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## Article original

# Measuring local strategies to address the determinants of population health : development and application of the CLoterreS instrument



## Mesurer les stratégies locales ciblant les déterminants de la santé des populations : développement et application de l'outil CLoterreS

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## ABSTRACT

**Background.** – Local governments are well-positioned to promote healthy behaviours and environments. In France, since 2009, this role can be reinforced by signature of a Local Health Contract with the Regional Health Agency. This multi-year scheme includes an action plan which may cover four areas: health promotion, disease prevention, health care and long-term care. Although approximately 400 Local Health Contracts had been signed by 2018, we found only sparse evidence on the context in which they were formulated and the contents of their action plans. Based on the international literature, the CLoterreS study aimed to develop an instrument characterizing the contracts' action plans, with a specific focus on prevention and health promotion. This paper presents an assessment and application of the CLoterreS instrument.

**Methods.** – The instrument was developed and applied in five steps: 1) development of the contextual and thematic variables; 2) pre-testing of a coding chart and its coding guide; 3) consultation with practitioners; 4) assessment of inter-rater agreement; and 5) application of the instrument to a nationally-stratified random sample of 53 contracts.

**Results.** – While inter-rater agreement by type of variables was satisfactory ( $\kappa > 0.7$ ), some variables had to be discarded due to lack of information or insufficient agreement. The analysis indicates that most of the 53 contracts studied were signed in urban areas, on the scale of a single town or a syndicate of municipalities. The action plans are clearly focused on life circumstances, health promotion and protection or primary prevention of diseases, insofar as, on average, 73% of the contracts' action forms address at least one of these topics. The proportion of action forms dealing with at least one topic in secondary or tertiary prevention, long-term care or the organisation of health care and services is nevertheless substantial (43%). Illustrations of actions are presented.

**Conclusion.** – Building on internationally recognized evidence-based practice, the CLoterreS instrument has proven useful in characterizing health promotion action plans at the local level. Its use by practitioners could foster a broader vision of the scope of actions that can be implemented through a Local Health Contract and in conjunction with other local prevention and access-to-care schemes.

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## R É S U M É

## Mots-clés:

Promotion de la santé

**Contexte.** – Les collectivités locales sont bien placées pour promouvoir des comportements et des environnements favorables à la santé. En France, depuis 2009, ce rôle peut être renforcé par la signature d'un Contrat

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local de santé (CLS) avec l'Agence régionale de santé. Ce dispositif pluriannuel inclut un plan d'action pouvant aborder quatre domaines : promotion de la santé, prévention des maladies, soins, accompagnement médico-social. Malgré environ 400 CLS recensés en 2018, les connaissances sur leur contexte d'élaboration et le contenu de leurs plans d'action restent limitées. En s'appuyant sur la littérature internationale, l'étude CLoterreS visait à développer un outil permettant de caractériser les CLS selon leurs plans d'action, notamment en matière de prévention et de promotion de la santé. Dans cet article nous présentons une évaluation et une application de l'outil CLoterreS.

**Méthode.** – L'outil a été développé et appliqué en cinq étapes : 1) le développement de variables contextuelles et thématiques ; 2) le prétest de la grille de codage et de son guide ; 3) la consultation de professionnels ; 4) un test d'accord inter-juges ; et 5) l'application et l'utilisation de l'outil à partir d'un échantillon aléatoire stratifié à l'échelle nationale de 53 CLS.

**Résultats.** – Le test d'accord inter-juges par type de variable était satisfaisant ( $\kappa > 0,7$ ), mais certaines variables ont dû être écartées par manque d'information ou faute d'accord suffisant. L'analyse indique que la plupart des 53 CLS étudiés ont été signés en milieu urbain, à l'échelle d'une municipalité ou d'une intercommunalité. Les plans d'action sont clairement orientés vers les circonstances de vie, la promotion et la protection de la santé ou la prévention primaire des maladies, dans la mesure où, en moyenne, 73 % des fiches action abordent au moins un thème relevant de ce domaine. La proportion de fiches action abordant au moins un thème relevant de la prévention secondaire ou tertiaire, de l'accompagnement médico-social ou de l'organisation de soins et services de santé est néanmoins substantielle (43 %). Des exemples d'action sont présentés.

**Conclusion.** – S'appuyant sur des pratiques probantes reconnues à l'échelle internationale, l'outil CLoterreS s'est avéré utile pour caractériser des plans d'action en promotion de la santé au niveau local. Son utilisation par des professionnels pourrait encourager une vision plus large de la diversité d'actions pouvant être mises en œuvre dans un CLS et en lien avec d'autres dispositifs locaux de prévention et d'accès aux soins.

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## 1. Introduction

Chronic disease prevention is a major international health and economic challenge : people are living longer, but not necessarily in good health [1]. In France, as in many other countries, the increase in life expectancy and the resulting ageing of the population largely explains the rise in the prevalence of chronic diseases, particularly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes [2]. In this context, several factors contribute to the increasing recognition of what local authorities (see Table 1) can bring to the development of health-promoting behaviours and environments [3–7] :

- i) They can carry out local health needs assessments in close proximity to citizens.
- ii) They are at the nexus of factors that have a long-term influence on health determinants and health equity, such as early childhood services, housing, transport, living environment, leisure, etc.
- iii) Depending on the institutional context, they have a mandate and capacity to implement participatory and cross-sectoral strategies addressing these determinants.

Nevertheless, the characteristics and benefits of this "health in all policies" (HiAP) approach at the local level need to be further documented in the scientific literature in order to support its use by decision-makers [5,7]. Improved practice in this area requires enhanced knowledge about health promotion strategies and their implementation at the local level.

In France, municipalities do not have an explicit public health mandate (see Table 1). Nevertheless, for more than a century, they have played an important role in public hygiene, particularly through municipal health and hygiene services. During the 20<sup>th</sup> century, these services were active mainly in medium and large cities, with an emphasis on sanitation and disease prevention [8]. However, over the last twenty years, the central government has adopted other measures to foster local health promotion actions and to reduce social inequalities in health. In the early 2000s, an inter-ministerial

policy was developed to improve the population's health in disadvantaged neighbourhoods : Health and Urban Policy Workshops (*Ateliers Santé Ville*) were set up and locally coordinated. Since their creation, over 250 workshops have brought together local public services of the central government, municipal services and a variety of local actors involved in the implementation of social and health promotion actions [9]. Subsequently, Local Health Contracts (*Contrats Locaux de Santé*, hereinafter the contracts) were initiated in 2009 by the "Hospital, Patients, Health and Territories" Act, and confirmed in 2016 by the "Modernization of our Healthcare System" Act [10–12]. The contracts bring together Regional Health Agencies, local authorities, various professional groups and non-governmental organisations in a joint approach aimed at developing and implementing local actions in four key areas : health promotion, prevention, health care policies (e.g., access to primary/hospital care), and long-term care. Generally based on a local health needs assessment, Local Health Contracts take the form of a multi-year agreement including a set of action forms. The contracts are signed on a voluntary basis and can cover a broad range of topics [13]. The CLoterreS exhaustive census of all contracts signed up until March 2018 identified 397 contracts [14].

However, the state of knowledge about Local Health Contracts and their impact on prevention and health promotion is still relatively limited. In our review of the scientific literature, we found ten publications providing insights on the evolution of local governments' public health mandates, the formulation and implementation process of the contracts, their articulation with other existing schemes (Health and Urban Policy Workshops, programmes to improve access to health care), their evaluation and capacity to reduce health inequalities [15]. In the grey literature, few assessments of the deployment of Local Health Contracts have been carried out. For example, in June 2015, a consulting firm conducted a census of the contracts (N = 260) and analysed the characteristics of the territories covered, as well as the factors influencing their formulation and implementation. However, this study did not provide an in-depth analysis of the action plans [16]. In 2017, the Ministry of Health undertook a nationwide census of the contracts (N = 305). This work highlighted their distribution over the territory, the profile of their signatories, and their intentions for action in relation to different

**Table 1**  
Brief description of the French governmental institutions mentioned in the article.

Central government
<b>Ministry of Health and Social Affairs</b> : ministry assigning policy and financial targets to the Regional Health Agencies, with hierarchical authority over Regional Health Agency executives.
<b>Social Health Insurance Funds</b>
Social health insurance funds executives are appointed by the central government and their spending targets are regulated by law.
<b>Regional and sub-regional state representatives and services</b>
Regional and sub-regional prefects act as the central government's representatives. They have authority over the regional and sub-regional services of the state, which are responsible for the implementation of the ministries' policy (aside from health, e.g., in economy, agriculture, environment, etc.) in a hierarchical fashion and with limited strategic autonomy.
<b>Regional Health Agencies</b>
The 18 Regional Health Agencies (and their sub-regional units) are funded by and allocate social health insurance funds resources. They have strategic autonomy and the capacity to adapt national targets to local needs and priorities within a strict budget framework. They are responsible for implementation of national health policy targets (inc. with regard to health promotion), monitoring of population health, and long-term care services (jointly with sub-regional governments).
<b>Local authorities</b>
<b>Regional councils</b> ( <i>Conseils régionaux</i> ) : existing in most of the 18 French regions, their remit includes mainly territorial and economic development and planning, vocational training, management of high schools and transport outside urban areas. According to their policy priorities and resources, regional councils may intervene in the health sector.
<b>Sub-regional governments</b> ( <i>Conseils départementaux</i> ) : existing in 97 territories covering the country, they are mainly competent in the field of social care and services, with joint responsibility with regard to the implementation and funding of long-term care policies and services. They may also intervene in the health sector according to their priorities and resources.
<b>Local governments, including municipalities and syndicates of municipalities</b> : act both as agents of the central government and local executives responsible for urban planning, local transportation, housing, public order, culture and leisure. Their provision of basic social assistance services is a legal requirement. According to resources and priorities, they may develop more ambitious social policies, possibly in cooperation with sub-regional governments. The same rationale applies to public health, involving cooperation with the Regional Health Agencies (e.g., in the context of Local Health Contracts).

issues. However, it mainly focuses on the development process of the contracts [17].

Considering that a new National Health Strategy framed prevention and health promotion as a priority [18] and coincided with the publication of governmental policy on prevention [19], it appeared relevant to consider the place assigned to prevention and health promotion in Local Health Contracts. All in all, the organization of health systems and the resources allocated to them are still largely dominated by health care and health services [20]. In France, the implementation of health policy increasingly involves contractual arrangements between the central government and the Regional Health Agencies which, in turn, develop contractual arrangements with various operators such as primary health and long-term care providers [21]. If the Local Health Contract appears to be an innovative device that brings Regional Health Agencies "into the sphere of local authorities", it is in fact a "peripheral" contract ([21], pp. 173–4, our translation), aimed at bringing into play "non-health" sectors, i.e., sectors in which health is not necessarily a priority. Doing so, they are likely to activate various health-promoting levers outside the health care services. However, when the time comes to have it implemented over a large territory, its flexible framework can be a source of dispersion in the achievement of the objectives pursued, and its

articulation with other schemes can be challenging [22]. It is therefore important to question its conditions for optimization.

As a prerequisite to further qualitative analyses in the CloterreS study (2017–2020) [23], this article presents the development and application of an instrument aimed at: 1) documenting the context in which the contracts are developed; 2) describing the contents of their action plans; 3) raising hypotheses as to the influence of the former on the latter. Our work is in line with recent scientific advances aimed at analysing the potential contribution of Local Health Contracts in addressing various health issues, for example in terms of capacity-building to reduce social and territory-based inequalities in health [24]. We will first present the methods used to develop the CloterreS instrument, and then the variables developed, along with the results of its application on a stratified random sample of contracts among the 165 signed between January 2015 and March 2018. On the one hand, this period was chosen to reflect relatively recent trends in contract design and to thereby draw lessons relevant to current practice. On the other hand, sampling was necessary due to the substantial time required to code the contents of each contract. Finally, we will discuss the potential benefits and limitations of the CloterreS instrument for research and practice.

## 2. Material and methods

The CloterreS instrument's development and application went through five steps detailed below: 1) conceptual development of the variables of interest; 2) pre-testing of a coding chart and its coding guide; 3) consultation with practitioners involved in the CloterreS study's Strategic Committee; 4) assessment of inter-rater agreement; 5) application of the instrument to a nationally stratified random sample of contracts.

### 2.1. Step 1: Conceptual development of the variables

According to the study protocol [23], the CloterreS instrument was intended to cover two types of potentially interrelated variables: 1) contextual, i.e., relating to factors likely to influence the contents of the contracts' action plan; 2) thematic, i.e., relating to the presence and frequency of the priority areas addressed in this plan and of the topics that each priority area encompasses (Fig. 1).

#### 2.1.1. Contextual variables

Factors likely to influence the contract objectives and action planning were first identified from a systematic review [15] of the relevant scientific literature [8,25–31]. These factors included:

- The type of local government signing the contract (town, syndicate of municipalities, city), which is associated with diverse mandates and resources
- The political commitment of elected officials
- The strategic orientations of the Regional Health Agency
- The local public health culture and experience in community-based health actions, which may constitute a more or less fertile ground for health promotion
- The initiator of the contract and time needed for formulation
- The generation (1<sup>st</sup> or 2<sup>nd</sup> contract signed in the territory), which may suggest a certain degree of experience in the development and implementation of a contract
- The financial means available for contract implementation
- The socio-demographic characteristics of the territory
- The health needs assessment conducted over the territory
- The circumstances of the partnerships (pre-existing experiences and relationships, number and type of signatories/partners)
- The participation of the population.

The definition and operationalisation of these factors into variables were based on various legislative, professional, scientific or technical papers (e.g., legal or administrative categorization of actors and territories, guidelines about the implementation of the contracts, definition of some concepts in the literature). We also relied on the expertise in community health gathered in our research consortium [32,33]. Reading several contracts (preamble, introduction, needs assessment, terms of the agreement) made it possible to assess the adequacy of the variables developed with regard to the contents of the contracts (availability of information, level of detail, format, etc.). This led us to exclude a number of variables that could not be documented.

### 2.1.2. Thematic variables

A contract action plan is generally embodied in a book of action forms ( $\approx$  1 to 3 pages per form, including objectives, targets, *modus operandi* for the action, etc.). Our instrument was designed to identify the topics addressed in each of these forms and to measure their presence and frequency of appearance in the plan. Given the objective of our study, exploration of the contracts' contents led us to distinguish variables reflecting action in three priority areas: 1) cross-cutting actions focusing on capacity-building at the contract level; 2) health promotion and primary prevention (upstream of illness or disability) interventions; and 3) health care, long-term care and secondary/tertiary prevention measures (in case of an illness or disability) [34]. These areas are presented below:

- 1 **Capacity-building for action at the contract level:** The literature emphasizes the importance of building stakeholder capacity for effective public health action [35,36]. Some contracts include action forms that address this objective. To identify them, we relied on Aluttis et al.'s typology [35], which focuses on capacity building at the national/regional level, adopting a systemic perspective rather than focusing on specific activities implemented at the organisational/community level. This typology seemed appropriate for Local Health Contracts, which are designed to federate diverse actors at the level of a large town or group of municipalities. It also presents the advantages of being based on a recent literature review, on the integration of existing

frameworks, and on being structured around clearly defined dimensions, as regards organizational structures, resource mobilization, knowledge development or governance.

- 2 **Health promotion and primary prevention:** To identify interventions addressing this area, we used the WHO's *Conceptual Framework for Action on the Social Determinants of Health* [37]. It presents the advantage of distinguishing: 1) structural determinants of health inequalities including education, employment, income, social class, gender, ethnic group; 2) material, psychosocial and socio-environmental life circumstances; and 3) other intermediate determinants of health (behavioural factors, access to the health care system). In order to draw precise distinctions between these different factors, we used the *Self-Assessment Tool for the Evaluation of Essential Public Health Operations in the WHO European Region* [38]. It is a tool resulting from a broad consultative process, which has been updated on a regular basis since the early 2000s. We more specifically drew on the variables relating to the essential operations of health protection (e.g., environmental health, occupational health, road safety), health promotion (e.g., addictions, mental health, diet, physical activity, etc.), and primary prevention measures (entailing the intervention of health professionals). As the WHO Self-Assessment Tool was developed for Member States of the European Region, some indicators were discarded, as they are not relevant to the local level (e.g., national steering tools). In order to more precisely characterize the actions addressing 4 topics of particular interest in the CloterreS study (tobacco, alcohol, diet, physical activity), we also integrated categories of actions from the most recent World Cancer Research Fund typology [39]. Finally, in order to reflect the strong interest of local stakeholders in environmental health, sub-topics were extracted from a recent WHO report on environmental risks [40], and from other works related to the CloterreS study [41].
- 3 **Health and long-term care:** Our instrument includes few variables covering this area, which is not the primary focus of the CloterreS study. The WHO Self-Assessment Tool was applied to distinguish between secondary and tertiary disease prevention interventions. Two variables relating to long-term care and to the provision of health care and services were developed based on practice guidelines in the French context [10,42,43].

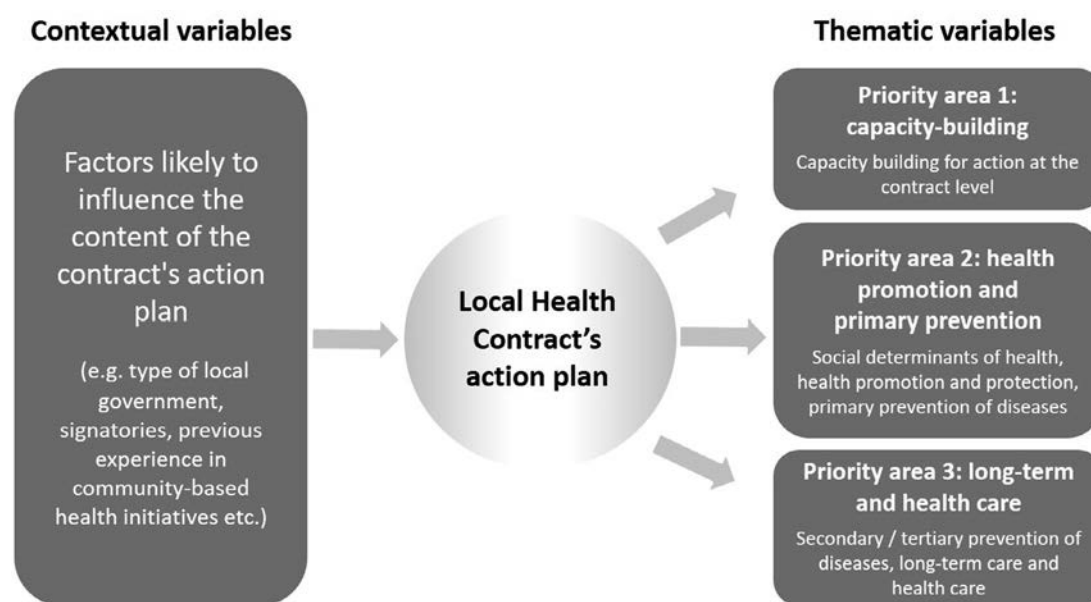


Fig. 1. Contextual and thematic variables to be developed in the CloterreS instrument.



## 2.2. Step 2: Pre-testing of the instrument (coding chart and coding guide)

We pre-tested the coding chart and its coding guide in view of improving the validity, precision, sensitivity and reliability of the variables developed. To this end, a convenience sample of ten contracts was built in May 2018 from the list of contracts inventoried by the CLoterreS team. The aim was to select a number of different 1<sup>st</sup> and 2<sup>nd</sup> generation contracts, recently signed (over the last three years), for which action forms were available. The sample also had to reflect the diversity of French continental and overseas territories, with varying population sizes. The first author (YLB) and a research assistant (RF) coded each contract according to the instructions of the coding guide. After pre-testing the instrument on the first three contracts, a deliberative session was held and additional research carried out to refine the tool. The pre-test was resumed based on this improved version of the coding guide. These "coding-deliberation-adjustments" steps were repeated until a degree of agreement between coders deemed satisfactory was reached and a more comprehensible coding guide was achieved [44–46].

## 2.3. Step 3: Consultation of the CLoterreS Strategic Committee

The CLoterreS consortium is supported by a strategic committee, which provides advice on data collection and analysis. Concretely, the committee provided support in interpreting the results and verified the relevance and potential benefits of the project. Its first meeting (November 8, 2018) brought together representatives from central government services, Regional Health Agencies, local authorities, associations and public health experts. The strategic committee provided relevant feedback to guide the interpretation of the results, by emphasizing that: 1) the Local Health Contract is a local scheme that is not intended to meet all international recommendations; and 2) the Local Health Contract is not the only relevant local scheme in the field of prevention and health promotion in France. In this respect, it was suggested that data should be collected on cases where the contract and other schemes coexist (e.g., Health and Urban Policy Workshop, local health plan). Since an original feature of the contract is to tap into the competences of sectors for which health is not a core priority (e.g., housing, transport, early childhood, etc.), the Committee also stressed the importance of analysing the contracts' intentions for action on the social determinants of health, living conditions (material, psychosocial, socio-environmental) and other issues such as mental and environmental health. The discussions led to adjustment of the instrument and prepared for interpretation of the results, for which the research team remained responsible.

## 2.4. Step 4: Inter-rater agreement

At this stage, the CLoterreS instrument was subjected to an inter-rater agreement test on a sample of contracts among the 165 contracts signed between January 2015 and March 2018 [14]. Given the significant amount of time required to code a contract (more or less half a day), measurement of inter-rater concordance focused on the coding of a stratified random sample of 17 contracts (one per French region) covering a broad range of contexts and thematic actions. To carry out this test, the same two researchers independently coded the contracts and their action forms. As a result, we discarded some variables (e.g., inventory of topics addressed in the local health needs assessment) due to the excessive amount of time it would have taken to codify them across all the contracts included in the CLoterreS study. The Cohen's kappa ( $\kappa$ ) was calculated for each categorical (e.g., type of local government) or binary (e.g., presence/absence of a topic) variable. The  $\kappa$  coefficient measures the concordance of the values

chosen by the two coders for a given variable, taking into account the possibility that they agreed by chance [45,47]. The  $\kappa$  ranges from  $-1$  to  $1$ , with  $0$  corresponding to what would have been obtained if the two coders had coded randomly. The value  $1$  corresponds to perfect agreement and the value  $-1$  to maximum disagreement [45,48]. Interpretation of the coefficient depends on the research context. The need for concordance is all the stronger as the measurement is expected to be accurate and reproducible (e.g., in clinical research). Conversely, if the material is heterogeneous, occasionally vague, and if its assessment involves a degree of subjectivity (e.g., qualitative research), we can expect lower coefficients [45,48,49]. We relied on Landis and Koch's scale [50], frequently mentioned for interpretation of the  $\kappa$  in the literature. It distinguishes between slight or fair ( $\kappa < 0.4$ ), moderate ( $0.4 \leq \kappa < 0.6$ ), substantial ( $0.6 \leq \kappa < 0.8$ ) and almost perfect ( $\kappa \geq 0.8$ ) values. All of these analyses were carried out using the RStudio 1.1.1.56/R3.5.1 software and the graphpad.com application.

Following this test, the variables for which the kappa score was slight or fair were discarded or exceptionally retained, for example when the raw agreement between coders was high, but there was occasional disagreement on infrequent values. In this case, the interpretation required additional deliberation by the coders. The deliberation process and the presentation of the results to the research team led to marginal adjustments to the coding guide to improve its reliability. For the four risk factors of particular interest, the aim was essentially to clarify the distinction between actions targeting the individual and those targeting his or her environment. To this end, the WCRF typology [39] was adjusted, using the Richard et al. tool for assessment of the integration of the ecological approach in public health programmes by [51].

## 2.5. Step 5: Application of the instrument

In order to produce results both meaningful and representative of the diversity of contracts signed nationwide, the sample of 17 contracts coded in the inter-rater analysis was tripled by randomly drawing an additional contract in each of the 17 French regions and then randomly drawing another 19 contracts (considering that action forms were missing for two of them) from the remaining population of contracts signed between January 2015 and March 2018. This third wave of sampling gave a greater relative weight to regions in which more than two contracts had been signed. We thereby obtained a stratified random sample of 53 contracts with at least 2 contracts per region, i.e., about 30 % of our targeted population. An additional coder (DD) was then trained for two days in the use of the validated coding chart and guide in order to help code the remaining contracts, under the supervision of a senior coder (YLB) so as to ensure consistency in the process and to help resolve any questions or hesitations.

In the following section, we present the results of the inter-rater agreement analysis, the variables included in the CLoterreS instrument, as well as the results of the analysis of the 53 contracts conducted with RStudio 1.1.1.56/R3.5.1 and Microsoft Excel®.

## 3. Results

### 3.1. Inter-rater agreement

The variables developed are mostly nominal, binary (presence/absence of a characteristic), and sometimes categorical. Table 2 shows that, for the initial sample of 17 contracts, the overall  $\kappa$  scores obtained by type of variables are substantial according to the above-mentioned Landis and Koch scale.

The  $\kappa$  scores detailed for each variable in Appendix 1 (on-line supplementary material) indicate that some were slight or fair ( $< 0.4$ ).

**Table 2**Overall  $\kappa$  scores for various types of variables (17 contracts, 443 action forms).

Types of variables	Number of observations	Overall $\kappa$
<b>Contextual variables</b>		
Factors likely to influence the content of each contract action plan	340	0.76
<b>Thematic variables</b>		
Action forms dealing (or not) with a topic related to priority areas 1, 2 or 3	1329	0.87 <sup>a</sup>
Priority area 2 : health promotion and primary prevention		
Contracts addressing (or not) each of 26 topics listed in this area	442	0.79
Action forms addressing (or not) each of 18 topics listed in this area	7974	0.76 <sup>a</sup>

<sup>a</sup> Agreement between the two coders on the set of values assigned for the 443 action forms

**Table 3**

Contextual and thematic variables included in the CLoterreS instrument.

Types and topics of variables	Short description
<b>General information</b>	
General characteristics	Region, sub-regional territory ( <i>département</i> ), year of signature of the contract
<b>Contextual variables</b>	
Type of local government	Town, syndicate of municipalities, mixed association, other
Generation	1 <sup>st</sup> , 2 <sup>nd</sup> or 3 <sup>rd</sup> contract signed by the local government
Dates	Date of signature, duration of the contract
Territory	Territory covered corresponding (or not) to a rural area ( <i>Pays, PETR, parc naturel</i> ) (y/n) ; Number of inhabitants ; disadvantaged neighbourhoods targeted (y/n)
Needs assessment	Contribution of a consulting association/firm, consultation of the population (y/n)
Signatories	Number and types of signatories (24 choices)
Experience in community-based health actions	Before signing the contract, the local government was involved in the coordination of other community-based health interventions (USCC <sup>b</sup> , HUPW <sup>c</sup> , LMHC <sup>d</sup> , others) (y/n)
Steering organisation	Mention of setting up strategic and technical committees (y/n)
Initiator of the contract	When reading the contract, actor who seems to be the most closely at the origin of the contract (Regional Health Agency, local government or not very explicit)
<b>Thematic variables – Priority area 1: capacity building<sup>a</sup></b>	
Capacity-building for action at the contract level	Action form dedicated to strengthening cross-cutting capacities for action at the contract level, in terms of organizational structures, resource mobilization, partnerships, workforce, knowledge development, leadership and governance (y/n)
<b>Thematic variables – Priority area 2: health promotion and primary prevention<sup>a</sup></b>	
Determinants of health inequities	Action form addressing one of the structural determinants of health inequalities, i.e., income, education, employment, gender, cultural and social inclusion, and social protection (y/n)
Material, psychosocial and socio-environmental circumstances	Action form addressing material life circumstances (e.g., housing, transportation, built environment) or psycho-social and socio-environmental life circumstances (e.g. well-being, stress, social support) (y/n)
Key behavioural factors in health promotion	Action form addressing tobacco, alcohol, physical activity or diet, and including: 1) individual actions (directly targeting the knowledge, attitudes, skills, intentions of the ultimate beneficiaries of the action); 2) environmental actions (targeting the interpersonal, organisational, community and political factors to which the ultimate beneficiaries are exposed); 3) cross-cutting support operations (e.g., coordination, evaluation) (y/n)
Other health promotion topics	Action form addressing other health promotion topics, including sexual and reproductive health, drug use, mental health, violence, injuries, or others (e.g., sleep) (y/n)
Environmental health and other health protection topics	Action form addressing various aspects of environmental health (housing conditions and indoor environments, indoor air, ambient noise, outdoor air, water, soil, vector control, UV radiation, extreme temperatures, etc.) and other health protection issues (occupational health, road safety, food safety, patient safety, etc.) (y/n)
Primary prevention of diseases involving health professionals	Action form addressing vaccination, information on behavioural and medical risks, disease prevention programmes at the primary and specialized health care levels, maternal and neonatal care programmes (y/n)
<b>Thematic variables – Priority area 3: long-term and health care<sup>a</sup></b>	
Secondary / tertiary prevention of diseases involving health professionals	Action form including screening programmes and early detection of diseases, identification of disabilities and loss of autonomy, other secondary prevention actions including patient education, tertiary prevention measures (y/n)
Long-term care	Action form addressing the alleviation of disadvantages and disabilities, in particular for people with disabilities or loss of autonomy (y/n)
Health care and services	Action form addressing the access to and organisation of primary care and hospital care services (y/n)

Caption: y / n : yes/no

<sup>a</sup> An action form can deal with several topics at the same time<sup>b</sup> USCC : Urban Social Cohesion Contract (*Contrat Urbain de Cohésion Sociale*)<sup>c</sup> HUPW : Health and Urban Policy Workshop (*Atelier santé ville*)<sup>d</sup> LMHC : Local Mental Health Council (*Conseil local de santé mentale*)

For the coding of other contracts, these variables have been discarded or exceptionally retained, subject to deliberation.

### 3.2. Variables included in the coding guide

The contextual and thematic variables finally included in the instrument are presented in Table 3. They are detailed in the final version of the coding guide and reported in the Excel<sup>®</sup> data coding chart, both of them provided as online supplementary materials (Appendixes 2 and 3, French versions).

### 3.3. Results from contextual variables

Among the conditions likely to influence the development of a contract, nearly half of the 53 contracts analysed (27 cases) were signed in 2015, with this number decreasing to twelve in 2016, nine

in 2017 and five in 2018 (up until March). Approximately three out of four contracts are "1<sup>st</sup> generation". With regard to the characteristics of the territory, proximal indicators were used to identify local governments situated in a predominantly rural area : only 30 % in our sample. Moreover, nearly half of the contracts (27 cases) cover a territory with a population of 10,000 to 50,000 inhabitants. Some (5 cases) have fewer, while others have 50,000 to 100,000 (11 cases) or more than 100,000 inhabitants (10 cases) (Fig. 2a).

Concerning the actors involved, as indicated in the provisions of the Act, the local governments and the Regional Health Agencies are the key signatories of the contract (Fig. 2e). In addition, sub-regional state's representatives (prefects) are frequent signatories of the contracts (41 cases), followed by the social health insurance funds (28 cases). Other partners are less frequent signatories (e.g., sub-regional governments, hospitals, regional governments). The signatory local government is a town in 45 % of the cases and an inter-municipal cooperation entity (syndicate of municipalities) in 38 % (Fig. 2b). It is noteworthy that, in the sample, nearly one contract out of two was signed in a territory where a Health and Urban Policy Workshop was pre-existing. Although the participation of the population in local health needs assessment is recommended in guidelines, it was mentioned in just under one out of two cases (Fig. 2c–d).

### 3.4. Results on thematic variables

Out of the 53 contracts studied, 51 included action forms, for a total of 1255 action forms reviewed, i.e. approximately 25 forms per contract. After coding each topic addressed in the action forms, we found that on average per contract, nearly three-quarters of the

forms dealt with at least one topic related to priority area 2: "health promotion and primary prevention" (Fig. 3). This area includes the social determinants of health (e.g., employment, education), life circumstances (e.g., social support in access to rights and care), health promotion or protection (e.g., lifestyle habits, mental health, environmental health) and primary prevention of diseases. The standard deviation indicates that this proportion is not systematically high, as shown in about one third of contracts, for which it is less than 65 %. At the same time, the average proportion of action forms dealing with priority area 3, i.e., "long-term and health care", is lower but substantial (43 %) (Fig. 3). It includes actions for the secondary or tertiary prevention of diseases (e.g., screening), long-term care (e.g., reducing loss of autonomy) and the organization of health care and services (e.g., developing access to primary care, grouping health professionals together). The standard deviation is also noteworthy, with one contract even reaching a score of 100 % in this area. It should be noted that if the sum of the proportions addressing priority areas 2 and 3 exceeds 100 %, it is because action forms may include measures from both areas.

As for the first priority area (cross-cutting actions aimed at capacity building at the contract level), it remains marginal in the action plans (8 % of the forms on average) (Fig. 3). Practices differ, since 23 contracts contain no action form in this area. When action forms of this type were included, they were particularly focused on developing local knowledge and skills (e.g., assessment of health needs, evaluation of on-going actions).

Analysing the presence of "health promotion and primary prevention" topics in action plans (Fig. 4a) and, when the topic is present, the average frequency of action forms addressing the subject

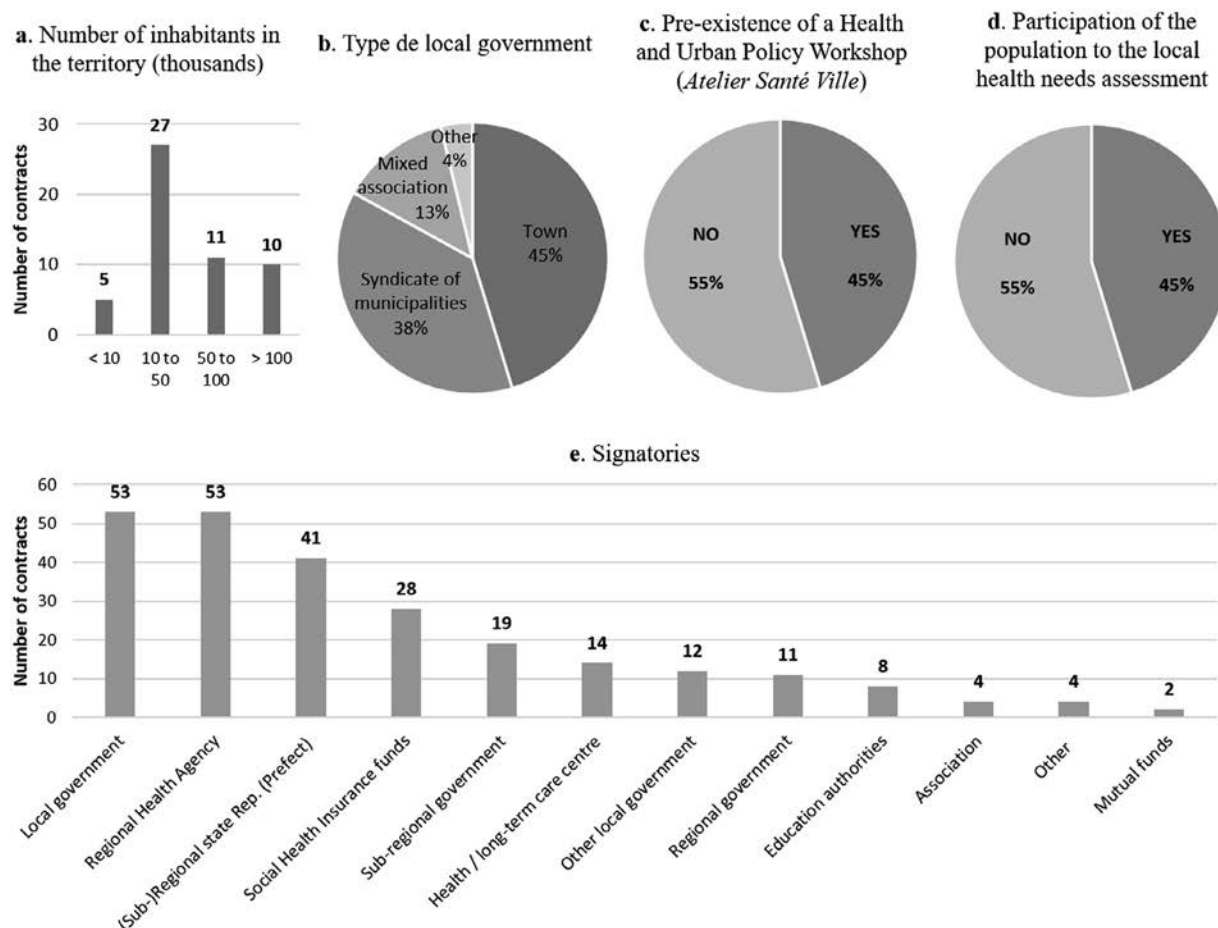
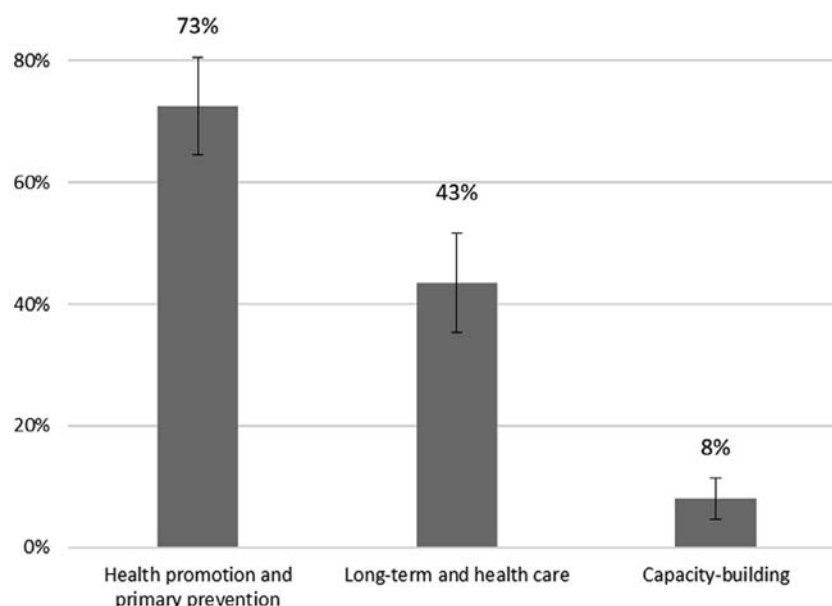


Fig. 2. Examples of contextual variables analysed from the sample of contracts studied (N = 53).





**Fig. 3.** Average frequency<sup>a</sup> of action forms addressing one of the topics under each of the three priority areas for action identified in the CLoterreS instrument (N = 51 contracts).

**Caption :** "Health promotion and primary prevention" includes topics related to the social determinants of health, life circumstances, health protection, health promotion and the primary prevention of diseases ; "Long-term and health care" includes topics related to the secondary or tertiary prevention of diseases, long-term care and the organisation of health care and services ; "Capacity building" includes topics related to capacity building for action at the contract level. Details of the aspects covered by each topic are given in Table 3 and Appendix 2.

<sup>a</sup> Representation of standard deviations.

**Caution :** an action form may be coded for multiple topics related to different priority areas, which explains why the cumulative percentages exceed 100 %.

(Fig. 4b), it is noteworthy that the social determinants of health (e.g., education, gender issues, employment) are only moderately addressed (33 contracts, 9 % of action forms per contract). On the other hand, actions addressing life circumstances are omnipresent, particularly at the psychosocial and socio-environmental levels (50 contracts, 27 % of the forms). These actions include supporting social services for vulnerable populations cut off from health insurance and/or unable to access co-payment for health care as part of government-funded universal access to health care services, as well as improving their access to social and health care services. This topic also includes social support for parenting, prevention of social isolation, support for caregivers and the development of young people's psychosocial skills. Material living circumstances are somewhat less addressed. When they are (38 contracts, Fig. 4b), the action forms (11 %) focus mainly on access to transport, decent housing and improved food security.

With regard to the four risk factors of particular interest, action forms on alcohol abuse (44 contracts, 10 % of action forms), drug use (43, 11 %) and tobacco use (42, 10 %) are regularly present. These topics are very often dealt with together under the heading of "addictions" or "risky behaviours". Similarly, the action forms dealing with the promotion of physical activity (44 contracts, 12 % of the forms) and healthy eating (42 contracts, 12 % of the forms) are relatively frequent and are sometimes dealt with together, from a chronic disease prevention perspective (obesity, diabetes, cancer).

Moreover, primary prevention of diseases including the intervention of health professionals is very frequently mentioned (50 contracts) and figures prominently in action plans (18 % of the forms). Primary prevention covers not only actions to promote maternal and child health, vaccination, or to prevent infectious and sexually transmitted diseases, but also the involvement of health professionals in broader health promotion actions related, for example, to addictive behaviours, obesity and oral health.

Mental health promotion is another recurring issue addressed in most contracts (43) and relatively frequently included in the action

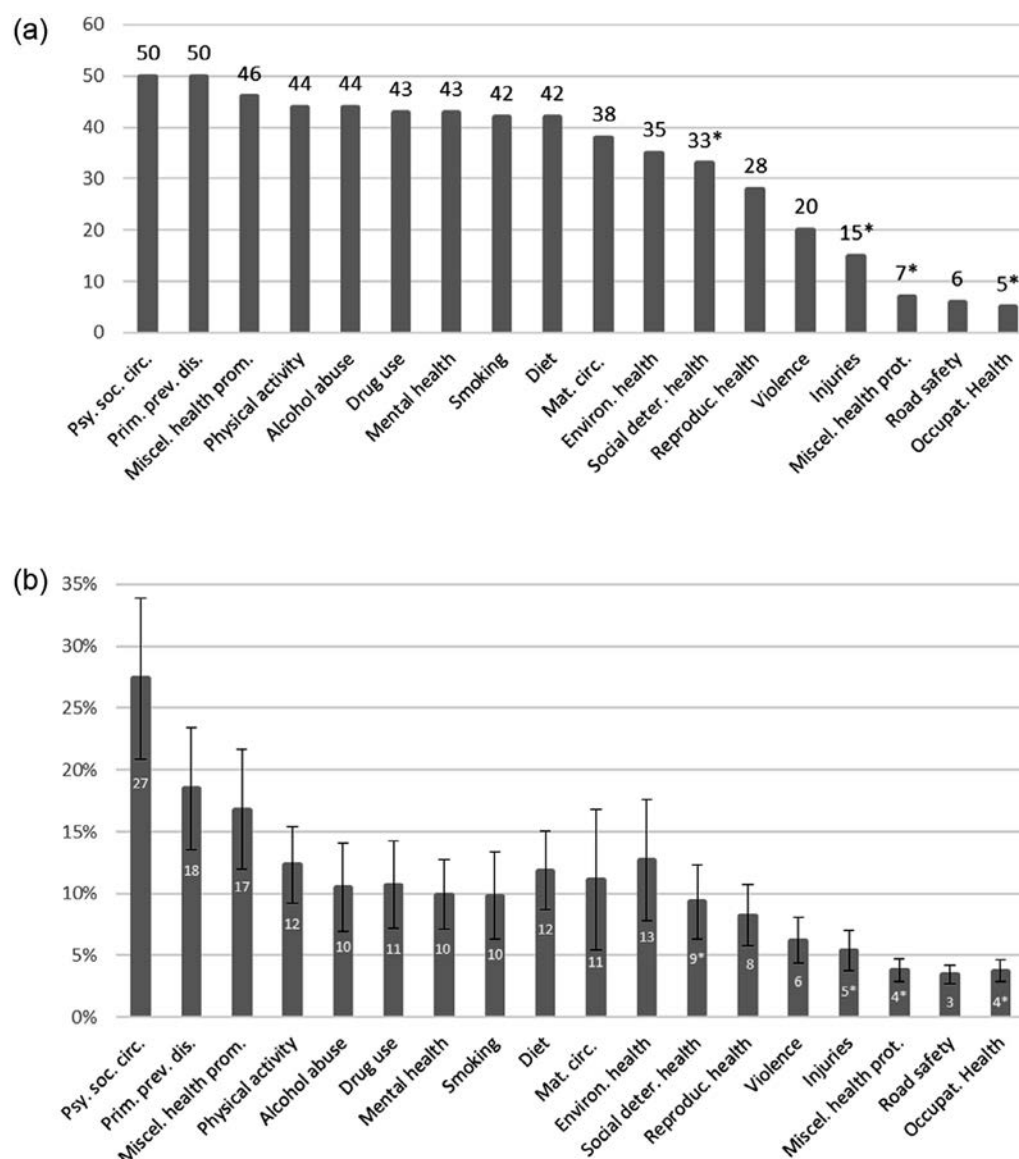
forms (10 % on average), which often deal with the coordination of all the professionals who can provide support to people with mental disorders. More specifically, some action forms are aimed at the prevention and management of high-risk situations (e.g., risk of suicide) or at raising public awareness (e.g., mental health information week).

Another topic figures prominently in the contract action plans. Environmental health is addressed in 35 contracts and is often the subject of several action forms (13 % on average). In the 53 contracts, unhealthy housing and the indoor environment is the most common topic (23 contracts), followed by topics such as soil (including waste management) (17), indoor air (14), outdoor air (13), water safety (11), vector control (9) and public awareness on various environmental issues (8).

Among the other topics, the occasional presence of action forms dealing with emotional, sexual or reproductive life (28 contracts, 8 % of the forms), particularly among young people is worth noting. Fewer contracts address the issues of violence (20), injuries (15), road safety (6) or occupational health (5) and, in those that do, the proportion of relevant action forms remains low ( $\leq 6$  %). Finally, it should be noted that 46 contracts include action forms addressing several health promotion topics simultaneously (including infrequent topics such as oral health and game addiction). When this is the case, the average frequency of these action forms is relatively high (17 %).

#### 4. Discussion

The aim of the CLoterreS instrument is to better document and characterize the objectives and the nature of local action plans in prevention and health promotion. It is based on recognized conceptual frameworks and typologies recommending actions, not only on the behavioural determinants of health, but also on the social determinants of health, living conditions and environments. The development of this instrument is in line with other analyses of health promotion and health inequality reduction interventions, rooted in the scientific literature and aimed at informing decision-making,



**Fig. 4a.** Number of contracts (N = 53) addressing each of the “health promotion and primary prevention” topics at least once.

**Fig. 4b.** When a “health promotion and primary prevention” topic is addressed, average frequency<sup>a</sup> of action forms addressing this topic.

Psy. soc. circ. : psychosocial and socio-environmental life circumstances ; Mat. circ. : material life circumstances ; Prim. prev. dis. : primary prevention of diseases involving health institutions/professionals ; Environ. health : environmental health ; Miscel. health Prom. : other or several health promotion topics at the same time ; Reproduc. Health : sexual and reproductive health ; Social deter. health : social determinants of health ; Violence : domestic violence, violence against children and violence against women ; Injuries : injuries, falls and accidents ; Miscel. health protec. : other health protection actions (e.g., patient safety, food safety).

<sup>a</sup> Representation of standard deviations

\* : interpret cautiously, infrequent occurrence and subject to deliberation ; details in Appendix 1.

**Caution** : an action form may be coded for multiple topics, which explains why the cumulative percentages exceed 100 %.

planning and evaluation processes [24,52,53]. This work illustrates the value of describing existing actions in order to provide impetus for ongoing efforts to promote health and reduce social inequalities in health. It also highlights the challenge of developing variables and typologies that reflect the diversity of planned interventions and the context in which these actions will be implemented.

#### 4.1. Lessons and questions

From the standpoint of our nationally-stratified random sample of 53 contracts, the analysis of contextual variables indicates a predominance of 1<sup>st</sup> generation contracts, signed in 2015, in urban areas, and covering a single town or a syndicate of municipalities. These findings highlight the importance of investing in analyses shedding light on

how the signature of a contract in a less populated, rural territory may influence the nature of action plans. In regards to these areas, for example, availability of health care professionals and services as well as stakeholder skills, resources and capacities related to the social determinants of health may vary [8,54], but are difficult to grasp based on a solely documentary analysis. The impact in some contracts of pre-existing experience in the coordination of community-based health interventions also calls for exploration beyond what is reported in the contract itself, especially insofar as it can foster a local culture in health promotion [17].

Moreover, in most cases (33 out of 53), it was difficult to identify whether the Agency or the local government was the initiator of the process. That said, in 16 cases the information presented suggested a particularly proactive role for the local government, and in 4 cases

for the Regional Health Agency. A qualitative data collection and analysis focusing on this dimension seems necessary in order to clarify the respective influences of the Regional Health Agency, the local government and other actors on the origins of the contracts. Indeed, and as evidenced in research, the negotiations taking place during contract formulation may have an influence on the action plan [28].

Finally, although public participation in the development of the contract is encouraged in certain reference frameworks (e.g., [55]), details regarding its organisation and intended impact in the context of local health needs assessments are usually scant. When more information is reported, the involvement of the public appears to be more a matter of consultation (surveys, focus groups, etc.) than active participation. The added value of the participation of inhabitants in promoting the well-being of a population on a given territory is nonetheless largely recognised, whether as a practice of democracy, to strengthen social cohesion, to inform decision-making, or to promote the social acceptability of an initiative [56–58]. The issue of the possible conditions and barriers to the development of this practice (e.g., political will, technical means) should therefore be examined in greater depth.

Analysis of the thematic variables indicates that the Local Health Contract is indeed a local public health coordination scheme clearly oriented towards “health promotion and primary prevention”, insofar as, on average, almost three-quarters of the action forms address at least one topic falling under this priority area. Nevertheless, the proportion of action forms dealing with at least one topic in the “health and long-term care” priority area is substantial, which confirms the attention and mobilisation generated by these two priority areas in the Local Health Contracts. Other ongoing investigations conducted by the CLoterreS research team show that one of the primary underpinnings of the commitment of local elected officials to a health contract is the wish to improve access to primary care for their population. In some cases, the contract development period is a learning process for these officials, intensifying their awareness of the importance of addressing a broadened array of health determinants. Further analysis of qualitative interviews conducted with representatives of Regional Health Agencies and local authorities should shed light on the combinations of contextual factors of a socio-demographic, political and organizational nature that are more or less conducive to the integration of prevention and health promotion in the contract action plans. It may also help to better understand how Local Health Contracts could be articulated with new local initiatives aimed at the coordination of health professionals (i.e., Communautés Professionnelles Territoriales de Santé, [CPTS]) [59], as some examples demonstrate potential synergies between the two [60].

Our study shows a high frequency of action forms dealing with psychosocial and socio-environmental life circumstances, which is congruent with the social care mandate of local authorities or their partners. This can also be explained by the fact that, in our coding guide, the variable relating to these life circumstances covers many components, ranging from the promotion of well-being to supporting vulnerable populations in accessing social and health services. In the future, it would be useful to disaggregate the content analysis of these action forms. Moreover, results from the 2018 Schapman-Ségalié and Lombrail's [24] analysis of 18 Local Health Contracts in the Ile-de-France region highlighted a predominance of actions aimed at reducing social inequalities in access to health services rather than at improving the socio-economic living conditions that are at the root of these inequalities. This limit is well-recognized in analysis of policies designed to combat social inequalities in health [61]. Without a clear framework of actions on the upstream socio-economic determinants of health, Local Health Contracts are unlikely to meet the conditions to significantly impact on health inequities.

Our results also highlight the relatively high frequency of action forms dealing with smoking, alcohol consumption, physical activity

and diet. The types of intervention planned for each of these key factors should be further analysed to determine the extent to which they are in step with the relevant scientific recommendations [39]. This is also the subject of the latest adjustments to the coding guide (see Appendix 2). They distinguish, for each topic, between individual actions (directly targeting the knowledge, attitudes, skills and intentions of the ultimate beneficiaries of the action), environmental actions (targeting the interpersonal, organisational, community and political factors to which the ultimate beneficiaries are exposed), and cross-cutting support operations (e.g., coordination, evaluation).

Our analysis shows that environmental health is an important topic in the contract action plans. This observation is in line with the results of an in-depth study of 75 contracts conducted in 2017 in 5 regions, which indicates that 62 % of the contracts included at least one environmental health action, with housing being one of the “very cross-cutting” topics conducive to “multi-thematic” action ([41], p. 142, our translation). The significant frequency of this topic in the contract action plans is consistent with the increasing prioritization over recent years of environmental health and sustainable development issues at the international [62] and national levels [63]. It would be interesting to study the extent to which the planned actions have been implemented, considering the challenges in terms of available data and capacity for action reported in this domain [41].

Finally, another lesson learned is that primary prevention of diseases has an important place in action plans, underlining the key role of health professionals in preventive actions at the local level. However, according to recent work based on a sample of 17 Local Health Contracts, this should be put into perspective. Primary care professionals are mostly targeted as implementers of actions conducted within the population (e.g., for the therapeutic education of patients, disease prevention and screening) rather than as partners or leaders of actions related, for example, to the organisation of health care services in a given territorial unit. This may be partly due to the way primary care is organised and funded in France, leaving little time for primary care providers to engage in collective health issues [64].

#### 4.2. Advantages and limitations of the CLoterreS instrument

Despite the methodological precautions taken during the development of the CLoterreS instrument, it has a number of limitations. For one thing, certain variables had to be discarded for lack of available, sufficiently explicit or homogeneous information (e.g., contract coordination conditions, partners in the action forms). For another thing, while the instrument makes it possible to analyse the contents and intentions of action contained in the contracts, the picture obtained does not tell us anything about the degree and quality of implementation of the actions mentioned. Given the well-known gap between the planning and implementation of public policies [65], this is an essential axis for future research. Furthermore, although action forms appear to be accessible units of analysis allowing for reasonable comparison of different contracts, the nature, quantity and accuracy of the information they contain remain heterogeneous across and even at times within the latter. While the fact that the instrument permits the coding of multiple topics in a single action form is an asset for analyses aimed at identifying and characterising the new global, cross-professional and cross-sectoral action logics recommended in public health, this advantage becomes a liability when analysing the contents of the action forms, insofar as it increases the coder's susceptibility to misinterpretation.

Notwithstanding the instructions included in the coding guide, the results of inter-rater agreement analyses based on the work of coders trained in the use of the instrument are a reminder of the extent to which the coding of such heterogeneous material depends on the researchers' interpretations. One should keep in mind that the results of this research aim to identify trends and findings useful for steering the system as a whole, rather than to provide evaluative

judgement on a case-by-case basis. Moreover, in its current state, the instrument developed for this study remains a research tool, of which the use will require a certain degree of training to ensure that it can be similarly used by others. That said, the instrument may in the future accelerate the development of other tools, if only so as to monitor the evolution of practices in this field.

Finally, our content analysis of the contract action plans is limited to a documentary base, which, if supplemented by *ad hoc* data collection from actors in the field, would help to increase accuracy and reliability. This would also make it possible to analyse the planned actions in light of their actual implementation and to measure *ex post* the real-life deployment of these actions.

## 5. Conclusion

The instrument developed in the CLoterreS study has proved to be useful and reliable for describing the context and intentions of action reported in a nationally-stratified sample of 53 Local Health Contracts signed between January 2015 and March 2018. It has helped to elucidate the distribution of planned efforts and the place given to various determinants of health in those contracts. Such efforts nevertheless seem unlikely to affect the structural social determinants of health (e.g., overall economic development, level and quality of employment), which are beyond the scope of local governments. However, prospects appear more favourable when considering their potential impact on local health promotion and prevention capacities. Indeed, contributing to the development of such a contract may act as a learning exercise for the stakeholders involved. Their attention to health issues might not only increase but also evolve, thenceforth encompassing a wide range of factors going beyond health care. This is true when considering not only local officials, but also stakeholders from the "non-health sector". They could bring complementary skills and contribute to the emergence of a common culture going beyond sectoral boundaries and integrating actions involving health care provision and access to care, all the while targeting the diverse environments in which people grow, live, work and age [66].

Analysing the contribution of Local Health Contracts to the reinforcement of health promotion and prevention capacities is therefore both a realistic and purposeful objective. Such an assessment identifies actions dedicated to the appropriation of a global approach to health by stakeholders, to the constitution of networks, and to the active involvement of local community members. Regarding the latter, a combination of social mediation and health promotion actions may yield results in terms of empowerment at the community level [67], with short and medium-term behavioural outcomes (e.g., in terms of psychosocial risks, access to care) and longer term results with bottom-up initiatives having a potential impact on local environmental factors, e.g., in terms of supply of health and social services or reduction of chronic exposure to environmental risk factors. Above and beyond the contents of the action plans, it will be equally important to measure such results over the course of time in a given territorial unit.

Among other tools, the CLoterreS coding guide could be used to foster the development of local capacity-building efforts in health protection, health promotion and the prevention of diseases and disabilities, by offering the stakeholders a broad vision and a description of the functions that a contract can cover. As the Local Health Contracts continue to be promoted by the public authorities and various stakeholders in fields such as nutrition, obesity prevention, environmental health, access to health care, disability and ageing [68–72], this perspective shall continue to assume greater relevance.

## Credit Author Statement

All authors contributed to the conceptualization of the study. EB led the overall study, instrument development and analysis. YLB and

RF developed and pre-tested the instrument. YLB, RF and DD coded the material. YLB and DD performed the analysis. YLB wrote the initial draft of the manuscript. All authors contributed to the discussion of methods and results and to the writing and editing of the manuscript.

## Conflict of interest

No conflict of interest declared.

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## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi : 10.1016/j.respe.2022.09.073.

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