Health profile of the PASSI surveillance system according to the second self-audit data

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Abstract

Background. *The surveillance system PASSI (Progresses in ASSessing adult population health in Italy) is centrally coordinated by the Istituto Superiore di Sanità (ISS) and carried on by Local Health Units (LHU) from all the 21 Italian Regional Health Authorities since 2008. PASSI monitors the main behavioural health-related risk factors among the adult population in order to better orient and further elaborate interventions for the prevention of major chronic diseases.*

Study design. *Basing on outcomes from the first pilot study in 2011, we conducted a second self-audit to investigate and map levels of conformity with recognized implementation standards by the protocol for PASSI local management in the 21 Italian Regional Health Authorities.*

Methods. *We designed an online questionnaire supported by an open source application (Google) and sent to the local PASSI coordinators. Data were collected from April to September 2013. 113 out of 148 LHUs from all the 21 Italian Regional Health Authorities participated, with a response rate of 76%.*

Results. *Overall, in the respondent LHUs 1,036 professionals result to differently engage in surveillance activities. Although PASSI is locally-based, where data collection and computerisation are arranged, central support is highly appreciated in terms of quality monitoring, analysis, output processing, professional training, delivery of dissemination material. PASSI data are more used for communication (60%) and planning (80%) than to scientific ends.*

Conclusions. *After a ten-year activity, PASSI as complex public health program requires periodical self-audit rounds in order to assess to what extent relevant performance indicators match the levels indicated in its own operational protocol. The second self-audit showed to be reliable concerning both sustainability and data collection. It then represents an experience that can be renewed and repeated.*

Introduction

Wide literature shows the importance of surveillance systems in public health assimilating them to the nerve cells with afferent arms receiving information, cell bodies analysing the information and efferent arms initiating appropriate action or further distributing information (1). The importance of public health surveillance is outlined far in the past (2) and firstly accurately described by William Farr in

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1938 (3). In 1963, Alexander Langmuir from the Centers for Disease Control and Prevention (CDC) defined the concept of systematic structures monitoring infectious diseases distribution and trends of incidence (4). The notion of "surveillance" enriched of other characterizing elements: active and continuous collection of pertinent data on target disease(s), their assessment and practical reporting, timely dissemination for action plans (5). After that, epidemiological research was included in surveillance activities (6), and the expression "public health surveillance" was formally adopted by the WHO in its resolution WHA58.3 in 2005 (7-9).

Whether this is not the appropriate place to compare and contrast different notions of surveillance, it is noteworthy that scientific publications on some aspects of surveillance systems such as evaluation methods are increasing since 1988, when CDC published Guidelines for Evaluating Surveillance Systems (10). However, evaluating surveillance systems needs to be part of a broader strategy, one example could be then considered the assessment process of all European Union Disease Surveillance Networks (DSN) coordinated by the European Centre for Disease Prevention and Control (ECDC) (11).

Since non-communicable, also called chronic, diseases (NCD) are proving to be a major challenge in public health throughout the world as well as in Europe and Italy (12-14), some countries activated dynamic behavioural surveillances monitoring the modifiable risk factors, which led to the approach known as "behavioural risk factor surveillance" (BRFS). In addition to timely and near continuous data collection, this type of systems is strictly linked with public health action, providing relevant information to support health promotion and public health decision-making (15).

Coordinated by the Italian National Institute of Health (Istituto Superiore di Sanità; ISS) and funded by the Ministry of Health (MoH), PASSI (Progresses in ASSessing adult population health in Italy) is a surveillance system active in Local Health Units (LHU) from all the 21 Regions/ Autonomous Provinces (hereinafter all called Regions) since 2008. Representative samples of noninstitutionalized adult citizens aged 18-69 years are interviewed by telephone on health risk behaviors, preventive practices, and healthcare access (primarily related to chronic disease and injury). PASSI provides flexible, timely, and ongoing data collection that allows for LHU-to-Region, Region-to-Region and Region-to-Nation comparisons. Such specific data provide a sound basis for developing and evaluating public health programs, including those targeted to reduce disparities in addressing health risks. In 2017, 31,798 interviews were conducted. Further characteristics of this system have been described elsewhere (16, 17).

Within the PASSI design, data quality monitoring is a widely developed issue and several tools have been implemented accordingly: on line automatic indicators (18), ad hoc Excel reports delivery (19) and continuous networking (20). Additionally, the ISS conducted an audit-based evaluation twice: a first round was carried out in 2011, the second PASSI self-audit (SPSA) was delivered in 2013. A complex program involving public health care workers (HCW) from almost all the Italian LHUs needs to be constantly assessed per all its system features as a whole. The SPSA has been structured in accordance with a scheme answering three main research questions: 1) Who are professionals working on PASSI at local community level? 2) To what extent are surveillance methods and implementation procedures correctly applied? 3) What is the added value to the Italian system for disease prevention and health promotion that is derived from PASSI? The second audit was more focussed than the first round on crucial surveillance aspects: the conformity of the

local PASSI management to some protocol standards in fact was basically addressed. Aiming at the general improvement of the system balance, the main audit objectives were: 1) obtain information; 2) interpret data gathered; 3) take appropriate action (21).

In January 2018 PASSI celebrated its ten years of activity (22), and it seems relevant to understand how far in terms of overall evaluation and adjustment measures PASSI moved from the 2013 SPSA results that can be considered as a mid-term assessment milestone.

Methods

The self-audit questionnaire used was developed as a way of measuring and understanding to what extent LHUs and Regions – the core level in PASSI – were in relation to meeting the standard requirements for the surveillance implementation (23-24).

The survey was supported by an open source application (Google) and sent to the local PASSI coordinators who were requested to answer 45 questions. We selected items identifying the components of the so called quality assessment triad, that is Structure-Process-Outcomes (21), as key challenges for implementing PASSI (Table 1).

In 2011, the first PASSI self-audit questionnaire was pretested in Veneto, the Region with the highest number of LHUs; the SPSA version was slightly revised and optimized basing on the previous experience.

The SPSA lasted from April 16th to September 20th 2013.

Proportions of the above-mentioned indicators were estimated overall, by LHU, Region and geographical macro-areas (North, Centre, South and major Islands).

The software STATA 11 was used for analysing data and elaborating maps.

Table 1 – Survey items for the second PASSI self-audit questionnaire, 2013

Section	N of Questions
Metadata	
Region and Local Health Unit IDs	2
Local PASSI arrangement	
Coordination team	6
Human resources	4
Work organization	2
Institutional support	3
Professional training	2
Informed consent	7
Use of PASSI data	
Treatment	2
Quality monitoring	4
Communication	13
Intervention	2
Total	47

Results

Response rate

Since 2008 all the Italian Regions have been participating in PASSI. The total number of involved LHUs results to slightly differ over time because on one hand they were aggregated and/or disaggregated and on the other hand PASSI coverage has been progressively increasing at country level. For the current analysis only LHUs participating in the SPSA were considered (N=113/148), achieving a lower coverage than in the first round (76,4%). The non-respondent LHUs were geographically distributed: ten from the North, 15 from the Centre, ten from the South (Table 2).

PASSI professionals

The number of professionals differently involved in PASSI activities overall resulted to be 1,036 with a mean value of 9.1 per LHU. The main PASSI roles covered at local level, coordinator and interviewer, were played respectively by 181 and 791

Table 2 – Survey coverage of the second PASSI self-audit, 2013

Characteristics	N (%)
Regions/Autonomous Provinces	21/21 (100)
Local Health Units	113/148 (76.4)
Non-respondent Local Health Units	35/148 (23.6)
North	10/148 (6.7)
Centre	15/148 (10.1)
South/Isles	10/148 (6.7)

professionals, however others were indicated as well (N=64). Local coordination teams were mostly formed by public HCWs (92.3%) rather than non-health professionals, representing 4.9% (Table 3).

Local PASSI arrangement

Considering the number of yearly face-to-face meetings as the main indicator of the PASSI local teams' work organisation, it was four on average, ranging from 0 to 12.

79% of respondent LHUs declared that PASSI was recognized in institutional activities and/or objectives; 46% reported that an economic support was provided and 10.6% adopted a system of working hours' replacement.

In matter of professional training, the distance learning course delivered by the national coordination was evaluated as useful/very useful according to 83% vs. 10% not very useful/not useful at all.

Table 3 – Local PASSI coordination teams and human resources per professional role and category

Roles and categories	N (%)
PASSI Local Coordinator	181
Health Care Worker	167/181 (92.3)
Non Health Care Worker	9/181 (4.9)
Not specified	5/181 (2.8)
Interviewers	791
Others	64
Total	1,036

Concerning the informed consent procedures, 34% of LHUs developed the general information on PASSI to citizens and in 10% of LHUs it occurred that at least one citizen requested not to be sampled. The specific circular was always sent to citizen sample in 81% of cases.

The reference person and identified professionals for processing PASSI data were formally nominated, respectively, in 27% and in 13% of LHUs. 14% of coordinators reported to collect data by the Computer-Assisted Telephone Interviewing (CATI) (18) method exclusively, in the other LHUs (86%) the Paper-And-Pencil Interviewing (PAPI) technique (25) and data entry to follow were optioned (Table 4).

Use of PASSI data

Once data were collected, documents with personal data got a properly safe custody in 68% of LHUs. Days on average since collection to data destruction were 210 yearly.

Data quality monitoring methods were evaluated as satisfactory/very satisfactory 96% for the automatic system and as useful/very useful 88% for the Excel reports.

A complete communication plan was elaborated by 26% of LHUs. 63% performed at least one technical deliverable to be disseminated in paper or electronic format and 52% finalised thematic factsheets. PASSI results communication concerned conference presentations (50%), dissemination at health promotion events (60%), scientific publications (12%).

45% of LHUs use PASSI data for institutional documents, 60% for promoting health and 80% for implementing interventions (Table 5).

Discussion

Involving more than one thousand professionals, overall the PASSI network is

Table 4 – Local PASSI arrangement. Second PASSI self-audit questionnaire, 2013

Local PASSI arrangement	N (%)
Work organization	
Yearly staff meetings (mean value; range)	4; 0-12
Institutional support	
Formal acknowledgement	89/113 (79)
System of working hours' replacement	12/113 (10.6)
Economic compensation	52/113 (46)
Professional training	
useful/very useful	94/113 (83)
not very useful/not useful at all	11/113 (10)
Informed consent	
General information to citizens	38/113 (34)
Citizen request not to be sampled	11/113 (10)
Specific circular always sent to citizen sample	92/113 (81)
Reference person for processing data	31/113 (27)
Identified professionals for processing data	15/113 (13)
Data collection method	
CATI	16/113 (14)
PAPI	97/113 (86)

Table 5 – Use of PASSI data. Second PASSI self-audit questionnaire, 2013

Use of PASSI data	N (%)
Treatment	
Safe custody	77/113 (68)
Days on average since collection to data destruction	210
Quality monitoring	
satisfactory/very satisfactory automatic system	108/113 (96)
useful/very useful Excel reports	99/113 (88)
Communication	
Planning	29/113 (26)
Deliverables	70/113 (63)
Factsheets	59/113 (52)
Conference presentations	56/113 (50)
Dissemination	68/113 (60)
Scientific publications	14/113 (12)
Institutional documents	51/113 (45)
Health promotion	68/113 (60)
Intervention	90/113 (80)

growing up over the years: this surveillance system arises and lives embedded into the Italian public healthcare services at local level so that the most are HCWs (medical doctors, nurses, healthcare assistant), even if non-health professionals (as statistician or computer technician) do work on PASSI as well. Indeed, multidisciplinary local PASSI teams encompass different levels of responsibility apart from the roles of coordinator and/or interviewer: to the professionals working in public health departments the wide-ranged surveillance activities – from collecting data to disseminating results – do represent both a professional improvement and a valid opportunity to promote general population health. Basing on the SPSA results, in fact,

professionals at local level show to have gained the set of competences for developing surveillance. In average, the number of yearly meetings at local level corresponds with the same as the central coordination develops, that is four (20). Even contents addressed locally reflect what is discussed at national level, this proving that PASSI coordinators in LHUs and Regions refer to the support provided by the ISS. Other relevant indicators are the high appreciation to the quality data monitoring system (both automatic and by Excel reports) and to the web-based refresher as well.

Economic or time compensation systems to replace the work spent on PASSI have been considered as valid sustainability indicators at local level, but the two forms do not occur together necessarily: economic resources in fact are not always available where PASSI is officially recognised among the institutional activities. Over the years PASSI has been consolidating a formal

acknowledgement, and a lower interest in funding can be observed (26-27).

Furthermore, the Legislative Decree 179/2012, converted into Law No 221 of 12.17.2012, Art. 12 (Electronic Health Record and surveillance systems in the health sector) sets up disease registries and surveillance systems in accordance with concerted decisions by the MoH and the Regions.

The actual law enforcement is hardly relevant onto surveillance accountability and represents a great support to the relation surveillance-citizens, especially at local community level. This mainly applies to disclosures to population: even if in one out of ten LHUs spontaneous requests by citizens to be excluded from the random sample occurred, a low value was reported about LHUs abiding by the general information on PASSI. In light of the law on registries and surveillance in public health, also PASSI data processing procedures are called to be strictly accomplished by each LHU (28).

Another area where the national coordination has been supporting the local level since PASSI started relates to data analysis and results dissemination, implying tailored and targeted communication outputs (29-30). To date, every year PASSI presents new data set through its online tool where prevalence, trends, maps and graphs are available (22).

The high innovation developed over the years made some PASSI protocol features, ranging from communication plan to traditional report, as typically characterising the very first times of the surveillance. For instance, two-page factsheet format prevailed as easy-to-use and streamlined communication method of PASSI results, above all on the four Gaining health modifiable risk factors, which are tobacco smoking, physical inactivity, diet, and alcohol consumption (14). Instead of heavy data reporting, unpacking issues has been increasing as data communication method even because of its feasibility and flexibility,

also compatibly with world prevention days such as on alcohol in the month of April (31) or on tobacco smoking at the end of May (32).

Other communication activities related to PASSI data are widely developed both in form of conference presentations and within health promotion events implying also a broad collaboration on territory with other working groups on specific issues (e.g. the national observatory for oncologic screening) or particular stakeholders, such as general practitioners.

Among uses of PASSI results, it is relevant to observe how extensively data are used to plan, promote and evaluate public health interventions, achieving what surveillance rationale sets as its primary goal that is "information for action" (15, 33).

Limitations

Coverage rate was the main limit met in delivering the second round of self-audit because of both affecting the representativeness and being an assessment indicator itself. The SPSA showed conversely to be better focussed and structured than the first self-audit experience with concern to questionnaire design and data collection. Admittedly, actions to find improvement solutions have been taken only in part and is still about to be finalized for a systematic, intermittent reassessment of the progress, therefore cannot be considered proof of an existing quality assurance system.

Conclusions

Continuous quality assurance is not a well-established item in surveillance systems and in so far as evaluations become a core surveillance aspect they are likely to have greater impact on the improvement of the system overall. The set of activities for PASSI evaluation may be a good opportunity to start this process and the self-audit

proved to be a reliable tool providing public health authorities, external stakeholders and the PASSI network as well with useful information to better address the surveillance performance at local level.

To date, although under the current law enforcement, PASSI efficiency and effectiveness assessment is even a more urgent issue due to a highly challenging context overall: the adult population health surveillance has been gradually integrating with the "twin" system that monitors risk factors and behaviours in elderly and it is necessary on one hand to understand the capacity levels that healthcare service can ensure, and on the other hand to identify relevant groups of factors to be improved. After ten years of 'life' a nationwide public health program needs to be further assessed; the indicators and the experience developed by the SPSA can be fine-tuned, updated and repeated in order to support a third round.

Riassunto

Profilo di salute del sistema di sorveglianza PASSI secondo i dati del secondo self-audit

Introduzione. Il sistema di sorveglianza PASSI (Progressi delle Aziende Sanitarie per la Salute in Italia) è coordinato centralmente dall'Istituto Superiore di Sanità (ISS) e condotto dalle Aziende Sanitarie Locali (ASL) di tutte le 21 Regioni e Province Autonome (PP.AA.) italiane dal 2008. PASSI monitora i principali fattori comportamentali di rischio per la salute nella popolazione adulta al fine di orientare e valutare gli interventi di prevenzione delle maggiori malattie croniche.

Disegno dello studio. Sulla base degli esiti del primo studio pilota svoltosi nel 2011, è stato condotto un secondo *self-audit* per valutare, relativamente a specifici indicatori, il livello di conformità al protocollo di implementazione delle attività di sorveglianza PASSI nelle 21 Regioni/PP.AA.

Metodi. I dati sono stati raccolti mediante un questionario elettronico supportato da un'applicazione Internet *open source* (Google), inviato ai referenti aziendali PASSI nelle 21 Regioni/PP.AA. L'indagine è stata condotta da aprile a settembre 2013. Al sondaggio hanno partecipato 113 ASL delle 148 partecipanti al PASSI da tutte le Regioni/PP.AA, con un tasso di risposta del 76%.

Risultati. Complessivamente, nelle ASL che hanno partecipato al secondo *self-audit* PASSI risultano essere 1.036 i professionisti coinvolti a vario titolo nel *network* della sorveglianza. Nonostante il fulcro di PASSI sia il livello locale che è deputato a organizzare materialmente la raccolta e informatizzazione dei dati, è molto apprezzato il supporto fornito dal coordinamento nazionale, in termini di monitoraggio della qualità, analisi, elaborazione output, formazione del personale dedicato, erogazione di materiali. I dati PASSI sono ampiamente utilizzati a fini divulgativi (60%) e programmatori (80%), ma in misura minore per pubblicazioni scientifiche.

Conclusioni. A dieci anni dalla sua attivazione, PASSI quale programma complesso di sanità pubblica richiede la messa a regime di *self-audit* periodici per valutare in che misura gli indicatori di *performance* si mantengano in linea con quanto indicato nel protocollo operativo della sorveglianza. Il secondo *self-audit* PASSI ha dimostrato buone caratteristiche per sostenibilità nella realizzazione e per affidabilità sia degli strumenti sia delle modalità di rilevazione delle informazioni. Rappresenta pertanto un'esperienza che, attualizzata, può essere replicata.

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