



**RÉPUBLIQUE
FRANÇAISE**

*Liberté
Égalité
Fraternité*



2023

JANUARY 2023

WORK PROGRAMME

Abbreviations

ANRS	National Agency for AIDS and Viral Hepatitis Research <i>Agence nationale de recherche sur le sida et les hépatites virales</i>
ANSES	National Agency for Food, Environmental and Occupational Health and Safety <i>Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail</i>
ANSM	National Agency for the Safety of Medicines and Health Products <i>Agence nationale de sécurité du médicament et des produits de santé</i>
AP-HP	Public Assistance - Paris Hospitals <i>Assistance Publique - Hôpitaux de Paris</i>
ARS	Regional Health Agency <i>Agence régionale de santé</i>
BEH	<i>Bulletin épidémiologique hebdomadaire</i> (weekly epidemiological journal published by Santé publique France)
BFHI	Baby-Friendly Hospital Initiative
BQA	<i>Bulletin quotidien des alertes</i> (daily alerts bulletin published by Santé publique France)
BSP	<i>Bulletin de santé publique</i> (public health bulletin published by Santé publique France)
CCNE	National Advisory Committee on Ethics <i>Comité consultatif national d'éthique</i>
CED	Ethics and Professional Conduct Committee <i>Comité d'éthique et de déontologie</i> (Santé publique France governing body)
CFTI	Collective food toxin infection
CNAM	National Institute for Industrial Design Technology <i>Conservatoire national des arts et métiers</i>
COD	Guidance and Dialogue Committee <i>Comité d'orientation et de dialogue</i> (Santé publique France governing body)
COSET	Cohorts for work-related epidemiological monitoring
CoviPrev	Survey to monitor changes in behaviour and mental health during the COVID-19 epidemic
CS	Scientific Committee <i>Comité scientifique</i> (Santé publique France governing body)
DALYs	Disability-adjusted life years
DGOS	Directorate General for Healthcare (Ministry of Health) <i>Direction générale de l'offre de soins (ministère de la santé)</i>
DGS	Directorate General for Health [<i>Direction générale de la santé</i>]
DNSM	National Mesothelioma Surveillance Scheme <i>Dispositif national de surveillance des mésothéliomes</i>
DNUM	Department for Digital Technology (social ministries) <i>Direction du numérique (des ministères sociaux)</i>

DREES	Directorate for Research, Studies, Evaluation and Statistics <i>Direction de la Recherche, des Études, de l'Évaluation et des Statistiques</i>
ECDC	European Centre for Disease Prevention and Control
EHESP	French School of Public Health <i>École des hautes études en santé publique</i>
EMERGEN	SARS-CoV-2 variant genome monitoring systems
ENDB	National Biological Data Warehouse <i>Entrepôt national des données biologiques</i>
ENP	National Perinatal Survey <i>Enquête nationale périnatale</i>
ENTRED	National Representative Sample of Diabetic People <i>Échantillon national témoin représentatif des personnes diabétiques</i>
EPICOV	National survey on epidemiology and living conditions related to COVID-19
EPIET	European Programme for Intervention Epidemiology Training
EPIFANE	National epidemiological study of the diet and nutritional status of children during their first year of life
ERAS	Health-sexuality-prevention survey <i>Enquête "Rapport au sexe"</i>
ESMS	Residential care facilities and services <i>Établissements et services médico-sociaux</i>
HAS	National Health Authority <i>Haute Autorité de santé</i>
HCL	Lyon public hospitals <i>Hôpitaux civils de Lyon</i>
HERA	Health Emergency Response Authority
IANPHI	International Association of National Public Health Institutes
ICAPS	Interventions on physical activity and sedentary behaviour among adolescents <i>Intervention auprès des collégiens centrée sur l'activité physique et la sédentarité</i>
IFB	French Institute of Bioinformatics <i>Institut français de bio-informatique</i>
INCa	National Cancer Institute <i>Institut national du cancer</i>
INRAE	National Research Institute for Agriculture, Food and Environment <i>Institut national de recherche pour l'agriculture, l'alimentation et l'environnement</i>
INSERM	National Institute of Health and Medical Research <i>Institut national de la santé et de la recherche médicale</i>
INSPQ	Quebec National Institute for Public Health <i>Institut national de Santé publique du Québec</i>
IRESP	Institute for Public Health Research <i>Institut pour la recherche en santé publique</i>

ISPED	Institute of Public Health, Epidemiology and Development <i>Institut de santé publique, d'épidémiologie et de développement</i>
MSA	Mutualité Sociale Agricole
NRBC-E	Nuclear, radiological, biological, chemical, explosive
OECD	Organisation for Economic Cooperation and Development
OFDT	French Observatory for Drugs and Drug Addiction <i>Observatoire français des drogues et des toxicomanies</i>
PARC	Partnership for the Assessment of Risk from Chemicals
PMSI	Medical Information System Programme <i>Programme de médicalisation du système d'information</i>
PMSI MCO	Medical Information System Programme for Short Stays in Medicine, Surgery and Obstetrics <i>Programme de médicalisation du système d'information de court séjour Médecine, Chirurgie, Obstétrique</i>
PNACC	National Plan for Adaptation to Climate Change <i>Plan national d'adaptation au changement climatique</i>
PNNS	National Nutrition and Health Plan <i>Plan national nutrition santé</i>
PST	Occupational Health Plan <i>Plan santé au travail</i>
QHIA	Quantitative health impact assessment
SI-DEP	National Information System for Population Screening <i>Système d'Information de dépistage populationnel (national)</i>
SNDS	National Health Data System <i>Système national des données de santé</i>
SNSPE	National Monitoring System for Lead Levels in Children <i>Système national de surveillance des plombémies de l'enfant</i>
STI	Sexually transmitted infection
SurSaUD®	French monitoring system for medical emergencies and deaths <i>Système français de surveillance sanitaire des urgences et des décès</i>
UMR	Mixed research unit <i>Unité mixte de recherche</i>
VAC-SI	COVID Vaccine Information System <i>Système d'information Vaccin Covid</i>
WHO	World Health Organization
WOAH	World Organisation for Animal Health
YLD	Years lived with disability

Work Programme 2023

Contents

Abbreviations.....	1
Introduction.....	5
Challenge. Anticipation, preparedness, and response to public health threats including epidemics.....	7
Focus. From COVID-19 to acute respiratory infections: a broader programme.....	14
Challenge. Digital technology in public health.....	23
Challenge. Environmental & occupational health in a context of climate change	26
Focus. One Health	32
Challenge. Burden of diseases and their determinants, effectiveness of interventions, and return on investment of prevention	35
Challenge. Prevention strategy, social marketing, and population-based approach	43
Challenge. Social and territorial inequalities in health	50
Challenge. Cross-functional support for the agency's scientific programme.....	55

Introduction

A translation of its scientific strategy, the 2023 Santé publique France work programme draws lessons from the health crisis regarding essential public health missions. It strengthens the continuum of actions integrating observation, knowledge, prevention and intervention for a health policy relevant to all policies and all populations, in mainland France and the overseas territories.

The programme fortifies this strategy, reflecting its contribution to the development of an effective, sustainable, resilient and efficient national public health system where prevention and health promotion play a central role. This will be achieved by considering the full spectrum of health determinants, including socio-economic and environmental factors, and the burden of disease, within a scientifically grounded strategic framework. It aims to strengthen the response through preventive measures and the promotion of health in all its dimensions, adapted to different territorial levels considering the specific contexts of the populations served, producing expert reference information available to all.

These challenges were underpinned through consolidated processes, cross-functional mechanisms and support systems.

This national programme is carried into the regions by Santé publique France, making it possible to act on social inequalities and thus offer greater protection to the most vulnerable groups, in relation to where they live and in consultation with local services.

It aims to develop and enrich the “social inequalities in health” component in the indicators of surveillance programmes and the evaluation of actions carried out by the agency, but also to develop specific approaches to vulnerable populations not covered by existing surveillance systems.

In terms of infrastructure, Santé publique France places network management and the securing of information systems at the heart of its strategy, to ensure the coherence of surveillance and real-time data collection and analysis in support of public decision-making.

The 2023 programme also relies on building stronger links with public health research and innovative initiatives. It seeks in particular, along with all academic partners, to develop a strategic applied research agenda on population health. The goal of this agenda is knowledge production on insufficiently documented matters, but also the structuring of research communities in order to assist public decision-making.

From an organisational viewpoint, the creation of horizontal work programmes on the theme of One Health, the development of life skills, mental health, perinatal care, the impact of climate change on health or the framework for monitoring extreme natural or industrial accidents, provides an integrated public health mechanism reflecting our public health priorities and the involvement of all partners concerned.

The lessons of the crisis also highlight the need for capacity enhancement – integrated and concomitant – regarding anticipation and forecasting. It is also necessary to increase knowledge sharing about threats to health, along with the planning, preparation and response mechanisms for these risks, particularly concerning healthcare system support. As part of an inter-sectoral approach, 2023 will see the consolidation of the national public health network in particular

through scientific seminars (child abuse, life skills, evaluation of conclusive prevention and health promotion schemes etc.) but also the creation of numerous national and international partnerships. The agency will also contribute to the international work engaged on the essential missions of public health in its capacity as secretary for the bureau of the International Association of National Public Health Agencies (IANPHI), with a renewed mandate for the period 2022–2025.

In 2023, the agency will continue to pursue its strategy of openness and dialogue by placing health democracy at the heart of actions to improve access to its work for local and national stakeholders from civil society, health professionals and the wider population, as part of a global approach taking into account matters ranging from surveillance to health promotion.

Finally, the systematic open-access publication of all epidemiological indicators produced, on which the agency bases its expertise, is a clear manifestation of our desire to be transparent and to share information with all decision-makers at every territorial level, as well as with professionals and the public. For the agency, this essential dimension will increase the confidence and commitment of each individual as a stakeholder in his or her own health. This strategy and our educational actions will be further reinforced in 2023, through the agency website, exchanges with the media, events and scientific publications, in order to make available and disseminate scientifically valid information as a reference adapted to the various audiences.

CHALLENGE

Anticipation, preparedness, and response to public health threats including epidemics

The COVID-19 epidemic has greatly contributed to increasing the awareness of society as a whole (institutional partners, economic actors, social partners, citizens, etc.) about the consequences of a health crisis or exceptional health situation.

This awareness is an opportunity to sustainably strengthen the work of anticipating, preparing for and planning responses to public health threats, notably through four complementary objectives:

- Contribute to assessing all risks, particularly through the coordination and strengthening of monitoring and surveillance systems: while infectious risks (known or emerging viruses) are recognised, consideration must also be given to the evolving determinants of health (e.g., ageing populations) and other threats such as antibiotic resistance, NRBC-E risks, the impact of climate change and the risk of major accidents, whether of industrial or natural origin.
- Contribute to resilient organisation, effective in the event of several health crises or exceptional situations occurring simultaneously, as we have seen in 2022 with the emergence of monkey pox in Europe or the management of summer heatwaves, both while the COVID-19 epidemic was still ongoing;
- Be capable of providing regional responses that meet the expressed needs as closely as possible;
- Ensure that citizens are taken into account in public policy concerning crisis management so that the measures taken are understood and agreed on by as many people as possible. This process relies on a prior relationship of trust between society, health authorities and agencies, and experts.

The challenge of “anticipation, preparedness and response to public health threats” intersects, due to the nature of the risks, the actions implemented or the populations concerned, with other challenges that concern the agency, including those of “health, environment, work, climate change”, “prevention strategy, social marketing and population-focused approach”, and those of “social inequalities and regional vulnerabilities”.

Preparing for and responding to large-scale health threats are core components of the remit of Santé publique France and the agency remains heavily involved in actions to resolve the COVID-19 crisis.

This health crisis highlighted the need to strengthen the capacity for anticipation in public health. In addition to adapting the existing monitoring and surveillance systems to evolving threats and technologies (genome sequencing, digital tools, database matching, including data from the human and social sciences, modelling, etc.), there is an apparent need for new tools that enable forward-planning and anticipation, as well as knowledge sharing regarding risks. This must be achieved through strengthening collaborations with research and the academic world, notably by contributing to training in the areas of public health and intervention epidemiology, as well as through mechanisms for surveillance and response.

Thus Santé publique France is coordinating the EMERGEN project (Consortium for surveillance and research on EMERgent pathogen infections via microbial GENomics) with the French Agency for Emerging Infectious Disease (ANRS-MIE). The aim is to roll out a genomic surveillance system for SARS-CoV-2 infections throughout France.

It is the first step of a sequencing network to support surveillance and research activities focused on emerging infectious diseases (whether viral, bacterial, fungal or parasitic). This project fills a national knowledge gap by combining the surveillance activities conducted under the aegis of Santé publique France and the National Reference Centre for respiratory infection viruses with research activities conducted under the aegis of ANRS-MIE. Over the longer term, this initiative aims to support genomic monitoring needs in relation to other pathogens and to support the activities of the reference centre as part of the agency's Laboratory Strategy.

From 2023, the agency will also commit to an approach that will aim to cement our partnerships with research teams on modelling, which will improve their access to all the data collected and produced by Santé publique France. This modelling work will initially be applied to infectious risks, and then gradually extended to chronic diseases and evaluating health interventions.

This anticipatory work must be closely involved with planning and preparing responses to put forward. The adaptation of strategies for anticipation and response must be applied at national and territorial levels (regionally, departmentally and even sub-departmentally, if relevant) and integrate the vulnerability of some areas.

All of these endeavours must dovetail with the work being carried out on a European and international level (particularly by WHO, ECDC and HERA) – work that the agency is actively contributing to and even initiating at times.

Through the spectrum of its remit – ranging from building knowledge to actions in public health, at both a national and regional level – Santé publique France must be able to call upon all its skills, methods, expertise, infrastructure (pharmaceutical establishment, acquisition capacity, storage and logistics, public health information systems, etc.) and partners in order to anticipate, prepare and respond, with effective and efficient organisation.

This entire remit should also be leveraged in the preparation for “major events” organised in France, the most important of which will be the Rugby World Cup in 2023 and the Olympic and Paralympic games in 2024. Specific in-house organisation is therefore implemented to coordinate all of the work and act as an interface with other partners.

In 2023, the agency will therefore focus its actions around the following four key objectives.

Objective 1. Contribute to assessing all risks, particularly through the coordination and strengthening of monitoring and surveillance systems

Santé publique France's teams will mobilise all their skills to cover the broadest possible spectrum of risks (infectious, environmental, etc.), identified or emerging, with a view to anticipating threats. This work mainly relies on a monitoring and surveillance system involving all the agency's directorates, based on partners within the French National Public Health Network and ad-hoc information systems that need to be modernised and strengthened.

Consolidation of the Laboratory Strategy for the surveillance of infectious diseases	Management of the EMERGEN project to structure genomic surveillance in France (in conjunction with ANRS-MIE, the ECDC and the European Health Emergency Preparedness and Response Authority (see challenge Digital technology in public health))	2023
	Publication of the new network of National Reference Centres for the control of communicable diseases	Jan. 2023
Monitoring and alerts from the syndromic surveillance system	Progress the computerised application of management of sources for the syndromic surveillance system. Develop reactive monitoring of mortality by medical cause, and contribute to actions that enhance the completeness of the surveillance system via electronic death certification	June 2023
	Prepare routine daily and weekly morbidity and mortality monitoring updates, dashboards and SurSaUD® monitoring updates if an exceptional event occurs (extreme environmental event, industrial or technological disaster, attack, large gathering, etc.)	2023
Wastewater monitoring programme (SUMEAU)	Identify pathogenic agents to monitor from a public health perspective	March 2023
	Define the monitoring indicators and method of making the data available	2023
Non-food zoonotic and NRBC-E plan diseases and threat agents	Participate in the scientific advisory board of the Biotox Piratox network, monitoring general activities related to NRBC-E threats (in connection with the preparation of the countermeasures below)	Continuous
	Documentation update for leptospirosis, brucellosis, tularemia, hantavirus, rabies and botulism with indicators available on GEODES through the Santé publique France website	Dec. 2023
	Regular transmission of surveillance data from France to international partners (ECDC, WHO, WOAHA)	May 2023
	Update to the compulsory leptospirosis declaration	May 2023
Surveillance, studies and expertise for zoonotic and other food-borne infections	Develop a tool to quickly create and capture food-related questionnaires which can be incorporated into routine surveillance of the pathogens in question and adapted for use during epidemics	Oct. 2023
	eCFTI tool analysis module	Dec. 2023
	Report on food-borne outbreaks and epidemics in 2022	Dec. 2023
	Update to cholera guide	Dec. 2023
	Study of toxoplasmosis seroprevalence	Dec. 2023

Surveillance, studies and expertise of vector-borne diseases transmitted by ticks and other vectors (excluding mosquitoes)	Evaluation of the PMSI algorithm for identifying Lyme Borreliosis cases	Dec. 2023
	Make indicators available in GEODE	Dec. 2023
Vector-borne diseases transmitted by mosquitoes	Organise an interdisciplinary seminar on West Nile Virus	Mar. 2023
	Release a guide on investigating autochthonous malaria	April 2023
	Analysis report of the dengue fever seroprevalence study in Mayotte	June 2023
Surveillance and prevention of antibiotic resistance and antibiotic consumption	Santé publique France-ANSM-CNAM-ANSES-Environment joint summary on antibiotic resistance and consumption in human health, animal health and the environment (One Health)	Nov. 2023
	Transmission of data to ECDC and WHO	July 2023
Monitoring and prevention of healthcare-associated infections	Annual assessment of reports	Feb. 2023
Monitoring and prevention as part of the national heatwave management plan	Apply heatwave alert monitoring internally	May 2023
	Assessment of the health impacts of heatwaves (2023)	Oct. 2023
	Mortality analysis	Dec. 2023

Objective 2. Review and strengthen the preparation and response mechanisms

Santé publique France is constantly drawing lessons from its management of various health alerts to feed preparation and response mechanisms. The actions undertaken since 2021 are a cornerstone on which the agency can build the renewal of its support strategy for crisis management and its procedures, with the goal of strengthening a common culture and resilience within the organisation. Methods and tools are adapted under the coordination of the Alert and Crisis Department to better meet the expectations of decision-makers, partners and citizens in the framework of its public health remit.

Santé publique France also actively contributes to the work undertaken by the French Ministry for Health and prevention on the necessary adjustments to strategic stocks and the Healthcare Reserve.

Continually update systems for mobilisation and alert coordination	Annual summary of alerts processed in the BQA [Daily Alerts Bulletin]	Mar. 2023
	Revise the mobilisation procedure	Mar. 2023

	<p>Train teams and carry out regular exercises based on the new crisis management plan</p> <p>Renew the document management portal for mobilisation “on-calls”</p> <p>Implement a new process for handling requests concerning environmental and occupational health</p>	<p>June 2023</p> <p>2023</p> <p>Q1 2023</p>
Adapting and strengthening the Healthcare Reserve	<p>Information and training actions aimed at increasing the pool of reservists and retaining it. Simplify and digitalise processes</p> <p>Contribute to upgrading the employment framework in conjunction with the Ministry of Health</p>	<p>Continual</p> <p>Mar. 2023</p>
Contribute to adapting the strategy for constituting and using strategic state stocks	Contribute to the expertise and organisation of the expertise	June 2023
Strengthening NRBC-E risk preparedness	<p>Monitor innovation in the area of countermeasures (in conjunction with scientific monitoring and surveillance of diseases covered by the NRBC-E plan)</p> <p>Train agents in response to NRBC-E threats and participate in national NRBC-E exercises</p> <p>Participate in work carried out under the aegis of the General Secretariat for Defence and National Security (SGDSN)</p>	<p>2023</p> <p>Dec. 2023</p> <p>Continually in 2023</p>
Modernising information systems for the pharmaceutical establishment and the Healthcare Reserve	<p>Specifications for the integrated strategic stock management software package</p> <p>Call for tenders and assessment of bids</p> <p>Roll out new IT system for managing the Healthcare Reserve</p>	<p>Sep. 2023</p> <p>Q4 2023</p> <p>From Q1 2023</p>
Designing and implementing an emergency response system	<p>Define a generic “framework” document to apply to any emergency</p> <p>Example of the process for monkey pox:</p> <ul style="list-style-type: none"> - Dispensing vaccines and antivirals - Participating in epidemic modelling projects - Carrying out studies (vaccigay, behavioural component) 	<p>June 2023</p> <p>Continually in 2023</p>

Objective 3. Strengthen expertise and decision-making capacity

The COVID-19 crisis highlighted the need to evaluate, in advance or retrospectively, the effectiveness of certain management measures (lockdown or curfew-type social distancing, vaccination, screening strategy, etc.). The agency intends to strengthen and expand its partnerships with research teams to coordinate modelling activities for COVID-19, with a view to incorporating the field of chronic disease from 2024 and then the evaluation of public health interventions. In this respect, the ability to take a more regionally-focused perspective on the situation and the responses offered will carry major stakes and require strong partnerships at all geographic levels, while taking into account the specific needs of the most vulnerable populations or regions. In 2023, the agency will continue to work towards these goals.

Design and roll-out of the partnership strategy with research teams, especially in the area of modelling	Prepare a call for projects with priority given to modelling work focusing on infectious diseases	2023
Provision of territorial tools	Health, monitoring and alert data observatory in the catchment areas bordering the Upper Rhine and the Grand Est Region (involving France, Germany, Luxembourg, Belgium and Switzerland)	2023

Objective 4. Structure the agency's actions to prepare for "major events"

"Major events" are regularly organised on French soil. They involve cooperative action between private stakeholders and public, national, European and international bodies.

Santé publique France aims to build a specific organisational structure that will ensure that its entire remit can be leveraged from the beginning of the anticipation and preparation phase through to the events taking place and the feedback sessions organised afterwards.

Drafting a "major events" road map	Draft a reference document setting out the organisation to implement and the elements of the remit called upon when a "major event" is to be organised in France, applicable whether the impact will be national or regional	Aug. 2023
Preparation for the Rugby World Cup 2023 and the Olympic and Paralympic Games 2024	Strengthen monitoring systems as part of preparing a monitoring protocol Keep health risks updated	Continually in 2023
	Strengthen response systems (pharmaceutical establishment, Healthcare Reserve workforce) Participate in the Olympics and Paralympics 2024 preparation exercise	Q4 2023
Armada 2023	Monitor and carry out epidemiological investigations if applicable	June 2023
	Monitoring report	July 2023

FOCUS

From COVID-19 to acute respiratory infections: a broader programme

In early 2022, the ongoing development of the COVID-19 pandemic saw an unprecedented wave of new cases linked to the spread of the Omicron variant throughout France. A series of lesser waves followed, with an impact that was curbed thanks to the herd immunity acquired through vaccination or infection. Long-term handling of the epidemic requires further development of organisational aspects and crisis response tools to include COVID-19 activities in the agency's routine work.

The COVID-19 programme, launched in 2020 to coordinate the agency's activities in its response to the health crisis associated with the epidemic, is therefore evolving in 2023 into a programme for acute respiratory infections (ARI+), offering an integrated approach ranging from surveillance to prevention of winter epidemics. As a result, work on adapting, consolidating and modernising the surveillance systems and tools introduced for COVID-19 will continue and expand to include challenges related to seasonal flu, bronchiolitis and other respiratory viruses.

The aim of this integration is to adapt a currently segmented approach and thus provide a coherent overview of the burden of respiratory diseases on population health and on healthcare capacity, as well as the extent to which they are preventable. Consequently, this requires a response, firstly, to the challenges of ARIs in the years ahead and, secondly, to those surrounding what needs to be done to prepare for the next pandemic, in line with ECDC and WHO recommendations.

However, given the initiatives introduced under the programme since 2020, which are currently under development and not yet consolidated, the response to the COVID-19 health crisis, including the assessment of its impacts, still requires a specific structure for organising the agency's activities and resources. This is why the current focus proposes both a census of ARI activities and those dedicated to COVID-19 within the ARI+ programme. For example, in 2023, this will take the form of more extensive documentation of the long-term effects of the health crisis (burden in terms of delayed treatment, increased frailty, multimorbidity management, etc.) and, in particular, of the disease via prevalence estimates, associated factors and the impact of post-COVID-19 conditions.

The agency is also continuing its involvement in distributing pharmaceuticals (monoclonal antibodies, resuscitation drugs and antivirals), including vaccines, for which the new bivalent formulas specially adapted to the circulating SARS-CoV-2 strain have been in distribution since October 2022. Many activities related to the COVID-19 vaccine strategy will continue for 2023. These cover not only vaccine distribution but also development of vaccine coverage monitoring, continued work on vaccine efficacy, as well as work aimed at gaining a better understanding of vaccine hesitancy in a context where vaccine intention is declining, with differences from one region to another (coverage with the booster dose is 26% in Martinique compared to an average of 60% in France as at 10 October 2022).

As of 2020, the agency has divided its response to these challenges into eight areas forming the COVID-19 programme. For each area, cases pertaining to the agency's mission continuity in

Management of digital tools	Continued production of COVID-19 indicators:	
	- Management and functional use of COVID-19 surveillance data with production of indicators from SI-DEP, SI-VIC, VAC-SI, SurSaUD, EMERGEN, etc.	Dec. 2023
	- Automated reporting of estimated virus reproduction numbers.	Dec. 2023
	New productions for ARI+ surveillance:	
	- Automated reporting of estimated flu reproduction numbers at subnational levels.	Oct. 2023
	- Preparation and future use of the ENDB information system (see section Digital technology in public health).	Dec. 2023
	- Production of aggregated indicators (syndromic grouping, SOS Médecins and Oscour).	Oct. 2023
	- Introduction of grouped ARI data reporting in medical and social institutions using SI-VSS, and production of indicators.	Nov. 2022
	- Digitisation of surveillance for severe cases of COVID-19 and flu in ICUs: Voozanoo4 questionnaire.	2023
	- Response to an EU call for proposals to study the feasibility of introducing a new information system to collect hospital data.	2023
- Pilot study to confirm the feasibility of rolling out an SOS Médecins information system with distribution of kits and partnerships with National Research Centres.	Q1 2023	
- Development of an SOS Médecins information system and production of indicators for ARI+ virological surveillance.	Oct. 2023	
- Inclusion of flu and RSV genomic surveillance data in the EMERGEN database, and automated production of the associated indicators.	2023	

2. Coordinate the territorial-level expertise of Santé publique France which, in conjunction with regional health agencies, carries out contextualised monitoring of all indicators, conducts local risk analyses and provides support to investigate and monitor outbreaks of contagion

Regional surveillance	Continued surveillance of epidemic outbreaks or elevated COVID-19 incidence on a regional, departmental and sub-departmental scale.	2022-2023
	Continued surveillance of circulating variants and coordination of laboratory networks as part of the genomic surveillance strategy (EMERGEN consortium).	2022-2023
Study on the regional situation	Scientific article on the transmission of SARS-CoV-2 in food preparation facilities (SACADA project).	June 2023

3. Contribute to producing knowledge about respiratory diseases, their methods of transmission and their impact on the general population or on specific groups based on studies conducted or supported by the agency in collaboration with various partners (INSERM, universities, CNAM, teaching hospitals, etc.)

Scientific activities	Coordination of work contributing to studies and expert assessments in connection with ARI+:	2023
External WG contributions	<ul style="list-style-type: none"> - Contribution to the working groups of HAS and HCSP expert agencies. - Contribution to ECDC working groups. - Contribution to the IANPHI seminar. 	2022/2023
Studies on infection determinants	<ul style="list-style-type: none"> - Studies on behaviour, especially with regard to preventive measures in the adult general population during the COVID-19 pandemic (CoviPrev). 	June 2023
Studies on morbidity or fatality determinants	<ul style="list-style-type: none"> - Article on the aetiological and prognostic roles of frailty, multimorbidity and socioeconomic characteristics in the development of severe forms of COVID-19 in the general population. 	Mar. 2023
	<ul style="list-style-type: none"> - Article on the description of COVID-19 deaths in 2020 based on coded mortality data. 	Dec. 2023
	<ul style="list-style-type: none"> - Report or article on trends in the characteristics of deaths, particularly age, in relation to COVID-19. 	Feb. 2023
	<ul style="list-style-type: none"> - Report on the study on clustered cases of ARIs in nursing homes for the seasons 2018-2019 and 2019-2020. 	2023
Impact on physical health	Impact of COVID-19 on:	
	<ul style="list-style-type: none"> - Maternal, foetal and neonatal morbidity. 	Jan 2023
	<ul style="list-style-type: none"> - Prevalence estimates of post-COVID-19 condition and its impact on healthcare use, mental health and quality of life in metropolitan France. 	June & Dec. 2023
	Impact of the health crisis on health:	
	<ul style="list-style-type: none"> - Article on non-COVID-19 morbidity during the COVID-19 epidemic. 	Dec. 2023
	<ul style="list-style-type: none"> - Article on the change in hospital admissions for geriatric syndromes during the COVID-19 epidemic crisis in 2020. 	Sep 2023
	<ul style="list-style-type: none"> - Report on the change from 2019-2020 in the stage of cancer at the time of diagnosis between, before and during COVID-19. 	Dec. 2023
	<ul style="list-style-type: none"> - Technical or methodological summary documents on studies on the theme of cardiovascular health and COVID-19. 	Dec. 2023
<ul style="list-style-type: none"> - Article on the impact of COVID-19 on the mortality trends in people with chronic diseases based on the SNDS (PMSI). 	Dec. 2023	
<ul style="list-style-type: none"> - Note on the contribution of health inequalities related to the COVID-19 burden by estimating disability-adjusted life years (DALYs) at the subnational level in 2020. 	Jul. 2023	

	<p>Impact of the health crisis on workers' health:</p> <ul style="list-style-type: none"> - Report on health status and socioprofessional consequences – full descriptive and comparative report incorporating the 2022 wave (Cohorts for epidemiological surveillance in connection with work – COSET-MSA and COSET-Independent). 	Jul. 2023
	<p>Impact of the health crisis on the health of elderly people:</p> <ul style="list-style-type: none"> - Scientific article on the association between frailty, multimorbidity and risk of severe COVID-19 infection (SHARE and EPICOV). 	Dec. 2023
Impact on mental health	<p>Continued surveillance of mental health in the context of the COVID-19 epidemic:</p> <ul style="list-style-type: none"> - Monthly epidemiological updates on mental health. - Mental health indicators in weekly updates analysing the use of emergency services and SOS Médecins. 	2022/2023
	<p>Impact of the health crisis on workers' mental health:</p> <ul style="list-style-type: none"> - Report on health status and socioprofessional consequences – full descriptive and comparative report incorporating the 2022 wave (Cohorts for epidemiological surveillance in connection with work (COSET-MSA and COSET-Independent)). 	Jul. 2023
	<p>New deliverables for the retrospective study on mental health during COVID-19:</p> <ul style="list-style-type: none"> - Regional public health bulletins using a comparative analysis before/after COVID-19 by region. 	Feb. 2023
	<ul style="list-style-type: none"> - Epidemiological updates: weekly articles on the change in depressive disorders and on suicidal behaviour during the period 2017-2021 (Health Barometer). - Articles on mental health among MSMs during the COVID-19 period (ERAS 2020). 	Feb. 2023
Impact on healthcare use	<p>Cancer screening and surveillance during the COVID-19 pandemic:</p> <ul style="list-style-type: none"> - Article on participation in the breast cancer screening programme run between 2005 and 2021: recent developments and effect of the COVID-19 pandemic. 	June 2023

4. Better prevent transmission of the virus and the impacts of epidemics on health by calling on new knowledge to adapt health promotion messages (e.g. preventive measures) while taking into account vulnerability factors

Surveillance and improvement of knowledge regarding prevention behaviours	Continued surveillance of adherence to preventive measures against COVID-19: <ul style="list-style-type: none"> - Executive reports + updates on adherence to the main preventive measures in France (CoviPrev survey). - Scientific article on the change in COVID-19 vaccine intention in France (CoviPrev). 	2022-2023 Jan 2023
Study on the impact of the crisis on prevention behaviours	<ul style="list-style-type: none"> - International article on incentives and obstacles for stopping smoking in the context of COVID-19. 	June 2023
Roll-out of health promotion interventions	Continued information activity regarding COVID-19 vaccination: <ul style="list-style-type: none"> - Weekly update on the Vaccination Info Service website. - Info-Covid newsletter. 	2022-2023
Health prevention and promotion interventions for vulnerable populations	Continued production and distribution of information documents for vulnerable groups: <ul style="list-style-type: none"> - MobCo newsletter. Assessment of interventions: <ul style="list-style-type: none"> - Assessment report on optimising the MobCo newsletter with users. 	2022-2023 June 2023

5. Ensure management of strategic stocks as well as the organisation of the Healthcare Reserve to ensure the necessary material allocation, as well as targeted human resources support for hospital departments for better patient care and better protection for healthcare professionals

Pharmaceutical products	Continued purchasing, storage and distribution of vaccine doses: <ul style="list-style-type: none"> - Purchasing of suitable vaccine doses required for booster vaccination in the target population identified by the recommendations. - Stock management using SpF platforms and with wholesale distributors. - Distribution of doses and associated equipment throughout France and the overseas territories. Provision of COVID-19 treatments: antivirals and monoclonal antibodies.	2022-2023 2022-2023
Non-pharmaceutical products	Continued purchasing, storage and distribution of PPE.	2022-2023
Support activities	Modernisation of information systems for the pharmaceutical establishment and the Healthcare Reserve.	2023-2024

6. Support and guide the national COVID-19 and flu vaccination campaign

Surveillance	Continued surveillance of vaccine coverage in France in the general population and in specific populations (residents in long-term care facilities, eligible population, etc.):	2022-2023
	<ul style="list-style-type: none"> - Dedicated weekly updates. - Public reports in epidemiological updates and as open data. 	
	Continued surveillance of adherence to COVID-19 vaccination:	2022-2023
	<ul style="list-style-type: none"> - Update on COVID-19 vaccine intention (CoviPrev survey). 	
Vaccine efficacy study	Continued surveillance of vaccine efficacy:	2022-2023
	<ul style="list-style-type: none"> - Monitoring of vaccine failures. - Vaccination efficacy study matching SI-DEP/SI-VIC/VAC-SI databases and SNDS analysis: executive reports and scientific articles. - Contribution to EU project VEBIS Batch 4 COVID-19 VE EHR. 	2022-2023 Feb. 2023
	Studies estimating the number of deaths and hospital admissions prevented by vaccination according to the mortality rate associated with flu and COVID-19 (PMSI, INSEE data and Météo France data):	2022-2023
	<ul style="list-style-type: none"> - Scientific article and executive report. 	
Study to improve vaccine coverage for populations living in precarious situations	<ul style="list-style-type: none"> - DGS note followed by a methodological report: recommendations for expediting vaccination adherence among people living in precarious situations during the COVID-19 period. 	Mar. 2023
	<ul style="list-style-type: none"> - MobCo webinar: vaccination adherence among people living in precarious situations during the COVID-19 period. 	Mar. 2023
	<ul style="list-style-type: none"> - Article on the assessment of vaccine coverage and key success factors for COVID-19 vaccination programmes among populations living in situations of high precarity (PREVAC project). 	2023

7. Promote the activities carried out within the ARI+ programme to share knowledge with the general public, decision-makers, partners (local stakeholders or scientific collaborators) and by publishing our productions

External visibility	Continued updating of the website and, in particular, the Coronavirus section.	2022-2023
	Continued press relations activity: <ul style="list-style-type: none"> - Media literacy with journalists regarding the epidemiological situation. - Regular responses to press enquiries. - Production and online publication of press releases. - Online publication of the various expert reports produced by the agency (epidemiological updates, risk analyses, etc.). - Coordination of social media. 	2022-2023
	Continued reporting of COVID-19 indicators available to the general public and partners: <ul style="list-style-type: none"> - Continuous, open-access public dissemination of indicators on GEODES, data.gouv.fr, InfoCovidFrance and EMERGEN-DB. - Transmission of data to the ECDC. 	2022-2023
	Future communication on the shift from surveillance to integrated surveillance of ARI+.	2023
	Reporting of integrated ARI+ indicators to the general public and partners: <ul style="list-style-type: none"> - Continuous, open-access public dissemination of indicators. Transmission of data to the ECDC.	Oct. 2023
Recording of scientific productions	Continued recording of scientific articles on COVID-19 involving at least one Santé publique France author.	2022-2023
	Continued archiving of executive reports on expert assessments or summaries of knowledge about COVID-19.	2022-2023

8. Guarantee an effective and efficient cross-disciplinary approach with operational coordination and management that supports requests and traceability, maintaining strong links with supervisory bodies, with the ultimate aim of gathering feedback that will improve the agency’s resilience

Operational management	<p>Continued activity related to COVID-19 management oversight within the agency:</p> <ul style="list-style-type: none"> - Coordination of the response to requests from the ministry (participation in COVID monitoring meetings, interfacing with the CCS, etc.). - Internal coordination to ensure the COVID-19 programme remains cross-disciplinary. - Scheduling of specific COVID-19 on-call duty periods. 	2022-2023
	Ensuring transmission from the COVID-19 programme to the ARI programme.	2022-2023

CHALLENGE

Digital technology in public health

Digital technology in public health refers to the use of digital technology for data acquisition, processing, analysis and reporting. It also includes the use of computer applications allowing information to be transmitted to the public and to decision-makers (e.g. Géodes platform). Some of the digital applications for health prevention and promotion are presented under the challenge “Prevention strategy, social marketing, and a population-based approach”.

Digital technology allows data collection via administrative interfaces as well as new and non-traditional sources, such as social networks, giving access to information in real time. Developments in digital technology also offer possibilities for innovative forms of public health intervention, particularly in the field of health-friendly behaviours. This domain also incorporates innovative approaches to data processing, analysis, reporting and visualisation, and provides modelling capabilities that are useful for decision-making.

The COVID-19 pandemic highlighted the need for decision-makers at each territorial level, as well as the general public, to rely on novel, more comprehensive monitoring systems that collect information in near-real time and cover a range of fields/domains/subjects. This pandemic also brought to light the great importance of crossing major surveillance databases to allow for a better understanding of short- and medium-term crisis issues, and the sharing of reliable, scalable and up-to-date data. Epidemiological indicators must take into account the challenges of transparency and accessibility for all audiences, particularly in terms of health literacy. These novel tools must make it possible to adapt rapidly to a changing situation, based on the data and knowledge generated, for health prevention and promotion.

The COVID-19 crisis has been a driving force behind the implementation of the novel digital tools required to manage a large-scale epidemic. The pandemic also highlighted the need to take issues of ethics and privacy protection into account as they relate to data de-identification and security.

Since 2004, the agency has used the SurSaUD[®] syndromic surveillance system, which until 2020 was the only surveillance system based on automated reporting of information in near-real time. In 2020, the implementation of systems such as SI-DEP laid the foundations for a robust monitoring infrastructure, widely and rapidly rolled out. In 2021, a novel genomic surveillance system for SARS-CoV-2 variants (EMERGEN) and an information system for vaccine activity (Vaccin Covid), combined with database matching, all contributed to improved monitoring of the epidemic and will serve as a model to build future surveillance systems. The ongoing development and adaptation of data reporting systems (biological tests, vaccines, hospital admissions, etc.) has also revealed methodological and quality-assurance issues that had not been uncovered before. Beyond COVID-19, this crisis has underlined a pressing need to integrate public health issues into the digital road map for public health and its governance, and vice versa.

A strong desire for transparency and information sharing among decision-makers at the most relevant territorial level, professionals and the general public has been demonstrated through the systematic release of all indicators as open data. This essential and novel approach should increase not only the population’s confidence in the agency’s productions but also individuals’ commitment to their own health as stakeholders. Spreading factual, scientifically grounded

information through the agency's website and specialised portals allows the proliferation of reliable information that is adapted to different audiences.

Open data is made possible through daily exchanges between the agency and the numerous public and professional bodies involved in the collection and processing of data (emergency doctors, SOS-Médecins, DREES, DNUM, ARS, DGOS, CNAM, AP-HP, INSERM, ANSM, IFB, clinicians and biologists, etc.).

Despite a substantial effort to make epidemiological indicators available as open data, in 2023 we will need to focus on a new open-data strategy in order to incorporate population-based and geographical approaches, offer different types of reporting suited to different user profiles (healthcare professionals, general public, etc.) and standardise the various reporting methods (Géodes, InfoCovidFrance, etc.).

The pandemic highlighted the international dimension of the issue. In Europe specifically, this requires a concerted effort to cooperate among the European bodies concerned with the surveillance of infectious diseases and the creation of the European Health Data Space, as well as with the ECDC, which also aims to develop its own e-Health strategy.

Finally, the agency has been actively participating in public statistics, with the submission of part of its surveys to the Label Committee and the production of reference time series taken from the surveillance systems. This increases the quality and availability of public health indicators.

In an effort to tackle the COVID-19 epidemic and other long-term surveillance issues, Santé publique France has identified the following priorities, which are shared in part with other stakeholders:

- Develop a methodological framework/guidelines and a quality-assurance process for the collection, processing and handling of digital health data.
- Carry out the necessary developments to stabilise and broaden SI-DEP to include other medical biological tests beyond COVID-19 (National Biological Data Registry project – ENDB).
- Develop an information system better suited for the monitoring of COVID-19 in long-term care facilities.
- Redesign SurSaUD®.
- As mentioned under the challenge “Anticipation, preparedness, and response to public health threats including epidemics”, continue development of SARS-CoV-2 genomic surveillance through the EMERGEN project in partnership with all stakeholders involved (ANRS | Emerging Infectious Diseases, IFB, AP-HP, AP-HM, National Reference Centres, sentinel network, etc.).
- Scale-up electronic death certification using an action plan extending beyond the scope of digital tools alone, with a view to achieving 50% electronic certification by the end of 2023.
- Match SI-VIC against other databases (Vaccin Covid, SI-DEP).

Finally, as mentioned in the challenge “Anticipation, preparedness, and response to public health threats including epidemics”, the agency plans to structure a modelling network to promote the inclusion of mathematical modelling in public health decisions.

The projects and deliverables for this challenge correspond to long-term goals that involve cross-disciplinary action in response to several of the major challenges outlined in the programme. **The developments required to achieve this can therefore span several years.**

Support the roll-out of computer applications	Transform SI-DEP and ensure sustainability in the form of a national medical biological data warehouse (ENDB) so it can be used for other viral or infectious diseases	2023
	Ongoing development of VAC-SI and reporting of its indicators	2023
	Progressive maintenance of the 3-Labos information system	2023
	Questionnaire development (Voozanoo 4 and Limesurvey)	2023
Steering committee for surveys	Operational forms for new surveys and a survey dashboard (ongoing/complete)	2023
Organise access to and use of data from the National Health Data System (SNDS)	Keep and manage records of authorisations and projects	2023
	Queries, epidemiological and statistical analyses	2023
	Collaborative documentation	2023
Carry out data management and statistical analyses	Functional use of data for COVID-19 surveillance purposes: SI-DEP, SI-VIC, VAC-SI, ESMS, EMERGEN	2023
	Automated reporting of estimated reproduction numbers as part of COVID monitoring	2023
	Update smoking burden indicators in line with the schedule for health promotion actions	2023
	Implement statistical methods in data-driven decision-making applications	2023
Reporting of indicators produced by Santé publique France	Publication of new indicators online via Géodes and data.gouv.fr	2023
	Ongoing development of the decision-support applications portal	2023
	Data uploads for SpF's COVID-19 dashboard	2023
	Note on redesigning open data at SpF	2023
Structure a modelling network to promote the inclusion of mathematical modelling in public health decisions	Form the first selection committee to identify which teams to collaborate with on different projects	2023
Implement a national multi-source system for the surveillance of congenital anomalies in France	Report on the relevance and reliability of identification algorithms for children with congenital anomalies in the SNDS	2023
	- Build and host a shared database of cases - Create a secure bubble for records of congenital anomalies	2023
Maintain and enhance the information system supporting the SurSaUD® syndromic surveillance system	Launch production of the new reporting application using Microstrategy	2023
	Produce an R-Shiny application prototype with alarm matrices for unusual event detection	2023
SISUM project	Develop a shared information system to be used by overseas units for epidemiological surveillance: input mask and functional extraction, Shiny application	2023

CHALLENGE

Environmental & occupational health in a context of climate change

When it comes to future global changes, whether climate, environmental or social, we need to anticipate their effects on health if we are to mitigate the impacts and adapt the population to the new risks involved. On a global scale, it has recently been shown that, over the past two decades, deaths associated with environmental pollution have risen by 66%¹. The main risk factors responsible for this increase are climate change, biodiversity loss and exposure to chemicals. At the European level, 1.4 million deaths per year², equivalent to at least 15% of all deaths, are caused by environmental exposures that could have been avoided or eliminated.

The SARS-CoV-2 epidemic, a zoonosis whose emergence may be associated with the impacts of human activity on the environment, also highlights the importance of offering an integrated version of health that requires considering the complex interactions between the various components of our environment.

To address these challenges, Santé publique France assesses and quantifies exposure to environmental and occupational risk factors. Its goal is to estimate their burden on public health, propose interventions designed to reduce their health impacts, promote health-friendly environments following the “One Health” principle and assess the effect of the actions undertaken to achieve these objectives. In close connection to the different territories, the agency implements these objectives according to the exposure of each population, particularly in the French overseas territories, which are more vulnerable to environmental risks than metropolitan France.

As such, Santé publique France will contribute to expanding knowledge and generating indicators concerning exposure and the health impacts of priority or emerging risk factors, in both general and work environments. The agency will attach particular importance to vulnerable populations and to the impacts of climate change. With the increasing intensity and frequency of heatwaves observed in recent years, there is an unprecedented demand for greater protection and prevention to cope with such extreme episodes, which will only worsen. Beyond heat-related effects, prospective studies will be conducted to anticipate and mitigate the consequences associated with climate hazards (floods, storms, coastal erosion, fires, swelling and shrinkage of clay soils, etc.) and with their effects on overall health.

These studies will be carried out focusing on a public health continuum, in collaboration with the other stakeholders working in this field, following the principles of prioritisation, resource reallocation and pooling of knowledge.

Using the knowledge gained, whether internal or external, Santé publique France will develop a strategy to influence and advocate for the use of health-friendly environments at the various territorial levels of decision-making and intervention. It will also act as an interface for multi-sector, territorial, national and international alliances, particularly through the national public health

¹ Fueller et al., Lancet Planetary Health 2022

² WHO Europe, declaration following the conferences on the European Environment Process in Ostrava (Czech Republic), June 2017

network and its collaborative work with WHO or IANPHI. Work in 2023 will also focus on proposing a territorial approach to the challenge of advocacy and One Health.

Finally, Santé publique France will contribute to achieving the objectives of the 4th National Environmental Health Plan (PNSE4, *Plan national santé-environnement*) and the 4th Occupational Health Plan (PST4, *Plan santé au travail*) through various areas of action.

Objective 1. Characterise exposure and health impacts to contribute to prevention strategies on a European, national or local level

The agency will focus on gaining knowledge on environmental and occupational exposures and understanding their impact on health. In terms of the health impacts affecting residents of industrial areas or contaminated sites, several investigations and studies will also be conducted or finalised in 2023. These studies intend to bring the agency's expertise into close contact with decision-makers, helping them to make their decisions based on robust and local data. Experiments involving stakeholders will be promoted with a view to developing a dialogue with society. These initiatives will be led within a formalised framework using methodologies developed by the agency.

Additionally, Santé publique France will propose a note on the feasibility of conducting a national multi-centre study for epidemiological surveillance of local populations near industrial sites. In the field of endocrine disruptors, as defined in the framework of the national strategy on endocrine disruptors (SNPE2), the agency will prioritise the health effects to be monitored (PEPS'PE project) and perform an assessment of surveillance carried out on reproductive health. Finally, Santé publique France will continue its work on estimating the environmental burden, planned as part of the PNSE4, with the publication of a report in early 2023 on the methodology for prioritising the disease-risk factor pairs to be included. At the European level, Santé publique France will also be contributing to the Best-Cost project (burden-of-disease-based methods for estimating the socioeconomic cost of environmental stressors).

In 2023, Santé publique France plans to publish several quantitative health impact studies in the field of environmental health, focusing on: 1) morbidity associated with exposure to ambient air pollution; 2) exposure to air pollution in schools; 3) exposure to transport noise; and 4) exposure to ambient air pollution, noise, heat, shortage of urban green spaces, and active mobility via integrated studies conducted in three pilot areas (Rouen, Lille and Montpellier).

With regard to exposure assessment, Santé publique France will publish a methodological guide on how to implement a post-accident biomonitoring study. The agency will work with ANSES to develop a protocol for the new joint survey on diet, nutrition, health status and biomonitoring and, in particular, the prioritisation of biomarkers to be analysed in the national biomonitoring programme. It will also continue its work in overseas territories, aimed at better characterising exposure to substances such as metals or chlordecone in the West Indies. Lastly, at the European level, SpFrance will steer the working module of the PARC project (Partnership for the Assessment of Risk from Chemicals), which focuses on improving assessment methods for environmental and human exposure, in partnership with the German Environment Agency, for submission to the European Commission. It will also coordinate a module focused on improving assessment methods for environmental and human exposure. Additionally, Santé publique France will hold meetings of the national network of PARC partners, made up of a hundred or so French partners, including representatives of central administrations, scientific teams and stakeholders relevant to PARC.

Finally, in the specific field of occupational health, and in response to the priorities expressed in preparation for the 4th health-work plan, an assessment of cumulative exposure to cardiovascular risk factors among employees will be conducted. Based on the Matgéné programme, occupational exposure indicators in the French working population will be produced for the following pollutants: pesticides and noise. A summary of occupational exposures will be produced for the working population in the construction and public works sectors. Additionally, the Matphyto programme will break down pesticide exposure indicators by region in the winegrowing sector. The Matgéné and Matphyto programmes are an example of Santé publique France's original and rather unique expertise when it comes to developing job-exposure matrices (JEMs) or crop-exposure matrices (CEMs), which are useful tools for research and for guiding prevention policies. In this context, the agency has begun to focus on proposing the formation and coordination of a network of partners – producers and users of matrices – to pool and share tools and knowledge regarding this subject and to help structure the studies conducted on shared objectives and needs.

French National Biomonitoring Programme (PNBS)	Note on prioritisation of substances within the PNBS	Apr. 2023
Multiple occupational exposures	Report: "Multiple occupational exposures to agents with a cardiovascular effect among workers in 2017"	Mar. 2023
Post-accident biomonitoring	Guide on implementing a post-accident biomonitoring system	June 2023
Santé publique France/ ANSES joint health and biomonitoring survey	Survey protocol	June 2023
PestiRiv: exposure to pesticides among residents of viticultural areas	Report on the results of the PestiRiv study	June 2024
Prioritisation and monitoring of health effects related to endocrine disruptor (ED) exposure	Results of the prioritisation study (PEPS'PE project)	Mar. 2023
	Review of reproductive health indicators and analysis perspectives for ED health impacts	Mar. 2023
Environmental burden estimate	Report on the method for prioritising the disease-risk factor pairs used to estimate the environmental burden	Jan 2023
Surveillance of waterborne gastroenteritis (AGE) outbreaks	Public health bulletin	June 2023
Multi-centre study on the health of populations near industrial sites	Industrial sites: feasibility report for epidemiological surveillance of resident populations, protocol if applicable	Apr. 2023
Quantitative health impact assessment (QHIA) for air pollution	Quantitative health impact studies in the field of environmental health, focusing on morbidity associated with exposure to ambient air pollution	Nov. 2023
	Exposure to air pollution in schools	Sep 2023
	Exposure to transport noise	Nov. 2023

	Exposure to ambient air pollution, noise, heat, shortage of urban green spaces, and active mobility via integrated studies conducted in three pilot areas (Rouen, Lille and Montpellier)	Dec. 2023
--	--	-----------

Objectives	Study type	Title (non-exhaustive list)
Characterise exposure and health impacts to contribute to prevention strategies at the European, national or local level	Local studies on the health status of populations near industrial sites	<ul style="list-style-type: none"> - Relevance and feasibility of an epidemiological study aiming to identify the contribution of air pollution to the outbreak of diseases observed in the Saint-Nazaire/Pays-de-Loire area - Ongoing use of the OSaRiB/Esspol system in the Grand Est region in towns in Moselle (residents near a coking plant), Haut-Rhin (industrial site in the Thur Valley) and Meuse (future nuclear waste storage site)
	Local studies on the health status of populations living on or near polluted soils	<ul style="list-style-type: none"> - Study on the local context (PRIOR study) and health status of populations neighbouring the Orbiel Valley (former mining site of Salsigne), Occitanie (2023) - PRiSCAA (Perception of Health Risks, Adapted Knowledge and Expectations) study among populations living near a former non-ferrous metal foundry (former Metaleurop site), Hauts-de-France (2024) - Perceived health status of populations living near the Lacq industrial site (2023) - KANNARi2: measurement of Martinique and Guadeloupe population exposure to chlordecone and other environmental pollutants of interest, West Indies (2023–2025)
	Air pollution QHIA	<ul style="list-style-type: none"> - Health impact assessment of regional morbidity (morbidity QHIA brochure) - Health impact assessment of exposure to sand haze in the West Indies
	Investigation of non-infectious disease clusters	Continuation and finalisation of several investigations into suspected spatiotemporal clustering of non-infectious diseases

Objective 2. Strengthen and modernise the systems used for monitoring, observing and preventing risks related to general and/or work environments

Santé publique France has developed several systems for monitoring diseases related to general and work environments. These systems produce indicators that are useful in prevention for general and working populations; furthermore, they contribute to estimating the environmental and occupational burden of diseases (see Challenge on burden of diseases).

With regard to the field of occupational health, the agency has adapted a number of measures in the wake of the pandemic to assess its impacts on workers' health (see COSET-MSA and COSET-Independent studies in the Focus on the COVID-19 programme). As part of the "Preventing malaise in agriculture" roadmap, in which Santé publique France was recently

involved, the agency proposes to undertake work on the feasibility of a combined and integrated approach, linking vigilance and surveillance. Initial tests will assess the feasibility of using OSCOUR® data for the early detection of adverse signals on the frequency of suicidal thoughts and suicide attempts among those with an agricultural background.

Additionally, Santé publique France will continue its efforts to strengthen its surveillance systems by proposing an experimental phase of data collection in collaboration with software publishers for the occupational diseases system. This project more broadly falls under Action 10.2 of the PST4, oriented by Santé publique France, with the Directorate for Research, Studies and Statistics (DARES) and the ANSES, towards the development of surveillance systems based on occupational medicine. Finally, a modernised version of the mesothelioma surveillance system will be unveiled in late 2022 or early 2023.

Other actions led by Santé publique France in the field of occupational health will include opening the debate on the centralisation of occupational biomonitoring data and proposing methods for broader workplace monitoring, in collaboration with its partners.

The agency will continue its work on monitoring musculoskeletal disorders, studying in particular the interactions between these pathologies and the psychological affections associated with remote work during lockdown, based on the results of the COVIPREV survey. As for work-related traffic accidents, Santé publique France will again contribute to the General Directorate of Labour's annual publication on road risks.

National Mesothelioma Surveillance Scheme (DNSM)	System launch	Early 2023
Musculoskeletal disorders	Study of the complex relationship between the conditions of remote work and the occurrence of low back pain, integrating depressive symptomatology	March 2023
Lead and lead poisoning	Analysis of 2020 mandatory reporting data from Île-de-France	2023
	Investigation of lead exposure in outwash plains (Montarcy, 95)	Dec. 2022
	Contribution to the strategy for the control of heavy-metal poisoning in French Guiana: note on data from surveillance systems (SNSPE in particular)	Mar. 2023
Roadmap "Preventing malaise in agriculture"	"Strategy, tools and partnerships of Santé publique France": note within the framework of the interministerial roadmap "Preventing malaise in agriculture"	Early 2023
	Feasibility study for the implementation of a system for the early detection of adverse signals based on OSCOUR® data	Late 2023

Strengthen and modernise systems for monitoring, observing and preventing risks related to general and/or work environments	Surveillance of waterborne gastroenteritis (AGE) outbreaks	Ongoing use of the surveillance system, progress report and assessment (2023)
	Surveillance of blood lead concentrations in children and lead poisoning (SNSPE)	Ongoing use of the surveillance system, national report (2023)
	Epidemiological surveillance following an industrial accident	- Santé Post-Incendie 76: system for epidemiological assessment of health impacts linked to LUBRIZOL site industrial fire in Rouen on 26/09/2019 - Surveillance of mental health, cardiovascular indicators and perinatal health – Normandy (2023)
	Surveillance of Legionnaire's disease	Study on the identification of areas with elevated incidence of Legionnaire's disease and examination of the influence of several environmental factors – Auvergne-Rhône-Alpes (2023)

Objective 3. Build strategies that advocate and appeal for health-friendly planning and development

Inspired by initiatives led abroad, the agency is working to develop a nationwide advocacy strategy for the themes of occupational and environmental health. Using a reproducible method, divided into four stages, it involves “persuading people or bodies with the necessary power to provide support for change regarding human health”. The first theme investigated for this type of work is heat adaptation in the context of climate change. Based on this concrete example, a methodological guide illustrating the strengths and limitations of the initiative will be proposed.

Likewise, Santé publique France will continue its collaboration with IANPHI looking at the links between climate change and health, in particular by chairing the dedicated thematic committee.

Build strategies that advocate and appeal for health-friendly planning and development	Assessment and promotion of the most effective and efficient health prevention and promotion interventions	Assessment of the Jafa intervention programme aiming to reduce exposure to chlordecone related to the consumption of food grown in polluted gardens – West Indies (2023)
	Roll-out of health prevention and promotion actions to develop personal and social skills, and change or adopt lifestyle habits and behaviours	Creation of messages that can be adapted for each communication campaign aiming to reduce dietary exposure to chlordecone – West Indies (2023)

One Health

The One Health principle

In December 2021, the Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (WOAH), United Nations Environment Programme (UNEP) and the World Health Organization (WHO) adopted a definition of the One Health concept formulated by the One Health High-Level Expert Panel (OHHLEP). According to the definition, the One Health principle is *an integrated and unifying approach that aims to sustainably balance and optimise the health of people, animals and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.*

This approach, supported by WHO since 2015, is all the more important given that the main threats to public health for the years and decades to come, i.e. the combined effects of climate change, reduced biodiversity and exposure to chemical substances, also affect the quality of environmental resources and have an impact on land and water ecosystems.

Recent reports by the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) conclude that these global changes to our environment are impacting human health, but also the increase in extreme weather events, changes in environmental exposure, and the emergence and severity of certain infectious diseases, including zoonotic or vector-borne diseases. They also highlight the need for ambitious approaches to health protection, supporting the potential to gain diverse health benefits via strategies that reduce greenhouse gas emissions and protect biodiversity.

One Health: a fundamental principle of the integrated action of Santé publique France

One Health is one of the fundamental principles of the integrated action of Santé publique France and applies to a significant percentage of the agency's activities, from the surveillance of population health to the implementation of preventive measures and health promotion actions, in particular those focusing on the most vulnerable populations.

The agency notably plays a role in the production of numerous indicators for monitoring the health of the population with respect to the main infectious or chronic diseases. Beyond this, these indicators are linked to the main health determinants, to enable better understanding of complex interactions between population health, the emergence of pathogens, the quality of the environment (including urban environments and agroecosystems), and food.

In order to assist decision-making, the agency is also developing intervention evaluation methods which make it possible to assess the impact on public health of measures intended to promote healthy environments, whether urban, farming or professional. It also relies on conclusive data to develop preventive measures and health promotion actions, focused mainly on human health, but which also carry prospects for the preservation of food and environmental resources, or seek to limit the conditions favourable to the emergence of pathogens.

With a view to fortifying its activities regarding One Health, Santé publique France works with numerous territorial, national and international partners involved in other components concerning ecosystem health or the quality of natural resources.

These collaborations help develop essential multidisciplinary approaches that are key to the implementation of the One Health principle. The latter can be divided into three main areas:

- i) setting up early warning systems in order to anticipate physical, chemical or biological threats (heatwave and health warning system; monitoring of emerging infectious diseases; monitoring of exposure to chemicals; wastewater surveillance);
- ii) implementation of public health interventions focused on the various environmental (including the quality of agro-ecosystems) and nutritional determinants of health, with a view to prevention and health promotion (investigations into clusters of infectious and chronic diseases or food-borne infections; NutriScore food rating system);
- iii) securing recognition for the One Health principle in intersectoral public policies concerning the quality of the environment, food or adaptation and mitigation policies to combat the effects of climate change (antibiotic resistance, microbiological and chemical quality of food and water, air quality, quality of professional environments)

Incorporating the One Health principle into the agency's programme

The One Health dimension benefits from the cross-functional contribution of various challenges set out in the Santé publique France work programme.

Concerning the issue of environmental and occupational health, including climate change, actions seek in particular to promote One Health approaches regarding the implementation of public policies intended to protect human health in light of various risk factors. With regard to climate change, Santé publique France chairs the IANPHI Committee on Climate Change and Health and in this role strives to promote interactions between national public health agencies and other institutions dedicated to the environment and food. In this context, Santé publique France will launch a national think tank around the principles of One Health and Global Health, which will involve identifying essential partners and pertinent indicators.

In terms of understanding exposure to chemical substances, data collected during investigations carried out by the agency will be used to identify the nutritional and environmental determinants of human exposure, which will in turn serve as a basis for recommendations designed to reduce human exposure to contaminants. Methodological reflection on the analysis of environmental and nutritional exposure indicators, as well as on the development of quantitative health impact assessments, will provide the means for assessing the co-benefits of environmental interventions. Urban or industrial environments are a particular target for these approaches.

Finally, the challenge also includes addressing the impacts of the environment on the health of exposed workers, principally farm workers and construction workers.

Regarding anticipation, preparedness and response to public health risks, including epidemics, efforts seeking to implement the One Health approach as part of monitoring and surveillance activities make it possible to anticipate and prepare the response to both identified and currently unknown risks of zoonotic disease epidemics.

In the context of monitoring and surveillance, Santé publique France continues working towards a more integrative approach that is both collaborative and transdisciplinary. With this in mind, the agency will take measures aimed at improving collaboration, focusing on harmonising the methods used by the National Reference Laboratories and National Reference Centres, and integrating sequencing data on micro-organisms. The agency will foster close collaboration with partners from numerous disciplines (microbiology, animal health, wildlife, entomology, ecology, food safety etc.) through its role on the steering committees for the Food Chain Surveillance (SCA) and Epidemio-surveillance of Animal Health (ESA) platforms, its engagements with ANSES and INRAE (Vectors work group, Strategic Orientation Committee, etc.), and its participation in international initiatives (member of the Vectornet scientific committee, chair on the steering committee for the ECDC Emerging and Vectorborne Diseases Network, etc.). Finally, the agency's contribution to the implementation of the SUM'Eau system (microbiological surveillance of wastewater), in collaboration with ANSES, highlights the interest in conducting environmental surveillance of wastewater for the detection and monitoring of the circulation of certain pathogens. Thus, environmental monitoring of SARS-CoV-2 was initiated in 2022 and will be stepped up in 2023.

The same approach is adopted in numerous infectious fields (zoonotic influenza, wastewater monitoring, etc.), a specifically illustrative example being the area of antibiotic resistance with the unison of surveillance and prevention actions that takes place each year to produce a joint report for the **European Antibiotic Awareness Day** (18 November) and **World Antimicrobial Awareness Week**. This occasion sees Santé publique France partnering with ANSM, ANSES, the National Health Insurance and the National Health Authority as part of the “Biodiversity, Health and Anthropogenic Activities” mission led by the General Commission for Sustainable Development and the “Antibiotic Resistance” mission led by the Ministry of Health and Prevention, the General Directorate for Food, their office of inputs and public health in animal breeding and further partners.

In France, actions to prevent bacterial resistance to antibiotics or antibiotic resistance are governed by the interministerial roadmap published in November 2016. The 2022–2025 national strategy on the prevention of infections and antibiotic resistance further enhances actions regarding proper use of antibiotics and infection prevention and control. It defines the priority indicators and target values in human health to achieve by 2025.

The AMR-ENV group created as part of Promise, the professional meta-network against antibiotic resistance, is working on a method standardisation and inter-calibration procedure to quantify these indicators. The relevance of these indicators will be demonstrated through pilot studies on samples already collected. It will be possible to carry out complementary but also prospective analyses on these samples in several target workshop areas. The aim is to show the feasibility of routine surveillance of antibiotic resistance in the environment.

CHALLENGE

Burden of diseases and their determinants, effectiveness of interventions, and return on investment of prevention

The challenges of the surveillance and prevention of diseases are three-fold. They first require knowledge of their burden, an understanding of the causal chain and cost-effective primary prevention interventions upstream of the disease. An analysis of their impact on the health ecosystem is then essential to adjust the organisation of equitable healthcare so that it is adapted to all, at an acceptable and sustainable cost. Lastly, an analysis of impacts in terms of premature death, disabilities with consequences on quality of life, perceived health, and the social and active life of patients and caregivers constitutes the third aspect of these challenges.

Considering these parameters has brought about a shift from indicators based solely on diseases and their determinants to indicators of most dynamic impact, which are, at a given age, life expectancy in good health, number of years lived without disability and years of life lost (death occurring before life expectancy at a given age). In addition to increasing the age-related disease burden, demographic changes marked by an ageing population signify a projected short- and medium-term rise in the future burden of frailty, loss of autonomy and dependency.

Our knowledge of the causal chain of diseases is now more comprehensive and precise: it includes interactions between biological and living environments, determinants in behavioural sciences, the influence of the environment on behaviour, experiences and perceived health. Over the last 20 years, this knowledge has gradually led to a change in how we apprehend the challenges surrounding disease, ushering the transition from a clinical approach to a more integrated global approach or even a One Health approach, which embodies the interconnected nature of these factors (see Focus section on One Health),

Beyond its infectious dimension, the COVID-19 pandemic illustrated its strong interrelationship with a population's health status, and the major consequences for populations with chronic conditions that worsened with COVID-19 (syndemic), resulting in potentially significant and long-term effects on health and disease burden.

This challenge involves reducing the disease burden and its consequences. This first requires mobilising the best data possible to estimate the burden, and monitoring changes in population health status to shed light on how public health challenges are considered. It involves identifying evidence-based interventions so they can be deployed to promote behaviours and living environments that are favourable to good health. Lastly, to ensure the effectiveness of public policies, this challenge includes devising a calculation for the return on investment of tested or deployed schemes in order to obtain a list of cost-effective interventions for improving the population's health status and reducing inequalities in health.

Estimating the burden, using a continuum of observation, action and evaluation, is a key issue for the agency. This approach allows the agency to contribute towards defining the hierarchy of priorities and public health policies. Although 2022 was still highly affected by the COVID-19 crisis, the status report highlights the progress made in the three operational objectives set out in the 2022 work programme.

For Objective 1 (*“Produce scalable indicators for disease burden in France”*), this concerns producing national indicators on years of life lost for different diseases, preparing major national health surveys for the general population to be rolled out in 2023, and all of the surveillance work and data on the general population produced by the agency.

As regards Objective 2 (*“Evaluate and promote the most effective and efficient health prevention and promotion interventions”*), the work carried out in 2022 is part of the continued actions carried out by the agency to develop, identify and evaluate interventions from French research, or to support the adaptation of effective foreign interventions to the French context. This work has also contributed to the creation of an effective and promising evidence-based programme register, sometimes referred to as the evidence centre, whose objective is to give territorial project managers and decision-makers easy access to a catalogue of evaluated interventions. An evaluation committee was appointed in June 2022 to support this initiative.

This work has also supported the medical and economic impact assessment of specific interventions that underpin Objective 3 of the programme (*“Calculate the return on investment of the projects in the register”*). For example, in 2022, Santé publique France contributed to evaluating the economic impact of smoking prevention.

Operationally, the 2023 objectives are a continuation of this global approach, while taking into account the level of maturity of each area developed in support of this challenge.

Objective 1. Produce scalable territorial-level indicators for disease burden in France

In 2023, the objectives for disease burden will mainly be achieved by continuing the work undertaken in 2022. In addition to the production and use of traditional indicators for the various conditions or risk factors and determinants, or for each population, the work will aim to continue developing indicators for years of life lost by condition for around ten conditions selected at regional level. The methodological framework relevant to France for estimating years of life lost adjusted to disability (years lived with disability (YLD) or disability-adjusted life years (DALYs) will also be developed. In 2023 the protocol for the national health, biosurveillance, diet and nutrition survey will be finalised for its scheduled launch in 2024 in collaboration with the Anses. The agency will also implement the schedule of Santé publique France Barometer surveys on the population.

Burden in the general population

Years of life lost by disease	Report: The years of life lost for all causes of death, by age and gender, at national level in France in 2017	Mar. 2023
	Article: Estimate of YLD linked to the conditions selected at national level in France in 2017	Dec. 2023
	Executive report and indicators: Estimate of the environmental burden of premature death (years of life lost)	Dec. 2023
	Estimate of the environmental burden of diseases (DALYs)	Dec. 2024

Surveys on the general population	Protocol for the national health, biosurveillance, diet and nutrition survey pooled with INCa (ANSES) and Esteban (Santé publique France)	June 2023
	CNIS-approved status of the Santé publique France Barometer surveys	Nov. 2023
	Feasibility report on the health survey in communes in Guyana	May 2023

Surveillance of non-communicable diseases	Surveillance of cancers: 10-year anti-cancer strategy	
	<i>BEH</i> article: Incidence of cancers in 2023 and trends since 1990	Mar. 2023
	Report: Survival estimates for cancer patients in French overseas regions and departments	Mar. 2023
	Article and indicators: Survival estimates for cancer patients by stage at diagnosis in metropolitan France	June 2023
	Interim report and final report: Assessment in response to the DGS's referral on the increased incidence of histologically-confirmed glioblastoma between 1990 and 2018	July–Dec. 2024
	Report: Evolution of central nervous system tumours in children in metropolitan France	Dec. 2024
	Assessment of the performance of organised cancer screening programmes	
	Production and application of indicators from the organised screening programme for breast, cervical and colorectal cancer	2023
	Surveillance of cardio- or neurovascular diseases	
	Estimate of the number of people with high blood pressure attributable to alcohol in France	Feb. 2023
	Article: Prevalence of chronic renal disease	Dec. 2025
	Article and indicators: Update and analysis of heart failure trends in the general population and in pregnant women	Dec. 2023
	Diabetes surveillance	
	Characteristics, health status, quality of life and use of healthcare among diabetics living in overseas France	Dec. 2023
	Prevalence of all diabetes cases, not pharmacologically treated and receiving the standard treatment in French overseas regions and departments	Sep. 2023
	Description of the health status of type 1 diabetics based on the ENTRED 3 study	Nov. 2023
Evolution of diabetes incidence based on the SNDS	Nov. 2023	
Report: Study of the factors hindering and driving the management of type 2 diabetes, trajectory analysis	Dec. 2023	
Surveillance of chronic respiratory diseases		
International articles: Links with smoking, electronic cigarettes and respiratory health	Dec. 2023	
Database. Identification of the study population for longitudinal analysis in the Constances cohort	Dec. 2023	

Surveillance of mental health	Application of the results of the Enabee survey	2023
	Note: Psychological impact five years after the attacks of 13 November 2015	Dec. 2023
	Application of data from the ENP. Prevalence of post-partum depression, factors associated with mental health and evolution of the indicators	Mar. 2023
	Summary and note: Suicide among prisoners and those with restricted liberty	Dec. 2023
	<i>BEH</i> and <i>BSP</i> publications: Prevalence of disorders characterised by mental health nationally and regionally	Mar. 2023
	<i>BEH</i> articles: Mental health in adult and adolescent populations (well-being, anxiety and depression, suicidal behaviour) based on long-term survey data (CoviPrev, Enclass and Santé publique France Barometers)	June 2023 Dec. 2023
	Article: Survey for health professionals on the management of perinatal addiction in Normandy	Mar. 2023
	Surveillance of risk factors linked to lifestyles	Knowledge and psycho-social determinants of dietary recommendations, physical activity and sedentary behaviour
Note and article on the prevalence of obesity measured in children and of physical activity in children and adults (merging Esteban-INCa3 data)		Dec. 2023
Application of the 2023 Health Barometer: Diet and physical activity		Dec. 2023
<i>BEH</i> article on the knowledge and recommendations of the PNNS based on the 2021 Santé publique France Health Barometer		June 2023
Preparation of the new nutrition survey		Dec. 2023
		Consumption of alcohol and study of the determinants
	<i>BEH</i> article on exceeding lower risk guidelines based on the "Alcohol" module of the 2021 Health Barometer: national and regional data	April 2023
	Chapter on the alcohol data of the 2021 Cancer Barometer, in collaboration with INCa	Feb. 2023
	Illegal drug use, study of the determinants and their impact on morbidity and mortality	
	Article: Prevalence of cannabis use in France based on the 2021 Health Barometer, in collaboration with the OFDT	Dec. 2022
	Estimate of the number of emergency department admissions linked to cocaine (DATA)	Dec. 2023
	Use of the CBD and nitrous oxide modules from the 2022 "Smoking" survey	Dec. 2023
	Monitoring of smoking prevalence	
	<i>BEH</i> article on the prevalence of smoking in France in 2022, based on the 2022 Santé publique France Barometer	May 2023
	<i>BEH</i> article on smoking cessation based on the 2021 Health Barometer: Attempts to stop smoking, desire to stop and associated factors	May 2023
Chapter on smoking data from the 2021 Cancer Barometer, with INCa	Feb. 2023	

Surveillance based on data from the epidemiological registers	Cancer register CNIL guideline for personal data processing	2023
	Standardisation of activity reports of congenital malformation registers	June 2023

Infectious disease surveillance	Latent TB infection surveillance system assessment report	June 2023
	Hepatitis B, C and delta surveillance - BEH article - International article on HCV screening and DAA - Thematic weekly journal - Hepatitis B, C and delta: from epidemiological data to recommendations for eradication	2022–2025 Jan. 2023 Mar. 2023 June 2023
	Surveillance, studies and expertise for vaccine-preventable diseases Study report on vaccine coverage in Réunion	2022–2025 June 2023
	Quarterly notes: Cardiovascular indicators included in “monitoring of priority reforms”	Mar. 2023 June 2023 Sep. 2023 Dec. 2023
	HPV vaccination acceptability, determinants and preferences – project in several territories, including the Antilles and Brittany	2023
	Article on the rise of invasive Hib infections among young children in France	Mar. 2023
	Note: Monitoring of flu vaccine coverage	Apr. 2023
	BEH article: Annual epidemiology report on pneumococcal and measles infection	June 2023
	Note on vaccine coverage in infants (24th month health certificate)	Sep. 2023
	Surveillance of HIV and bacterial STIs Data application. Risk factors associated with STIs (ERAS 2021)	June 2023
	International article on the application of HIV/STI data from the Mayotte Health Survey	Mar. 2023
	Article on congenital syphilis surveillance in France (PMSI survey)	Dec. 2023
	HIV/STI thematic weekly epidemiological journal	Dec. 2023
	1) Indicator of HIV incidence estimates by transmission group 2) Indicators of HIV and bacterial STI screening and diagnosis	Dec. 2023
	HIV surveillance assessment report	Dec. 2023
	Infectious disease surveillance in drug users Coquelicot Survey indicators	Dec. 2023
	Blood donor epidemiological surveillance Production of indicators and promotion of the opening of blood donation to men who have sex with men	2023

Home and leisure injuries (HLIs) and trauma	Estimate of the number of years of life lost linked to HLIs and the effect of social inequalities in health	Dec. 2023
	Details on changes in the epidemiological surveillance of drowning for summer 2023	Jan. 2023
	Article: Study of the impact of new mobilities on trauma based on Health Barometer data	June 2023
	Article: Emergency department admissions for minor head injuries: analysis of OSCOUR data for the period 2014-2020	Jul. 2023
	Thematic weekly epidemiological journal on accidental poisoning in children (following referral)	Aug. 2023

Targeted surveillance by population

Perinatal and early childhood health surveillance in France	Report on the perinatal survey in French overseas regions and departments	Feb. 2023
	Prevalence of post-partum depression measured two months after birth, regional breakdown, associated factors (ENP)	Mar. 2023
	Report on breastfeeding and its continuation up to one year of age and dietary diversification of infants (EPIFANE)	June 2023
	Article: Analysis of territorial disparities of breastfeeding initiation rates in maternity wards	Sept. 2023
	Article: “Factors associated with diabetes screening within one year of gestational diabetes”	Mar. 2023
	Article: “Maternal hyperglycaemia detected early and impact on perinatal health indicators”	Mar. 2023
	Report: “Surveillance of perinatal health in France: regional breakdowns of the first national report”	Dec. 2023
	CNEMM report in 2023	Dec. 2023
	Article: Smoking relapse two months after delivery based on ENP data	June 2024
	Article: Creation of a new social disadvantage index for perinatal health	June 2023
	Surveillance of congenital anomalies and improved knowledge of their risk factors	
	Creation of a national support committee for the surveillance of congenital anomalies	Mar. 2023
	Shared platform for data collected by the congenital anomaly registers	2023–2025
	Report on French epidemiological data on congenital anomalies	Dec. 2023
	Summary of the literature: Final summary report on the methodological biases present in articles investigating risk factors of limb reduction defects	Dec. 2023
Adult population (middle-aged > 45 years) and the elderly (> 65 years)	Multimorbidity surveillance Summary: Initial results of the implementation and validation of surveillance algorithms for osteoarticular conditions in the SNDS	June 2023
	Surveillance of frailty with ageing Article: Evolution of frailty (2014-2019) by generation (50 years and over) in France	Mar. 2023

	Article and indicators: Prevalence of frailty at departmental level	June 2023
	Summary: Hospitalisation, mortality and risk of institutionalisation linked to frailty in the SNDS	June 2023
	Article: Continuum of frailty and dependency based on survey data	Dec. 2023

Objective 2. Evaluate and promote the most effective and efficient health prevention and promotion interventions

Santé publique France has embarked on the creation of an evidence-based programme register. These registers aim to give territorial project managers and decision-makers easy access to a catalogue of already evaluated interventions. An intervention evaluation committee was appointed in June 2022. This committee will be responsible for analysing the projects already documented in the database, as well as upcoming projects identified in the scientific literature or subject to evaluation by local project leaders.

Evidence-based programme register	Implementation of the intervention evaluation methodology (external reviewers, evaluation committee)	Q1 2023
	Evaluate the interventions currently documented in the database using the evaluation chart	Late 2023
Intervention evaluations	Report and article: Evaluation of the efficacy of the Vigilans system on suicide relapse reduction	Dec. 2023
	National report on the routine monitoring of the roll-out of the Parenting and Family Support Programme (PSFP 6-11) and aggregated results by site of implementation	Nov. 2023
	National and regional summaries: Monitoring of the national roll-out of “Unplugged”, an evidence-based programme to prevent addictions at secondary school by developing psychosocial skills	Mar. 2023
	Update on “Analyses of the factors associated with loyalty to the Unplugged programme and the autonomisation of those involved”	June 2023
	Effectiveness assessment and roll-out monitoring of the “Good Behaviour Game” programme	Dec. 2023

Objective 3. Incorporate the calculation of health gains from prevention actions, along with the financial reductions or gains generated by these interventions (health expenditure or societal expenditure)

It can be some time before the impact of certain health prevention and promotion interventions can be seen. For instance, the fact that a person refrains from starting smoking in adolescence may not provide measurable health results until several decades later.

The impact of certain prevention interventions has therefore been studied using long-term monitoring, sometimes over decades. The assessment of the Good Behaviour Game programme implemented in the first year of primary school, reveals that the intervention reduces smoking in adolescence compared with the control group or that of the Carolina Abecedarian Project for cognitive and language enrichment throughout early childhood, which has shown effects on cardiovascular health more than 30 years later.

In the absence of data on the long-term effect, it is necessary to perform medium- and long-term modelling of what could happen based on the changes measured in the short term according to different scenarios. Indeed, this is what the OCDE's prevention economics team did when it published an estimate of the impact of the different obesity prevention strategies in 2010, which it updated in 2019. This team has also modelled the impact of a combination of preventive strategies on harmful alcohol consumption (OCDE 2015).

Unlike Australian research and that of the OCDE which is dedicated to a combination of preventive strategies, Santé publique France has chosen to assess the medical and economic impact of specific interventions in a similar way to the Washington State Institute of Public Policy, in order to build over time a comparative table of the returns on investment of a large number of prevention interventions.

To complete this work, Santé publique France will form partnerships with research teams specialising in the area to develop the methodology and roadmap of this programme for calculating the return on investment of interventions and health prevention and promotion campaigns. This ambitious programme will require several years of development.

Creation of a prevention economics function	Creation of a thematic support committee to develop the strategy and methodology for calculating the return on investment of interventions	Early 2023
---	--	------------

CHALLENGE

Prevention strategy, social marketing, and population-based approach

Beyond its mission to carry out surveillance on the population's health status and its determinants, and to evaluate their impact on health, the challenge surrounding the agency's prevention strategy, social marketing and population-based approach involves the development of social marketing, which draws on information from behavioural sciences and links up with the provision of remote health services with a view to changing knowledge, attitudes and behaviours along with social representations. Santé publique France is also taking on an advocacy role with decision-makers and various stakeholders in order to take action on structural determinants and environments, as well as to improve the regulations designed to protect health by integrating the commercial determinants of health.

All of these actions form part of a balanced universal approach for graduated prevention according to the different populations, aiming to reduce social and territorial inequalities in health. Santé publique France's modes of action can be viewed from the perspective of integrated health promotion³, which involves a continuum of actions ranging from individual approaches to population-based approaches.

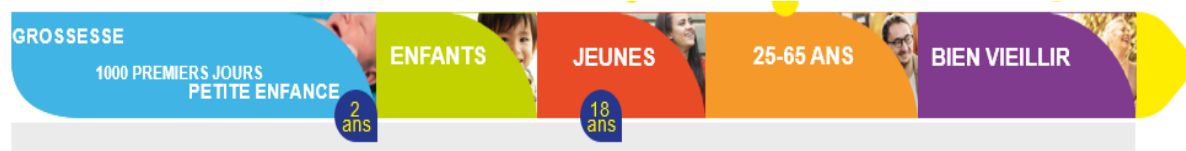
Among the drivers used, social marketing aims to promote messages and tools that are relevant to the target populations, encouraging them to accept, change or voluntarily abandon a behaviour in their interest and, more broadly, in the interest of society as a whole.

Alongside interventions to develop psychosocial skills, the use of such a strategy has become an important instrument for improving prevention in today's society. These two intervention methods, which mainly act on individual and interpersonal determinants (for example, for collective challenges), must be complemented by approaches that better incorporate the social, organisational and environmental dimensions of people's health, specifically to reduce social and territorial inequalities in this area. Advocacy is therefore a powerful complementary instrument to the other health prevention and promotion strategies. At territorial level, this global approach should be reflected in the way support is provided to the regional health agencies as regards the evidence-based actions selected for implementation in their territories (see challenge above on disease burden), and in the choice of criteria selected to support and evaluate new interventions. The objective is to develop actions as close to the target populations as possible, and to achieve more effective contact with vulnerable groups, thus helping to reduce social and territorial inequalities in health.

The agency deploys its programmes and actions using a population-based approach (early childhood, young people, adults). It develops long-standing websites and digital applications dedicated to health prevention and promotion which it adapts to meet user expectations.

³ Primary and Community Health Branch, Public Health Branch, Rural and Regional Health and Aged Care Services Division. Integrated health promotion. A practice guide for service providers. Melbourne, Victoria: Victorian Government Department of Human Services; 2008. 100 p

Moreover, the National Health Strategy and the Prevention Priority Plan are organised according to the different stages of life, namely the perinatal period and early childhood, childhood, adolescence, adulthood and the elderly:



Each age bracket has its corresponding surveillance data, strategic opportunities and specific health prevention and promotion objectives. In order to reflect these specifics, the health prevention and promotion, social marketing and population-based approach must allow for cross-cutting themes and populations based on age and living environment, and promote synergy between the thematic and population-based approaches.

The population-based approach considers each individual as a whole and not only in relation to a single determinant, and in their living environment. It corresponds to a multi-theme perspective focused on the individual at a stage in their life which is clearly marked by ageing and life events (pregnancy, studies, but also changes or disruptions that can justify particular related risk reduction interventions, etc.).

The solutions to this challenge must primarily be well connected with projects relating to burden of disease, the return on investment of prevention actions (including social marketing actions), the factoring of social and territorial health inequalities into the agency's operations (in surveillance, health prevention and promotion), or in the field of environmental and occupational health.

The objectives of this challenge are built upon three major population-based targets broken down into sub-objectives. In 2023, the agency will therefore focus its actions around the following three key objectives described below.

Objective 1. Allow everyone to have a healthy start in life

First 1,000 days (1 000 premiers jours)	Campaign: post-testing and affinity campaign Development of the evaluation strategy for actions around the site Publication of updated breastfeeding guide Pilot survey on the experience of parenthood and parenting practices	Feb. 2023 Nov. 2023 Mar. 2023 Feb. 2023
Research seminar on child abuse	Seminar	Mar. 2023

Objective 2. Acquire formative skills to prepare for entry into adulthood

Developing the psychosocial skills (PS) of children, young people and adults in education	Advocacy actions on PS (event tour, documentary film, seminars) for professionals and the general public	2023–2024
	Communication actions on PS (media and non-media materials) for professionals and the general public	2024–2027
	Online PS development programmes for adults and young people (and qualitative and quantitative evaluations)	2024–2025
Developing educational skills among professionals and parents on the nutritional education of children and adolescents	Guide on dietary recommendations for children aged 4–11 years and parenting advice	Dec. 2023
	Dietary diversification. Development of additional tools to support parents with a low level of literacy	Dec. 2023
Deploying PS interventions (children, young people, adults in education) founded on evidence-based data covering the entire territory	PS reference guide (based on the 2022 theoretical reference guide) for professionals (specifically trainers)	July 2023
	PS intervention guides (based on the reference guides) for creating PS activities for children (3–6 years) and parents	Dec. 2023–July 2024
	Online PS self-training programme for professionals (and qualitative evaluations)	June 2024
Communication and social marketing for the promotion of mental health and the prevention of mental disorders	Campaign on identifying the warning signs of mental disorders and/or mental illness	Q1 2024–July 2027
	Preparation for the campaign to promote behaviour that supports mental health	2023
Preventing, limiting or delaying addictive behaviours among young people and reducing the associated risks	Repeat of the “ <i>Amis aussi la nuit</i> ” campaign aimed at reducing the short-term risks associated with overconsumption of alcohol and cannabis in a social setting, and distribution among target outreach partners	Sept. 2023
	Pre-test and/or post-test reports of the new “ <i>Amis aussi la nuit</i> ” campaign	Dec. 2023
Social marketing to prevent cannabis consumption and help reduce its use	Creation and coordination of an online community to support the development of a digital tool for reducing or stopping cannabis use	Mar. 2023
	Development of a digital tool for reducing or stopping cannabis use	June 2023
Social marketing on gambling and gaming risks	Evaluation report for the 2022 prevention campaign on risks associated with sports betting	Mar. 2023
	Repeat of the prevention campaign on risks associated with sports betting	May 2023
	Evaluation report for the 2023 repeated prevention campaign on risks associated with sports betting	Oct. 2023

Social marketing on sexual health for adolescents	Release of the new OnSEXprime website	Feb. 2023
	OnSEXprime brochure	Sep. 2023
	Promotional campaign	Sep. 2023
	Thematic feature in <i>La Santé en action</i> magazine	Sep. 2023
	Focus on social networks	Dec. 2023
	Evaluation protocol	Dec. 2023
Promoting physical activity and reducing sedentary behaviour in young people	Launch of the second edition of “ <i>Faire bouger les ados</i> ” social marketing campaign	Sep. 2023
	Report on the initial “ <i>Faire bouger les ados</i> ” (parents section) social marketing campaign	Dec. 2023
	National report on the launch of ICAPS by the national support centre for the programme's roll-out	Sep. 2023
Promoting health within sports clubs: pilot test and tests on effectiveness and conditions of effectiveness (process) for the programme	Final MOOC webinar	Jan. 2023
	Evaluation of the programme's effectiveness	Nov. 2023
Actions advocating regulations for marketing of products high in fat, sugar and salt aimed at children and adolescents	Participation in the Nutrition 2020–2023 joint action and the work package on controls for marketing aimed at children with a view to drafting a European intervention framework	Sep. 2023
	Project specifications for service contract renewal: advertising investment monitoring and procedural follow-up	Jan. 2023
	Study on children's and adolescents' exposure to commercial marketing on the Internet (following contract renewal and according to technological advances on the subject)	Dec. 2023

Objective 3. Healthy ageing

Access to prevention and healthcare by migrants	Professional guide for COMEDE (Committee for the Health of Exiles)	Mar. 2023
	Update of bilingual health booklets	2024
	Weekly programmes and videos in partnership with Africa Radio	2023
Improving French people's quality and quantity of sleep to prevent non-communicable diseases	Content for the “40+” website	May 2023
Improving the nutritional quality of food through the roll-out of Nutri-Score	Continued support for Nutri-Score's roll-out in France, particularly with revision of the algorithm	All year
	Continued support for Nutri-Score's roll-out in Europe (scientific, technical, steering committee)	All year
	Post-study report on detailed perceptions of Nutri-Score among consumers	Dec. 2023

Strengthening the skills of the (adult) general population in nutrition	Continue the redesign of mangerbouger.fr, the menu factory, promotion of the website	All year
	Renewal of communication contract and follow-up of call for tenders	June 2023
	Support for revising and communicating health messages in the framework of PNNS 4	Q2 2023
Information campaign on antibiotic resistance for the general public and for professionals working in health and early childhood	Subject to survey results, awareness-raising campaign on antibiotic resistance	Jan. 2025
Communication and social marketing for the promotion of mental health and the prevention of mental disorders	Campaign on identifying the warning signs of mental disorders and/or mental illness	Q1 2024
	Launch of a website dedicated to mental health	Q1 2025
	Campaign to promote behaviour that supports mental health	Q1 2025
Survey on the representations, needs and practices of the general public concerning mental health	Qualitative survey report	Mar. 2023
	Quantitative survey report	June 2023
Stakeholder mobilisation for the population-based programme “Healthy Ageing”	Tools for professionals	Mar. 2023
	Central feature in <i>La Santé en action</i> magazine	April 2023
“40+” health website	First version of the website	May 2023
	Promotion campaign for the website	June 2023
Social marketing to encourage and help consumers to reduce their alcohol consumption	Launch of a new social marketing campaign on preventing the risks associated with alcohol consumption; distribution among outreach partners	Apr. 2023
	Continuation of the project to redesign the website “Alcool-Info-Service” for an improved user experience, adapting the site to the needs of target audiences in terms of support and assistance, including optimisation of the alcohol meter	Sep. 2023
	Distribution of an annual plan for denormalising alcohol, including an initial prevention action in early 2023 (repeated in December 2024) warning about the dangers of alcohol, a second action to further educate the public on the risks associated with alcohol following a social marketing campaign, and development of daily communications published on the Alcool-Info-Service social networks once the website has been redesigned	Dec. 2023
	Quantitative post-test report on the spring 2023 alcohol campaign	July 2023

	Evaluation of the alcohol campaign's effectiveness (initial results, relating to the first sets of measurements)	Dec. 2023
	Guideline campaign evaluation report	Dec. 2023
	Study report: involving an online community to build the Alcool-Info-Service website	Sept. 2023
	Report on the use of the alcohol meter	Sept. 2023
	Coordination of a European network of social marketing experts and organisation of a study visit on the theme of social marketing and alcohol, in association with EuroHealthNet	June 2023
Social marketing encouraging and helping smokers to quit	Incentive campaign to quit smoking, targeting the most socio-economically disadvantaged smokers; distribution among outreach partners	Mar. 2023
	Campaign supporting the denormalisation of smoking; distribution among outreach partners	May 2023
	Evaluation reports on " <i>Mois sans tabac</i> " Smoke-Free Month 2022: quantitative and qualitative post-tests, data on enrolment numbers and national/regional use of the helpline Tabac Info Service	June 2023
	" <i>Mois sans tabac</i> " (Smoke-Free Month) 2023 campaign	Oct. 2023
	Promotion strategy for Tabac Info Service tools to smokers in the general public; distribution among outreach partners	Mar. 2023
	Report on piloting a smoking management intervention by health professionals, mobilising the behavioural sciences	Dec. 2023
	" <i>Employeurs pour la santé</i> " ("Employers for Health"), tobacco component: promotion and evaluation of the website hosting tools and services for employers	Dec. 2023
	Post-testing of the Tabac Info Service mobile app	Dec. 2023
Advocacy for evidence-based public policy interventions for the prevention of harmful alcohol consumption	<i>BEH</i> article on the visibility of "Dry January" operations in 2020 and 2021, according to data from the 2020 and 2021 Health Barometer surveys	Dec. 2023
Advocacy for public policy evidence-based interventions for the prevention of smoking	Smoking Knowledge Hub: web portal in partnership with WHO	Underway until 2027
	Medical and economic assessment of public policies to discourage smoking, including the " <i>Mois sans tabac</i> " campaign (OECD collaboration contract)	Mar. 2023
	Participation in the second European joint action against smoking, alongside ANSES, INCa and the DGS	Mar. 2024

Monitoring and promotion of vaccination	Vaccination Info Service website updates	All year
Continue application and evaluation of the agency's environmental health prevention strategy	Implementation of a prevention scheme for health during heatwaves	June 2023
	Updates for the population-based websites	All year
	Survey on the determinants of access to healthcare during heatwaves	Q2 2023
Literature review and mapping of stakeholders for effective interventions in professional environments to reduce sedentary behaviour in tertiary environments	Publication of the report	Jan. 2023
	Publication of an illustrated summary	Dec. 2023
Sexual health	Social marketing on sexual health (general public): - "Sexual Health Week" campaign - 1 December campaign, brochure	June 2023 Dec. 2023
	Social marketing on sexual health for men who have sex with men : update of "Sexe entre hommes" ("Sex Between Men"): social network strategy, drafting evaluation for the campaign	Jan.-Dec. 2023
Behaviour monitoring among men who have sex with men	Promotion of initial results from ERAS 2023	Nov. 2023
	Article "Après trois éditions, quels enseignements méthodologiques?" ("What are the methodological lessons after three editions?")	June 2023

CHALLENGE

Social and territorial inequalities in health

In France, the population's state of health is characterised by a paradox: good health on average, but with significant health inequalities from childhood that are maintained throughout life. The COVID-19 epidemic, striking populations already weakened by social inequalities harder in terms of mortality and morbidity, has highlighted the importance of taking structural social and health determinants into account.

Health inequalities are “systematic, avoidable and significant differences in the area of health” observed between social groups. They result from inequality in the distribution of a multitude of social determinants such as gender, country of birth, family composition, income, education, profession and social support, as well as other more structural determinants like social policies. The so-called “structural” determinants refer to political, cultural, economic and social structures. They generate and strengthen social stratification based on socio-economic status, which shapes the living conditions that determine health status, such as education, work, income, social protection, social support, housing, environment and access to health systems.

This perspective reveals the need to understand how such mechanisms work in order to develop and deploy evidence-based interventions aimed at achieving health equity, which is based on the principles of social justice and proportionality. It implies the idea that the resources used to improve the health of individuals should be distributed and adapted to the needs of each. It is with this in mind that several projects were initiated in 2022 among the most vulnerable populations:

- The knowledge mobilisation (MobCo) initiative, implemented within the context of the COVID-19 crisis in an effort to meet the needs of people living in highly precarious circumstances by drawing on research knowledge along with the know-how and experience of agents working to overcome precariousness and exclusion. The initiative has been continued, notably through a research partnership with Médecins sans Frontières and Bordeaux University, which provides monitoring for vaccine coverage and the conditions conducive to vaccination uptake among these populations (analyses currently in final phase). A partnership is also in place with SSESTIM in the Provence-Alpes-Côtes d'Azur region.
- The health literacy initiative has been continued via a communication system, derived from knowledge mobilisation work on the COVID-19 vaccination for the most impoverished, and subsequently supplemented with Monkeypox data, with a distribution list adapted to social workers and professionals working with these populations.
- The use of health mediation introduced in the control plan used by certain regional health agencies (Nouvelle-Aquitaine, Provence-Alpes-Côte d'Azur, etc.) offers operational perspectives conducive to inclusive consideration for populations that are most remote from health systems. With this in mind, the partnership formed by the agency with research infrastructures has provided a conceptual framework of the conditions that allow effective health mediation likely to promote the use of prevention and healthcare among these populations.

Lastly, the specific studies put in place to measure trends in the epidemic (infection, positivity and screening rates) and in mortality rates (all causes and COVID-19 causes) based on social deprivation have been continued.

From this perspective, an initial kit on the social status of individuals will be integrated into the health barometer used by the agency. Work to integrate environmental and social inequalities in health has also been carried out in partnership with research infrastructures, resulting in the creation of a cumulative social and environmental vulnerability score, which has been applied on a small territorial scale within the Nouvelle Aquitaine region and could be deployed across the whole territory.

As regards the early childhood component, particular attention has been paid to the mental health of the most vulnerable children, particularly scientific foundation work to support a plea lodged by UNICEF and the SAMU Social de Paris to government deputies in October 2022.

The implementation of actions that respond to this challenge involves three strategic pillars that converge with all of the challenges identified by the agency. It predominantly involves gaining a better understanding of social inequalities in health by producing social and environmental indicators for the general population; carrying out studies on vulnerable populations to ensure the health promotion actions are effective among the most disadvantaged people and those most remote from the health system; and ensuring the most disadvantaged are taken into consideration in health crisis situations.

Objective 1. Better understanding of territorial and social inequalities in health: social and environmental indicators and studies on vulnerable populations

Santé publique France is deploying work on indicators for territorial and social inequality in health in close collaboration with research teams, association leaders and public policies. Its objective is two-fold: to better measure and understand the effects of social inequalities on health, and to provide stakeholders with the tools to reduce them and propose effective actions. Our action aims to integrate the structural and social determinants into our surveillance programmes, our investigations and our evaluations, to better understand health inequalities and territorial vulnerabilities, strengthen monitoring of health and territorial inequalities and promote evidence-based actions to reduce these inequalities.

Development of indicators that better integrate the main social determinants of health in the agency's actions.	Territorial and social inequalities in health kit for the Pilot Barometer (social status, gender, geographic origins, employment, income, housing, etc.)	Jan. 2022
	Variable forms for each sub-group (each determinant)	Jan. 2022
Development of indicators that better integrate the main social determinants of health into SpF's actions	Validation of the indicators	Jan. 2023
	Study on the social determinants of TB incidence	Feb. 2023
	Review of the determinants used in the surveillance system	Jan. 2023
	Summary note and article on the deprivation index in overseas departments	June 2023

Methodological development of indicators to estimate environmental multi-exposure at the geographic scale of IRIS [aggregated unit for statistical information]	Methodological guide for deployment in other French regions	June 2023
	Analysis on the accumulation of social and environmental vulnerability factors in a population remote from the health system	Mar. 2023
	Consideration of social inequalities in health in the quantitative evaluation of health impacts linked to an air pollution reduction intervention (study population of newborns and young children)	Nov. 2023
Study on the links between territorial and individual socio-economic disadvantage and morbidity, maternal and newborn mortality, and its action mechanisms	Article: Creation of a new social disadvantage index in perinatal health	June 2023
	Article: Potential mediating effect of health literacy on the relationship between social inequalities in health and the onset of prematurity	Dec. 2023
	Article: Precariousness indicators in French overseas departments and regions according to ENP data	Dec. 2023
Health monitoring among unemployed people	Protocol on the mortality and morbidity studies proposed by EDP-Santé	Mar. 2023
Surveillance of social and territorial health inequalities with regard to diabetes	International article on diabetes trends according to social inequalities in health	Jan. 2023

Objective 2. Ensure that health promotion actions are effective for the most disadvantaged people and those most remote from the health system (health mediation, health literacy)

Health mediation is a promising instrument for combating inequalities in the use of healthcare and prevention, which is defined as a temporary process of “moving towards” the populations, health sector professionals, social professionals and institutions and “working with” the people with a view to their empowerment.

Supported predominantly by associations (Médecins du Monde) since 2005 through programmes involving the Roma people, health mediation has been extended to other populations and was structured around a national health mediation plan in 2013. Following the health system modernisation act of 2016, it was redefined by the National Health Authority (HAS) reference framework of competences, training and good practice, and currently features in certain regional prevention and healthcare access programmes for the most disadvantaged. Its objective is to promote health equity by fostering a return to common law, prevention and healthcare, on the one hand through the development of autonomy and people’s ability to act, and on the other hand through the consideration given by health care stakeholders regarding the specific requirements of these populations.

Project: using a conceptual framework developed by the research teams	Article on the mechanisms that activate healthcare use in populations remote from the health system, and health mediation evaluation method framework	Sep. 2022
	Evaluation protocol for peer mediator interventions (CASE Nouvelle Aquitaine)	Sep. 2023
Project: call for tenders on the evaluation of health mediation with the Health Insurance System, project financing (FNES) and the National Plan for Health Mediation (FNASAT)	Specifications to be drafted with the Health Insurance System	June 2023
	Production of digital tool kits for stakeholders to aid health mediation supported by FNES	
PANJO 3: deployment test for the optimised PANJO intervention	Monitoring of deployment for the PANJO 3 intervention	2023
	Implementation of PANJO 3 interventions in two new territories	2023
Creation of a national database of suicidal patients managed by the suicide relapse prevention system Vigilans, and production of monitoring indicators	Vigilans national database	July 2023

Objective 3. Ensure the most disadvantaged people are taken into account and included in crisis situations (knowledge mobilisation)

Knowledge mobilisation aims to influence public policies and health service management and practice. The initiative consists in gathering “theoretical” knowledge from researchers and “experiential” knowledge from stakeholders via a participatory and evidence-based approach to facilitate the development of new integrated knowledge. This requires the organisers to have expertise in three key areas: 1) the collection of relevant indicators, 2) the promotion of evidence-based interventions and 3) the ability to influence public health policies. To this end, the organisers are working with a collective network of stakeholders, institutions and researchers to identify priority problems and jointly structure and operationalise the initiative. Through its founding principles, Santé publique France is positioned at the intersection of decision-makers, field agents and researchers with expertise in population health status surveillance, prevention and education for health, and launching the health alert.

Project: development of an indicator to evaluate the co-construction process within the context of knowledge mobilisation	Qualitative analyses of the indicators	Jan. 2023
	Integration of the indicator in the process evaluation at national-level (MobCo3)	Mar. 2023
	Testing of the indicator at regional level (Nouvelle-Aquitaine)	2023

Theme: vaccine compliance among disadvantaged populations during the COVID-19 crisis	MobCo3 webinar. What impact did the COVID-19 crisis have on vaccination among disadvantaged populations?	Mar. 2023
	Executive report: Facilitation of vaccine compliance among disadvantaged people.	April 2023
	Method report: Recommendations for facilitating vaccine compliance among disadvantaged people.	May 2023
Project: mapping of stakeholders	Guide: How to map stakeholders around disadvantaged populations	Jan. 2023
	Analyses of national stakeholders	July 2023

CHALLENGE

Cross-functional support for the agency's scientific programme

To undertake the work set out in the six thematic challenges of its programme, the agency will call upon a range of cross-functional resources and support mechanisms. These also serve to underpin the agency's scientific output and expert opinion in public health to assist decision-making.

The activities arising from these cross-functional mechanisms are strategically important to fulfilling the agency's missions in a wider sense; they contribute significantly to the agency's ability to mobilise and to express its positions and recommendations at national and international levels. The following section presents a non-exhaustive overview of these activities.

European and international collaborations

The agency promotes a vision of public health at the European and international level that seeks to reduce social and territorial inequalities in health. This is put into practice in the following ways:

1. Contributing to the development of French positions in the field of public health and health security at the request of the Ministry of Health.
2. Being actively involved in ECDC and HERA. Since the creation of Santé publique France (2005), the agency's Chief Executive has represented France on the ECDC Board of Directors and its Director of Infectious Diseases has represented France on the ECDC Advisory Forum. The Chief Executive has been a member of the HERA Advisory Forum since its inception (2022) and was a member of the high-level expert group before the creation of HERA (2021) following a proposal by the Ministry of Health.
3. Contributing to all ECDC activities in the field of surveillance and control of infectious diseases, especially since the beginning of the pandemic.
4. Contributing to projects funded by the European Commission and EU agencies.
5. Participating in scientific, technical and expert work carried out by WHO, the European Commission and EU agencies.
6. Long-term commitment to IANPHI (for which the agency holds the secretariat) and to the work of other associations to support public health capacity building at both country and global levels.

In 2023, the agency will pursue its European and international activities in a new context where the ECDC will gradually introduce activities related to its new mandate⁴ and the new regulations regarding serious cross-border health risks⁵.

Within this context, the active participation of the agency in ECDC and HERA is of particular importance in the areas of threat anticipation, digitisation of monitoring and surveillance systems, the development of integrated surveillance of serious respiratory tract infections and genomic

⁴ <https://data.consilium.europa.eu/doc/document/PE-82-2021-INIT/fr/pdf>

⁵ <https://data.consilium.europa.eu/doc/document/PE-40-2022-INIT/fr/pdf>

surveillance, and the preparedness and response to health emergencies. Some of these activities are also part of the projects funded by the EU4Health programme.

Consequently, the agency is involved in several ongoing joint actions including the joint action for integrated surveillance launched in 2022. It also plans to participate in renewed joint actions, particularly regarding antibiotic resistance (JAMRAI2), alongside several projects in the context of the EU4Health 2023 call for proposals.

The Ministry of Health and Prevention launched a plan to mobilise French stakeholders around the EU4health programme, in which Santé publique France played an active role. Now the agency intends to step up its involvement in EU4Health and improve its capacity to respond to calls for proposals, particularly for joint actions and across all fields of its work. The new funding model of direct grants made to Member States in order to strengthen their national capabilities should facilitate the involvement of Santé publique France and its partners, as was the case for sequencing capabilities.

With regards to Horizon Europe, the PARC partnership, coordinated by the ANSES and launched in 2022 for a period of 7 years, constitutes the agency's most substantial engagement in a European project. Within this framework, the agency is coordinating a work package globally aimed at the surveillance of chemical substances both in humans and the environment, considering various sources of exposure and various exposure routes. Santé publique France is also the main contact for the French Hub of the PARC project and is therefore responsible for coordinating discussions among all stakeholders. Santé publique France is also part of the governing body for this project.

The agency will pursue its role in IANPHI (the International Association of Public Health Institutes) in order to advocate within international bodies for the necessary reinforcement of public health systems, national public health capabilities and national institutes or agencies around the world. Through IANPHI, Santé publique France will also call for the more extensive use of international benchmarks regarding essential national public health functions, at a time when the health systems and organisations of many countries are evolving post-pandemic to ensure improved preparedness for health crises.

Notably, the agency has renewed its 2022 mandate as Chair of IANPHI's Standing Committee on Climate Change and Health for 2023.

Finally, the agency will continue its involvement (along with the DGS) in the operational design of the new Universal Health and Preparedness Review (UHPR) through its participation in the technical advisory group introduced by WHO to the World Health Assembly in May 2022.

Increased involvement of Santé publique France in research activities

Scientific public health strategies need to improve the structuring and organisation of research, expertise and training, in particular in order to meet the need to create strong links between surveillance, prevention and health promotion, while stimulating research and innovation in parallel.

To achieve this, in 2023, Santé publique France intends to work with research bodies and health agencies to develop a strategic applied research agenda in population health, which will cover the whole continuum of Santé publique France's missions. The agency has already established

various interfaces with research, which it intends to expand in 2023, in particular in terms of epidemic modelling.

In order to do so, Santé publique France will draw on its long-standing experience of partnerships with research teams; partnerships such as the EMERGEN consortium to strengthen detection and tracking capacity for SARS-CoV-2 variants, the framework agreement concluded with INSERM in 2022, and the IRESP scientific interest group, in which the agency plays an increasingly active role since it became a member in 2019. The agency will also increase financial support for the call for proposals on “health-friendly services, interventions and policies”.

In a second phase, the agency will be able to identify areas in which the use of data it produces through research could be particularly useful. This initiative was developed at the end of 2022 with the agency’s Scientific Advisory Board and will continue in 2023 according to the priorities established. Thus, in 2023 it will be possible to identify drivers and conditions enabling a response, which could take the form of calls for proposals to create partnerships with research teams and research bodies, or to host researchers at Santé publique France, particularly those from teaching hospitals as recommended in recent reports, notably the Pittet report. This report recommends enabling the agency to fund public health research through calls for proposals, to meet requirements for expertise and give it the means to guide public health research projects.

Communication supporting openness and dialogue with society, populations and stakeholders.

The agency’s strategy consists of:

- fulfilling its day-to-day mission of providing reliable information, accessible to everyone, and references that promote health while increasing visibility for its work;
- promoting, to as many people as possible, the recommendations and tools designed to support healthy environments, by relying on the continuum of the agency’s activities;
- demonstrating full commitment to its role in assisting decision-making and informing public policy at national and territorial level.

As part of an integrated approach, the agency will align its activities with those of institutions seeking to encourage health-friendly individual and collective behaviours. This is notably the case with regard to health prevention schemes concerning natural risk protection, an area where new and existing partnerships will be developed with agencies and institutions such as ADEME (Agency for Ecological Transition), Météo France, IRSN (Radioprotection and Nuclear Safety Institute), INCA (National Cancer Institute), ANSES, etc. These collaborations will serve to better coordinate and develop synergies and concerted communication actions, which guarantee increased efficacy in the distribution of messages and their assimilation by the public.

In 2023, the agency will continue developing its website to serve as a strategic tool in its task of providing information to the public, the scientific community and stakeholders.

It will develop its distribution strategy for prevention and health promoting tools and devices, via mailings, delivery of brochures, posters, tools etc. to healthcare professionals and local stakeholders: local authorities, maternity and child welfare services, health centres, pharmacies etc. (more than sixty per year). The agency’s publications – newsletters, *La Santé en action* magazine, weekly epidemiological updates, public health bulletins, etc. – circulate among increasingly diverse readers thanks to promotional actions targeting wider audiences.

The agency will continue to hold regular scientific interpretation meetings with journalists, helping to strengthen its position as a spokesperson, in coordination with its partners, for good legibility of public stances. It will also continue to develop promotional actions by organising or taking part in events (Santé publique France national awareness days, scientific symposia and seminars, etc.). Finally, this strategy will be rolled out at regional level using regional cells to adapt the activities of Santé publique France to specific local contexts.

This strategy is also aligned with the principles set out by the Charter for Openness with Society. Its application by the agency takes the form of work performed within its governing bodies (in particular the Committee for Orientation and Dialogue) and in the context of making its work available to society. Activities carried out in this context aim in particular to establish working processes within the agency that are open to questioning and contributions from stakeholders and maintain mutually constructive channels of dialogue and information exchange with active representatives of civil society.

In 2022, after an inventory of the agency's practices and experiences (2016–2021), an action plan in support of participatory approaches and dialogue at Santé publique France will be developed in 2023 based on three components:

- formalisation of the openness and dialogue strategy aimed at developing cross-sectoral approaches;
- an internal mechanism for documenting and sharing experience and practices, ascertaining training requirements and assessing actions undertaken, with initial priority given to the provision of support on a local level;
- capitalisation on good practices in local-level participatory research within the agency with the creation of a "toolbox" to be used by the agency's regional teams.

The Committee for Orientation and Dialogue will be called upon to offer its support in defining the agency's strategy for openness with society. It will continue the work undertaken since the start of its mandate, in particular regarding the identification of agency representatives that can be used (people, professionals, structures (local authorities, associations etc.)) so that SpFrance's messages and tools can effectively make their way to the beneficiary, as well as the new conditions for distribution of messages.

Forward-planning of jobs and skills and development of cross-disciplinary training

In the context of its strategic orientations for 2030, Santé publique France undertakes to forward-plan employment and skills in order to better adapt to changes in the environment, public health requirements and professions involved in fulfilling its missions, and to continuity requirements while promoting the careers of agents. All of the actions involved in this cross-functional approach can serve as tools helping to highlight the agency's identity in its ecosystem, predict and anticipate changes, identify strategic skills, facilitate professional mobility, ensure access to decision-making and prioritisation tools for recruitment and training, optimise work bodies, ensure service continuity and retain talent.

When it comes to training, the agency also highlights a training plan dedicated to the development of a shared managerial culture divided into three components: skills expected of new managers, the maintenance and development of managerial skills and the analysis of practices in order to promote exchanges.

Scientific training in public health and the development of collective skills in public health

For many years, Santé publique France has been focusing on the development of public health skills by its personnel and members of its national network. To do so, it relies on partners such as the EHESP and ISPED, training provided by the ECDC, and of course the needs and experiences of its personnel given that scientific training is developed based on case studies the agency has encountered along with field experiences, as a complement to conceptual and theoretical aspects.

The establishment of a shared public health culture as part of the agency's missions, both internally and with the agency's partners, takes the following form:

- Developing agency staff's collective skills in the areas of monitoring and surveillance, the protection and improvement of the population's health status.
- Practices designed to facilitate the implementation of internal processes regarding scientific integrity, ethics applied to population health, the operational application of the principles of scientific integrity and the Charter for Expertise in Health, participative approaches and openness and dialogue with society and stakeholders.
- Training measures specifically targeting members of the public health network.
- Support for the ECDC's EPIET (European Programme for Intervention Epidemiology Training) training programme. The agency welcomes and supervises EPIET interns, playing a role in training field epidemiologists in Europe.

Increased consideration of ethical issues concerning public health in the agency's projects and activities

In the context of the pandemic and the measures taken, numerous ethical issues arose, notably leading the National Advisory Committee on Ethics (CCNE for *Comité consultatif national d'éthique*) to issue a formal opinion: Opinion 137 on "Ethics and public health". Two closely linked projects were therefore launched by the agency in 2022 and will continue in 2023.

One is the development of tools or a guide for agents to facilitate the ethical analysis of their projects, similar to what exists at the INSPQ and the US Centre for Disease Control.

The other involves the organisation of a seminar on the subject of "Ethics in public health - Ethical challenges in the implementation of Santé publique France missions". This seminar composed of three workshops and a summary seminar will bring together the agency's scientists and members of the agency's governing bodies (CS, CED, COD), members of the CCNE and regional ethics bodies, public health and ethics experts from outside Santé publique France, participants from other public health agencies, including foreign agencies. This seminar follows the seminar organised by the CED as part of the Journées Santé publique France event in 2019.

The initiative was designed as an opportunity to develop closer relations with the CCNE, share the agency's thoughts regarding ethics in public health with other agencies and public health professionals and to facilitate the integration of applied ethics in scientific outputs and the expertise of any agency whose mission it is to assist decision-making regarding public health.

Suggested citation: Work Programme 2023. Santé publique France. Saint Maurice: Santé publique France 2023. 60 pp. Available from: www.santepubliquefrance.fr

ISSN: in progress / ISBN-NET: 979-10-289-0832-4 / PRODUCED BY THE SANTÉ PUBLIQUE FRANCE COMMUNICATION DEPARTMENT / LEGAL DEPOSIT: JANUARY 2023.