Project Duration
18 months

Project Title
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.

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Executive Summary
The study of population health with a focus on area of residence has been gaining ground internationally in the setting of disease prevention strategies and health promotion, based on the strong link existing between people's health status and their living context. However, despite a marked interest in detecting the health status of the population in the various urban areas (e.g., neighbourhoods, districts, census subdivisions, etc.), there are no specific data sources available for the city of Milan containing information about the distribution of the main risk factors with a sufficient level of spatial detail, since the Italian National Institute of Statistics (Istat) sample surveys on health status and access to the healthcare system are representative only at the provincial/city level and above.

The Agency for Health Protection of Milan (ATS Milan) developed a web-based open data information system[1] that makes it possible to access updated information on the health status and healthcare use of the population living in the territory covered by the ATS of the Milan Metropolitan Area, corresponding to the provinces of Milan and Lodi. But despite the wealth of available information, including demographics, hospitalizations, main chronic diseases, mortality by cause, and cancer incidence, the structure of the available data has not allowed for detail beyond the city level, so that it is not possible to search out information at a sub-city level, which is of paramount importance in the case of large towns like Milan. A series of publications issued by the Milan municipality over the past decade—the 2005 Maps of Hospitalizations and Mortality in Milan[2], the 2007 Cancer Incidence Atlas[3], as well as the Health Status by Town data sheets that have been published since 2016[4]— offer a very detailed picture of disease distribution, including details for the 18 statistical areas of Milan, but they give no information regarding the risk factors that can favour disease onset, thus failing to provide elements that could be used by local policymakers and stakeholders from a preventive and predictive perspective, as envisioned by guidelines for national and regional planning, which underscore the need for a multifaceted approach in health protection and promotion.

In an urban context such as Milan's, marked by a strong heterogeneity in the population from an economic, social, cultural, demographic, and ethnic point of view, knowledge about the health profiles and main risk factors in the various urban areas would be paramount to be able to plan health protection actions. Therefore, we propose the creation of a tool that would systematically collect data on health status, behaviours, lifestyles, and risk factors in the 88 neighbourhoods (*Nuclei di Identità Locale*, NIL) that make up the City of Milan, integrating them with administrative health and social care data coming from regional

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[1] https://www.ats-milano.it/portale/Epidemiologia/Portale-stato-di-salute-e-accesso-alle-prestazioni-sanitarie

[2] https://www.ats-milano.it/Portale/Portals/0/AtsMilano_Documenti/Atlante%20dei%20Ricoveri%20e%20Mortalit%C3%A0%20a%20Milano%202005_d66a083b-f3ff-42f2-8344-55eaaabe0cea.pdf

[3] https://www.ats-milano.it/Portale/Portals/0/AtsMilano_Documenti/Rapporto%20Tumori%20a%20Milano%202007_98c3c5fc-b2fb-4135-9d6e-affb902884b6.pdf

[4] https://www.ats-milano.it/Portale/Portals/0/AtsMilano_Documenti/Lo%20stato%20di%20salute%20per%20Comune%20%20%20-%20anno%202018_28c1e47c-28da-4ddd-95b8-09a709cfeee8.pdf

information flows and geographical and cartographic data available online and through institutional sources. This would make it possible to draw a detailed profile of the health status, as well as of the local heterogeneity of health conditions and risk factors of the population of Milan, following its evolution over time.

The goal of the project is to achieve accurate knowledge of the different distribution, within the NILs that make up the City of Milan, of risk factors for people's health, both as regards to individuals (e.g., behaviours, healthy lifestyles, socio-economic conditions), and areas (e.g., presence/absence of services, living environment, crime rate). To date, this type of information is completely lacking and can only be indirectly, approximately, and imprecisely inferred, making it impossible to plan actions to prevent diseases and safeguard and promote health in the population by taking into account the diverse health needs of the population in the various urban areas. In addition, the lack of available, accessible, and easily comprehensible data prevents most stakeholders on the field from appropriating knowledge to use it for endeavours, messages, and actions to influence and facilitate the health choices of individual citizens and the community at large, starting from local communities. Likewise, the fact that public health data are currently almost exclusively available on a provincial or even regional scale greatly hampers evidence-based planning approaches, and undermines consolidation of the "data culture" which should be at the basis of planning choices, especially at a time when resources are scarce.

The project therefore envisages the creation of a web platform to collect information on the health status, risk factors, behaviours, lifestyles, and socioeconomic status of a representative sample of Milan's population, ensuring it representativeness at a neighbourhood level. The elementary data gathered is to be integrated with individual information taken from the existing health information flows, making it possible to have, for each interviewed person, information regarding their health status, such as medical conditions, health services used, access to social and health care services, drug treatments. This will enable an unprecedented extension of the possibility of using the data coming from health data flows, overcoming the limit of having to work only with strictly medical and hospital-based information. By matching the available administrative data to the new information provided by the survey, it will be possible to analyse health outcomes together with variables from other fields, expanding the potential of information available in the healthcare sector. Likewise, the sample and administrative data will be correlated to geographical data regarding the organization and characteristics of each neighbourhood, exploiting the vast amount of information on urban environment available online and from institutional sources, and making it possible to examine health outcomes not exclusively with respect to the individual characteristics of the population, but also to the characteristics of the context in which the people live.

Once created, the new information system resulting from the integration of various sources will be used to implement suitable socio-epidemiological analyses (descriptive, exploratory, predictive, and explanatory) aimed at tracing the risk profile of the population both at an individual and territorial level, pursuing the twofold goal of providing a map of the risk factors and health status in the city of Milan and to find, from a statistical point of view, causal relationships between the characteristics of the urban context and the population's health outcomes.

The results of the models that will be developed will provide key insight for the planning of interventions to protect and promote health both at an individual and hyperlocal level, with positive repercussions both in terms of population well-being and healthcare costs. Moreover, it will be possible to monitor the effects of already established or on-going interventions on health promotion and reduction of environmental risk factors, providing feedback on efficacy and effectiveness and allowing for corrections while the project is still underway.

Background and project rationale

Health, City, and Inequalities

Multiple mechanisms linking individual well-being to local setting are at the bottom of the importance of studying the health status of a population in relation to the characteristics of the urban setting in which it

resides (Capolongo *et al.*, 2017). Population distribution within a city is well known to be all but random, systematically reproducing the distribution of economic, social, and cultural resources within the population itself (Musterd, 2005; Oberti & Préteceille, 2016). In other words, social stratification is reflected in the distribution by area, with the least advantaged segments of the population (in terms of income, educational level and employment conditions) mostly living in areas of lower economic value, that are distant from the centre of town and services, and in lower quality housing in worse maintenance condition than more wealthy classes (Barbagli & Pisati, 2012, Saraceno *et al.*, 2020). A solid scientific literature has proved the presence of a social gradient in health (Marmot, 2005), i.e., a link between socioeconomic status and health status, so that individuals who belong to less wealthy social groups are subject to a higher morbidity and mortality, as well as worse quality of life and physical and mental well-being levels compared to those who belong to wealthier classes (Link e Phelan, 1995; Phelan *et al.*, 2010). As a consequence of the residential and housing models described, a number of urban areas show a greater concentration of individuals with worse risk and health status profiles than others (Duncan & Kawachi, 2018). The socioeconomic stratification of society is therefore reflected in health status inequalities at a social level, which in turn tend to result in health inequalities across different areas, as well (Kawachi & Berkman, 2003).

However, grouping within the same areas of individuals that are at greater health risk is not the only cause for the identification of urban clusters with higher morbidity and mortality levels. The most recent literature has corroborated the assumption that living environment features can have a positive or negative influence on the health status of those who live in that particular place (Capolongo *et al.*, 2018; D'Alessandro *et al.*, 2015; 2017). In other words, the diversity between living areas in the different levels of well-being of a population is not purportedly only the product of the diverse social composition of urban areas, but is at least in part determined by certain specificities of the areas themselves (Macintyre *et al.*, 2003).
Whereas a number of factors and links are more intuitive and well-known—such as the role of air pollution in determining the risk of respiratory diseases—others might be less evident, but are no less relevant. For example, the lack of greenery, of public space that can be walked or biked through, of quality education, of an extensive, efficient public transport network, and of a food purchase network that favours the consumption of healthy foods are factors that can shape exposure to the risk of several chronic diseases, leading to the adoption of unhealthy lifestyles characterized by sedentary habits and unbalanced diets both in quantity and quality (Azzopardi *et al.*, 2020; D'Alessandro & Capolongo, 2015; Rebecchi *et al.*, 2019).

The picture outlined above clearly shows that place-based health differentials are not exclusively the result of the concentration of individuals with similar characteristics (age, education level, occupational class, income, family condition, etc.) and, consequently, similar risk profiles in the same areas. Structural/material characteristics, as well as social, cultural, and relational characteristics of living environments play a significant role in defining the risk exposure of individuals. Therefore, more disadvantaged individuals and groups may be exposed to the "double jeopardy" (Macintyre & Ellaway, 2003, 34) deriving from the scarcity of (not merely economical) resources which they can allocate for their well-being and from critical aspects imposed by the urban structure of the areas they live in. It is essential to emphasize that these considerations are not merely of theoretical value, but are crucial in the devising and planning of projects for the prevention and promotion of health to reduce individual exposure to health risks (Buffoli *et al.*, 2020; Capolongo *et al.*, 2015; 2020). Neglecting the aspect of living context and exclusively focusing on the individual characterization of risk can easily lead to neglect determinants of population health status which should be acted upon to implement effective prevention strategies, even to make individual preventive actions more effective. Analysing and understanding the living environment of people is essential to understand the origin of health-related behaviours and provide indications to develop actions for health improvement. Moreover, the individualization of health risk explanation easily leads to a moral judgement of individual behaviour, through a mistaken idea of freedom of choice and rational behaviour (Lindbladh & Lyttkens, 2002).

The relevance of thinking of a population's health from an urban point of view is underscored by the rising quota of world population living in urban instead of rural areas. According to a United Nations' report, as of

2018, about 55% of the world's population (4.2 billion people) live in urban areas, and this percentage is estimated to grow to 68% (6.7 billion people) by 2050 (United Nations, 2018). Milan itself, which had a population of 196,000 in 1861 and was separated from the land surrounding it by a circle of walls —known as "*cerchia dei bastioni*"— in 2020 has a population of 1.40 million, as a result of progressive urbanization and massive immigration, which occurred at times without any true regulation plan. This highlights the rising importance of urban environment organization in the life conditions of the world population. The relevance of this phenomenon in relation to people's health is not purely numerical, i.e., due to the number of people who live in highly urbanized areas. Due to their characteristics, urban contexts tend to intrinsically encourage the adoption of lifestyles and behaviours that are potentially detrimental to health. In particular, when compared to less densely populated and overbuilt areas, besides having poorer air quality, cities induce widespread use of motorized transport, reducing physical activity levels. The shift to the service sector which is typical of urban contexts, with most people being deskbound, results in a highly sedentary lifestyle. The ample offer of fast food, minimarkets, ready meals, and ample retail sale of junk food, affects the quality of food supply, with easy access to low-quality food (high in calories, sugar, fat, and salt, but nutritionally poor). The presence of these characteristics has led to the definition of "obesogenic environments" (Lake & Townshend, 2006), i.e., contexts where the urban structures and infrastructures, the local offer of goods and services and, though to a lesser degree, the work market, social and cultural norms, and other factors, tend to favour physical inactivity, a sedentary lifestyle, and weight gain, with a significant increase in the risk of the onset of cardiovascular diseases, type-2 diabetes mellitus, cancer, and other diseases. As proof of this, even the Shanghai Declaration, drafted during the 9th and most recent Global Conference on Health Promotion, underlines that "*cities and communities are critical settings for health. Health is created in the settings of everyday life— in the neighbourhoods and communities where people live, love, work, shop and play*" (WHO, 2016).

The growing attention to the topic of population health from an urban perspective has led to approaches specifically aimed at understanding the phenomenon and designing strategies for health protection and promotion that are not just individual, but which focus on the aspect of local context and the way it structures exposure to health risk, based on place characteristics. According to the latest definitions, "urban health refers to a strategic orientation that integrates actions of protection and promotion of health into local planning, favouring awareness-based, sustainable processes of urban regeneration. Urban health, therefore, aims at defining actions that can have a positive impact on human health and quality of life, thus underlining the strong interdependence between physical, mental, and social well-being and the city in which one lives" (Fehr & Capolongo, 2016).

Clearly, local planning with goals of urban regeneration as described above, that aims at pragmatically meeting the population's health needs, cannot be effectively implemented without accurate knowledge of what those needs are. This highlights the importance of having detailed and reliable data and information on health status, risk factors, and characteristics of the living environment to enable an accurate assessment of the phenomenon, taking into account territorial diversity across the urban context.

Finally, a multisectorial approach that will spur various stakeholders and data holders toward a collection, sharing, and integrated processing of the information linked to the health status of individuals and the collectivity makes it possible from the start of the process to enrich the very keys of interpretation of the concept of "health", as well as to have a wholesome influence on the ordinary processes of construction of meaning of each stakeholder in their own sector of scholarship and/or intervention with positive consequences on the construction of a new "culture of health".

The situation in Italy

In Italy, availability of data that can be used to put approaches such as the one described into practice is scarce, and the case of Milan is no exception. Nationally, there is no sample survey that collects the information of interest at the necessary spatial detail, much less a secondary archive of health data from administrative sources (such as local health units, municipalities, etc.). The Istat "Health for All"[5] information system, which is the richest information source in Italy with regards to health, does not go beyond provincial detail for most of the available indicators, preventing from making an accurate assessment of the distribution of health determinants even just at the aggregate municipal level. Since 2008, the "PASSI" (*Progressi delle Aziende Sanitarie per la Salute in Italia* - Progress of Healthcare Units in Italy) surveillance system[6] has collected information about health-related lifestyles and risk factors. But the level of detail, corresponding to the area covered by local health units (*Aziende Sanitarie Locali*, ASL), and the fact that the survey has been suspended in Milan make this tool useless for fine-grained study of the Municipality of Milan. On the other hand, through the regional health information flows it is possible to derive a substantial load of information regarding individual health, which can be geo-referenced to various local units, and are currently used to create indicators to assess health outcomes and performance of health facilities. However, health data flows contain no information about risk factors, health-related behaviours and lifestyle, people's characteristics. Furthermore, by their nature, administrative data contain information only about people who have become ill or have developed health needs and had access to social and healthcare services, potentially excluding part of the population. Therefore, they do not on their own allow for an accurate analysis of risk factors for health and how they vary depending on the characteristics of the urban fabric.

No currently existing information source, therefore, enables us to reach sufficient knowledge of the lifestyle and health needs of Milan's population by neighbourhood or by any other territorial definition more narrow in scope than the entire city. This information has up to now been deduced epidemiologically from the prevalence of diseases highly correlated to specific risk factors (e.g., high percentage of smokers corresponding to a concentration of respiratory diseases; high Body Mass Index and physical inactivity levels corresponding to a concentration of type-2 diabetes mellitus, etc.). However, the use of biomedical indicators as risk factor proxies has various limitations. First of all, a disease or clinical condition can be associated to more than one risk factor, making it impossible—in the absence of specific information—to exactly discern which of these is the main determinant of the condition being examined (e.g., high prevalence in the neighbourhood of respiratory diseases as a consequence of smoking, quality of air, or exposure to toxic agents on the workplace). The problem also occurs conversely considering that various risk factors can favour the onset of more than one disease (e.g., Body Mass Index, physical inactivity, and sedentary lifestyle expose people to a risk of both cardiovascular disease and type-2 diabetes mellitus). The lack of a univocal correspondence between risk factors and health status makes it possible to use the procedure described only in the absence of methodologically more effective alternatives.

Goals

The project proposes to fill the evident gap in terms of availability of data that can keep track of phenomena of primary importance in the public health setting, fully exploiting all currently available data and integrating them with the new information collected, to make possible the construction of indicators that are currently inexistent, despite their being of paramount importance. To date, in Italy, data in the health sector are not exploited to their full potential, and their use is basically limited to analyses based exclusively on what is made available by the administrative information flows themselves, with little chance of expansion. The integration of the database with high-quality, highly-representative sample data and geographical data

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[5] https://www.istat.it/it/archivio/14562
[6] https://www.epicentro.iss.it/passi/

would significantly increase the possibility of use of the healthcare data, particularly for studies to gain knowledge that can be applied to plan, carry out, and monitor interventions that favour health promotion and disease prevention.

Relevance to the call

The project's set goal is to increase the field of application of healthcare data through integration with sample data on population risk factors and health status gathered at high territorial detail, as well as with geographical open data available online and from institutional sources. The main purpose of this integration and expansion of health information flows is to achieve a higher level of knowledge of the distribution of risk factors and health status of the population of Milan, with particular focus on its territorial structure.

Relevance of goals

From the point of view of the goals described in the call for proposals, the proposed project is geared towards the understanding of socially relevant topics—among which the safeguard of public health undoubtedly plays an important role—using empirical evidence that can be acquired through data science. Once the new information system has been set up by integrating the various sources, the next step will be using statistical tools of various kind, in order to process significant, relevant information based on the newly established information source.

A further important element in the proposed approach lies in its interdisciplinary nature. In a setting where healthcare data almost exclusively pertains to medical sciences in a narrow sense, integration with approaches of different fields could make it possible to relevantly expand the possibilities of public health analysis, interpretation, and intervention. Specifically, statistical methods would be flanked by a study of health outcomes using social science knowledge, reading results from the point of view of social and territorial patterns of health outcomes and inequalities, following the most validated theories and empirical evidence on this topic.

Relevance of expected outcomes

With respect to expected results, the project aims to generate high social impact outputs, providing the basis for planning and carrying out interventions that would outline the relationship between individual and urban environment, redefining the organization of health risks in the intent to promote an improvement in long-term outcomes, acting on the relationship between risk factors and onset and management of diseases, with a particular focus on chronic diseases. This would essentially involve giving a clear-cut indication of the needs of each neighbourhood in terms of the most relevant or urgent issues to deal with, suggesting an intervention programme. For example, every year, ATS Milan, working closely with external stakeholders—such as the Local School Agencies and local health units—drafts a Local Integrated Plan for Health Promotion (*Piano Integrato Locale di Promozione della Salute*, PIL), which offers a planning and methodological framework for local health promotion programmes, and could benefit from the results emerging from the analyses that will be carried out using the new tool proposed.

Experimental plan

The project will set off with the creation of a longitudinal cohort, made up by people who are representative at a neighbourhood level, who will periodically respond to a questionnaire to follow the evolution of detected variables over time. After the first data collection, the questionnaire will be submitted again yearly, replacing at each survey individuals who leave the cohort for any reason (e.g. withdrawing of consent, failure to answer, change of address, death). The data collected by the questionnaire will be integrated with a selection of variables of interest taken from health information flows, and with geographical data available from various sources, establishing an *integrated information system* based on which it will be possible to carry out analyses using various statistical models. The results obtained will be used to plan activities for the safeguard and promotion of health locally.

The first steps that need to be taken to set up the project are the selection of the sample to be surveyed, the organization of the questionnaire to use for the survey, and the preparation of the online data collection platform.

Sampling

To ensure representativeness of the selected sample both at a municipal and neighbourhood level, multi-stage sampling (Etikan & Bala, 2017) will be implemented, which will make it possible to extract from the reference population a representative sample by characteristics of interest (age, sex, nationality, permanent address, health status, socioeconomic status) for each survey area. As local analysis units, the subdivision of the municipality of Milan into 88 NILs will be used. NILs are areas that can be defined as "historically or project-defined neighbourhoods, with specific characteristics that set them aside from each other. […] They were first introduced by the urban master plan (*Piano di Governo del Territorio* - PGT) as a set of settings interconnected by infrastructures and mobility services, green spaces. They are urban vitality systems: concentrations of local businesses, parks, meeting points, services; but they are also 88 local identity settings that need to be strengthened, designed, and through which to organize small and large services (Service Plan)"[7]. The territorial subdivision of the city of Milan into 88 NILs is represented in Figure 1.

The extraction of individuals that are to take the questionnaire will be made based on the information that can be found in the new regional registry (*Nuova Anagrafe Regionale* - NAR) and ATS health information flows. In order to maintain the representativeness of the 88 statistical areas, assuming each area with a mean population of 11,517, with ages between 18 and 75, a two-sided confidence interval at 95% with a 5% margin of error, it would be necessary to sample on average 372 individuals per NIL, for an overall total of 32,736 subjects who would form the longitudinal cohort.

The sampling will be integrated yearly to include new subjects to replace responders who are no longer part of subsequent surveys, for a number of different reasons (e.g., deceased, relocated, withdrew consent, could not be reached, etc.). This procedure makes it possible to have, every year, a statistically representative sample of the reference population.

The replacement of deceased responders can be made based on mortality rates of the previous year, by age class and gender, ensuring the representativeness of the population guaranteed at start-up is maintained. Figure 2 shows the mortality rate (per 1,000 people) in the 18-75 year old population of Milan in 2018, by age and gender. With regards to deaths, on the basis of the calculated rates, 103 new subjects are estimated to be included in the next survey, in different measure according to each age and gender class, as reported in Table 1. Inclusion of new subjects in the sample for reasons other than mortality will be decided subsequently, based on the non-response rates generated after each survey.

As anticipated, the described sample design would ensure, besides the onset of a longitudinal cohort to be followed up over time, a representativeness by NIL of the cross-sectional samples at every annual survey.

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[7] http://www.datiopen.it/it/opendata/Comune_di_Milano_Nuclei_d_Identit_Locale_quartieri.
See also: www.pgt.comune.milano.it/psschede-dei-nil-nuclei-di-identita-locale/nuclei-di-identita-locale-nil

Figure 1: Local identity units (Nuclei di identità Locale - NIL): Territorial subdivision of the city of Milan corresponding to the minimum planning units described in the urban master plan (Piano di Governo del Territorio (PGT) Source: Municipality of Milan -Integrated Systems for Services and Statistics Division
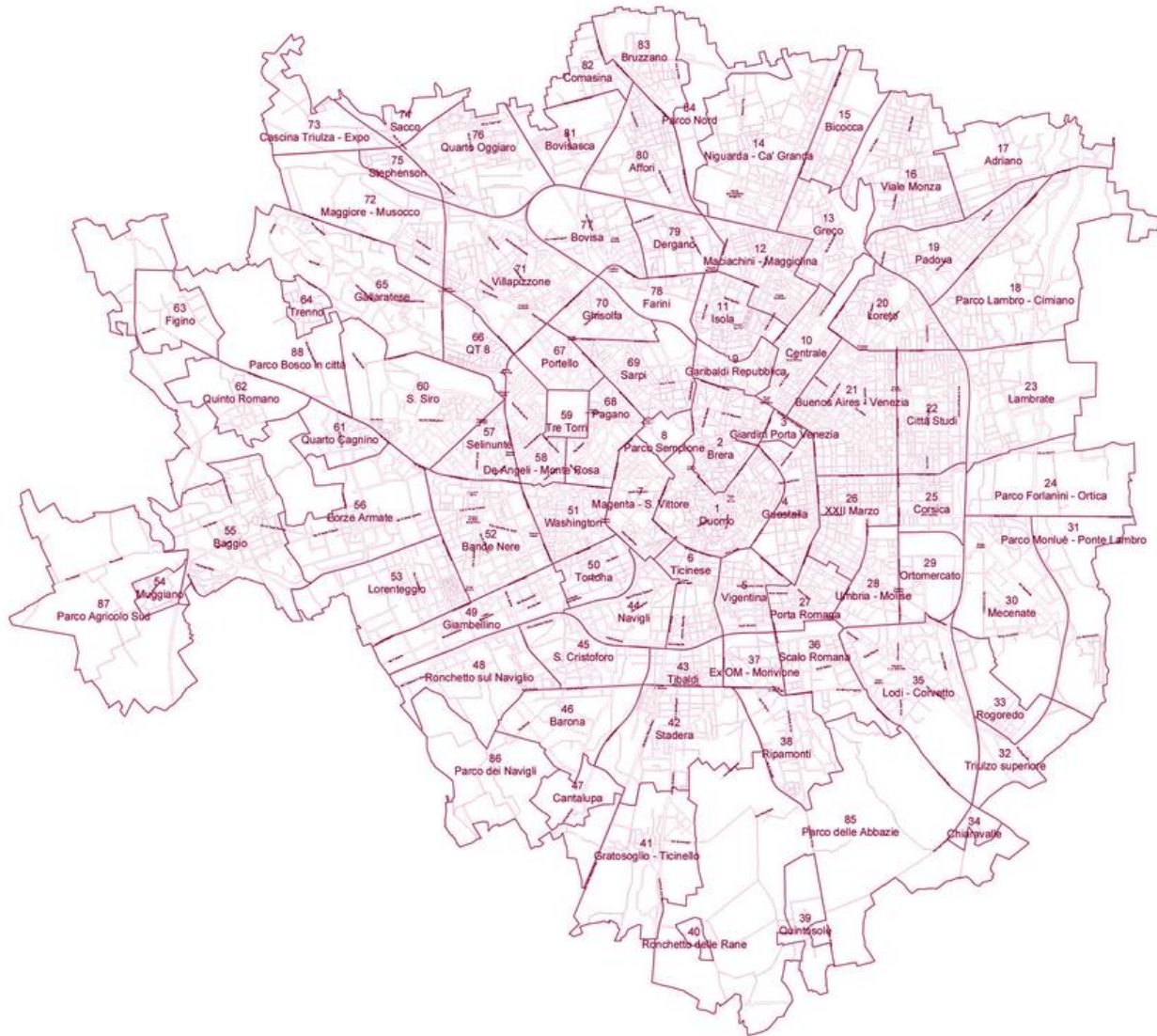
Figure 2: Mortality rate (per 1,000 people) by gender and age. Municipality of Milan, 2018. Source: our processing of Milan's Open Data(https://dati.comune.milano.it/dataset/ds137-popolazione-residenti-decessi-quartiere).
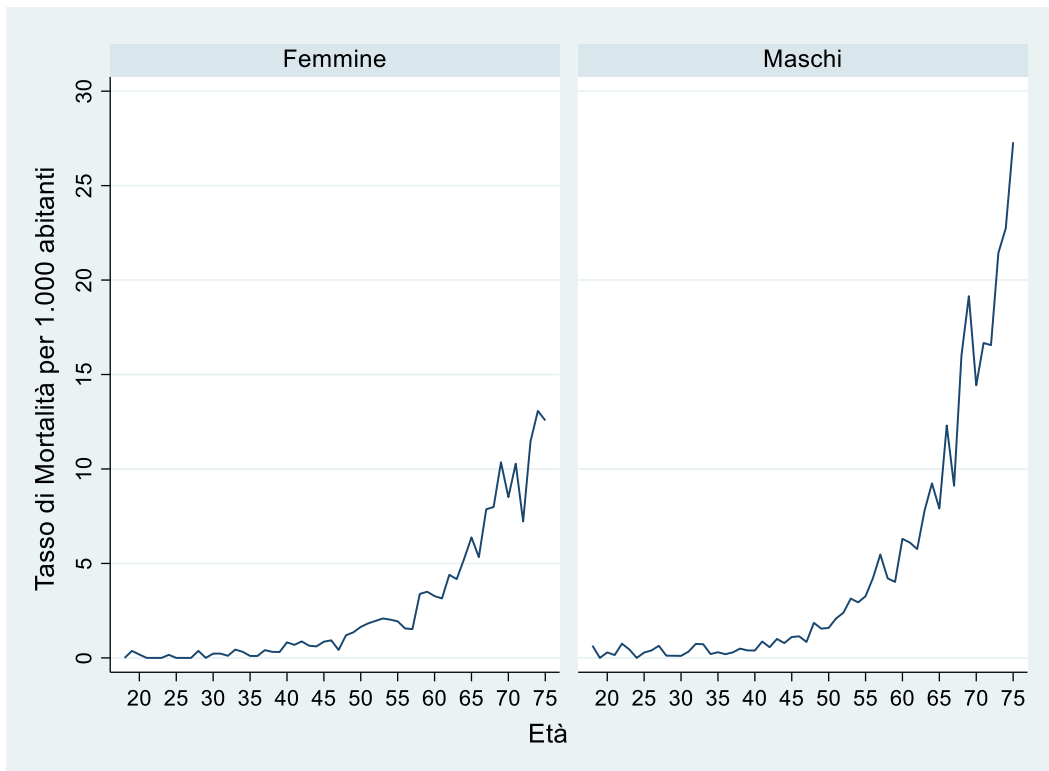

Table 1: Mortality rate (per 1,000 people) and projected number of subjects to be estimated for the next survey by gender and age class.

Age class	Rate of mortality (‰)		Subjects to resample (no.)	
	Females	Males	Females	Males
18-39	0.17	0.35	1	2
40-49	0.84	1.01	3	4
50-59	2.15	3.33	7	11
60-69	5.81	9.97	15	21
70-75	10.52	19.86	16	23

Questionnaire draft and characteristics

In order to gather the data of interest, an online self-administered questionnaire will be proposed (*Computer-Assisted Self Interviewing*, CASI) to a population sample representative at neighbourhood level. Compared to in-person interviews, this method decreases survey costs and time, also making it possible to minimize the risk that answers to questions dealing with sensitive topics may be distorted by social desirability or left unanswered.

Based on the topics of interest presented in the paragraph above, the questionnaire will be drafted using a structure validated in the literature and broadly used nationally and internationally (e.g., Istat "Health Status and Healthcare Service Access" survey, "European Health Interview Survey", "PASSI" survey). The survey will have a series of multiple-choice items, which allows for unambiguous data and instantaneous archiving, making data immediately available for subsequent stages of analysis.

The longitudinal, yearly study design will make it possible to obtain information that can be analysed both synchronically (e.g. comparison between neighbourhoods or risk factors within the same survey) and diachronically (e.g., evolution of the profile of a neighbourhood or risk factor across different surveys). Once the initial set-up has been established, the tool's flexibility will make it possible to update items based on specific unforeseen needs that may emerge as relevant public health topics (e.g., inclusion in the following survey of questions about emerging diseases or risk factors).

More in detail, the following is a list of the topics of interest for which data must be systematically gathered:

Behaviours and lifestyle
- Dietary habits
- Smoking
- Physical activity/Sedentary lifestyle
- Alcohol consumption
- Drug consumption
- Gambling
- Sexual behaviours

Self-reported health status
- Chronic or other current diseases
- Existing functional limitations (e.g., SF-36/SF-12 health survey) (Ware et al., 1994; 1996)
- Self-perceived health

Prevention
- Screening
- Vaccinations
- Participation in Health education and promotion programmes

Access to care
- Most recent access
- Public/private access
- Free/paid access
- Failure to access healthcare
- Reasons for failure to access (economic, time, distance, no diagnosis, etc.)

Social networking and support
- "Position Generator" (Lin et al., 2001)
- "Resource Generator" (Van Der Gaag & Snijders, 2005)

Social-demographic profile
- Age, sex, nationality,
- marital status number of children, number of family members,
- education, parental education,
- Employment status
- Occupational class
- Income bracket

NB: In each subsequent survey, it will be possible to add new items based on emerging needs, giving the tool a flexible structure that enables it to rapidly respond to the population's new needs.

Development of the survey platform

The online survey will be offered through a dedicated website, where individuals selected during the sampling phase will be able to answer the questions. Survey participation will be optional and anonymization of respondent data will be guaranteed.

The survey platform will be entrusted to three temporary resources hired specifically to work on the project. Considering the need to keep trace of respondents to be able to match survey answers to administrative health data and follow their evolution over time, recruitment of subjects to be surveyed will take place by personal letter sent to the subjects' permanent address. Along with an invitation to take part in the survey, instructions on how to participate in the study, and information regarding data privacy, each letter will have a randomly generated unique identification code that will be used to access the platform and enter survey answers.

Integration of the various sources of data

In Italy, since 1978, the population has been covered by a universal healthcare system, nationally funded by general tax revenue and direct revenue. In the region of Lombardy, management of the health system has been supported by automated databases since 1997; the databases collect a variety of information concerning services provided to healthcare users. The information system makes it possible to reconstruct specific datasets of interest starting from eight main information flows: 1) outpatients, 2) hospital discharges, 3) co-payment exemption register, 4) emergency department access, 5) rehabilitation interventions database, 6) territorial-based psychiatry interventions database, 7) pharmaceutical prescriptions database, 8) community and social services.

Each service supplied by the national healthcare system is therefore traced through the patient's tax ID code, using which it is also possible to integrate different information flows, as well as to match the flows to the demographic information available from the regional general registry.

Once the sample data have been collected, it will be possible to integrate them using additional sources. Linkage with health records will use the randomly generated identification code as a unique key, after having created a list of the correspondence between the respondents' sample identification codes and tax ID codes (obtained from the registry office). Once the linkage procedure has been completed, the tax ID code will be eliminated from the *integrated information system*, along with any other possible reference that would make it possible to trace the identity of the survey respondent, fulfilling the need to ensure the anonymity of the collected data, considering their sensitivity.

The geographical data collected online at various levels will be aggregated by neighbourhood (NIL) in a GIS environment, harmonizing them with the sampling level and making it possible to match them to the individual records. In the *integrated information system*, therefore, each observation will represent a subject interviewed in the sample survey, and for each subject there will be variables from three different sources, which can be analysed jointly:

Sample variables
Collected through survey;
Level: individual;
Scope: self-reported risk factors and health status of respondents.
E.g., Body Mass Index, smoking, dietary habits.

Healthcare variables
Collected from community and health service information flows;
Level: individual;
Scope: community and healthcare services from administrative sources.
E.g.: Health tax exemption for specific disease, number of hospital admissions in the past 12 months, emergency care admissions.

Geographical variables

Site-specific characteristics identified online (e.g., chamber of commerce, open data);
Level: aggregate (with respect to each indicator, individuals living in the same NIL have the same value);
Scope: characteristics of the living context
E.g.: Presence of pedestrian-friendly areas, healthcare services, fast-food venues in the neighbourhood of residence.

Once the organization of the *integrated information system* has been completed, it will be possible to proceed with the analyses envisaged by the project. As anticipated, there will be four distinct study components: respectively descriptive, explorative, predictive, and explanatory analyses.

Analysis

Descriptive analysis

First of all, the collected, integrated data will be used to provide an original overview of the current situation in terms of risk factors, distribution of health outcomes, and characteristics of the local context in the neighbourhoods that make up the city of Milan.

For each neighbourhood, indicators will be computed in the form of rates, crude and standardized by age and gender, relevant to the main characteristics that can be deduced from the three data sources (sample, healthcare, geographical).

These distributions will be made available as choropleth maps using GIS software, to make the existing neighbourhood-based differences between indicators immediately obvious. This will make it possible to have a picture of the actual distribution of variables among neighbourhoods, as well as directly compare different areas.

Exploratory analysis

To obtain a more detailed profiling of the population groups and neighbourhoods, an analysis will be implemented to summarize the information available within the *integrated information system*, creating typologies to schematically represent the main trends that can be observed in the data, as well as to carry out a preliminary study of the relationships underlying the variables present in the *integrated information system*.

Specifically, *Exploratory Factor Analysis* (EFA) will be used to detect the latent structures in the data, i.e., detect the factors (highly intercorrelated variable sets) representing the recurring combinations between risk factors, health outcomes, and territorial characteristics, which can produce a concise representation of the main associations between the examined variables (Watkins, 2018).

Predictive analysis

Predictive analysis models will also be implemented for a more in-depth understanding of the association between the variables being examined. In particular, the relationship of specific risk factors with health outcomes, at an individual and local level, will be analysed using traditional regression models to quantify the association between the examined variables, adjusting for potential confounders.

Furthermore, multi-level regression models (or *mixed models*), will also be implemented with the specific aim of identifying for each health outcome examined the relative weight of the characteristics of the living context regardless of individual characteristics (Goldstein. 2011). These analytical models will enable us, by partitioning the variability present in the outcome and estimating the coefficients at each level, to establish to what extent the local dimension is relevant in defining the heterogeneity across locations of health outcomes in the context under study (Pickett & Pearl, 2001).

Explanatory analysis

Furthermore, explanatory (or causal) research models will be developed, in order to trace causal relationships and assess the direction of the relationships between the examined indicators. In this respect, the indicators present in the integrated information system will be entered into *Structural Equation Models*

(SEMs), which—unlike the models presented at the preceding point—do not merely estimate the joint effect of all predictors on the outcome being studied, but also make it possible to model variables according to ranking, estimating the total direct and indirect effects of predictors over outcomes. This will make it possible to make hypotheses and test the causal links between the examined variables (Kline, 2015).

Expected outputs

The analytical studies will provide various types of output. As a first step, maps of the city of Milan will be drawn out, subdividing it into its 88 NILs, describing the territorial distribution of the major individual- and territorial-based risk factors for health. The same results will be displayed in greater statistical detail in table form.

Moreover, the classifications emerging from the exploratory analysis will be provided as lists of NILs with similar characteristics as to risk and health profile.

The results of the predictive and explanatory models will be displayed in the usual form of tables and charts representing the statistical coefficients of interest; schematic, highly communicative versions will also be produced, to represent causal links between the indicators of interest that can be grasped at first glance.
As a next step, a format will be designed and developed for the dissemination of information and data, targeting various sectors of the population audience/partners in the implementation of the PIL of ATS Milan.

An additional output reached will be the sharing of the *integrated informative system* in the form of open data, making it accessible to researcher and healthcare professionals, increasing the opportunity of using the system set up to produce scientific knowledge as well as interventions and actions of healthcare promotion.

Potential pitfalls/caveats

A potential pitfall of the project might be caused by the difficulty of contacting and obtaining answers to the questionnaire from particular categories of socially disadvantaged or isolated people. But having access to the complete regional register office —which contains the names and contact details of all residents of the municipality of Milan— it will be possible to carry out a second sampling to include subjects with characteristics similar to any who do not respond to the first invitation, achieving saturation according to the initial conditions. As an alternative, it is possible to implement a system of sampling weights to rebalance the answers obtained based on criteria of representativeness of each observation with respect to the reference population.

It must be mentioned that there are people (e.g., university students, temporary workers) living in the place under study during the survey who are not permanent residents of the city of Milan and are consequently not present in the general register records. Due to their temporary, discontinuous (or unregistered) presence, on the territory, these people cannot be included in the data collection.

Role of each partner

The project will be headed by ATS Milan and specifically by the Epidemiology Unit, which will work closely together with the Department of Prevention.

Dipartimento di Architettura, Ingegneria delle Costruzioni e Ambiente Costruito, Politecnico di Milano
The Department of Architecture, Built Environment, and Construction Engineering of Milan's Politecnico will provide essential support in the definition and selection of the environmental, urban, and territorial variables to be included in the final information system. Furthermore, taking advantage of their specific competences on urban planning in the healthcare sector, the research unit will play a fundamental role in defining strategic health-changing actions on the urban context, cooperating closely with ATS Milan.

Contact person: Prof. Stefano Capolongo

Dipartimento di Sociologia e Ricerca Sociale, Università degli Studi di Milano-Bicocca
Dipartimento di Scienze Sociali e Politiche, Università degli Studi di Milano

The Sociology and Social Research Department of the University of Milan - Bicocca and the Social and Political Sciences Department of the University of Milan will provide fundamental scientific and methodological support at every stage and for the entire duration of the project, with particular focus on the sampling stages, the questionnaire design process, and data analysis. The cited departments have a permanent staff with proven experience in research of public health phenomena from a social perspective, as well as in the planning of social surveys with territorial detail on socio-economic conditions, lifestyles, and health status. Contact persons: Prof. David Amerigo Benassi (Unimib); Prof. Simone Sarti (Unimi).

However, the partnership with the three university departments will not be limited to scientific and methodological support. It will be possible to involve additional resources from the university who can actively cooperate in the project (e.g., students writing dissertations, PhD students, research fellows), integrating project activity work in their academic curriculum.

Milestones and deliverables

Starting point: Definition of the State of the Art
- Review of the literature and exploration of similar surveys
- Identification of topics to be investigated

→ Deliverable #1: Drafting of the questionnaire

- Design and planning of the survey platform

→ Deliverable #2: Realization of the survey platform

- Selection of the sample from the regional general registry
- Drafting and sending of invitation letters
- Start of sample survey
- Selection of the health information flow indicators
- Selection and gathering of the geographical indicators
- End of sample survey
- Sample data cleansing
- Harmonization of the three data sources

→ Deliverable #3: Creation of the *integrated information system*

- Analysis conceptualization
- Assignment of tasks to the analytics teams
- Presentation of intermediate results to the research group
- Validation of the final results

→ Deliverable #4: Reporting of performed analyses

- Round table discussion with partners to plan actions and interventions

→ Deliverable #5: Reporting of advised actions

- Drafting and submission of research articles to specialized scientific journals
- Presentation of papers at scientific seminars (national and international)
- Publication of research summaries on general and (non-scientific) specialist websites
- Internal presentation of results (ATS Milan and partners)
- Externa presentation of results to stakeholders

→ Deliverable #6: Dissemination of results

Timeline

	Month																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Literature review	█																	
Identification of topics	█																	
Web platform design		█																
Platform launch		█	█															
Sampling		█	█															
Invitation letters			█															
Sample survey				█	█	█	█											
Selection of health information flow indicators				█	█													
Selection of geographical indicators						█	█											
Sample data cleansing								█										
Data harmonization								█										
Analysis conceptualization									█									
Analysis performance										█	█							
Presentation of intermediate results												█						
Validation of final results												█	█					
Drafting of reports													█	█				
Planning of actions and interventions															█	█		
Drafting and submission of articles																█	█	
Sharing of results										█	█	█	█	█	█	█	█	█

Data Sharing, Accessibility and Privacy

The *integrated information system* will be housed on high-security corporate servers. The data will be disseminated and shared exclusively in aggregate, anonymous form, making it impossible to trace the identity of respondents nor permitting public sharing of sensitive information. Access to the elementary data on the part of members of external agencies or institutions will be ensured after presentation of a research project assessing pertinence and conformity of personal data processing.

Project Originality and Innovation

Choosing to focus on public health from a territorial perspective, the project aims to answer questions that are currently unanswered in the examined context.

However, the project's originality does not merely lie in the research questions: the choice of integrating data from various sources would allow the application of a large array of analysis techniques and methodologies.

More in detail, thanks to the development of multilevel regression models it will be possible —besides creating valuable knowledge for the specific study case— to contribute to the theoretical debate regarding the existence and specific weight of what are known as *neighbourhood effects* on health status (Galster, 2012). Being able to isolate the variability due to each level of analysis, (individual and neighbourhood of residence) it will be possible to determine the contribution of each in causing the investigated health outcomes, quantifying the impact of the characteristics of the living environment on the population's health status, regardless of individual characteristics.

In addition, application of Structural Equation Models —specifically aimed at establishing causal links between the examined variables— can contribute to systematization of the knowledge of causal relationships between specific risks and health outcomes, overcoming the traditional limits deriving from the use of non-explanatory models.

Finally, the development of a monitoring system of local health status that is so flexible and adaptable to various needs will make it possible to achieve unprecedented, in-depth knowledge of the differences in health status and risk factor exposure across Milan's various NILs, which to date can be exclusively derived indirectly and imprecisely through the analysis of health outcomes.

Impact

From a methodological point of view, the project uses the most effective tools and methods to meet the described research goals. The use of the described techniques to pursue the abovementioned goals is widely documented in the literature as reference standard in the light of the set goals (Buhi *et* al. 2007, Hays *et al.*, 2005; Owen *et al.*, 2016).

With respect to social impact, the project is oriented from the very start to converting the study outputs into practical interventions for the improvement of public health promotion and prevention practice, with particular focus on its local aspect.

The idea itself of the project was prompted by a need to answer the objective lack of precise, reliable information regarding the distribution of risk factors and health status in the city of Milan, at a neighbourhood level.

Among the main objectives of the Epidemiology Unit in the network of health protection agencies, there is without doubt the understanding of the mechanisms driving the genesis and perpetuation of health inequalities within the relevant area of coverage. This understanding is not an end in itself —on the contrary, it will be used to plan interventions aimed at spreading practices of health promotion and disease prevention that can have positive impact on population health. In the shortage or absence of accurate knowledge of the territorial differentiation of health risks and outcomes, planning of actions cannot but follow, mainly, two paths, both subject to misinterpretation and evident limits. On one hand, the tendency is to implement promotion and prevention strategies that are geared exclusively (or almost so) to the people of interest, adopting an individualist perspective. That is, health status tends to be seen as the result of processes depending exclusively on individual behaviours and lifestyle, implicitly assuming that to act on the desire to improve these outcomes it is necessary to act based on the explicit choices made by people. This point of view sees individuals as rational agents who are able to maximize available information and carry out actions for their well-being. As a consequence of this perspective, interventions to promote health are often still actions aiming to disseminate health-related information leaving individuals with the task of individually conforming to them. It is important to underline that the adoption of this type of perspective fails to place individual action within the—social as well as territorial—context in which it takes place. Behaviours, lifestyles, and individual choices are strongly conditioned by economic, cultural and social resources available to people, as well as by the characteristics of the place in which they live. To ignore the social and spatial framework of individual actions cannot but undermine the probability that interventions based on these assumptions will be successful.

On the other hand, even should one wish to implement territorial-based interventions, at the moment, they could not but follow the logic of common sense or what bland, non-systematic knowledge the competent institutions and policymakers may have, in the absence of a specific review on this topic.

In the light of the above, the development of the proposed project would therefore have a considerable impact on the planning of interventions and health prevention and promotion policies, providing specific original matter of paramount importance thanks to effective planning.

The outputs provided would make it possible to plan evidence-based actions on the basis of associations between risk factors and health pertaining to each local context, differentiating interventions based on each place's specificity and the characteristics of the population that lives there.

In practice, the knowledge acquired through the project would make it possible to obtain detailed information on risk factor distribution for health (and not only health outcomes) in each neighbourhood of Milan, making it possible to clearly define the fields of action in each context, designing specific intervention modes.

From a more long-term perspective, the results of the longitudinal surveys will make it possible not only to plan strategies and interventions targeted on the basis of the emerging needs of the population, but will also represent an assessment tool for previous or on-going activities. Often, health promotion projects are not followed up with the necessary activities to assess their efficacy and efficiency with respect to the set goals. In this sense, the proposed project would be a useful method of validation for the programmes and actions taken up, making it possible to trace the evolution over time of reference indicators, showcasing the interdependence in outcomes of the various planning and intervention policies (Urban Health), not strictly in the health sector.

Organizations and facilities

ATS Milan

The project involves two work units of ATS Milan. As project leader, the Epidemiology Unit, based on the assessment of healthcare demand and needs and the offer of services, provides the information elements underlying the local network's governance activity and policy. The unit has all the necessary competences to manage the data warehouse, with direct access to the health-related data flow system, which it uses daily for the unit's activities. Under the direction of an epidemiologist, the team is distinguished by a highly multidisciplinary membership, including in its numbers physicians specializing in various fields (medical statistics, hygiene and preventive medicine, sports medicine), psychologists, social workers, and a highly trained staff (PhD) with diverse backgrounds (physics, mathematics, statistics, sociology). The department has all the necessary facilities and IT resources to carry out and complete the described activities, including a data storage system based on high-security servers that ensure the protection of the collected data.

For the project, the expertise of the Specific Prevention work unit (UOS) of the Health Promotion Unit (UOC) of the Department of Hygiene and Health Prevention will be sought out. The UOS's multidisciplinary staff (psychologists, sociologists, social workers, experts in planning and assessment of policies and services, education and prevention planners, nationally and internationally certified trainers) will carry out programmes, projects, and interventions of selective prevention targeting the collectivity and communities (particularly contexts with specific weakness/vulnerability/risk features); the UOS also supports the region of Lombardy (as per the System Rules) in regional activities concerning management of Communities of Practice (FSC) of local health units, participation in WHO and EC projects/European networks (SHE Network, etc.), and in the adaptation, translation, and scientific coordination of the evidence-based programmes "Life Skills Training" and "Unplugged", of national surveillance systems "Health Behaviour in School-aged Children – HBSC", "Global Youth Tabacco Survey – GYTS ", "OKkio alla Salute" and "Banca Dati Prosa". Multiprofessional teams work in the UOS, guaranteeing a multidisciplinary approach to the topic and favouring the relationship with key stakeholders and institutional stakeholders from different backgrounds, to foster intersectoral, multilevel health promotion strategies. This expertise, together with the infrastructural and instrumental equipment of the UOS, will be employed both in the research stages and data processing stages, and—above all—to turn them into knowledge and dissemination tools for the various population targets, including by planning well-aimed and targeted disease prevention and health promotion interventions at regional and ATS level. Alongside these activities, UOS can supervise the exchange of the data processed within the national and international networks it is already a part of.

Should the need arise in the course of the project, it will be possible to involve staff from other units of ATS Milan, broadening the competences available for the project.

Department of Sociology and Social Research, University of Milano-Bicocca
Department of Social Sciences and Politics, University of Milan
Department of Architecture, Built Environment and Construction Engineering, Politecnico of Milan
All university departments involved in the project have facilities and IT structures to support the project. Thanks to the university library network, furthermore, the project is guaranteed extensive access to scientific journal databases and both paper and online publications.

Young researchers

The heads of the project will have extensive corporate and academic experience in the relevant fields. But there is special interest in involving early-stage researchers, who can benefit from the experience to enrich their knowledge and competences. Specifically, PhD students and research fellows of the participating departments will be involved right from the start and throughout the decision stages of the project; these young researchers, supported by qualified staff, will be jointly responsible for the project's implementation at various stages. Where possible, activities carried out by the young researchers within the project will become part of their PhD thesis.

The involvement of early-stage researchers in the project will not be limited to their practical work: internal training sessions (at both the health agency and university) are also planned, to equip participating researchers with the necessary skills to carry out the required activities.

The young resources will also be actively involved in the final publications and dissemination of results in scientific seminars, taking on relevant roles throughout the entire project.

In addition to the technical skills acquired on the job, the young researchers will benefit from the possibility of working in a joint collaboration between university and public sector, as well as working in a research group distinguished by its markedly multidisciplinary approaches and competences.

Moreover, as reported in the budget plan attached, the university departments involved in the project as partners will finance three postdoc positions (one for each department) to engage three highly trained young researchers (Ph.D.) to work on the project, with specific focus on the development of the data collection platform.

Research Team

Personal Data			
Surname	Name	Organization and Position	Date of birth
Russo	Antonio Giampiero	Agency for Health protection of Milan, Statistician **Director Epidemiology Unit**	03/07/1963
Education and training			
1998 Degree in Medicine and Surgery University of Florence 1992 Specialization Medical Statistics University of Milan 2004 Specialization Medical Genetics University of Milan			
Professional experience			
Employment History			
2016-2020 Director Epidemiology Unit Agency for Health Protection of Milan 2010-2015 Director Epidemiology Unit and Cancer Registry Local Health Authority of Milan 2008-2018 Director 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 Department of Epidemiology Cancer Center of Florence*
1994-1998	*Medical Epidemiologist 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 Congress or other Oral Communications

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195 indexed publications, Scopus H-Index: 55

1. **Russo AG**, Andreano A, Sartore-Bianchi A, Mauri G, Decarli A, Siena S. Increased incidence of colon cancer among individuals younger than 50 years: A 17 years analysis from the cancer registry of the municipality of Milan, Italy. Cancer Epidemiol. **2019** Jun;60:134-140. doi: 10.1016/j.canep.2019.03.015. Epub 2019 Apr 18. PMID: 31005829.

2. Bravi F, Decarli A, **Russo AG**. Risk factors for breast cancer in a cohort of mammographic screening program: a nested case-control study within the FRiCaM study. Cancer Med. 2018 May;7(5):2145-2152. doi: 10.1002/cam4.1427. Epub **2018** Apr 14. PMID: 29654663; PMCID: PMC5943434.

3. Capri S, **Russo A**. Cost of breast cancer based on real-world data: a cancer registry study in Italy. BMC Health Serv Res. **2017** Jan 26;17(1):84. doi: 10.1186/s12913-017-2006-9. PMID: 28122558; PMCID: PMC5267401.

4. **Russo A**. A population study to evaluate the efficacy of influenza vaccination, 2014-2015. Epidemiol Prev **2015**; 39 (4): Jul-Aug: 234-242. PMID: **26499236**

5. *Musicco M, Adorni F, Di Santo S, Prinelli F, Pettenati C, Caltagirone C, Palmer K and **Russo A**. Inverse occurrence of cancer and Alzheimer disease: A population-based incidence study. Neurology. **2013** Jul 23;81(4):322-8. PMID: **23843468***

Grants

- 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)
Principal Investigator	*18*

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Celata	*Corrado*	*ATS Milan- Prevention Unit - Manager*	*19/07/1968*

Education and training
Master University Degree- "Planning and management of social policies and services"

Professional experience
Expert in design, coordination and management of health education, health promotion and prevention programs and projects in multiple contexts and disciplinary fields at local, regional, interregional, national and international level

Scientific Publications and Congress or other Oral Communications
Author and / or Co-author of over 20 scientific publications on the subject of prevention, health education and health promotion

1. Author of "Pubblico, Privato, Terzo settore" nel "Dizionario del lavoro educativo", Brandani W. e Tramma S. (a cura di), Carocci Faber editore (2014)
2. Velasco V., Griffin K. W., Antichi M., Celata C., "A large-scale iniziative to disseminate an evidence-based drug abuse prevention program in Italy: Lessons learned for practitioners and researchers", Evaluation and Program planning 52 (2015) 27-38
3. Co-Author of the chapter "La Promozione di stili di vita e ambienti favorevoli alla salute nei setting di comunità", in Contrastare le diseguaglianze e promuovere equità nei programmi di Prevenzione: strumenti, pratiche e alleanze dell'esperienza lombarda. Progetto CCM Equity Audit nei piani regionali di prevenzione in Italia, Guerini e Associati editore, Milano, 2018
4. Coppola L. Celata C., Gelmi G., Meroni C., WHP Lombardia Program Group, "Health Promotion good preactices in the workplace: Lombardy WHP Network" , presentazione orale nell'ambito della 10° IUHPE European Conference and International Forum for Health Promotion Research "Implementing Health Promotion in the Life Course – User Inolvement in Practice and Research, Trondheim (Norvegia) 26-26 settembre 2018
5. Tziraki-Segal et Al, Creating a Culture of Health in Planning and Implementing innovative strategies addressing non-communcable chronic disease, in Frontiers in Sociology, Vol. 4 , 2019, https://www.frontiersin.org/article/10.3389/fsoc.2019.00009, DOI=10.3389/fsoc.2019.00009

Grants
Whether it is the case, indicate title, duration and amount of the grants achieved and those still running.

Role in the project	
Role	Total Effort (person/months)
Activities' Planner	9

Personal Data			
Surname	Name	Organization and Position	Date of birth
Gattoni	Maria Elena	Agency for Health protection of Milan; Doctor	30/04/1979

Education and training
2016   Specialization in Public Health, University of Milan, Department of Medical Sciences
2011   Medical Degree, University of Milan, , Milan
2004   Master's Degree Psychology, Università Cattolica del Sacro Cuore, School of Psychology, Milan

Professional experience

From 2016 Epidemiologist (Dirigente Medico), Epidemiology Unit, Agency for Health Protection of Milan

2005 – 2012 Psychologist, Consultorio Familiare Genitori Oggi; Milan

Scientific Publications and Congress or other Oral Communications

Number of paper: 3; H-index: n.a.

- Pellai A, Erba S, Ciampelli A, Iemmi D, Bronzin S, Capobussi M, Degnoni V, Gattoni ME, Corradin M. Sexting: epidemiologia del fenomeno. Minerva Pediatr. 2015 Feb;67(1):1-9.
- Gattoni ME, Andreoni L, Fonte L, Russo A. Analisi del disagio psichico nella popolazione pediatrica immigrata e residente in una ASL della Provincia di Milano. Epidemiol Prev. 2015;39(3):188-97.
- Capobussi M, Tettamanti R, Marcolin L, Piovesan L, Bronzin S, Gattoni ME, Polloni I, Sabatino G, Tersalvi CA, Auxilia F, Castaldi S. Air Pollution Impact on Pregnancy Outcomes in Como, Italy. J Occup Environ Med. 2016 Jan;58(1):47-52.

Grants

Role in the project

Role	Total Effort (person/months)
Project Manager	9

Personal Data			
Surname	Name	Organization and Position	Date of birth
Murtas	Rossella	Agency for Health protection of Milan, Statistician	06/11/1986

Education and training

P.h.D. in Matemathics, Master degree in Epidemiology and Biostatistics

Professional experience

5 years of experience as Statistician

Scientific Publications and Congress or other Oral Communications

Number of paper: 10; H-index: 2

Faccini, M. et al, Large community-acquired Legionnaires' disease outbreak caused by Legionella pneumophila serogroup 1, Italy, July to August 2018 , 2020, Eurosurveillance

Murtas, R. et al, Latent composite indicators for evaluating adherence to guidelines in patients with a colorectal cancer diagnosis , 2020, Medicine (United States)

Murtas, R. et al, Effects of pollution, low temperature and influenza syndrome on the excess mortality risk in winter 2016-2017 , 2019, BMC Public Health

Murtas, R. et al, Cancer incidence and congenital anomalies evaluation in the contaminated sites of Sesto San Giovanni - the SENTIERI Project , 2019, Annali dell'Istituto superiore di sanità

Gervasi, F. et al, Residential distance from high-voltage overhead power lines and risk of Alzheimer's dementia and Parkinson's disease: A population-based case-control study in a metropolitan area of Northern Italy , 2019, International Journal of Epidemiology

Grants

Role in the project

Role	Total Effort (person/months)

Personal Data

Surname	Name	Organization and Position	Date of birth
Andreano	Anita	Agency for Health protection of Milan, Epidemiologist	20/06/1980

Education and training

From 2019 PH Student in Public Health, Executive track, University of Milan Bicocca, School of Medicine and Surgery, Monza

2017 Specialization in Medical Statistics and Biometry, University of Milan, Department of Medical Sciences and Community Health, Milan

2011 Master degree, Medical Statistics and Biometry, University of Milan, Department of Medical Sciences and Community Health, Milan

2009   Specialization in Radiodiagnostics, University of Milan Bicocca, School of Medicine and Surgery, Monza

2005   Medical Degree , University of Milan Bicocca, School of Medicine and Surgery, Monza

Professional experience

From 2018 Epidemiologist, Unit of Epidemiology, Agency for Health Protection of Milan

2018   Contract researcher, Center of Biostatistic for Clinical Epidemiology University of Milan Bicocca, Monza

2015-2017 Honorary Research Associate, Division of Internal medicine, University College London (UCL) London, UK

2010   Contract researcher,   Bioimaging center, University of Milan Bicocca   Monza

Scientific Publications and Congress or other Oral Communications

Authored 49 publications, h-index 14.

Andreano A, Ansarin M, Alterio D, Bruschini R, Valsecchi MG, Russo AG. Cancer of the head and neck: a set of indicators based on register and administrative data. Acta Otorhinolaryngol Ital. 2018 Feb;38(1):13-23. doi: 10.14639/0392-100X-1934. PMID: 29756612; PMCID: PMC5952979.

Andreano A, Rebora P, Valsecchi MG, Russo AG. Adherence to guidelines and breast cancer patients survival: a population-based cohort study analyzed with a causal inference approach. Breast Cancer Res Treat. 2017 Jul;164(1):119-131. doi: 10.1007/s10549-017-4210-z. Epub 2017 Apr 1. PMID: 28365831.

Russo AG, Andreano A, Sartore-Bianchi A, Mauri G, Decarli A, Siena S. Increased incidence of colon cancer among individuals younger than 50 years: A 17 years analysis from the cancer registry of the municipality of Milan, Italy. Cancer Epidemiol. 2019 Jun;60:134-140. doi: 10.1016/j.canep.2019.03.015. Epub 2019 Apr 18. PMID: 31005829.

Andreano A, Bosio M, Russo AG. 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. 2020 May 19;20(1):72. doi: 10.1186/s12902-020-0546-1. PMID: 32429960; PMCID: PMC7238653.

Grants

Italian Ministry of Health 2014   "FROM THE MEASURE OF GUIDELINES ADHERENCE IN ONCOLOGY TO THE ASSESSMENT OF HEALTH SYSTEM PERFORMANCE, RF 2011-02348959, CUP: E42114000120003 Collaborator

Role in the project

Role	Total Effort (person/months)
Researcher	3

Personal Data

Surname	Name	Organization and Position	Date of birth
Tunesi	Sara	Agency for Health protection of Milan, Statistician	10/03/1977

Education and training

13 Jan 2011: Master of Epidemiology, University of Turin.

25 Jan 2007: PhD Biomedical Statistics (ciclo XIX) at Department of Biometry and Medical Statistic, University of Milan

05 Feb 2003: Degree in Physics , University of Milan.

Professional experience

From Mar 2017: Biostatistician at the Department Unit of Epidemiology, Local Health Authority, Milan, Italy

May 2015- Mar 2017: Biostatistician at the Cancer Epidemiology Unit, City Hospital, Turin, Italy

May 2015-2015: Biostatistician at Cancer Epidemiology Unit - CPO Turin, Italy

Research

May 2013-April 2015: Research fellow at the Epidemiology Unit, University of Eastern Piedmont, Novara, Italy.

Dec 2008- Aug 2012: Research fellow at the Epidemiology Unit, University of Eastern Piedmont, Novara, Italy.

Dec 2006-Nov 2008: Research fellow at the "Istituto di Statistica Medica e Biometria", University of Milan, Milan, Italy

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Scientific Publications and Congress or other Oral Communications

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Total number of publications: 34 h-index:14 (Scopus)

Faccini M, Russo AG, Bonini M, et al. Large community-acquired Legionnaires' disease outbreak caused by Legionella pneumophila serogroup 1, Italy, July to August 2018. Euro Surveill 2020; 25. DOI:10.2807/1560-7917.ES.2020.25.20.1900523.

Tunesi S, Bosio M, Russo AG. Do autistic patients change healthcare services utilisation through the transition age? An Italian longitudinal retrospective study. BMJ Open 2019; 9: e030844.

Barone-Adesi F, Ferrante D, Chellini E, et al. Role of asbestos clearance in explaining long-term risk of pleural and peritoneal cancer: a pooled analysis of cohort studies. Occup Environ Med 2019; 76: 611–6.

Corrado L, De Marchi F, Tunesi S, et al. The Length of SNCA Rep1 Microsatellite May Influence Cognitive Evolution in Parkinson's Disease. Front Neurol 2018; 9: 213.

Ronco G, Dillner J, Elfstrom KM, et al. Efficacy of HPV-based screening for prevention of invasive cervical cancer: follow-up of four European randomised controlled trials. Lancet 2014; 383: 524–32.

Grants

Role in the project

Role	Total Effort (person/months)
Researcher	3

Personal Data

Surname	Name	Organization and Position	Date of birth
Greco	Maria Teresa	Agency for Health protection of Milan, Epidemiologist	10/05/1981

Education and training

2017 Specialization in Medical Statistics and Biometry, University of Milan, Department of Medical Sciences and Community Health, Milan
2010   Specialization in Clinical Research, IRCCS 'Mario Negri' , Milan
2006   Medical Degree , University of Ferrara, School of Medicine and Surgery, Ferrara

Professional experience

From 2018 Epidemiologist (Dirigente Medico), Unit of Epidemiology, Agency for Health Protection of Milan
2007-2011 Contract researcher, Laboratory of Translational Research, IRCCS 'Mario Negri', Milan

Scientific Publications and Congress or other Oral Communications

Authored 24 publications (Pubmed), h-index 13

Mosconi P, Colombo C, Roberto A, Candiani G, Greco MT, Satolli R, Castellani C. Deciding on cystic fibrosis carrier screening: three citizens' juries and an online survey. Eur J Public Health. 2018 Oct 1;28(5):973-977. doi: 10.1093/eurpub/cky032.

Greco MT, Roberto A, Corli O, Deandrea S, Bandieri E, Cavuto S, Apolone G Quality of cancer pain management: an update of a systematic review of undertreatment of patients with cancer. J Clin Oncol. 2014 Dec 20;32(36):4149-54. doi: 10.1200/JCO.2014.56.0383. Epub 2014 Nov 17.

Russo AG, Greco MT. Applying a set of indicators to evaluate the primary health care. Epidemiol Prev. 2017 Mar-Apr;41(2):91-101. doi: 10.19191/EP17.2.P91.028

Gori S, Greco MT, Catania C, Colombo C, Apolone G, Zagonel V; AIOM Group for the Informed Consent in Medical Oncology A new informed consent form model for cancer patients: preliminary results of a prospective study by the Italian Association of Medical Oncology (AIOM) Patient Educ Couns. 2012 May;87(2):243-9. doi: 10.1016/j.pec.2011.08.008.

Greco MT, Russo A. Comparison of different methods for the definition of indicators to assess the diagnostic and therapeutic paths of colorectal cancer.Epidemiol Prev. 2014 Nov-Dec;38(6):364-72

Grants	

Role in the project	
Role	Total Effort (person/months)
Researcher	3

Personal Data			
Surname	Name	Organization and Position	Date of birth
ANDREONI	LAURA	Agency for Health protection of Milan, Social Worker	11/03/1964

Education and training
2018 – Specialization, Epidemiology and Biostatistics
2004 – Master's Degree, Planning and management of social policies and services
1990 – Bachelors' Degree, Social Service

Professional experience
Social Worker

Scientific Publications and Congress or other Oral Communications
Andreoni L, Russo AG Developing an algorithm based on health and social sources to stratify general population in different levels of health, socio-sanitary frailty and disability Epidemiol Prev 2017; 41 (3-4): 197-207 DOI: https://doi.org/10.19191/EP17.3-4.P197.053

Grants

Role in the project	
Role	Total Effort (person/months)
Activities' Planner	9

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Decarli	*Adriano*	*Honorary Professor University of Milan*	*16/06/1947*
Education and training			
Physic Degree; Medical Statistics PhD			
Professional experience			
Number of Publications: 327; H-Index:71 (Scopus) 1973–1984 Researcher University of Milan; 1984-2000 Associate Prof. in Health Statistics –University of Milan; 2000-2004 Full Professor Medical Statistics - University of Brescia; 2004-2017 Full Professor Medical Statistics - University of Milan; 2017- Honorary Professor Medical Statistics – University of Milan.			

Scientific Publications and Congress or other Oral Communications

Gervasi, F., Murtas, R., Decarli, A., & Russo, A. G. (2020). Response to: Residence near power lines and risk of Alzheimer's dementia and Parkinson's disease. International journal of epidemiology, 49(2), 701-702.

Dalmartello, M., Decarli, A., Ferraroni, M., Bravi, F., Serraino, D., Garavello, W., ... & La Vecchia, C. (2020). Dietary patterns and oral and pharyngeal cancer using latent class analysis. International journal of cancer, 147(3), 719-727.

Di Maso, M., Bravi, F., Polesel, J., Negri, E., Decarli, A., Serraino, D., ... & Ferraroni, M. (2020). Attributable fraction for multiple risk factors: Methods, interpretations, and examples. Statistical Methods in Medical Research, 29(3), 854-865.

Bravi, F., Wiens, F., Decarli, A., Dal Pont, A., Agostoni, C., & Ferraroni, M. (2016). Impact of maternal nutrition on breast-milk composition: a systematic review. The American journal of clinical nutrition, 104(3), 646-662.

Kawakita, D., Lee, Y. C. A., Turati, F., Parpinel, M., Decarli, A., Serraino, D., ... & Moysich, K. (2017). Dietary fiber intake and head and neck cancer risk: A pooled analysis in the International Head and Neck Cancer Epidemiology consortium. International journal of cancer, 141(9), 1811-1821.

Grants

Role in the project	
Role	*Total Effort (person/months)*
Statistical Consultant	*6*

Surname	Name	Organization and Position	Date of birth
Benassi	David	University of Milano-Bicocca, Department of Sociology and Social Research. Associate Professor	11/12/1967

Education and training
1999 Ph.D. in Economic Sociology, University of Brescia 1992 Master degree (Laurea) in Political Science, University of Milan

Professional experience
2015-today Director of the MA in Planning of Social Policies (Unimib) (2005-2015 as Vice President) 2005-today Member of the Board of the PhD Programme in Urban studies (Unimib) 2004-2012 Member of the Board of the PhD Programme in Sociology (Unimi) President (2020, 2018, 2015) e member (2017, 2013) of the Commission for qualification to practice the profession of Social worker (Unimib) Referee for the following scientific journals and institutions: International Journal of Urban and Regional Research; Interventions Economiques; Rassegna Italiana di Sociologia; Archivio di Studi Urbani e Regionali; NICIS (NL); Foundation for Urban and Regional Studies (Wiley-Blackwell Publishers, UK); European Research Council (EU); La Rivista delle Politiche Sociali; Politiche Sociali /Social Policies; Regional Science; Policy and Practice; Antropologia; Sociologia Urbana e Rurale; Sociologia del Lavoro; Fondazione Cariplo; Regione Puglia; Regione Sicilia; Eupolis/Regione Lombardia; Policy Press; Routledge; Manchester University Press; MIUR/VQR; Fondazione Cariplo; Policy Press; Social Inclusion; Studies of Transition States and Society; La Critica Sociologica; Social Policy and Society; Oxford University Press; Environment and Planning C: Politics and Space.

Scientific Publications and Congress or other Oral Communications
Conferences (recent) 2016: Intertwining Networks in the Government of Milan: Social Assistance and Municipal Companies in the last 20 years, paper presented at the workshop "Governance in Large Metropolis: Paris, London, Ciudad de México,Milan and Sao Paulo", con A. Andreotti, Fourth International Seminar, San Paolo (Brasile), 27-28 Aprile 2016: Weakening of social protection for non-standard workers: the decline of social rights among young high skilled workers in Milan (Italy), con E. Mingione, paper presentato alla IX conferenza Espanet Italia, Università di Macerata, Macerata, 22-24 settembre 2016

2016: discussant of Prof. D. Markowitz (Yale University), XXX Convegno dell'Osservatorio "Giordano dell'Amore" su "Sistemi di protezione sociale e universalità dei diritti nei sistemi di welfare", Milano, 4 novembre 2016

2016: Crisi o declino? L'evoluzione della spesa per consumi delle famiglie italiane a cavallo della crisi, Convegno per il 90° dell'Istat "La società italiana e le grandi crisi economiche 1929-2016", Roma, 25 novembre 2016

2017: Le trasformazioni della povertà negli anni della crisi, convegno "Un nuovo welfare per la nuova povertà" organizzato da CARIPLO, Dipartimento di Giurisprudenza Unimib e Fondazione Lombarda Antiusura, Milano, 26 maggio 2017

2017: La povertà: alcuni dati sul fenomeno, (con Enzo Mingione) relazione presentata al Festival dello Sviluppo Sostenibile 2017, Milano, 29 maggio 2017

2017: Big administrative data and the provision of welfare benefits: the case of Milan (con Paolo Rossi), X Conferenza Espanet Italia, Forlì, 21-23 settembre 2017

2017: organization (with A. Andreotti e Y. Kazepov) of the conference on "Western Capitalism in Transition. Global Forces, Local Challenges", Università di Milano-Bicocca, Milano 23-11-2017

2018: Presentation of the book "Western Capitalism in Transition. Global Processes, Local Challenges" (edited by A. Andreotti, D. Benassi, Y. Kazepov), University of Vienna, 20 march 2018

2018: Presentation of the book "Western Capitalism in Transition. Global Processes, Local Challenges" (edited by A. Andreotti, D. Benassi, Y. Kazepov), Università della Calabria (Arcavacata di Rende), 24 maggio 2018

2018: Presentation of the book "Western Capitalism in Transition. Global Processes, Local Challenges" (edited by A. Andreotti, D. Benassi, Y. Kazepov), University of Naples, 8 giugno 2018

2018: Presentation of the book "Western Capitalism in Transition. Global Processes, Local Challenges" (edited by A. Andreotti, D. Benassi, Y. Kazepov), XIX ISA World Congress of Sociology, Toronto (Canada), 20 giugno 2018

2018: The construction of administrative big data as an innovation for the regulation of social welfare benefits delivery: the case of Milan, (with Paolo Rossi), XIX ISA World Congress of Sociology, Toronto (Canada), 19 giugno 2018

2018: Organization of the seminar on "Il welfare delle riforme? Le politiche lombarde tra norme e attuazione", University of Milano-Bicocca, 5 ottobre 2018

2019: The local dymension of social assistance in Italy: the case of Milan, International Conference and Workshop on Current and Future Prospects of (Local) Social Policies. Experiences from Turkey and EU Countries, Istanbul, 10-13 gennaio 2019

2020: chair (with Paolo Rossi) of the session on "Sfide globali, amministrazioni locali: innovazioni possibili per il welfare territoriale", XIII ESPANET Italia conference *Il welfare state di fronte alle sfide globali*, Venice, 15-17 September 2020

Publications (recent)
Books
A. Andreotti, D. Benassi and Y. Kazepov (eds.) (2018) *Western Capitalism in Transition: Global Challenges, Local Processes*, Manchester University Press, Manchester
C. Saraceno, D. Benassi and E. Morlicchio (2020) *Poverty in Italy: Features and Drivers in a European Perspective* Policy Press, Bristol

Articles in Journals
2013 Father of the Welfare State?". Beveridge and the Emergence of the Welfare State, in *Sociologica*, 3
2014 Il "problema" dei ricchi in una prospettiva sociologica (The "problem" of the rich in a sociological perspective), in *La Rivista delle Politiche Sociali*, 2/3, pp. 249-261
2017 Capitalismo insostenibile: la transizione dei diversi modelli europei a confronto (Unsustainable capitalism: the transition of the various European models in a comparative perspective), in La rivista delle politiche sociali, 1, pp. 221-231
2019 El modelo de bienestar en la Europa del Sur y la lucha contra la pobreza y la exclusión social (The welfare state in Southern Europe and the fight against poverty and social exclusion), with E. Mingione, in *PANORAMA SOCIAL*, n. 29, pp.23-37.

Chapters in books
2014 Italian Sociology and European Sociology, con A. Andreotti, in A. Kyrtsis and S. Koniordos (eds.) *The Handbook of European Sociology*, Routledge, London, pp. 285-302
2019 Il governo del sistema di assistenza sociale in una prospettiva di lungo periodo (The government of social assistance in a long-term perspective), in A. Andreotti (ed.) *Governare Milano nel nuovo millennio* (Governing Milan in the new Millennium), Il Mulino, Bologna, pp. 71-95
2019 Welfare Capitalism, with E. Mingione, in The Wiley-Blackwell Encyclopedia of Urban and Regional Studies, edited by A. Orum

2019: New Urban Poverty, with E. Morlicchio, in The Wiley-Blackwell Encyclopedia of Urban and Regional Studies, edited by A. Orum			

Grants
(Recent)
2019-2020 ATS Insubria "La salute della popolazione nelle Province di Varese e Como: distribuzione territoriale e determinanti sociali"
2020-2023 ATS Milano Città Metropolitana "I fattori sociali e territoriali collegati alle diseguaglianze di salute nella Città Metropolitana di Milano"

Role in the project	
Role	*Total Effort (person/months)*
Scientific Manager	9

Surname	*Name*	*Organization and Position*	*Date of birth*
Terraneo	Marco	University of Milano-Bicocca, Department of Sociology and Social Research. Fixed term research assistant	30/07/1971

Education and training
2006 PhD in Applied Sociology and Social Research Methodology at the Department of Sociology and Social Research of the University of Milan-Bicocca
1998 Degree in Political Science (MA), Faculty of Political Science of the University of Pavia.

Professional experience

Key Professional Appointments
Since 2018 Director of Professional Master Programme in "Deviance, justice system and social services".
2016-2019 - Board of Italian Sociological Association, Section: Sociology of Health and Medicine.
2017-2018 - Member of Scientific Committee of peer review book series "Science and health" edited by FrancoAngeli
Teaching activities
Professor of *"Sociology of health"* a.y. 2019/2020 and 2020/2021 Course of Social Service, University of Milano-Bicocca.
Professor of *"Sociology of migration"* a.y. 2017/2018 and 2018/2019 Course of Social Service, University of Milano-Bicocca.
Since a.y. 2014/2015 Professor of "*Health and public health*" Course of Social Science and social work, University Ca' Foscari Venice.
Since a.y. 2002/2003 to a.y. 2011/2012 Professor of *"Research method for social sciences"* Course Science of Communication, University of Modena e Reggio Emilia.
Main Recent Research
Since 2020 PI of international project "Pandemic Emergency in Social Perspective. Evidences from a large Web-survey research".
Since 2019 PI of Milano-Bicocca funded project "Se dico donare, tu cosa pensi? on awareness and perception about organ transplantation.
Since 2018 Researcher MIUR funded project: "ITA.LI. (Italian Lives). Survey on life courses in Italy".

Scientific Publications and Congress or other Oral Communications

Total publication 38. *H-index*: 6

Selected conferences (last three years) - Oral Presentation
2020 XIII ESPAnet Italia conference "Il Welfare state di fronte alle sfide globali", Online conference
2020 AIS conference "Vivere nell'emergenza: La società italiana ed il Servizio sanitario nazionale Di fronte alla pandemia da Covid-19", Online conference
2020 AIS conference "Sociologia in dialogo", Naples
2020 IV Convegno SISEC "Ripensare e rinegoziare il valore del lavoro nell'economia globale" 30, Turin
2019 III Convegno SISEC "Sviluppo e diseguaglianze", Naples
2019 XII Conferenza ESPAnet "Territori del welfare, (de-)globalizzazioni, innovazioni e conservazioni", Urbino

2018 17th ESHMS Conference "Old Tensions, Emerging Paradoxes in Health: rights, knowledge, and trust", Lisbon
2018 European Sociological Association (ESA)Mid-term conference "Health and Illness in the Neoliberal Era", Turin
2017 15th Annual Conference ESPAnet Europe "New Horizons of European Social Policy: Risks, Opportunities and Challenges", Lisbon
2017 13th Conference of European Sociological Association (ESA) "(Un)Making Europe: Capitalism, Solidarities, Subjectivities", Athens

Selected Publications

- Russo, C., Terraneo, M. (2020), "Mental Well-being Among Workers: A Cross-national Analysis of Job Insecurity Impact on the Workforce", in Social Indicator Research. https://doi.org/10.1007/s11205-020-02441-5

-Sarti S., Terraneo M., Tognetti M. (2017), "Poverty and private health expenditures in Italian households during the recent crisis", in Health Policy, 121:307-314, http://dx.doi.org/10.1016/j.healthpol.2016.12.008

-Terraneo M (2016), "A longitudinal study of deprivation in European countries", in International Journal of Sociology and Social Policy, 5-6, pp. 379-409, https://doi.org/10.1108/IJSSP-05-2015-0058

--Terraneo M. (2015), Inequities in health care utilization by people aged 50+: Evidence from 12 European countries", in Social Science & Medicine, 126, pp. 154-163, https://doi.org/10.1016/j.socscimed.2014.12.028.

-Terraneo, M., Sarti S. e Tognetti M., (2014) "Social inequalities and pharmaceutical cost-sharing in Italian Regions", in International Journal of Health Services, 44, 4, pp. 761-785, doi: http://dx.doi.org/10.2190/HS.44.4.e.

Grants
Since 2020 PI for University of Milano-Bicocca unit for Cariplo Foundation grant: "Recovery.net: laboratories for a community psychiatry".   Since 2019 PI for University of Milano-Bicocca unit for Cariplo Foundation grant: "Social inclusion and disability: Experimentation of Health Budget".

Role in the project	
Role	*Total Effort (person/months)*
Researcher	3

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Consolazio	*David*	*Postdoc Researcher, Department of Sociology and Social Research, University of Milan-Bicocca*	*30/06/1988*

Education and training

2020 – Ph.D. URBEUR – Urban Studies, Department of Sociology and Social Research, University of Milan-Bicocca

2018 – Visiting Ph.D. Student, Department of Social Medicine, University of Maastricht (NL)

2018 – Summer School in Social Science Data Analysis, Multilevel Models: Practical Applications, University of Essex (UK)

2013 – Master's Degree, with honours – Sociology, Department of Social and Political Sciences, University of Milan

2010 – Bachelor's Degree – Sociology, Department of Sociology and Social Research, University of Milan-Bicocca

Professional experience

2020 – Postdoc Researcher, Department of Sociology and Social Research, University of Milan-Bicocca

2013-2017 – Teaching Assistant, Department of Management and Technology, Bocconi University

2016 – Teacher – "Netnography & Brand Reputation" of the online course "Digital PR and Influencer Marketing", Ninja Academy

2014-2016 – Researcher, Viralbeat

2013-2014 – Internship, Duepuntozero Research, Doxa

Scientific Publications and Congress or other Oral Communications

Publications: 6; h-index: n.a.

Consolazio, D., Koster, A., Sarti, S., Schram, M. T., Stehouwer, C. D., Timmermans, E. J., Wesselius, A., & Bosma, H. (2020). Neighbourhood property value and type 2 diabetes mellitus in the Maastricht study: A multilevel study. Plos one, 15(6), e0234324.

Consolazio, D., Sarti, S., Terraneo, M. (2020, in press). Inequalities in access to care between the Italian regions before and after the economic crisis. Autonomie Locali e Servizi Sociali, 2.

Catalanotti, C., & Consolazio, D. (2020, in press). Patterns of ethnic and social segregation in Naples: an update of the literature. Territorio, 92.

Consolazio, D., Terraneo, M., & Tognetti, M. (2019). Coesione sociale, autoefficacia e benessere dei ragazzi in età scolastica in Lombardia Evidenze dallo studio HBSC, in A. Caputo, G. Punziano, & B. Saracino (eds.) Prospettive Di Metodo Per Le Politiche Educative. PM Edizioni.

Consolazio, D. (2017) Etnografia Digitale, in Natale, P. & Airoldi, M. (eds.) Web e Social Media. Le Tecniche di Analisi. Maggioli Editore

Grants

Postdoc Fellowship Grant: Department of Sociology and Social Research, University of Milan-Bicocca. 36 months (ongoing), amount: 74.092,17 €

Ph.D. Grant: Urbeur, Urban Studies (Department of Sociology and Social Research, University of Milan-Bicocca). 36 months (ceased), amount: 48.715,41 €

Role in the project

Role	Total Effort (person/months)
Researcher & Head of Communication Activities	12

Surname	Name	Organization and Position	Date of birth
Quaglia	Valeria	University of Milano-Bicocca, Department of Sociology and Social Research. Research fellow	16/04/1985

Education and training

2019 Ph.D. in Sociology and Methodology of Social Research (SOMET), University of Milan, University of Turin;
2015 Master degree in Sociology (110/110 with honour and recommendation for thesis publication), University of Turin;

Professional experience

January 2020/today: Research Fellow on the project "Il budget di salute come forma di empowerment delle persone con disabilità: diritti, disuguaglianze, progettazione" scientific coordinator dott. Marco Terraneo, dipartimento di Sociologia e Ricerca Sociale, Università degli Studi di Milano Bicocca;

February/April 2019: Research fellowship for the project "Genere, salute e corso di vita: Metodologie di ricerca - Anno 2018-2019" Principal Investigator: Raffaella Ferrero Camoletto, Dipartimento di Culture, Politiche e Società, Lungo Dora Siena, 100, 10152, Torino (Italia).

July/October 2019: Research fellowship for the project "Psychiatric interventions: About TSO and restraint". Principal Investigator: Mario Cardano, Dipartimento di Culture, Politiche e Società, Lungo Dora Siena, 100, 10152, Torino (Italia).

October 2019/July 2020 Contract of collaboration for tutorship for the course of "Sociologia", prof. Luigi Gariglio, Dipartimento di Culture, Politica e Società, Lungo Dora Siena, 100, 10152, Torino (Italia).

a.a. 2019/2020 Contract of collaboration for teaching assistant for the course of "Sociologia della Salute" (Cuneo), prof. Michele Cioffi, Corso di Laurea in Infermieristica, Università degli Studi di Torino, via Rosmini 4/A 10126, Torino (Italia).

Scientific Publications and Congress or other Oral Communications

Conferences - Oral Presentation

2020, 17-19 September, online Conference "Il welfare state di fronte alle sfide globali", paper presentation "Inclusione Sociale e Disabilità: risultati di una sperimentazione del Budget di Salute".

2020, 14-15 September, online Conference "Vivere nell'emergenza: la società italiana ed il servizio sanitario nazionale di fronte alla pandemia da covid-19", paper presentation (with Mara Tognetti and Marco Terraneo) "Le competenze professionali delle figure sanitarie e socio-sanitarie in tempo di COVID-19. Quali differenze regionali?".

2020, 19/20 February, Conference "Migrazioni e diseguaglianze nella salute" paper presentation (with Marco Terraneo e Mara Tognetti) "Discriminazione, discriminazione percepita e salute mentale dei migranti".

2019, 16/18 October, Conference "Il male mentale: strategie di fronteggiamento". Support in the scientific secretary and paper presentation (with Mario Cardano, Raffaella Ferrero Camoletto, Luigi Gariglio, Eleonora Rossero) "Le pratiche coercitive in psichiatria: Primi risultati di uno studio sugli SPDC piemontesi".

2018, 18 April, Health and Illness in the Neoliberal Era, ESA Midterm Conference Research Network 16 'Sociology of Health and Illness' joint conference with AIS Italian Association of Sociology, Sociology of Health and Medicine, University of Turin, paper presentation "Making Sense of Diabetes: Narratives of Italian Men Dealing with a Chronic Disease".

2017, 29-01 September, (Un)Making Europe: Capitalism, Solidarities, Subjectivities 13th Conference of the European Sociological Association, paper presentation "Understanding the intersection between masculinity construction, sexuality and men's health. An Italian study", University of Athens.

2017, 14-15 July, Conference Doing Sex: Men, Masculinity and Sexual Practices, paper presentation "Understanding the intersection between masculinity construction, sexual practices and men's health. An Italian study", Newcastle University.

Publications

Quaglia V. (Forthcoming). Men, masculinities and diabetes: "doing gender" in Italian men's narratives of chronic illness. Accepted for publication in Sociology of Health and Illness.

Quaglia V., Terraneo M., Tognetti M. (Forthcoming). Discriminazione percepita e salute mentale dei migranti. Accepted for publication in Mondi Migranti.

Quaglia V., Rossero E. (2020). Fare team ethnography: un esperimento di interdisciplinarietà. In Cardano M., Algostino A., Caredda M., Gariglio L., Pardini C. La contenzione del paziente psichiatrico. Un'indagine sociologica e giuridica. Il Mulino: Bologna.

Quaglia V. (2016), Heteronormativity and LGBQ Lives: the Case of Italy, Discover Society, issue 39, December 06 2016.

Graglia M., Quaglia V. (2014), Omofobia contemporanea: la pressione sociale all'invisibilità e la contrarietà verso l'omogenitorialità, in "Rivista sperimentale di Freniatria", CXXXVIII, 2, pp. 59-83.

Grants

Role in the project	
Role	Total Effort (person/months)
Researcher	3

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Gallina	*Roberta*	*University of Milano-Bicocca -PhD student*	*12/11/1981*

Education and training

2019 - European Consortium in Publich Health and Health Promotion (ETC-PHHP) in collaboration with de University of Girona, Plaça de Sant Domènec, 3, 17004 Girona, Spagna - 28th ETC-PHHP Summer Course 2019 "Implementing sustainable Development Goals for Healthy Local Governance"
2017-2018 - University of Niccolò Cusano - Postgraduate diploma course "Management of coordination in the health professions".
2013-2017 - University of Firenze - MA degree "Health professions of prevention science". Dissertation title: "Research on the right to health of asylum seekers: state of the art, needs and organizations in the former Local Health Autority Ulss 9 of Treviso".
2012-2014 - University of Piemonte Orientale Amedeo Avogadro - Postgraduate diploma courses "Policy and interventions for health promotion and prevention" and "Prevention Science".
2009 - University of Brescia - Postgraduate diploma course "Health Communication"
2008-2011- University of Padova - BD "Health assistance". Dissertation title:
2009 - Postgraduate diploma course "Health Communication"
2001-2007 - University of Trento - MA degree "Sociology of territory and environment" and BD "Sociology". Dissertation title: "Chivay and the Colca Valley: Local community and environmental issue (Arequipa, Peru)"

Professional experience

2018-2020 - University of Padova: Adjunct professor of urban and environmental sociology and Research Methodology in the Bachelor course "Health assistance". Role: professor.
2012-2018 - Local Health Authority ULSS 2 Marca Trevigiana: Health promotion, planning health empowerment, community and urban renewal using inclusive methodologies, qualitative and quantitative data analysis. Role: Health assistant.
2008-2012 - Voluntary Organisations Coordinator Treviso, Voluntary Organisations Coordinator Castelfranco Veneto, IRES Veneto, AUSER Castelfranco Veneto: Social Research. Role: Sociologist - researcher.

Scientific Publications and Congress or other Oral Communications

Gallina Roberta "Organizational indications: facilitating asylum seekers' access to Health Services. Literature review and case study" in Book of Abstracts of the 17th ESHMS biennal conference - Old Tensions, emerging paradoxes in health: rights, knowledge, and Trust, 2018, Lisbon, Portugal, Realbase, pp. 28
Gallina Roberta "Health protection in Europe: facilitating asylum seekers' access to healthcare? An empirical case study, Treviso, Italy" in Book of Abstracts of the 17th ESHMS biennal conference - Old Tensions, emerging paradoxes in health: rights, knowledge, and Trust, 2018, Lisbon, Portugal, Realbase, pp. 201-202

Grants

Phd Student, 2018-2021, The annual amount granted, net of taxes, is €16,238.47.

Role in the project

Role	Total Effort (person/months)
Researcher	3

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Cerati	*Gabriele*	*Department of Sociology and Social Research, Università degli Studi di Milano-Bicocca. Research Assistant – Ph.D. Candidate*	*02/06/1992*

Education and training

2020 – current: Ph.D. Candidate – "Analysis of Social and Economic Processes - Università degli Studi di Milano-Bicocca
2019: Master's degree in Sociology, Università degli Studi di Milano-Bicocca, Milan, Italy
2016: Bachelor degree in Sociology, Università degli Studi di Milano-Bicocca, Milan, Italy

2020 - Research Assistant - " La salute della popolazione nelle province di Varese e Como: distribuzione territoriale e determinanti sociali" University of Milano-Bicocca – Milan (Italy) - Supervisor: prof. David Benassi   2018 – 2020 - Research Assistant - "Aging in a Networked Society" project - University of Milano-Bicocca – Milan (Italy) - Supervisor: prof. Emanuela Sala   2017 – 2018 – Research Assistant - Centro Interuniversitario Culture di Genere – University of Milano-Bicocca – Milan (Italy) - Supervisor: prof. Carmen Leccardi

Scientific Publications and Congress or other Oral Communications

Google Scholar H index: 1   Selection of publications on peer reviewed journals: Gaia, A, Sala, E., & Cerati, G. (2020) "Social Networking Sites use and life satisfaction. A quantitative study on older people living in Europe". European Societies, DOI: 10.1080/14616696.2020.1762910   Sala, E., Gaia, A. & Cerati, G. (2020) "The grey digital divide in Social Networking Site use in Europe. Results from a quantitative study". Social Science Computer Review. DOI: 10.1177/0894439320909507   Zaccaria, D., Guaita, A. Vaccaro, R., Casanova, G., Abbondanza, S., Pettinato, L., Cerati, G., Rolandi, E., Sala, E. (2020) "Assessing the impact of Social Networking Site use on older people's loneliness and social isolation. A randomized controlled trial: The Ageing in a Networked Society-Social Experiment Study (ANS-SE)". Contemporary Clinical Trial Communication.

Grants

Whether it is the case, indicate title, duration and amount of the grants achieved and those still running.

Role in the project

Role	Total Effort (person/months)
Researcher	3

Personal Data

Surname	Name	Organization and Position	Date of birth
Simone	Sarti	*Università degli Studi di Milano,* *Associate Professor*	*18/12/1973*

Education and training

PhD in Applied Sociology and Methodology of Social Research, University of Milano-Bicocca (6 April 2006)   *University degree (Laurea v.o.) in Political Sciences, University of Milan (23 March 2000)*

Professional experience

Associate Professor, Dep. Of Social and Political Sciences – University of Milan, from 2019, teaching "Methodology of the Social Research", "Applied Social Research" and "Society and Social Change".   *Assistant Professor, Dep. Of Social and Political Sciences – University of Milan, from 2011 to 2019, teaching "Methodology of the Social Research", "Society and Social Change" and "Social Inequalities".*   Currently group member of the inter-university project "Progetto Scuole Sicure" in partnership with *Tribunale per i Minori* and *Comune di Milano*.   *Scientific responsible of the research*: "Consulenza per la sistematizzazione dei dati degli assistiti della Fondazione Istituto Sacra Famiglia onlus e della Casa di Cura Ambrosiana s.p.a., con particolare riferimento alla valutazione del progetto di assistenza domiciliare Virgilio 2.0" - Fondazione Sacra famiglia and Casa di Cura Ambrosiana.

Group member in the international project INCASI (International Network for Comparative Analysis of Social Inequalities) - Marie Skłodowska-Curie Actions (MSCA) - Research and Innovation Staff Exchange (RISE) - Project Number: 691004, responsible prof.ssa Renata Semenza. Visiting scholar in December 2016 at the Universidad de La Plata (La Plata, Argentina) and in December 2018 at the Universidad de Chile (Santiago, Cile).

Group member of the scientific committee of the "Osservatorio e Metodi per lo studio della salute" at the Dep. Of research and Social Research at the University of Milano-Bicocca.

Scientific Publications and Congress or other Oral Communications
Indicate the total number of publications and h-index. Please list a selection of the peer-reviewed publications more relevant to the project (maximum 5 indexed publications).

53 publications; h-index 11 (Google scholar)

Consolazio, D., Koster, A., Sarti, S., Schram, M. T., Stehouwer, C. D., Timmermans, E. J., ... & Bosma, H. (2020). Neighbourhood property value and type 2 diabetes mellitus in the Maastricht study: A multilevel study. ***Plos One***, 15(6), e0234324.

Sarti, S., & Vitalini, A. (2020). The health of Italians before and after the economic crisis of 2008. ***Health & Social Care in the Community***, https://doi.org/10.1111/hsc.13116.

Sarti, S., Biolcati-Rinaldi, F., & Vitalini, A. (2018) The role of individual characteristics and municipalities in social inequalities in perceived health (Italy, 2010–2012): a multilevel study. ***Journal of Public Health***, 1-8.

S. Sarti, & M. Triventi (2016). The role of social and cognitive factors in individual gambling: An empirical study on college students. Social science research, ISSN: 0049-089X, doi: 10.1016/j.ssresearch.2016.08.009

Sarti,S. & Zella, S. (2016) Changes in the labour market and health inequalities during the years of the recent economic downturn in Italy. ***Social Science Research***, vol. 57, p. 116-132, ISSN: 0049-089X, doi: 10.1016/j.ssresearch.2015.12.010

Grants
Whether it is the case, indicate title, duration and amount of the grants achieved and those still running.

Research grant, 2010-2011, at the University of Milano-Bicocca for the project "Strutturazione e individualizzazione degli stili di vita".
Research grant, 2007, at the University of Milano-Bicocca for the project "Costruzione di un indice di status socio-economico per l'Italia contemporanea e comparazione con scale di stratificazione occupazionale".
Research grant, 2002, at the University of Milano-Bicocca for the project "Creazione di una base dati di dati integrati e comparabili per la ricerca sociale".

Role in the project	
Scientific Manager	*Total Effort (person/months)*
	12

Personal Data			
Surname	*Name*	*Organization and Position*	*Date of birth*
Capolongo	*Stefano*	*Politecnico di Milano, Dept. ABC, Full professor and director*	*28/12/1971*
Education and training			
From September 1992 to July 1996, Master of Science Degree in Architecture at Politecnico di Milano			
From December 1997 to December 1998, Master in European Ergonomics at Politecnico di Milano			

From January 1997 to January 2000, PhD in Public Health at Faculty of Medicine and Surgery, Università degli Studi di Milano

Professional experience

Architect, PhD, and Full Professor in Public Health at Politecnico di Milano.
Director of the Department Architecture, Built environment and Construction engineering (ABC) at Politecnico di Milano.

Academic field:
- *Professor of the courses Social Architecture, Building hygiene in the Design Studio III e Health and sustainability of the built environment in the Final Studio at the School of Architecture, Urban Planning and Construction Engineering (AUIC) at Politecnico di Milano*
- *Director of the joint Master Politecnico di Milano, Università degli Studi di Milano and Università Cattolica del Sacro Cuore in Rome in Planning, Programming and Design of Healthcare facilities*
- *Professor at the post-graduate School of Hygiene and Preventive Medicine in Parma and Milan (Università degli Studi di Parma and Università degli Studi di Milano) and Vita-Salute San Raffaele University in Milan*
- *Director of the courses Therapeutic Landscape Design, Indoor Air Quality in living and working environments and Finance in Public Health at Politecnico di Milano*
- *Coordinator of several multidisciplinary projects of Alta Scuola Politecnica (Politecnico di Milano and Politecnico di Torino)*
- *Director of residential courses related to the relationship between built environment and health at the "Giuseppe D'Alessandro" Higher School of Epidemiology and Preventive Medicine in Erice - Ettore Majorana Foundation and Centre for Scientific Culture*

Scientific field:
- *Coordinator of the Cluster Design of health facilities of Politecnico di Milano*
- *Coordinator of Design & Health LAB of Department ABC of Politecnico di Milano*
- *President of the Urban Public Health Section of European Public Health Association (EUPHA)*
- *Coordinator of European chapter of the International Academy for Design and Health (IADH)*
- *General Secretariat of CNETO (Italian Center for Hospital Building and Design)*
- *Coordinator of the research group Hygiene of Built Environment of SItI (Italian Society of Hygiene, Preventive Medicine and Public Health) for the two-year periods 2015-2016 and 2017-2018*
- *Founding member of ALSP (Lombard Academy of Public Health)*
- *Founding member of Foundation Action for Health Institute*

Institutional field:
- *President of the Golgi Redaelli Institute in Milan*
- *Referent and delegate for the Board of Directors for Politecnico di Milano of the Foundation Cluster Technologies for Smart Cities & Communities, Regione Lombardia.*
- *Member of the Work Table "Urban Health" at the General Directorate of Health Prevention of the Italian Ministry of Health*
- *Member of the committee of Cities Changing Diabetes project in Milan*
- *Member of the Academic Senate of Politecnico di Milano*
- *Adjunct member in the Health Development Commission for Regione Lombardia from 2013-to 2017.*

Scientific Publications and Congress or other Oral Communications

111 indexed papers, 1156 citations, and H-index 23 (from Scopus database)
Capolongo S, Rebecchi A, Dettori M, Appolloni L, Azara A, Buffoli M, Capasso L, Casuccio A, Conti Oliveri G, D'Amico A, Ferrante M, Moscato U, Oberti I, Paglione L, Restivo V, D'Alessandro D. Healthy design and urban planning strategies, actions, and policy to achieve salutogenic cities. International Journal of Environmental Research and Public Health. 2018; 15(12): 2698. doi: 10.3390/ijerph15122698.
Capolongo S, Buffoli M, Mosca EI, Galeone D, D'Elia R, Rebecchi A. Public Health Aspects' Assessment Tool for Urban Projects, According to the Urban Health Approach. In: Della Torre S, Cattaneo S, Lenzi C, Zanelli A. (eds.) Regeneration of the Built Environment from a Circular Economy Perspective. Cham, Switzerland: Research for Development; 2020. p. 325-335. doi: 10.1007/978-3-030-33256-3_30.
Capolongo S, Buffoli M, Oppio A. How to assess the effects of urban plans on environment and health. Territorio. 2015;73:145-151.

Capolongo S., Buffoli M, Brambilla A, Rebecchi A. Healthy Urban Planning & Design Strategies to improve urban quality and attractiveness of places.TECHNE. 2020; 19:271-279. Doi: 10.13128/techne-7837

Fehr R, Capolongo S. Healing environment and urban health. Epidemiologia & Prevenzione. 2016; 40(3-4): 151-2. doi: 10.19191/EP16.3-4.P151.080.

Grants

From September 2008 to September 2010 - PRIN 2007 - Ricerca del Ministero dell'istruzione, dell'Università e della Ricerca, prot. 20079ESEL5_003, entitled "Sviluppo di soluzioni tecnologiche innovative destinate a supportare nuovi modelli prestazionali e gestionali di strutture sanitarie in cui convergono assistenza, formazione e ricerca scientifica" – participation – around 250.000€

From October 2011 to October 2013 - PRIN 2009 - Ricerca del Ministero dell'Istruzione, dell'Università e della Ricerca, prot. 20094PHYCR_001, entitled "Valutazione delle caratteristiche tecnologiche/prestazionali e ambientali delle strutture sanitarie" – participation – around 250.000€

From January 2012 to December 2013 - POLISOCIAL AWARD 2012-2013 (Fondazione Politecnico di Milano & Politecnico di Milano) – entitled "HEALTHCARE FOR ALL: THE CHALLENGE OF INDIA" – principal investigator – 60.000€

From February 2016 to February 2018– Research group "archiTHERMability: Strategies for new identities of thermal spaces"- FORST (Fondazione per la Ricerca Scientifica Termale) & Politecnico di Milano – participation - 100.000€

From November 2016 - PROGRAMMA CCM 2015 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Individuazione di buone pratiche ed obiettivi prestazionali sanitari in materia di sostenibilità ed eco-compatibilità nella costruzione e/o ristrutturazione di edifici, ai fini della predisposizione dei regolamenti di igiene edilizia" – unit manager – 135.000€

From November 2016 (2 years) - Servizio di supporto al programma di miglioramento della qualità delle strutture di ricovero e cura pubbliche e private accreditate e a contratto del sistema sanitario regionale, in favore della Regione Lombardia – Ernst & Young and Fondazione Politecnico di Milano – senior manager

From March 2017 to October 2017 – Research group "Valorizzazione urbanistica delle aree dell'ex ospedale di Vimercate. Servizi socio-sanitari "- Comune di Vimercate & Politecnico di Milano, ABC dept. – unit manager – 36.000€

From November 2017 to December 2019 - PROGRAMMA CCM 2017 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Urban Health: buone pratiche per la valutazione di impatto sulla salute degli interventi di riqualificazione e rigenerazione urbana e ambientale" – unit manager – 450.000€ (112.500€ for POLIMI)

From March 2020 – PoliSocial Award 2019 - Research project "SPÈS. SPort Is Society. Social regeneration, health promotion and urban inclusion, through the reactivation of the sports infrastructure system of the Milanese oratories" Politecnico di Milano – Principal investigator - around 100.000€

Role in the project

Role	Total Effort (person/months)
Scientific Manager	12

Personal Data			
Surname	Name	Organization and Position	Date of birth
Buffoli	Maddalena	Politecnico di Milano, Dept. ABC, Researcher	16/05/1975

Education and training

From September 1994 to July 2000, Master of Science Degree in Architecture at Politecnico di Milano
From January 2000 to June 2004, PhD in Programmazione, Manutenzione, Riqualificazione dei sistemi edilizi e urbani at Politecnico di Milano
From September 2004 to September 2013, research fellow at Politecnico di Milano - ABC Department
From October 2013, Untenured researcher (Law 240/10) at Politecnico di Milano - ABC Department

Professional experience

Senior Researcher RTDB at Politecnico di Milano, PhD in Maintenance, Rehabilitation of the Building and Urban Systems and Architect. Professor of Environmental Hygiene and Technologies for building and environmental hygiene at the School of Architecture, urban planning construction Engineering (AUIC) of Politecnico di Milano. Member of both Cluster Design of Health Facilities and the strategic line of research Complex Constructions of Politecnico di Milano, as well as the Accademia Lombarda of Public Health, the research group Built Environment of the Italian Society of Hygiene (SItI) and of the Urban Public Health Section of the European Public Health Association (EUPHA).

Currently, she is a member of the Master Degree Program's admission Committee and of the Degree Course in Architectural Design's Cyclical Review Committee at the School of Architecture Urban Planning Construction Engineering of Politecnico di Milano.

Since 2000, she has actively participated to numerous researches, consultancies and feasibility studies at Politecnico di Milano, concerning the following topics: Urban Health, Health and Environmental Sustainability strategies at the design and urban scale and the design of social healthcare facilities. Regarding these themes, she has published several papers in specialized journals and she has been a speaker in numerous national and international conferences.

Scientific Publications and Congress or other Oral Communications

48 indexed papers, 737 citations, and H-index 22 (from Scopus database)

Buffoli M, Rebecchi A, Gola M, Favotto A, Procopio GP, Capolongo S. Green soap. A calculation model for improving outdoor air quality in urban contexts and evaluating the benefits to the population's health status. In: Mondini G, Fattinnanzi E, Oppio A, Bottero M, Stanghellini S. (eds.) Integrated Evaluation for the Management of Contemporary Cities. Cham, Switzerland: Green Energy and Technology; 2018. p. 453-467. doi: 10.1007/978-3-319-78271-3_36.

Buffoli M, Rebecchi A, Dell'Ovo M, Oppio A, Capolongo S. Transforming the built environment through healthy-design strategies: a multidimensional framework for urban plans' evaluation. In: Bevilacqua C,Calabro F,Della Spina L. (eds.) New Metropolitan Perspectives. NMP 2020. Cham, Swizterland: Smart Innovation, Systems and Technologies, 177 SIST; 2020. p. 187-196. doi: 10.1007/978-3-030-52869-0_16.

Capolongo S, Buffoli M, Mosca EI, Galeone D, D'Elia R, Rebecchi A. Public Health Aspects' Assessment Tool for Urban Projects, According to the Urban Health Approach. In: Della Torre S, Cattaneo S, Lenzi C, Zanelli A. (eds.) Regeneration of the Built Environment from a Circular Economy Perspective. Cham, Switzerland: Research for Development; 2020. p. 325-335. doi: 10.1007/978-3-030-33256-3_30.

Capolongo S, Buffoli M, Oppio A. How to assess the effects of urban plans on environment and health. Territorio. 2015;73:145-151.

Buffoli M. Urban Health: strategie per la sostenibilità urbana. Franco Angeli: Roma; 2014.

Grants

From September 2008 to September 2010 - PRIN 2007 - Ricerca del Ministero dell'istruzione, dell'Università e della Ricerca, prot. 20079ESEL5_003, entitled "Sviluppo di soluzioni tecnologiche innovative destinate a supportare nuovi modelli prestazionali e gestionali di strutture sanitarie in cui convergono assistenza, formazione e ricerca scientifica" – participant– around 250.000€

From October 2011 to October 2013 - PRIN 2009 - Ricerca del Ministero dell'Istruzione, dell'Università e della Ricerca, prot. 20094PHYCR_001, entitled "Valutazione delle caratteristiche tecnologiche/prestazionali e ambientali delle strutture sanitarie" – participant – around 250.000€

From November 2016 - PROGRAMMA CCM 2015 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Individuazione di buone pratiche ed obiettivi prestazionali sanitari in materia di sostenibilità ed eco-compatibilità nella costruzione e/o ristrutturazione di edifici, ai fini della predisposizione dei regolamenti di igiene edilizia" –participant – 135.000€

From November 2016 (2 years) - Servizio di supporto al programma di miglioramento della qualità delle strutture di ricovero e cura pubbliche e private accreditate e a contratto del sistema sanitario regionale, in favore della Regione Lombardia – Ernst & Young and Fondazione Politecnico di Milano – participant

From November 2017 to December 2019 - PROGRAMMA CCM 2017 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Urban Health: buone pratiche per la valutazione di impatto sulla salute degli interventi di riqualificazione e rigenerazione urbana e ambientale" – participant – 450.000€ (112.500€ for POLIMI)

From March 2020 – PoliSocial Award 2019 - Research project "SPÈS. SPort Is Society. Social regeneration, health promotion and urban inclusion, through the reactivation of the sports infrastructure system of the Milanese oratories" Politecnico di Milano –participant- around 100.000€

Role in the project	
Role	Total Effort (person/months)
Researcher	6

Personal Data			
Surname	Name	Organization and Position	Date of birth
Rebecchi	Andrea	Politecnico di Milano, Dept. ABC, Researcher	09/11/1986
Education and training			

From October 2005 to July 2008, Bachelor of Science in Architecture at Politecnico di Milano
From October 2008 to April 2011, Master of Science with honors in Architecture at Politecnico di Milano
From November 2011 to March 2013, second level Master in "Planning, programming and design of medical, social and health system" at Politecnico di Milano, Università degli Studi di Milano and Università Cattolica del S. Cuore di Roma.
From November 2013 to November 2016, PhD candidate at Dept. ABC, Politecnico di Milano
From January 2017 to July 2018, research grant holder at Dept. ABC, Politecnico di Milano
From October 2018 on-going, Young Researcher at Dept. ABC, Politecnico di Milano

Professional experience

Architect and PhD in Architecture, Built environment and Construction engineering (ABC) at the Politecnico di Milano (2017); title of the PhD thesis HEALTHY URBAN MOVES. Assessment tool for cities' Walkability to improve Active Transport and Physical Activity in Urban Areas. In 2013 he obtained the II level Master in Planning, programming and design of hospital and social-health systems developing the issue of Wayfinding in social and health care facilities.

Since October 2018, Junior Researcher (RTDA) at the ABC Department of Politecnico di Milano and professor in Technologies for Construction and Environmental Hygiene for the Building Technology Studio (ENG) and Laboratory of Architecture Construction (ITA) of the Architecture, urban planning construction Engineering (AUIC) of Politecnico di Milano.

Member of the National Center for Building and Hospital Technology (CNETO); Lombard Academy of Public Health (ALSP); Building Hygiene Working Group of the Italian Society of Hygiene and Preventive Medicine (SItI); member of the Steering Committee of the Section of the European Public Health Association (EUPHA).

Speaker in several national and international conferences; author of scientific publications about the issues of Urban Health, Building and Environmental Hygiene.

Scientific Publications and Congress or other Oral Communications

31 indexed papers, 318 citations, and H-index 12 (from Scopus database)
Capolongo S, Rebecchi A, Dettori M, Appolloni L, Azara A, Buffoli M, Capasso L, Casuccio A, Conti Oliveri G, D'Amico A, Ferrante M, Moscato U, Oberti I, Paglione L, Restivo V, D'Alessandro D. Healthy design and urban planning strategies, actions, and policy to achieve salutogenic cities. International Journal of Environmental Research and Public Health. 2018; 15(12): 2698. doi: 10.3390/ijerph15122698.
Capolongo S., Buffoli M, Brambilla A, Rebecchi A. Healthy Urban Planning & Design Strategies to improve urban quality and attractiveness of places.TECHNE. 2020; 19:271-279. Doi: 10.13128/techne-7837
Lenzi A, Capolongo s, Ricciardi W, Signorelli C, Napier D, Rebecchi A, Spinato C. New competences to manage urban health: Health City Manager core curriculum. Acta Biomedica. 2020; 91(3-S). doi: 10.23750/abm.v91i3-S.9430.
Rebecchi A, Boati L, Oppio A, Buffoli M, Capolongo S. Measuring the expected increase in cycling in the city of Milan and evaluating the positive effects on the population's health status: A Community-Based Urban Planning experience. Annali di Igiene. 2016; 28(6):381-391. doi: 10.7416/ai.2016.2120.
Rebecchi A, Buffoli M, Dettori M, Appolloni L, Azara A, Castiglia P, D'Alessandro D, Capolongo S. Walkable environments and healthy urban moves: Urban context features assessment framework experienced in Milan. Sustainability. 2019; 11(10): 2778. doi: 10.3390/su11102778.

Grants

From January 2012 to December 2013 - POLISOCIAL AWARD 2012-2013 (Fondazione Politecnico di Milano & Politecnico di Milano) – entitled "HEALTHCARE FOR ALL: THE CHALLENGE OF INDIA" – participation– 60.000€
From February 2016 to February 2018– Research group "archiTHERMability: Strategies for new identities of thermal spaces"- FORST (Fondazione per la Ricerca Scientifica Termale) & Politecnico di Milano – participation - 100.000€
From November 2016 - PROGRAMMA CCM 2015 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Individuazione di buone pratiche ed obiettivi prestazionali sanitari in materia di sostenibilità ed eco-compatibilità nella costruzione e/o ristrutturazione di edifici, ai fini della predisposizione dei regolamenti di igiene edilizia" – participation – 135.000€
From November 2017 to December 2019 - PROGRAMMA CCM 2017 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Urban Health: buone pratiche per la valutazione di impatto sulla salute degli interventi di riqualificazione e rigenerazione urbana e ambientale" – participant – 450.000€ (112.500€ for POLIMI)
From March 2020 – PoliSocial Award 2019 - Research project "SPÈS. SPort Is Society. Social regeneration, health promotion and urban inclusion, through the reactivation of the sports infrastructure system of the Milanese oratories" Politecnico di Milano – participant - around 100.000€

Role in the project

Role	Total Effort (person/months)
Researcher	6

Personal Data			
Surname	Name	Organization and Position	Date of birth
Gola	Marco	Politecnico di Milano, Dept. ABC, Research Grant Holder	08/03/1988

Education and training

From October 2007 to September 2010, Bachelor of Science in Architecture at Politecnico di Torino

From October 2010 to February 2013, Master of Science in Architecture for Sustainability at Politecnico di Torino – Architecture at Politecnico di Milano

From January 2011 to December 2012, Alta Scuola Politecnica – Politecnico di Milano and Politecnico di Torino

From November 2013 to October 2014, Specializing master in "Pianificazione, programmazione e progettazione dei sistemi ospedalieri e socio-sanitari" at Politecnico di Milano, Università degli Studi di Milano and Università Cattolica del S. Cuore di Roma.

From November 2014 to September 2018, PhD candidate at Dept. ABC, Politecnico di Milano.

From March 2018, research grant at Dept. ABC, Politecnico di Milano.

From February 2019 to December 2019, Academy for Young Leaders in Public Health promoted by Lombard Academy for Public Health

Professional experience

Marco Gola is an architect and graduate in Architecture for Sustainability in Politecnico di Torino. He is a PhD at Politecnico di Milano and he was a student of Alta Scuola Politecnica, obtaing the diploma with a multidisciplinary evaluation system on hospital sustainability.

In the last years, he worked for Techint Engineering & Construction at the Healthcare Department.

Nowadays he is a PhD at Politecnico di Milano, ABC dept. participating in several research projects such as "archiTHERMability: Strategies for new identities of thermal spaces" for FORST (Fondazione per la Ricerca Scientifica Termale), Alta Scuola Politecnica multi-disciplinary research works, Polisocial "Healthcare for all".

His research topics are related to the relationship between health and built environment.

Scientific Publications and Congress or other Oral Communications

36 indexed papers, 320 citations, and H-index 12 (from Scopus database)

Buffoli M, Rebecchi A, Gola M, Favotto A, Procopio GP, Capolongo S. Green soap. A calculation model for improving outdoor air quality in urban contexts and evaluating the benefits to the population's health status. In: Mondini G, Fattinnanzi E, Oppio A, Bottero M, Stanghellini S. (eds.) Integrated Evaluation for the Management of Contemporary Cities. Cham, Switzerland: Green Energy and Technology; 2018. p. 453-467. doi: 10.1007/978-3-319-78271-3_36.

D'Alessandro D, Arletti S, Azara A, Buffoli M, Capasso L, Cappuccitti A, Casuccio A, Cecchini A, Costa G, De Martino AM, Dettori M, Di Rosa E, Fara GM, Ferrante M, Giammanco G, Lauria A, Melis G, Moscato U, Oberti I, Patrizio C, Petronio MG, Rebecchi A, Romano Spica V, Settimo G, Signorelli C, Capolongo S, et al. Strategies for Disease Prevention and Health Promotion in Urban Areas: The Erice 50 Charter. Annali di Igiene. 2017; 29(6):481-493. doi:10.7416/ai.2017.2179

Capolongo S, Boati L, Buffoli M, Gola M, Oppio A, Rebecchi A (2018) Città e Salute Pubblica: il ruolo della ciclabilità urbana nel promuovere l'adozione di corretti stili di vita. In Angelucci F (ed) Smartness e healthness per la transizione verso la resilienza. Orizzonti di ricerca interdisciplinare sulla città e il territorio. Franco Angeli, Milano. 49 – 64.

Signorelli C, Fabiani L, Odone A, Carmignani MC, Greco S, Capolongo S, Gola M, Bossi E (2019) Salute e ambiente (Health and Environment). In Signorelli C. Igiene e sanità pubblica (Hygiene and public health). Roma: SEU Società Editrice Universo, 365-435.

Signorelli C, Buffoli M, Capolongo S, Visciarelli S, Gola M. Ambienti indoor (Indoor environments). In Buffoli M, Capolongo S, Odone A, Signorelli C. Salute e ambiente: igiene edilizia, urbanistica e ambientale (Health and environment: building, urban and environmental hygiene). Napoli: Edises edizioni; 2016:157-200.

Grants

From January 2012 to December 2013 - POLISOCIAL AWARD 2012-2013 (Fondazione Politecnico di Milano & Politecnico di Milano) – entitled "HEALTHCARE FOR ALL: THE CHALLENGE OF INDIA" – participation– 60.000€

From February 2016 to February 2018– Research group "archiTHERMability: Strategies for new identities of thermal spaces"- FORST (Fondazione per la Ricerca Scientifica Termale) & Politecnico di Milano – participation - 100.000€

From November 2016 - PROGRAMMA CCM 2015 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Individuazione di buone pratiche ed obiettivi prestazionali sanitari in materia di sostenibilità ed eco-compatibilità nella costruzione e/o ristrutturazione di edifici, ai fini della predisposizione dei regolamenti di igiene edilizia" – participation – 135.000€	
From November 2017 to December 2019 - PROGRAMMA CCM 2017 - Centro Nazionale per la Prevenzione e il Controllo delle Malattie – entitled "Urban Health: buone pratiche per la valutazione di impatto sulla salute degli interventi di riqualificazione e rigenerazione urbana e ambientale" – participant – 450.000€ (112.500€ for POLIMI)	
From March 2020 – PoliSocial Award 2019 - Research project "SPÈS. SPort Is Society. Social regeneration, health promotion and urban inclusion, through the reactivation of the sports infrastructure system of the Milanese oratories" Politecnico di Milano – participant - around 100.000€	
Role in the project	
Role	*Total Effort (person/months)*
Researcher	*6*

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