al . "Competing-risk analysis of coronavirus disease 2019 in-hospital mortality in a Northern Italian centre from SMAtteo COvid19 REgistry (SMACORE) (2021) Scientific Reports, 11

Colaneri, M., Valsecchi, P., Vecchia, M., Di Filippo, A., Zuccaro, V. et al. What prompts clinicians to start antibiotic treatment in COVID-19 patients? An Italian web survey helps us to understand where the doubts lie (2021) Journal of Global Antimicrobial Resistance, 26, pp. 74-76.

Valsecchi, P., Colaneri, M., Zuccaro, V. et al. Impact of pneumococcal urinary antigen testing in covid-19 patients: Outcomes from the san matteo covid-19 registry (SMACORE) (2021) Journal of Personalized Medicine, 11 (8)

Magro, B., Zuccaro, V., Novelli, L. et al. Predicting in-hospital mortality from Coronavirus Disease 2019: A simple validated app for clinical use (2021) PLoS ONE, 16 (1)

Grants

- 2020-2023: Involvement within the EU H2020 funded "Pan-European Response to the ImpactS of COVID-19 and future Pandemics and Epidemics"- PERISCOPE Project (Grant agreement: 101016233)
- 2019-to today: Ricerca Corrente 2019- Project Title "Gut microbiota and microbial translocation profiling during chemo-free treatment of lymphoid malignancies as biomarkers for predicting therapeutic response and immune related adverse events" Total grant: 180.000 € Devoted time: 3 years and the funding is still running.

Role in the project

Role	*Total Effort (person/months)*
Collaborator	*2 months*

Personal Data

Surname	*Name*	*Organization and Position*	*Date of birth*
Pagani	*Elisabetta*	*IRCCS Policlinico San Matteo Pavia* *Medical Doctor*	*18/08/1977*

Education and training

Medical Degree (Laurea in Medicina e Chirurgia) (2003) University of Pavia (Italia)

Post-graduate Specialty in Internal Medicine (2008) University of Pavia (Italia)

Research and Professional experience

Professional experience

Medical Doctor – Department of Medical Sciences IRCCS Policlinico San Matteo, Fourth Internal Medicine Unit/ Subacute Care Unit (2010-2020)

Medical Doctor – Department of Medical Sciences IRCCS Policlinico San Matteo, First Internal Medicine Unit (June-October 2020)

Medical Doctor – Department of Medical Sciences IRCCS Policlinico San Matteo, Infectious Disease Unit (since 2020)

Research Activities

- Project "SMAC : a mathematical model for a clinical complexity index and its accuracy in longitudinal prospective observational studies"

Scientific Publications and Congresses or other Oral Communications

Total number of publications: 75 F H-index: 6 (Scopus)

Invernizzi R, Carnevale Maffe' G, Travaglino E, Pagani E, Pieresca C. Nodular lesions of the liver in multiple myeloma. Haematologica 2007;92(7)

Di Stefano M, Mengoli C, Bergonzi M, Pagani E, Corazza GR. Hydrogen breath test and intestinal gas production. European Review for Medical and Pharmacological Sciences 2013; 17(Suppl 2): 36-38

Di Stefano M, Miceli E, Tana P, Mengoli C, Bergonzi M, Pagani E, Corazza GR. Fasting and postprandial gastric sensorimotor activity in functional dyspepsia: postprandial distress vs. epigastric pain syndrome. American Journal of Gastroenterology 2014;109(10):1631-9.

Di Stefano M, Mengoli C, Bergonzi M, Miceli E, Pagani E, Corazza GR. Hydrogen breath test in patients with severe constipation: the interference of the mixing of intestinal content. Neurogastroenterology and Motility 2014;26(12):1754-60.

Di Stefano M, Mengoli C, Bergonzi M, Klersy C, Pagani E, Miceli E, Corazza GR. Breath Methane Excretion Is not An Accurate Marker of Colonic Methane Production in Irritable Bowel Syndrome. American Journal of Gastroenterology 2015;110(6):891-8.

Di Stefano M, Bergonzi M, Miceli E, Klersy C, Pagani E, Corazza GR. In irritable bowel syndrome, postprandial abdominal distention is associated with a reduction of intestinal tone. Neurogastroenterol Motil 2017;29:1-8.

Di Stefano M, Pagani E, Benedetti I, Corazza GR Severe dysphagia rapidly reverted after iron supplementation.In irritable bowel syndrome, postprandial abdominal distention is associated with a reduction of intestinal tone. Intern Emerg Med. 2018;13:295-296.

Di Stefano M, Pucci E, Miceli E, Pagani E, Brondino N, Nappi G, Corazza GR, Di Sabatino A. Prevalence and pathophysiology of post-prandial migraine in patients with functional dyspepsia. Cephalalgia 2019;39:1560-1568.

Di Stefano M, Bergonzi M, Benedetti I, De Amici M, Torre C, Brondino N, Miceli E, Pagani E, Marseglia GL, Corazza GR, Di Sabatino A. Alterations of Inflammatory and Matrix Production Indices in Celiac Disease With Low Bone Mass on Long-term Gluten-free Diet. J Clin Gastroenterol 2019;53:e221-e226.

Di Stefano M, Pagani E, Pesatori EV, Bergonzi M, Figura N, Corazza GR, Di Sabatino A. Polysorbate 80 add-on therapy in the treatment of Helicobacter pylori infection: Polysorbate 80 and HP antibiotic resistance. Clin Nutr ESPEN 2019;34:101-103.

Lenti MV, Borrelli de Andreis F, Pellegrino I, Klersy C, Merli S, Miceli E, Aronico N, Mengoli C, Di Stefano M, Cococcia S, Santacroce G, Soriano S, Melazzini F, Delliponti M, Baldanti F, Triarico A, Corazza GR, Pinzani M, Di Sabatino A, Internal Medicine Covid-19 Team. Impact of COVID-19 on liver function: results from an internal medicine unit in Northern Italy. Intern Emerg Med. 2020;15:1399-1407.

Melazzini F, Colaneri M, Fumoso F, Freddi G, Lenti MV, Pieri TC, Piloni D, Noris P, Pieresca C, Preti PS, Russo M, Corsico A, Tavazzi G, Baldanti F, Triarico A, Mojoli F, Bruno R, Di Sabatino A; San Matteo Pavia COVID-19 Task Force. Venous thromboembolism and COVID-19: a single center experience from an academic tertiary referral hospital of Northern Italy. Intern Emerg Med. 2021;5:1.
Correction: Venous thromboembolism and COVID-19: a single center experience from an academic tertiary referral hospital of Northern Italy. Intern Emerg Med. 2021;5:1.

Bergamaschi G, Borrelli de Andreis F, Aronico N, Lenti MV, Barteselli C, Merli S, Pellegrino I, Coppola L, Cremonte EM, Croce G, Mordà F, Lapia F, Ferrari S, Ballesio A, Parodi A, Calabretta F, Ferrari MG, Fumoso F, Gentile A,

Melazzini F, Di Sabatino A; Internal Medicine Covid-19 Collaborators. Anemia in patients with Covid-19: pathogenesis and clinical significance. Clinical Experimental Medicine 2021;21:239-246. Correction: Anemia in patients with Covid-19: pathogenesis and clinical significance. Clinical Experimental Medicine 2021 May;21:247.

Grants	
Role in the project	
Role	*Total Effort (person/months)*
Collaborator	*2 months*

Bibliography

List all the articles cited. For each publication indicate: authors, title, journal, volume, issue, pages and year of publication. If available online, provide the link.

[maximum 50 publications]

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NETWORKING

LETTERS

Sistema Socio Sanitario
Regione Lombardia
ASST Melegnano e Martesana

Direzione Generale
Prot. 0029880 del 7/12/2021

Spettabile
Fondazione Cariplo
Via Manin 23
20121 MILANO

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"*

Il sottoscritto Dott. Francesco Laurelli, in qualità di Legale Rappresentante della ASST Melegnano e della Martesana avente sede legale in Vizzolo Predabissi 20070 Mi, Via Pandina,1,

avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo **"The Post-Covid-19 Syndrome: network building as a tool for evaluation and management of a novel, emergent chronicity"**, con la presente intendiamo esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza"

La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio lungo termine. Pertanto, considerata l'attenzione scientifica, clinica e epidemiologica che il progetto propone come approccio allo studio della sindrome Post-Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità della ASST Melegnano e della Martesana,
- che la ASST Melegnano e della Martesana parteciperà in qualità di "Portatore terzo della conoscenza" prendendo parte al progetto con i suoi professionisti non già coinvolti in altre progettualità Cariplo sul medesimo bando, al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che la ASST Melegnano e della Martesana ha interesse alla rete di *networking* condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti

Il Direttore Generale
Dott. Francesco Laurelli

Visto del Direttore Sanitario
Dott. Valentino Lembo

Sistema Socio Sanitario
Ospedale Niguarda
Regione Lombardia

Spettabile
Fondazione Cariplo
Via Manin 23
20121 MILANO

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency".*

Il sottoscritto BOSIO MARCO, in qualità di Legale Rappresentante dell'ente ASST Grande Ospedale Metropolitano Niguarda, avente sede legale in Milano – piazza Ospedale Maggiore n. 3 -

avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo **"The Post-Covid-19 Syndrome: network building as a tool for evaluation and management of a novel, emergent chronicity"**, con la presente intende esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza".
La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando le capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio-lungo termine. Pertanto, considerata l'attenzione scientifica, clinica ed epidemiologica che il progetto propone come approccio allo studio della sindrome Post Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità dell'ente ASST Grande Ospedale Metropolitano Niguarda;
- che ASST Grande Ospedale Metropolitano Niguarda parteciperà in qualità di "Portatore terzo della conoscenza" prendendo parte al progetto con i suoi professionisti al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che ASST Grande Ospedale Metropolitano Niguarda ha interesse alla rete di *networking* condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti.

Il Direttore Generale
Marco Bosio

Sistema Socio Sanitario
Regione Lombardia
ASST Valtellina e Alto Lario

DIREZIONE GENERALE

Tel. 0342.521586 – fax 0342.521068 - e-mail direzione.generale@asst-val.it

Spettabile
Fondazione Cariplo
Via Manin 23
20121 MILANO

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"*

Il sottoscritto Saporito Tommaso, in qualità di Legale Rappresentante dell'ente ASST Valtellina e Alto Lario avente sede legale in Via Stelvio 25- 23100 Sondrio,

avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo ***"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"***, con la presente intendiamo esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza" La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio lungo termine. Pertanto, considerata l'attenzione scientifica, clinica e epidemiologica che il progetto propone come approccio allo studio della sindrome Post-Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità dell'ente ASST Valtellina e Alto Lario,
- che ASST Valtellina e Alto Lario parteciperà solo in qualità di "Portatore terzo della conoscenza" qualora fosse compatibile con il ruolo di partner di altro progetto che l'azienda sta presentando su stesso bando dal titolo "Networking, ricerca e formazione sulla Sindrome PostCovid" prendendo parte al progetto con i suoi professionisti al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che ASST Valtellina e Alto Lario ha interesse alla rete di *networking* condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti

Il Direttore Generale
Dott. Tommaso Saporito

Sistema Socio Sanitario
Regione Lombardia
ASST Spedali Civili

Direzione Generale
Tel. 030/3995937 Fax 030/306974
E-mail: direttore.generale@asst-spedalicivili.it

Prot. gen. n. 0080799

Brescia, 07/12/2021

Spettabile
Fondazione Cariplo
Via Manin 23
20121 MILANO

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"*

Il sottoscritto Lombardo Massimo, in qualità di Legale Rappresentante dell'ente "Azienda Socio-Sanitaria Territoriale degli Spedali Civili di Brescia" avente sede legale in Brescia, Piazzale Spedali Civili n.1 avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo **"The Post-Covid-19 Syndrome: network building as a tool for evaluation and management of a novel, emergent chronicity"**, con la presente intendiamo esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza".
La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio lungo termine. Pertanto, considerata l'attenzione scientifica, clinica e epidemiologica che il progetto propone come approccio allo studio della sindrome Post-Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità dell'ente Azienda Socio-Sanitaria Territoriale degli Spedali Civili di Brescia,
- che l'Azienda Socio-Sanitaria Territoriale degli Spedali Civili di Brescia parteciperà in qualità di "Portatore terzo della conoscenza" prendendo parte al progetto con i suoi professionisti al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che l'Azienda Socio-Sanitaria Territoriale degli Spedali Civili di Brescia ha interesse alla rete di *networking* condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti

Il Direttore Generale
Dott. Massimo Lombardo

Struttura competente:
Progettazione Ricerca Clinica e Studi di Fase I
Responsabile: Dr. Aldo M. Roccaro
Responsabile del Procedimento amministrativo: Dott.a Luisa Alessandrini
Tel.: 030.3996851 - e-mail:
luisella.alessandrini@asst-spedalicivili.it

Bergamo, 14/12/2021

Spett.le
Fondazione Cariplo
Via D. Manin, 23
20121 Milano

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo "The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"

La sottoscritta DR.SSA MARIA BEATRICE STASI, in qualità di Legale Rappresentante dell'ente ASST PAPA GIOVANNI XXIII (avente sede legale in BERGAMO, PIAZZA OMS - Organizzazione Mondiale della Sanità, 1 24127 Bergamo, avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo "The Post-Covid-19 Syndrome: network building as a tool for evaluation and management of a novel, emergent chronicity", con la presente intendiamo esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza".
La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio lungo termine. Pertanto, considerata l'attenzione scientifica, clinica e epidemiologica che il progetto propone come approccio allo studio della sindrome Post-Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità dell'ente ASST PAPA GIOVANNI XXIII,
- che ASST PAPA GIOVANNI XXIII parteciperà in qualità di "Portatore terzo della conoscenza" prendendo parte al progetto con i suoi professionisti al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che ASST PAPA GIOVANNI XXIII ha interesse alla rete di networking condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti

Il Direttore Generale
Dott.ssa Maria Beatrice Stasi

UOC Ricerca, Innovazione e Brand Reputation
Il Responsabile del Procedimento: dott.ssa Monia Maria Beatrice Lorini
Pratica trattata da dr.ssa Mariangela Fumarola tel. 035 267 4211

Visto – procedere Direttore Sanitario, dott. Fabio Pezzoli

Sistema Socio Sanitario
Regione Lombardia
ASST Monza

DIREZIONE GENERALE
Via Pergolesi, 33
20900 Monza (MB)
tel: 039-2339709
dir.generale@asst-monza.it

Spettabile
Fondazione Cariplo
Via Manin 23
20121 MILANO

OGGETTO: Manifestazione di interesse al progetto rif. n. 2021-4388 dal titolo *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"*

Il sottoscritto SILVANO CASAZZA, in qualità di Legale Rappresentante dell'ente ASST MONZA Ragione Sociale Ente Pubblico P.IVA e CF 09314290967 avente sede legale in Monza, Via pergolesi 33, avendo preso visione dei contenuti del progetto promosso da Fondazione Cariplo **"The Post-Covid-19 Syndrome: network building as a tool for evaluation and management of a novel, emergent chronicity"**, con la presente intendiamo esprimere l'interesse a partecipare al network in qualità di "Portatore terzo della conoscenza".
La realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatorie e di presa in carico dei bisogni dei soggetti che hanno avuto una infezione da COVID-19 e di cui attualmente non è nota l'evoluzione clinica a medio lungo termine. Pertanto, considerata l'attenzione scientifica, clinica e epidemiologica che il progetto propone come approccio allo studio della sindrome Post-Covid-19 e della estesa rete che costituisce il network di riferimento del partenariato,

DICHIARA

- il vivo interesse per il progetto, ritenendolo coerente con gli obiettivi e le finalità dell'ente ASST Monza,
- che ASST Monza parteciperà in qualità di "Portatore terzo della conoscenza" prendendo parte al progetto con i suoi professionisti al fine di rafforzare le competenze già in essere aumentandone anche sia la trasferibilità, sia le potenziali ricadute;
- che ASST Monza ha interesse alla rete di *networking* condividendo e partecipando alla diffusione dei risultati finali del progetto.

Cordiali saluti

Il Direttore Generale
Silvano Casazza

EXTERNAL PROVIDERS

Prot 196 del 14-12-2021

Spettabile

FONDAZIONE CARIPLO

Via Manin 23

20121 Milano

Oggetto: Preventivo per il progetto rif. N. 2021 – 4388 dal titolo "*The Post Covid – 19 Syndrome: network building and innovative management to address a new public health emergency*

Il sottoscritto Dottor MARIO BATTISTA SORLINI, codice fiscale SLR MBT 53M04 D117Y, in qualità di legale rappresentante della cooperativa **INIZIATIVA MEDICA LOMBARDA SCPA** avente sede legale in Via Autostrada n. 32 Bergamo

PREMESSO

- Di aver preso visione e manifestato il proprio interesse al progetto promosso da Fondazione Cariplo "***The Post Covid – 19 Syndrome: network building as a tool for evaluation and managemnt of a novel, emergent chronicity";***
- Che la realizzazione del progetto, infatti, permetterebbe di accrescere gli elementi conoscitivi a disposizione della sanità pubblica, migliorando la capacità programmatoria e di presa in carico dei bisogni dei soggetti che hanno avuto un infezione da COVID 19 di cui attualmente non è nota l'evoluzione clinica a medio lungo termine, considerata l'attenzione scientifica, clinica ed epidemiologica che il progetto propone come approccio allo studio della sindrome Post – Covid 19 e della estesa rete che costituisce il network di riferimento del partenariato;
- Che la scrivente cooperativa, coerentemente agli obiettivi e le finalità dell'ente, partecipa in qualità di *"Portatore terzo delle conoscenza"* prendendo parte al progetto con i suoi professionisti

SI COMUNICA

Che il preventivo dei costi per la partecipazione del progetto è pari a Euro 30.000,00= (trentamila/00) oltre IVA.

Cordiali saluti

Presidente IML

Mario Battista Sorlini

I.M.L. s.c.p.a.
Iniziativa Medica Lombarda
Via Daste e Spalenga, 3
24125 Bergamo
Tel. 035 303053

Progetto *"The Post-Covid-19 Syndrome: network building and innovative management to address a new public health emergency"*

bando Fondazione Cariplo "Networking, ricerca e formazione sulla Sindrome Post-Covid"

INFRASTRUCTURE FOR DATA COLLECTION

DESCRIPTION

The architecture of the integrated information system will be defined according to the results of the Task T3.2 using technologies and methods to deal with privacy and consent. The solution will implement a federated data infrastructure where autonomy of the individual partners is guaranteed and where data from different sources can be pooled for the data analysis and the conduction of epidemiological studies. The datawarehouse will contain administrative data (provided by the ATSs) and clinical data (provided by the ASSTs). In this proposed database approach, each ATS will convert their raw data into common input files, based on the semantic harmonization process, ontologies and definitions that will be developed in Tasks T1.2, T2.2 and T3.2 whereas ASSTs will be able to add patients' clinical and laboratory data having access to the administrative data provided by the ATSs.

In order to comply with EU regulation 2016/679 and EU directive 2016/680 (GDPR), the system will be equipped with a specific tool to de-identify, aggregate and pool data that can be remotely accessed only by authorized researchers. This allows for shared and distributed analyses, is flexible regarding the type of underlying data and open to accept additional ATSs (or potentially additional Local Health Units from other regions) if and as they become available.

In order to preliminarily assess the quality and amount of information provided by each ATS, descriptive analyses aiming at identifying possible outliers and irregular data structures - based on counts and distributions as well as information on disease incidences - will be performed. The data manager will also be in charge of constantly controlling the quality of the clinical data entered by each ASST.

Estimated total value

Value VAT included: 46.000,00 EUR

Duration of the contract

Duration in months: 12

Procurement procedures

The external Service Provider will be selected through an EPROCUREMENT procedure which will be launched and managed by ATS Valpadana.