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Review Article

Public Health: Global and International Health findings

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Abstract

This review offers the quintessence of the knowledge necessary for the understanding of what public health represents and the future of public health.

It integrates the new legislative and regulatory provisions of the health law, history and regulatory developments.

It shows the evolution of the definition of public health, the organization of the hospital and the health system, the main actors and institutions in public health, all in a national and international approach.

It is written in a simple, clear and precise structure.

It will decipher many aspects of public health through indices and concepts such as clinical epidemiology, clinical reasoning as well as medical decision making, critical analysis of scientific and medical information.

It also covers the methodology of experimental and clinical research, the interpretation of a survey, the analysis and use of results, health systems, prevention, health promotion and other important determinants of public health.

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Public: All professionals and managers in the health and social sectors in professional situations or in training.

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Part I: Clinical epidemiology

Clinical reasoning and decision in medicine

Introduction

In front of each patient, it is necessary to call upon the experience, the knowledge related

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to the discipline, to analyze the clinical information of the patient's situation, to understand the physiopathology, the clinical epidemiology of the problem, and thus to be able to decide on the best diagnostic and therapeutic management according to the medical context. After this clinical reasoning, the medical decision is made to solve the problem in a practical way. The reasoning can be hypothetico-deductive with an analytical approach of the clinical problem or non-analytical or even mixed, depending on the experience and expertise of the physician. The reasoning can also be Bayesian, characterized by the informational performance of a test which is evaluated by comparison with a reference or gold standard method in dedicated cross-sectional or prospective studies.

Decision analysis includes medico-economic analysis, such as cost-utility. This case refers to the implementation of a protocol for the management of INN at the Regional Hospital of Garoua in Cameroon, justified by the high infant mortality in the area, the poor or absence of prenatal consultations for the mother, the absence of vaccination, poverty, and the ignorance of the population.

Evidence-based medicine (EBM)

This is based on the use of the best up-to-date scientific data, the physician's clinical experience, clinical epidemiological data and patient preferences.

To do this, it is necessary to formulate a clear and precise clinical question based on the clinical situation encountered in practice, identify the relevant publications, evaluate and critically analyze the methodology and results of the publications identified, then deduce a personalized course of action for the patient; taking into account the level of scientific evidence of the studies and grade of the recommendations based on randomized trials (high), observational studies (low).

The grade of a recommendation is done either within the framework of a systematic review which only takes into account data from the literature (established by the High Authority of Health, 2013) [1], or within the framework of the development of clinical practice recommendations, or consensus conferences where only the opinion of experts is taken into account.

To do this, the grade of recommendation highlights the benefits of the intervention, its risks, its costs, the technical platform, the means available for its implementation and the interest that patients have in this intervention.

On the other hand, this system does have some limitations. It is a single randomized controlled trial sufficient to assign a grade A recommendation, for example? Is one quality randomized controlled trial better than 10 cohort studies with consistent results?

Although evidence-based medicine has contributed to many advances in clinical events, there are limitations:

- The non-existence of certain data relevant to the daily practice of medicine.
- The interests of pharmaceutical companies that have a direct impact on clinical research based

on the products or devices they develop and market.

- The volume of recommendations available for clinical practice and the discordance of published recommendations on the same subject constitute an obstacle to their use in daily practice.
- The scarcity of consideration for poly-pathological patients, as this would imply a multitude of therapeutic targets with the consequence of redundant, ineffective and/or dangerous treatments for the patient.

Shared medical decision

It is important in this context to take into account the patient's preferences for the care, yes, but if this is a hindrance to the efficient running of the treatment. For example, let's take the case of people whose religion refuses blood transfusion even though it is vital and therefore the absence of blood transfusion would be fatal to the patient?

There are still some laws and or recommendations to establish in medical practice, because in medicine, should not a patient who already speaks about the health problems be taken care of according to the best existing therapeutic methods necessary for the recovery?

What does the other type of decision tell us, paternalistic, informative, here the doctor is the only one able to make a decision.

In-depth research on the subject would be justified and would lead to pure medical recommendations without the religious or socio-cultural principles of the patients, the only goal being the improvement of the patient's health.

The collegial decision

Its purpose is to prevent unreasonable obstinacy in the interest of the patient, and or to preserve the patient from a solitary and arbitrary decision. It is not compulsory to decide to treat or not, but it can be a choice for the doctor if the doctor wishes it; it is nevertheless necessary to seek the patient's wishes by the doctor during the consultation (advance directives, trusted person).

Multidisciplinary consultation meeting (RCP-Réunion de concertation pluridisciplinaire)

The RCP involves specialists from different fields of medical expertise who will be used to make a decision on the course of action for a given patient for whom the RCP is necessary; RCP can be used in several disciplines and requires continuous professional development of a physician [2].

Effectiveness, efficacy, efficiency and utility

The concepts of theoretical efficacy refer to the level of results produced by a health intervention on subjects selected under optimal experimental conditions (randomized controlled trial), which is always higher than the practical effectiveness, which is achieved on unselected subjects in a real situation.

In clinical epidemiology, the efficiency or economic dimension, the cost/effectiveness ratio is to be taken into account, because the

more effective and less costly a strategy is, the more this strategy is selected and practiced.

It is important to inquire about the usefulness according to the perception of the patient between the health status, extension of life following certain interventions with the side effects and the impact on life and what the patient thinks about the duration and quality of life in the sense that some patients judge the quality of life associated with the health status.

Lifelong learning; critical analysis of scientific and medical information

Management of links of interest

Principles of continuing professional development

The principles of lifelong learning have been defined by the Ministry of Education for all sectors of activity.

To achieve this, the participation of employers in the financing is by far the best option in several cases. The beneficiary of the training must obviously master the professional skills.

The progress of medicine and technology would like continuous training at the doctor's office to update the knowledge on a daily basis; however, this does not give real positive expected benefits.

Would professional or group training based on the activity and daily experience of physicians be more effective? CME (Continuing Medical Education) based on the updating of knowledge has been replaced by CPD (Continuing Professional Development).

Critical reading of a medical article

This is a judgment of a medical article, analyzing and identifying the relevant points, strengths and weaknesses. Medical journals can be paper, electronic; some are just electronic. A detailed plan of the journals is indexed in the databases that help in the research. The reading of the journals usually draws a critical analysis, a judgment on both form and content.

A manuscript after submission is reread by peer-reviewers, anonymous to the authors who then analyze, reject, validate, or validate after modification taking into account the relevance, methodology, theme, so the authors should respect the specific recommendations of the journals for which the manuscript is written.

Medical articles are of different types: original, editorial, clinical case or case study, letter to the editor, general review or update, commented analysis, didactic article.

The structure of article:

- Title.
- Keywords.
- Authors and affiliations.
- Correspondence address.
- Abstract: Which is independent of the body of the article is the most read part, appears directly in the databases during bibliographic searches, in French and always translated into English in the French-speaking areas; is composed of four parts (introduction, material and methods, results and conclusion). The size according to Vancouver is 150 words,

but the journals accept 250 to 300 words.

- Structuring of the text: Introduction, material and method (type of study, population, experimental design, data collected, statistical analysis), results, discussion, conclusion and bibliographic references which is done according to the standards of VANCOUVER 2010). The size of an original article, either in number of pages or words, is included in the recommendations to authors; the number of figures, tables and bibliographic references are limited.

To read and criticize an article, one must have knowledge of the content and form, in fact one must master the methodology of clinical research, have knowledge of the subject and ask the right questions depending on the purpose of the research or the justification of the study.

Links of interest and conflicts of interest, managing conflicts of interest

Links of interest can disrupt the objective and impartial expression of an expert's opinion.

An expert who deals with medical and scientific information, for example, consciously or unconsciously, could lead the expert to present an opinion favorable to the employer. As well as an expert who participates in a decision-making body of a company, financial links can interfere with the objective presentation of information.

The regulatory system in force requires that the analysis of the link of interest be carried out over a period of five years following its termination, so the author must be insensitive to the repercussions of this information on the professional, financial or any other personal level.

The policy for managing links of interest is an important tool and includes a procedure for analyzing declarations of interest and rules for publicizing and retaining them [1].

The methodology of experimental and clinical research

Clinical research

Clinical research gathers studies, experiments in order to develop biological or medical knowledge.

The aim is to extend scientific knowledge of the human being and to develop means likely to improve health.

It is about describing and explaining a health phenomenon, developing or evaluating a diagnostic or prognostic test.

Methodology describes all the steps taken to answer the research question and to address the main and secondary objectives, whether it is descriptive or descriptive epidemiological research, or explanatory epidemiology of a health phenomenon [3].

Regulations and actors of clinical research

The regulation is based on the public health law of August 9, 2004, which defines.

- The legal framework of biomedical research.
- The actors of biomedical research and their obligations.

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This describes 3 categories of research:

- Non-interventional research (RNI) requires the opinion of the CPP, CCTIRS and the authorization of the CNIL.
- Interventional research (IR) of the biomedical research type (RBM) requires the opinion of the CPP, the authorization of the competent authority (ANSM). The patient's written consent is required.
- Interventional research (IR) such as routine care research (RSC) requires the opinion of the CPP, a notification to the ANSM if it is a study on medical devices, the CCTIRS, and authorization from the CNIL; the patient's oral non-opposition is required [4,5].

The actors of clinical research: the sponsor, the investigator, any person involved in the research, the personal protection committee (CPP) [6].

Principles of clinical research

It is about building tests, models for the understanding of the observed phenomena, by methods and tools. Biostatistics is applied to health for calculations, results, and is also used for discussion.

The target population, source population, sample used for variability and statistical tests, statistical interference [4,5,7].

Protocol

It includes the justification of the study, the objective of the study, material and method, statistical aspects, ethical and regulatory aspects.

Interpretation of an epidemiological survey

Epidemiology is the study of the distribution of health phenomena and their determinants, and the application of the results to improve the health status of populations (WHO, 1968).

The main types of epidemiological investigations:

- Experimental studies: Descriptive (phase I) and comparative (randomized, non-randomized).
- Quasi-experimental studies to evaluate public health programs (screening), in comparisons (here/else, before/after, here/else with control group).
- Observational studies: Descriptive surveys (cross-sectional to measure prevalence, descriptive cohort which are more often prospective than retrospective) and analytical, etiological surveys (cohort and case-control).
- Special cases: nested case-control study and case-crossover study.

Epidemiological surveys differ in their incidence, prevalence, analysis and/or etiological research, prognostic evaluation, mode of recruitment of subjects, choice of studies (disease-free subjects, exposed, unexposed, case-control), follow-up (for cohort or longitudinal studies), collection of information, on the parameter studied

(death, disease).The type of survey depends on the objectives of the study.

In public health

- Measures of associations are measured by taking into account a baseline risk. The risk in excess or excess of risk is described, a relative risk, odds ratio.
- The measures of impact are important, the cases attributable to the factor, and the proportion of cases attributable to the factor among the exposed subjects.
  Attributable risk: AR=Fx(FR-1)/Fx(RR-1)+1 with F as frequency of exposure.
- Etiologic fraction: EF=RR-1/RR
- Bias is a systematic error in the estimation of a parameter; it is likely to mask, reinforce, create a link between a factor and a disease, which may lead to an over or underestimation of the risk, its major presence invalidates the totality of the results of a study, the biases cannot be decreased by increasing the sample size.

A distinction is made between selection bias, classification bias, and confounding bias or confounding factors.

- Causality judgement: A causal relationship is only established if the exposure is associated with a significant increase in the risk of the disease and if the study has no major bias.

The criteria for causality were defined by Austin Bradford Hill (1965), and these criteria are rarely established and the causal nature of a link is based on a range of arguments [3,4,5,8].

Analyzing and using clinical trial results for appropriate use; critical analysis, clinical research and levels of evidence

Physicians need to be trained to critically evaluate therapeutic information and to know the levels of evidence of the different types of studies and the main sources of information, because the current practice of medicine is based on the conscious, explicit and judicious use of the best current data from clinical research in the personalized care of each patient.

Therapeutic evaluation after preclinical trials, clinical trials follow with the AMM issued by the ANSM (phase I,II,III). After phase III, phase IV, post-authorization, is evaluated by monitoring the adverse effects of the drug on the general population.

Medical devices are also regulated, and to obtain the MA, CE mark must be obtained.

- **Phase I:** Small number of healthy volunteers/tolerance assessment.
- **Phase II:** Small number of patients/evaluations of pharmacological efficacy.
- **Phase III:** Large number of patients/evaluations of efficacy and tolerance leading to marketing authorization.
- **Phase IV:** Pharmaco-epidemiology observational studies in the general population, pharmacovigilance/tests evaluating new indications.

The levels of evidence depend on the methodological quality, the relevance of the question asked for clinical trials, is assessed by the adequacy of the study protocol to the question asked, the existence of bias in the planning and conduct of the study, the power of the study and the appearance of the statistical analysis to the objectives of the study.

The levels of scientific evidence provided to the literature range from Level 1,2,3,4. The HAS levels of evidence:

- **Level 1:** High power randomized controlled trials/meta-analyses.
- **Level 2:** Low power randomized controlled trials/cohort studies.
- **Level 3:** Case-control studies.
- **Level 4:** Comparative studies with bias.

Physicians have the following sources of information, medical literature (valid peer-reviewed medical journals, systematic reviews, meta-analyses, etc.), official recommendations (HAS, ANSM, INCA), including "good drug use" sheets, recommendations for good practice (RBP), grade of recommendations according to the level of scientific evidence, and also information provided by pharmaceutical companies (advertising) [1,2,5].

Placebo effects and placebo drugs

The placebo effect is a non-specific therapeutic effect produced by the administration of an internal intervention without pharmacological properties. It is the reduction of symptoms or the improvement of the patient's condition observed following the intake of an inert substance. It is a positive effect. The fact that symptoms disappear after taking a non-pharmacological product.

The nocebo effect is the negative effect, the occurrence of adverse events such as nausea, vomiting, dizziness following the administration of an inert substance.

The placebo effect is influenced by several factors of the patient, the pathology, the drug, the doctor and the doctor-patient relationship (relationship of trust, good relationship with the patients). The placebo effect is used in clinical research and in medical practice (in hospitals and private practice) [2,5].

Critical reading of a randomized controlled trial

- Transparency: An article must report in a transparent manner all the elements relating to the methodology and conduct of the study.

The CONSORT Statement lists the elements that must be assessed for the results of a published therapeutic trial to be valid.

- Internal validity: This is the control of bias (selection bias, performance bias, assessment bias, attrition bias) in the planning and conduct of the trial (randomization, blindness clause, patient and investigator blinding, intention to treat analysis).
- Clinical relevance and effective size: relevance of the question asked, suitability of the type of study to the question asked, choice of comparator, primary endpoint.

- Effective size quantifies the magnitude of the difference in the observed difference.
- For a binary endpoint where R_0 is the risk of event in the control group, R_1 is the risk of event in the treatment group evaluated:
  Relative risk ($RR=R_1/R_0$).
  Absolute risk reduction ($RRR=R_1-R_0$), it is recommended to favor the RRR.
  Relative risk reduction ($RRR=R_1-R_0/R_0$).
- Number needed to treat (NNT) to avoid an event (1/RAR).

General principles of meta-analysis of trials

Meta-analysis is a quantitative synthesis of the results of several clinical trials dealing with the same subject, through systematic review, assessment of methodological quality, and quantitative estimation of the treatment effect.

Pharmacoepidemiology

Defined by the justification of studies, definition and objectives, types of studies used, interpretation of results.

Patient safety: Risk management-adverse events associated with care (eias)-error and complaint management; therapeutic risk

For the WHO, safety of care is a priority for health systems. In 2004, the WHO launched a patient safety program through the World Alliance for patient safety, thus encouraging the implementation of mechanisms to reduce risks and adverse events related to medicines.

Adverse events in healthcare are defined as Adverse event associated with care (EIAS), Serious adverse event (SAE), Preventable adverse event, Risk-bearing event (RBE).

The aim of clinical risk management is to reduce the incidence and severity of EIAS.

Reactive management or a posterior prevention consists of identifying and investigating adverse events. Proactive management or a prior prevention identifies the risk to prevent the occurrence of an adverse event.

Clinical risks in a service can be managed by a feedback committee (CREX), a mortality and morbidity review (RMM), or by sentinel indicators.

In France, the institutions involved in health care safety are the Ministry of Health, the regional health agencies (ARS), the High Authority for Health (HAS), and the ANSM.

Errors are unintentional and avoidable, leading to life-threatening or fatal SAEs. Errors with their damages are the source of claims, complaints.

The therapeutic hazard is unavoidable, it is an accident or medical event of unforeseen occurrence related to the medical act.

There is a ministerial committee that pays compensation to eligible patients in case of therapeutic hazards called the National Office for Compensation of Medical Accidents (ONIAM) and the Regional Commissions for Conciliation and Compensation (CRCI) that process and determine the eligibility of accidents for compensation.

Several factors lead to the opening of a litigation following a medical accident. Everything starts from the information that characterizes the doctor-patient relationship; not informing the patient of the risks related to the treatment, to a medical act, or to undesirable events exposes the patient to litigation which, if not resolved amicably, leads to complaints, legal proceedings.

A medical error in a public hospital is the responsibility of the hospital and therefore of the administrative court. However, if the fault is personal, or reveals a breach of ethics, good practice of the profession, then the case will be treated in a judicial court. As far as no-fault liability is concerned, the case is of legal medicine [5,9].

Organization of clinical practice and methods for the safety of the patient's care pathway-quality procedures and evaluation of professional practices-health safety of products for human use and health monitoring-management of risks related to drugs and biomaterials, iatrogenic risk, medication errors

The clinical practice as well as the care pathway, with the key to patient safety, involves a whole chain of qualified professionals who intervene in the patient's care with the exchange of information between them, at the primary level with the general practitioner, at the secondary level with specialists, in the broad sense in the city or in hospitals, and at the tertiary level in university hospitals and university centers.

In daily practice, a patient treated for a rare disease or for certain chronic or serious acute diseases, is referred to the next level in their care, sometimes certain pathologies require multidisciplinary care, as well as reference centers.

In terms of safety, good collaboration between teams is necessary, good information, multidisciplinary consultation meetings to determine the steps to follow, and answer questions such as who should do what, where, when and method for this, there is what is called a checklist or a checklist before induction, before incision, end of intervention this in an operating room for example, this is very effective in reducing morbidity.

In order to counter the occurrence of undesirable events, the improvement of the efficiency of care must be effective, and this goes through the quality of care given to patients.

There are principles in this quality approach which are the guarantee of the quality of the care by the quality assurance, the continuous improvement of the quality in which one identifies the problem, the causal factor, then one establishes the corrective measures, then at the end, the verification of the resolution of the problem, it is the Wheel of Deming (to plan, to make, to check, to correct).

All these practices take place in an accredited establishment, certified by the HAS, which takes place every four years, defining the reference systems and taking place in three stages, the self-assessment, the visit and the certification report.

The quality-of-care indicators may relate to resources, processes, risks or results. Some of these indicators are included in the national

indicator programs, including ICALIN, ICSHA, SURVISO, ICATB and IPAQSS; the results of these indicators allow comparisons to be made between different establishments and are published on the HAS information platform for establishments (Scope Sante website).

All professionals must comply with an evaluation of professional practices, i.e., clinical audits, care relevance reviews, clinical pathways, mortality and morbidity reviews, RCP, practice exchange groups or peer groups. Continuing professional development is the best way to improve in the field.

Health security, a real objective of the health system, was built in response to numerous public health crises. The typical example is that of mediator, most recently the new Levothyroxine tablets, which means that health safety, drug safety, vigilance, monitoring of quality, benefit/risk, all these areas are tightening over time.

Health security is constituted by the principle of evaluation, precaution, impartiality and transparency. The health safety agencies National Agency for Drug Safety (ANSM) and the Institute for Health Surveillance (InVS) cover more than 90% of health surveillance, other institutions such as:

- The National Agency for Food, Environmental and Occupational Health Safety (ANSES) for veterinary pharmacovigilance and nutrivigilance.
- The Biomedicine Agency (ABM) for vigilance associated with medical assistance in procreation (AMP vigilance).
- Nuclear Safety Authority (ASN) for radiation protection events.

The ANSM was created in 2011 following the AFSSAPS and aims to ensure the safety of health products intended for humans, by conducting a regulatory watch, monitoring the safety of use, effectiveness, product quality, vigilance, drug safety by adverse drug reactions, audits and inspections of establishments concerned, control of vaccines, any drug drift blood.

There are eight vigilances at the ANSM: pharmacovigilance, pharmacodependence, hemovigilance, materialovigilance, biovigilance, cosmetovigilance, vigilance of tattoo products.

The InVS was created in 1998 with the aim of:

- The surveillance and observation of the state of health of populations for epidemiological purposes.
- The watch and vigilance in order to detect all factors likely to alter the health of the population.
- Health alert in case of health threat.
- National epidemiological surveillance of cancer.

The InVS is responsible for toxicovigilance and infectiovigilance for the management of nosocomial infections. Toxicovigilance cases are declared in the anti-poison and toxicovigilance centers (CAPTV). There is a total of 31 notifiable diseases.

The reporting circuits are local and or regional or interregional; and a global policy

for the management of all risks associated with healthcare is necessary for the progression of the safety culture.

Risks related to drugs and biomaterials are of several kinds:

- The adverse effect, the serious adverse effect, the unexpected adverse effect, misuse, abuse.
- Drugs, blood, products derived from pathologies act by the toxicity of the product, the immune-allergy, and the idiosyncrasy (it is the fact that undesirable effects occur according to the particularity of the patient in general genetic.
- Any health professional, patient, or approved association can report adverse events.

Doctors, midwives, dental surgeons, pharmacists are obliged to declare adverse reactions. These declarations are made to the Regional Center of Pharmacovigilance (CRPV) by mail or email.

There are criteria or characteristics to make a report and that it is complete which includes a reporter (a reliable source), an identifiable patient, the name of the suspected product and the batch number, the nature of the adverse reaction. The existence of risks in the use of medicines requires a risk management approach that will allow the identification, analysis, evaluation, reduction and control of risks for patients. The occurrence of an adverse reaction may cause harm to the patient, which must be compensated.

Victims of a prejudice or a therapeutic hazard can be compensated under certain conditions by the National Office for Compensation of Medical Accidents, Iatrogenic Affections and Nosocomial Infections (ONIAM) [2,4,5,6,10].

Part II: Health economics and health systems

Organization of the health care system-its regulation, indicators, care pathways, social security, health insurance, supplementary insurance, universal medical coverage, medical consumption, social protection, medical consumption and health economics

Organization of health care systems

The health care system includes all activities aimed at promoting and maintaining health, providing individual health care (consultation, diagnosis, treatment, etc.) as well as collective health care (prevention, health campaigns, health education, etc.).

The health care system includes all health services whose role is to provide preventive, curative and palliative interventions in response to specific health needs of individuals or populations (WHO 2000).

Primary care is the population's point of contact with the health system (private practice, clinics, health centers, nursing homes, etc.).

Secondary care is for people who can no longer remain in their natural living environment, classified as second line, is the gateway to the care system.

Tertiary and quaternary care refer to the most advanced forms of care (surgery, neonatology, psychiatry, oncology, intensive

care, palliative care, complex medical interventions).

Quaternary care may also include experimental interventions and treatments.

- Health administration: The administration of the health system in France is the responsibility of the State, which defines public health policies, ensures the training of health professionals, monitors compliance with quality standards and the adequacy of care and prevention structures, supervises social protection and intervenes in its financing.
    - National level, through the parliament and the government.
    - Regional and departmental level: Regional Health Agencies, Departmental Territorial Delegations, General Councils.
    - Communal level involved in health and social action, in the creation of health and medical aid centers. The mayor is in charge of the application of certain public hygiene provisions.
- Health care supply: The supply of health care includes health care institutions (public, private), health care professionals and the biomedical industry. The aim is to reduce acute care and develop outpatient surgery [11,12].

Organization of care in Europe

There are different financing methods with the observation of a mix of financing with fully taxed systems such as in the United Kingdom with social contributions. Individuals can acquire individual health insurance by paying private insurance.

The German system has added tax revenues to the resources, people with high incomes are allowed to subscribe to private health insurance which completely replaces public health insurance.

European Union residents can access health care in European Union member states through the European Health Insurance Card.

In the United Kingdom, primary care is increasingly developed.

In Germany, the refocusing of the health care system on the primary care sector was achieved in 2002 through the specific program for the management of chronic diseases. The disease management program is the subject of a contract between all the health insurance funds, the regional association of private practitioners and health care institutions. The diseases concerned are diabetes (the majority of cases monitored), respiratory insufficiency and cardiovascular diseases.

In the United States, state intervention is limited; there is no generalized coverage of the population, nor is there any financing; sixty percent of people covered financially by health insurance are covered by private insurance linked to employment (64% in 2000).

Two public programs are publicly funded:

- Medicare for people 65 and older, people with disabilities, people requiring kidney dialysis.
- Medicaid for poor families according to the state's definition of the poverty line.

The State Health Insurance Program (SCHIP) provides health insurance for children living in non-Medicaid, low-income households. Funding is provided by the federal and state governments.

In 2014, the reform of the American health system by the Obama plan provides for coverage of 95% of the population within 10 years of the vote of the law.

In the French health care system, the evolution of the use of health care is both quantitative, where the current challenge is to develop primary care in a hospital-centered health care system, and qualitative, with social inequalities in the use of health services.

Policies aim to reduce inequalities through compulsory health insurance (universal health coverage or basic CMU, state medical aid or AME, or via CMU-C, complementary health aid or ACS).

For chronic diseases, the HAS proposes tools for the management of people living with these chronic diseases.

France is gradually moving towards the reforms implemented in neighboring countries, particularly Germany and the United Kingdom [9,11,13].

Social protection

Social protection is the set of protection mechanisms granted by a society to its members to enable them to cope with the social risks of life and their financial consequences.

Social risks are situations likely to compromise the financial security of an individual or individual's family by causing a drop in resources or an increase in expenses (old age, illness, unemployment, family responsibilities, etc.).

Four social protection logics coexist:

- The logic of compulsory social insurance with the objective of protecting the insured against a loss of income linked to certain situations (loss of employment, illness, old age or work accident).
- The logic of social assistance, with the objective of establishing solidarity between individuals to fight against poverty and exclusion.

The benefit ensures a minimum income and does not necessarily cover a specific risk (active solidarity income or RSA, disabled adult allowance or AAH). Social assistance benefits are means-tested and need-tested, and do not require any prior contributions from the beneficiary.

- The logic of universal protection with benefits that are not means-tested and are identical for all.
- The logic of individual or collective providence: individual providence is

based on savings and private insurance, while collective providence is based on the mutualization of risks.

Social protection is financed by:

- Social contributions.
- Tax resources.
- Public contributions from the State.
- The evolution of the different categories of financing resources.

The construction of social protection in Europe is based on two opposing logics:

- The "Bismarckian" insurance logic, named after Chancellor Bismarck in Germany.
- The "Beveridgian" lump-sum logic, named after Beveridge, a specialist in social action who was responsible for setting up social security in the United Kingdom between 1942 and 1945.

The Bismarckian model

It is characterized by the principles of social insurance:

- Work-related social protection-health coverage conditional on the exercise of a professional activity.
- Financing by social contributions, paid by employees and employers out of income from work.
- Income from health protection proportional to income from work (replacement income in case of work-related accidents).
- Compulsory social insurance, which is strongly controlled by the state and whose management is entrusted to the social partners within the framework of a social dialogue.

The Beveridgian model

It has three foundations:

- Unity (one system for all risks).
- Uniformity (identical benefits for all, regardless of previous income).
- Universality (the entire population is covered and can receive benefits without any compulsory financial contribution).

Health insurance under the general social security system

The National Health Insurance Fund for Salaried Workers (CNAMTS) manages the following risks:

- Illness, maternity, disability and death.
- Occupational accidents and diseases.

Its main mission is to pay for the care provided to the insured.

Together with other national schemes (MSA, RSI), health insurance can determine the scope of reimbursable procedures based on the recommendations of the French National Authority for Health (HAS). Activity-based pricing (T_2A) for health care institutions and the classification of medical procedures (CCAM) give health insurance the ability to guide the reorganization of the health care system, with a view to improving efficiency.

The National Union of Health Insurance Funds (UNCAM), which groups the three

main national health insurance schemes (the general scheme, the MSA and the RSI), has the role of :

- Define the scope of services eligible for reimbursement.
- Set the rate of reimbursement for care.

UNOCAM, which groups together the main complementary health insurance operators (mutual insurance companies, insurance companies, provident institutions), is involved in negotiations on conventions and in setting prices or tariffs for health products [9,14].

Coverage of care

The co-payment

The rate of reimbursement by the health insurance varies according to the goods and services provided.

The co-payment is the part of the costs incurred for the care that remains after reimbursement by the health insurance and is paid by the insured.

Its role is to regulate the consumption of care by making the insured financially responsible.

The co-payment can be totally or partially covered by a private insurance or a complementary mutual insurance.

Exemption from co-payment

The insured may be exempted from the co-payment in certain cases such as for ALD (long term illnesses), holders of the complementary CMU, military pension, prevention campaigns, minors who are victims of sexual abuse.

The daily fee-The fixed participation-The medical deductible-The third-party payment-The coordinated care path-ALD care protocols

In case of a disease involving a long and costly treatment, a social insured person or his heirs can ask to be exempted from the co-payment for the care related to this disease.

The HAS formulates recommendations on the criteria for defining ALDs and on the procedures and services required for the coverage. The attending physician accompanies the patient's request.

The prescriptions are written on special prescriptions in order to distinguish the prescriptions related to the ALD [9,14].

Medical consumption and health economics

The aim is to define all actions that contribute to the treatment or prevention of a disturbance in the state of health (national accounting).

The three aggregates of the health accounts-consumption of health care and medical goods (CSBM), current health expenditure (DCS) and total health expenditure (DTS).

Determinants of health expenditure growth

The ageing of the population and changes in the structure of morbidity-medical technological innovation-the trend towards

specialization and technicalities-the lack of coordination-the solvency of demand-supply-induced demand.

Regulation of health care consumption

The objectives are to control the growth of health care expenditure (because of its impact on the economy) and to increase the efficiency of the health care system.

- Logic of dissociation-Logic of supervision-Logic of incentive-Logic of evaluation.
- Coordination logic.

The coordinated care pathway aims to improve access to care, the quality of care and the use of resources; the pivotal point remains the attending physician that each insured person or entitled person from the age of 16 indicates to his insurance organization with his agreement.

The conventional system

Medical agreements before 1970

Before the birth of social security, in 1927, the congress of medical unions voted for the "medical charter", the principles of which were free choice of doctor by the patient, freedom of prescription by the doctor, direct payment of fees by the patient to the doctor, direct agreement on the amount of fees between patient and doctor.

These principles were completed in 1947 by the notion of professional secrecy.

After the birth of the social security system in 1945, departmental agreements between the health insurance funds and the practitioner's unions were concluded, setting conventional tariffs for medical fees; however, these decisions had some limits. Practitioners were not obliged to enter the fees charged on a patient's sheet, the possibilities of exceeding the fees were offered, depending on the resources of the patient, the reputation of the doctor and certain exceptional conditions.

Doctors would fight to guarantee the freedom of the fees.

In 1960, the decree of May 12, 1960 gave social and fiscal advantages to doctors under agreement. From then on, doctors had to write the fees on the health insurance forms.

In 1963, nearly 80% of the departments were under agreement and many individual memberships were obtained in other departments.

Medical agreements after 1970

In 1970, the departmental conventions were abandoned and replaced by a national text that introduced the notion of "medical profile".

In 1971, after the training of several young doctors thanks to the opening of many medical schools, the government decided to introduce the numerus clauses to control the supply of doctors.

The 1990_s were marked by the control of expenditure from a macro and microeconomic point of view with:

- The contractual commitment to an annual percentage.
- The consultation of an individual file by a patient containing all the

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information concerning him or her to avoid the multiplication of acts.

- The coding of medical acts for the health insurance funds.
- The individual activity and prescription records (RIAP) of practitioners describing for each doctor the nature and number of procedures performed, the nature and cost of prescriptions reimbursed, and statistics on the nature of the doctor's clients. These statements are sent to the physician at least twice a year.
- The opposable medical references (RMO), which are the recommendations of good medical practices elaborated at the national level and validated by experts in the framework of the convention.

The 2000_s were marked by the coordinated care pathway and the evaluation of professional practices.

The coordinated care pathway system

Since 2004, the attending physician coordinates and directs the patient's care, with the patient's agreement, to the most appropriate health professional according to the patient's health problem.

Prior access to a doctor is not necessary in some cases such as:

- For follow-up consultations, monitoring, consultations provided for in a care protocol.
- For emergency doctors (hospital emergency service, SAMU, SOS doctors).
- When the consultation is done in case of emergency with another physician.
- When the consultation is done outside the patient's place of residence.
- For certain medical specialties (gynecologists, dentists, ophthalmologists, psychiatrists) and certain indications.

Sector 1 specialists may charge more than the standard fee for patients who have not been referred to them by a general practitioner.

Evaluation of professional practices

This is an approach that consists of regularly comparing the practices carried out and the results obtained with professional recommendations. It is now reinforced by the introduction of remuneration based on public health objectives provided for in the new 2011 agreement.

The 2011 medical convention

It involves the conventional situation of doctors, therefore the rates (knowing that non-conventional doctors in France represent only 0.5% of doctors), the rate of reimbursement of patients and the social coverage of doctors.

The geographical distribution of doctors is uneven, with fewer doctors in rural areas, despite the measures put in place to encourage practice in areas in difficulty (rural and urban).

The agreement gives the right to reimbursement of care provided to the socially insured. The agreement also applies

to the organizations of all compulsory health insurance schemes.

The care pathway

The care pathway established in 2004 defines the role of the attending physician:

- Realization of the annual synthesis of the medical file of his patients.
- Monitoring of public health indicators on the patients who have chosen the doctor as the attending physician.
- Participation in the development of the Sophia program for chronic patients. The remuneration of the attending physician for the follow-up of ALD patients is 40 euros per year.

Measures to rebalance the supply of ambulatory medicine

The 2011 medical convention provides for specific provisions for doctors wishing to practice in under-resourced areas, this is the "demography" mechanism.

Liberal doctors practicing in a group or within a health pole must:

- Undertake to carry out two-thirds of their activity in an under-supplied area.
- Be installed there or be installed nearby (5km in rural areas, 2km in urban areas).
- Undertake not to cease their activity, nor to change their place of practice for 3 years.
- Commit to providing permanent care (on-call duty).

The doctors receive financial assistance for the activity and investment assistance for 3 years.

Specific remuneration for certain long and complex consultations

- For patients suffering from neurodegenerative diseases for example Alzheimer's disease.
- For the follow-up of children, newborns between the end of the maternity ward and the 28th day of life.
- In-depth family consultations for psychiatrists and child psychiatrists for children who are not ALD.

Strengthening access to care

Physicians with the medical convention are committed to:

- Strengthen access to care, particularly among disadvantaged patients.
- Give the possibility to the attending physician to propose the third-party payment to patients in financial difficulty.

Remuneration based on public health objectives:

- Starts on January 1, 2012, it completes the fee-for-service payment.
- The public health objectives to be reached, take into account the recommendations and opinions of the reference systems, the HAS, and international recommendations. The main concern is screening consultations in general medicine and

the valuation in general medicine. Cervical cancer with a smear every 3 years in women aged 25 to 65; breast cancer with at least 80% of women aged 50 to 74 participating in organized or individual screening.

- The national plan to reduce smoking announced in September 2014 for doctors who take charge of smoking cessation for their patients.
- The calculation of remuneration works on a point system [9,13-16].

Measuring population health status

Measuring the health status of the population

To do this, it is necessary to define health indicators with their objectives in order to establish the health and social organization of a country or region.

The indicators are quantitative variables that can be measured and that describe a particular aspect of the health status of the population.

Indicators will help to:

- Describe, quantify and monitor the health status of populations.
- Compare this health status over time and space.
- Evaluate the effects of public health policies and actions.

To this end, a distinction is made between:

- Demographic indicators that define the evolution of the population (birth rate, fertility, life expectancy, health expectancy, age structures).
- Epidemiological indicators (mortality and morbidity rates).

Infant and feto-infant mortality is an indicator composed of several indicators defined according to the age of the pregnancy and/or the child.

Perinatal mortality includes fetal deaths from 28 weeks of amenorrhea and deaths between birth and day 7 of life.

Stillbirths: fetal deaths from 28 weeks of amenorrhea. Infant mortality takes into account deaths before the age of 1 year; it is a good health indicator for a country and includes:

- Neonatal mortality (deaths between birth and 27 days of age).
- Post-neonatal mortality (deaths between the 28th day and 1 year of life).
- Standardization.

This is a method of comparing observations of data, of which there are 2 types:

- Direct standardization (or standard population method).
- Indirect standardization (or standard mortality method), which makes it possible to calculate a standardized mortality ratio [9,13].

Concept of disability, major causes, epidemiological and economic data

The concept of disability

Disability includes functional impairments of the body and the difficulties that these impairments cause in daily life.

In 1970, the WHO published the International Classification of Disability (ICD)

Impairments, disabilities and disadvantages

based on the work of the English rheumatologist Philippe Wood.

The ICIDH approach is based on 3 concepts:

- Impairment: loss, malformation, abnormality of an organ, a structure or a mental, psychological, physiological or anatomical function.
- Disability: total or partial reduction due to an impairment of the ability to perform certain acts that are normal for the daily life of a human being.
- Social disadvantage: the fact of being limited or disadvantaged or even unable to perform a social role considered normal according to age, gender, social and cultural factors.

In 2001, the WHO proposed an International Classification of Functioning, Disability, and Health (ICF) reformulates by proposing a model in which disability results from an interaction between a health problem and contextual, personal or environmental factors.

The major causes of disability

These causes are derived from the work on the global burden of disease (Global Burden of Disease) carried out under the aegis of the WHO.

This work evaluates the loss of life expectancy in good health due to various diseases, traumas and risk factors, whether due to premature mortality or disability (where the number of years is measured by the number of years lived with the disability weighted by the degree of disability).

In France, four out of ten people report at least one disability, one in five people has a disability, one in twenty is socially considered disabled. Mental pathologies and hearing and refraction disorders are the main causes of disability. Neurological pathologies and chronic osteoarticular disorders. Public spending on disability amounts to 2% of GDP.

Public health priorities

It is the fact of being interested in a pathology, a behavior on which actions must be set up in order to avoid or reduce the impact on the population.

To do this, two elements are necessary, the fact that it is defined as a public health problem, and then it must benefit from a regulatory context that allows the implementation, financing and monitoring of actions to respond to this public health problem.

- For defining the health problem, three logics are needed (a medical and scientific logic, an economic logic, a social logic).
- The regulatory framework ensuring long-term financing.

Some health priorities are supported by political leaders, such as the fight against cancer, which became a presidential priority in the early 2000_s and led to the creation of the Cancer Institute (INCa).

The social and political organization allows the implementation of public health priorities in France [14,16,17].

Subjects in precarious situations

Situation of economic, social and family fragility

Precariousness is the absence of one or more of the securities that allow individuals and families to assume their basic responsibilities and to enjoy their fundamental rights.

Precariousness is the lack of economic resources that can lead to situations of extreme poverty.

People also speak of misery or extreme poverty, "a painful condition of a physical or moral nature, likely to inspire pity" CNTRL 2010. Differences in access to care are only one component of social inequalities in health.

In France, health care is open to all, but there are exceptional provisions for people in precarious situations.

The existence of rights allowing access to care, the ability of a patient to pay for care, etc. must always be verified.

Precariousness must not lead to discrimination in the care. The evaluation of the medical, psychological and social situation is essential.

There are no pathologies specific to precariousness, but late diagnosis is the real problem. Certain health problems are common among people in precarious conditions such as low vaccination coverage, chronic diseases, infectious pathologies, STIs and HIV, tuberculosis.

Among the homeless, malnutrition leads to vitamin deficiencies, iron deficiencies and other deficiencies [14,16].

Protection measures

Care with certain principles such as the multi-professional approach, associating health professionals and social personnel.

- Income.
- RSA (active solidarity income).
- Specific allowances (disabled adults' allowance AAH, minimum old age pension, solidarity allowance for the elderly, housing allowance ALS.

Coverage of health expenses

- **CMU:** Universal health coverage.
- **CMU-C:** Complementary universal health coverage.
- **AME:** State medical assistance.

Care facilities

- Coverage of urgent care.
- Specific facilities.

These are coordinated regionally within the regional program for access to prevention and care (PRAPS).

- Access to health care (PASS), -Health care halts (LHSS) , Access to social services in town , SAMU social.
- Associations, Other structures, dispensaries, health centers.

Taking care of people in precarious situations is a deontological duty that is recalled in

numerous articles of the code of ethics (report of the National Council of the Order of Physicians, June 5, 1999) [14,16].

Part III: Addictions

Tobacco addiction-Alcohol addiction

Addiction to tobacco

Smoking is one of the risk factors for mortality in France, with one in nine deaths due to lung cancer, cardiovascular disease and respiratory diseases. There are aids for smoking cessation.

In France, in 1953, the majority of smokers were men, 72% against 17% for women, then this evolved to become 17 to 23% with variations according to generations. Smoking varied from 79% among 20–24-year-olds to 69% among those 65 years and older.

Between 2005 and 2010, female smoking was changed again.

In 2014, the prevalence of smoking in France decreased (29.1%), but remained high compared to the UK (21.5%).

- Among young people, according to the 2010 health barometer, daily smoking increased among adolescents aged 15 to 19 years, in 2011, 41.5% of young people had already smoked cannabis.
- Among 18-75-year-olds, smoking changed with age.
- Among pregnant women, between 2003 and 2010, consumption has decreased.
- Among people with a precarious socio-professional status, the unemployed, according to the 2010 health barometer, prevalence was higher, despite the health prevention messages.

Diseases related to smoking

- Cancers: Bronchopulmonary cancer in 90% of cases, upper aerodigestive, bladder, cervix, stomach, kidney, liver, pancreas, acute myeloid leukemia, some skin cancers.
- Respiratory diseases: Chronic broncho-pneumopathies (asthma, pneumonia).
- Cardiovascular diseases: Coronary heart disease, sudden death, heart failure, abdominal aortic aneurysm.
- Other: Reproduction by decreasing fertility, complications during pregnancy, maternal complications, embryonic and on the fetus, erectile dysfunction, ophthalmological diseases.
- Diseases related to passive smoking: Lung cancer, oral, stroke, ear infections, lower respiratory infections, aggravation of asthma in children.
- Active and passive smoking cause death in both adults and children, the first cause being cancer in adults and death by infection in children.

Methods to help stop smoking

- Nicotine replacement therapy: Nicotine replacement therapy (NRT) is the first-line treatment in France (HAS). In France, there are transdermal patches, chewing gums,

sublingual and sucking tablets, inhalers, and oral sprays in different dosages. It is recommended by consensus to combine several forms of NRT, transdermal patches or patches with oral forms.

- Other smoking cessation medications: Bupropion LP (Zyban), Varenicline (Champix).
- Cognitive-behavioral therapies.
- Acupuncture, homeopathy, mesotherapy, hypnosis.

Organization of smokers' care

Health professionals in daily practice play an important role in the logic of clinical questioning and advice:

- Ask(if the patient smoke?).
- Advise.
- Assess (assessment in preparation for quitting).
- Assist (assist the person in the process).
- Arrange (follow the quit attempt).

Tobacco consultations exist and are intended for people who have difficulty quitting smoking. A national tobacco consultation file (CDT) is used in these consultations.

Tobacco Prevention

- Framework Convention on Tobacco Control (FCTC): France signed this treaty in 2004. The objective of the FCTC is to reduce the health consequences of tobacco use by taking collective international action and cooperating to reduce tobacco consumption by combating illicit trade, sales to and by minors, and by reducing the risks of exposure for the general population.
- Main measures implemented in France.
- Taxation.
- Ban on smoking in public places.
- Ban on advertising, promotion and sponsorship of tobacco products.
- Education, communication, training and public awareness.
- The introduction of pictorial health warnings on tobacco products.

New products containing nicotine

- The electronic cigarette containing nicotine cartridges: Designed in 2003, its use was widespread in France. In 2013, 18% of respondents reported to had used at least once the electronic cigarette according to the survey ETINCEL conducted by the French Office of Drugs and Drug Addiction (OFDT).
- An intermediate tobacco product that uses the principle of an electronic cigarette: Ploom-Since April 2014, its marketing began in France. Uses real tobacco and not a nicotine liquid. It is taxed at nearly 80% as for an ordinary cigarette package [18].

Addiction to alcohol

The average annual consumption of pure alcohol is estimated at 6.2 liters or 13.5g of alcohol per day per person over 15 years old.

In France, according to OFDT data, in 2011, 12L of alcohol (2.5 glasses) were sold per inhabitant aged 15 years or older.

Concerning alcohol-related mortality, alcohol consumption ranks 3rd among risk factors for premature death. Cardiovascular diseases, injuries, and gastrointestinal diseases are the most common causes of death due to alcohol consumption. Cancers and pulmonary infections were also observed.

France is very affected by this scourge, in 2009, 49,000 deaths were attributed to alcohol consumption according to the weekly epidemiological bulletin (BEH) of the Institute of Health Watch (IVS). People under 65 years old are the most affected. Regarding alcohol-related morbidity, alcohol consumption is an etiological factor in more than 200 diseases and injuries (In 2012, 5.1% measured in disability-adjusted life year DALY).

Thresholds for consumption

WHO has set thresholds for lower-risk consumption, no more than 2 drinks per day for a woman, compared to 3 for a man and 4 drinks for occasional users.

Alcohol dependence

Dependence is the loss of the freedom to abstain from alcohol (Pierre Fouquet).

DSM-V criteria

During the last 12 months, one must look for the presence of at least 3 of the following criteria:

- Tolerance.
- Withdrawal.
- The substance is often taken in large quantities or for a longer period than expected.
- There is a persistent desire, or unsuccessful efforts to control the use of the substance.
- Taking a long time to obtain the substance.
- Abandonment of many of social, occupational, recreational, or leisure activities because of the use of the substance.
- The use of the substance is continued despite the person's knowledge of a persistent, recurrent psychological or physical problem that may have been caused or aggravated by the use of the substance.

Withdrawal Syndrome

These are the signs of physical withdrawal from alcohol. Hyperactivity of the autonomic nervous system, hand tremors, insomnia, anxiety, hallucinations, epileptic seizures, delirium tremens, these signs are looked for and coded for management, this is the Cushman score.

Alcoholopathies

- Somatic disorders: Digestive, neurological, cardiac, bone and cancer pathologies.
- Psychological damage: Anxiety and depression, psychosis, suicides, behavioral disorders.
- Relational difficulties: Loss of self-confidence, family or social violence, accidents at work, on the public highway or in the home (3rd degree burns), dismissals for serious misconduct at work [18].

Care and Support

- Drug treatment: Objective of abstinence, reduction of consumption.
- Psycho-social treatment: Indispensable, cognitive-behavioral therapy (CBT) in individual or group settings is more widely used. Psychoanalysis is essential, and follow-up by a social worker is also important.
- Self-help movements: Alcoholics anonymous, free living, alcohol assistance and others.

Prevention lies in the passage from simple use to excessive use, at risk, or to avoid the passage from risky alcohol consumption to alcohol dependence. Vulnerability factors are also involved (age, gender, family, social, professional factors, heritability risk in 30%).

The DETA for "decrease, entourage, too much and alcohol": a score superior or equal to 2 indicates a misuse. The AUDIT (alcohol use disorder inventory test) proposed by the WHO with its questionnaire valid for more than 30 years.

Addictions to illicit products and treatment of licit and illicit addictions

Main illicit drugs and their dangers

- Cannabis: Increased risks of infectious, cardiovascular, pulmonary and psychic diseases.
- Cocaine: Heart rhythm disorder, constriction of vessels, myocardial infarction, HIV infection due to injection, psychic disorders.
- Ecstasy and drugs and synthesis: LSD, amphetamines, poppers, gamma OH or GHB (drug of the rape), the ketamine or special K, the nitrous oxide or laughing gas.
- Heroin: Opiate obtained from morphine.

Illicit drug use in France

Cannabis is the most frequently used illicit product. The others are cocaine, MDMA and amphetamines, hallucinogens and heroin.

There are many outpatient facilities for the treatment of addictions:

- Addiction care, support and prevention centers (CSAPA).
- Consultations for young users of cannabis and other psychoactive substances and their families.
- Centers for the reception and support of drug users in order to reduce risks (CAARUD) [18].

Part IV: Infectious risk

Healthcare-associated infections (nosocomial infections)

Definitions and impact in terms of public health and medico-economics

A nosocomial infection is an infection acquired during a stay in a hospital.

- In 2012 in France, a survey showed a morbidity of 5%, the most frequent infections associated with care, urinary tract infections, respiratory, bacterial with sepsis, infections of surgical sites. Mortality varies

according to the infection, the infectious agent and the patient's condition.

- The financial cost is directly linked to the severity of the nosocomial infection because it leads to a prolonged stay, a prolonged treatment or even chronic functional incapacity. The risk is higher in immunocompromised persons, of high age.

The most common germs and prevention

HCAIs are most often caused by:

- E.coli (Escherichia coli).
- Staphylococcus Aureus.
- Pseudomonas Aeruginosa.

The prevention of HAI_s is based on standard asepsis precautions, sterilization, additional hygiene precautions, and the application of the rules of proper antibiotic use [19-21].

Prescribing and monitoring of anti-infectives in adults and children

Introduction

When prescribing and monitoring anti-infectives, it is important to take into account the anatomical, therapeutic and chemical classification (ATC), a coding system controlled by the WHO.

In France, antibiotic resistance in certain species has evolved over the last 10 years.

Resistance to fluoroquinolones in Campylobacter and Gonococcus, resistance to C3G in Enterobacteria such as E.coli, Klebsiella Pneumoniae and other resistances.

Control of the emergence and diffusion of multi-resistant bacteria

There are two determinants of the emergence and spread of multi-resistant bacteria:

- Change in exposure to antibiotics: Reduction of the risks of inter-individual transmission by appropriate hygiene measures.

Antibiotic prevention and good use plans

This is done on 2 levels:

- The clinical level (prescriptions and therapeutic recommendations).
- The population levels.

Since 1990, there has been a clear decrease in innovation in terms of antibiotics. Controlling the emergence and spread of antibiotics also involves monitoring the use of antibiotics in hospitals and clinics.

In France, there are sources of data, ANSM, health insurance companies.

The indicators

- The defined daily dose (DDD) (best indicator).
- The number of individuals exposed (or newly exposed).
- The number of treatments (or new treatments).
- The number of days of treatment.
- The composite indicator of good antibiotic use (ICATB) [19-21].

Surveillance of communicable infectious diseases-food and water related health risks, food-borne diseases

Definition-modes of transmission

Endemic: Frequency of cases more or less high, habitual and permanent in a given geographical area.

- Transmission depends on factors such as pathophysiology.
- Human-to-human transmission (by contact, droplets, air).
- Transmission from the environment.

Surveillance of communicable diseases

The dynamics of surveillance revolve around a few targeted aspects.

Data collection to data analysis, then information and feedback to improvement and then data collection again and so on.

The main objectives are:

- Describe the phenomenon, its frequency and distribution.
- To analyze the trends in incidence and the impact of prevention policies.
- To detect epidemiological phenomena at an early stage according to an alert threshold (minimum number of cases).

To do this, the nature and mode of collection is important, and can be passive or active, periodic or continuous, and surveillance can be networked. The different sources are health establishments, health professionals, private doctors, biological and medical analysis laboratories, environmental monitoring data. The quality of the surveillance system depends on its effectiveness in detecting a phenomenon, its usefulness in terms of public health, its adaptability to new or unexpected situations, its acceptability as assessed by its cost and its simplicity of implementation by professionals.

The surveillance of communicable diseases in France is based on three systems:

- Notifiable diseases (MDO).
- National reference centers.
- Networks of volunteer professionals for epidemic alert [21].

Prevention of communicable diseases

- Prevention of human-to-human transmission by eviction and barrier measures, individual protection and carrier screening.
- Prevention of transmission from the environment by food veterinary control, decontamination and treatment of water or air sources [21].

Health risks related to water and food

Food-borne diseases

Health risks related to water and food

- The health risks linked to water are physical, chemical, infectious, take into account the criteria of potability, the sources of water pollution, think about the prevention of health risks.
- Health risks related to food: Food safety and nutrition with its disorders are the most important.

Collective food poisoning

They are digestive and extra digestive clinically with various pathogens with

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Salmonella as the leader, followed by Clostridium Perfringens and Staphylococcus Aureus, other microorganisms such as E.coli.

The prevention remains the respect of the rules of hygiene as well at home as in community.

Vaccination

General recommendations

Diphtheria-tetanus-polio, Pertussis, haemophilus influenzae b, hepatitis B, pneumococcus, measles-mumps-rubella, meningococcus, papillomavirus (HPV), flu.

Specific recommendations in general population

Tuberculosis, hepatitis B, C, pneumococcus, seasonal influenza, yellow fever, meningococcus, whooping cough, chicken pox.

Recommendations in the workplace

Depends on the health world and other professions.

Recommendations for travelers

Yellow fever (mandatory in French Guiana as elsewhere), typhoid, hepatitis A, B, meningococcal A, C, Y, W135, influenza, rabies, tick-borne and Japanese encephalitis, cholera.

Vaccinations are not routinely recommended. Anti-rotavirus vaccination in infants under 6 months and vaccination against shingles.

There are also adverse effects and contraindications to vaccination.

It is very important to be up to date with vaccination updates, as there are annual updates of vaccination recommendations [18].

Part V: Cardiovascular risks

Summarized by

Atheroma

Epidemiology and pathophysiology. The polyatheromatous patient.

- Cerebrovascular diseases (stroke) and ischemic heart disease.
- Peripheral arterial disease, the prevalence of which is strongly linked to age, leads to a decrease in life expectancy.
- Others: Abdominal aortic aneurysm, renal artery stenosis.

Cardiovascular risk factors and prevention

1. Major and independent risk factors:
    - Non-modifiable risk factors-heredity, age and male sex.
    - Modifiable risk factors-smoking, hypertension, dyslipidemia, diabetes.
2. Indirect risk factors: Obesity, sedentary lifestyle.
3. Aggregation of risk factors: Metabolic syndrome.
4. Potential risk factors where cause and effect are less related. Cardiovascular prevention is achieved through collective and individual strategies.

These individual prevention strategies include:

- Dietary hygiene measures are to be implemented in all cases.
- Preventive drug treatment, while taking care of the indications, objectives and pharmaceutical classes.

Hypertension in adults

Hypertension is a systolic blood pressure PAS greater than or equal to 140mmHg and a diastolic blood pressure PAD greater than or equal to 90mmHg. In France, the prevalence of hypertension is high (15 million adults), more important in men and increases with age [17].

Part VI: Cancers

Epidemiology, risk factors, prevention and screening of cancers-Childhood cancers, epidemiological particularities

Epidemiology of cancers and risk factors-prevention and screening

In France, the data come from the registries in the FRANCIM network for incidence, and from the epidemiology center on medical causes of death (CépiDC) of the inserm. In 2012, the total number of new cancer cases in France is estimated at 355,000, with 148,000 deaths making cancer the leading cause of death in France. The most common cancers are breast, prostate, colon and rectum, and lung.

Risk factors

Age is the major risk factor, the others published in 2007 are tobacco, alcohol, infections, obesity, sedentary lifestyle. There are also hereditary factors, family history, personal history of lesions, irradiation, hormonal factors, dietary factors.

Prevention and screening of cancers

Prevention is collective, organized by public health authorities and individual at the initiative of the patient's health professional.

Screenings aim at early detection with an advantage in terms of treatment, organized screenings exist with specific criteria, some cancers benefit from an organized screening program (breast cancer, colorectal cancer, cervix).

Childhood cancer, epidemiological particularities

In France and other industrialized countries, approximately one child out of 440 suffers from cancer before the age of 15. It is the 2nd cause of mortality between the ages of 1 and 14 after accidents, with 20% of deaths.

Leukemias are the most important, followed by embryonal tumors, central nervous system tumors and lymphomas. The known risk factors are genetics, high dose ionizing radiation, certain anti-cancer chemotherapies, immune deficiencies, certain viruses, pesticides, hydrocarbons, infections and immunity, individual predisposition [22].

Practical cases

We will develop together clinical research, adverse drug reactions and pharmacovigilance, patient safety; the case of

Cameroon; developing countries; credibility of evidence in medical reasoning; Continuing Professional Development (CPD).

Adverse events related to care

Throughout the account, the significance of

this concept has been highlighted in France and in industrialized countries. However, there is a different experience of this theme in countries such as Cameroon.

Risk management is a priority in a country. In France and in industrialized countries, risk management systems are set up according to the history and the general organization of their health system.

The HAS, the ANSM, the ARS are all organizations in place that monitor and manage risk. The drugs manufactured by the pharmaceutical industries are marketed outside the French, European or industrialized countries, however, when the adverse effects leave these territories, they do not enter the management system made to manage this.

A patient with an adverse reaction in Cameroon following the ingestion of a lambda product, will not benefit from the management at the level of this country because the management system in place is not the same, the technical platform to ensure the management of this adverse reaction is not optimal.

How can better management of drug-related risks be ensured in all territories where a product is marketed, regardless of its history and health system, its means and methods?

Research professionals and the system in place to reach a global population could redefine the terms of the characteristics of the risk management system in order to extend it to all countries where health products are marketed and consumed.

Credibility of evidence in medical reasoning

Medical reasoning is made credible by the reliability of the evidence of the clinician, of the knowledge, of the daily practice and of the veracity of these data, it is therefore said to be hypothetico-deductive, probabilistic and analytical, it is therefore essential that the level of evidence reflects the capacity of a scientific study to answer a question posed or the research question.

Once medical evidence has answered a research question in this way, the resulting recommendations allow the foundation to be applied on the basis of the level of evidence of the studies on which it is based.

For a given study, it is important to ensure that the evidence criteria are able to answer a research question. The adequacy of the research protocol with the research question or hypothesis, the existence of important biases.

The statistical methods used must be appropriate to the study, the sample size must be proportional and representative, basically this characterizes the strength of the study. Following the grades of the HAS recommendations and levels of evidence would lead to a credible research question, concrete scientific evidence or not, relevance of the data and therefore of the results and

recommendations. All this contributes to better public health practice.

Continuing Professional Development (CPD)

Living in a growing world, with the rise of technology, innovation, telemedicine, nanoscience and many other aspects of the growth of intelligence and opportunities, knowledge should adapt to its time or era, but how do people do that in an unbalanced society?

CPD is also a function of one's environment, the patients and the society in which the health professional practices.

Urban doctors with their patients, country medicine, ambulatory medicine and public or liberal medicine; medicine with people in precarious situations and the wealthy are available today.

Access to care is not equitable, already through continuing education and individual professional development, if a professional has access to the same patients and does not resolve to pursue continuing education, the individual will not be able to improve and keep up with growth.

Let's ask ourselves this question, if the same care or the same services are not given in a sector, how can the health professional to go towards knowledge be motivated if the person thinks that the person will not need it in the daily practice?

The CPD, although compulsory, poses some limits which are constituted in an individual way.

However, there is no lack of learning methods, there are group trainings (during congresses, seminars, training courses, colloquiums, trainings, workshops), individual trainings (e-Learning, certifications, diploma trainings, digital supports, written).

As a health professional, curiosity, the desire to have answers, the thirst for knowledge and to get to the bottom of unanswered questions should perhaps be enough to lead to continuing education, i.e., the very basis of the CPD logic, before other specific motivations.

Reference

1. http://www.sante.gouv.fr/assurance_maladie/organisation/haute.htm
2. https://ansm.sante.fr/documents/reference/repertoire-des-medicaments
3. https://www.redactionmedicale.fr/2010/12/vancouver-ou-harvard-deux-systemes-de-references-complementaires
4. https://www.expertmemoire.com/comment-formaliser-une-reference-bibliographique-en-utilisant-la-norme-vancouver/
5. https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000787078/
6. https://www.cnil.fr/fr/recherches-dans-le-domaine-de-la-sante-ce-qui-change-avec-les-nouvelles-methodologies-de-reference
7. https://ansm.sante.fr/vos-demarches/chercheur/demander-une-autorisation-pour-un-essai-clinique-pour-des-dispositifs-medicaux-categorie-1
8. https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006072665

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DOI: https://doi.org/10.37191/Mapsci-2582-385X-5(1)-126

9. https://www.cnil.fr/fr/recherche-medicale-quel-est-le-cadre-legal
10. World Health Organization. Notifications Received from 22 December 1967 to 4 January 1968. Weekly Epidemiological Record=Relevé épidémiologique hebdomadaire. 1968;43(01):5-8.
11. Ahid S, Belaguide K, Cherrah Y. Pharmacoepidemiology: Regulatory Basis, Methodological Approaches and Scope. East Mediterr Health J. 1995;18(1). PubMed | CrossRef
12. https://ansm.sante.fr/documents/reference/bonnes-pratiques-de-pharmacovigilance
13. European Union. Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the Application of Patient's Rights in Cross-border Healthcare. Official J Eur Union. 2011. CrossRef
14. https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000023801538
15. https://sante.gouv.fr/systeme-de-sante/parcours-des-patients-et-des-usagers/article/parcours-de-sante-de-soins-et-de-vie
16. https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006072665
17. https://www.ehesp.fr/international/partenariats-et-reseaux/centre-collaborateur-oms/classification-internationale-du-fonctionnement/
18. https://www.santepubliquefrance.fr/maladies-et-traumatismes/infections-associees-aux-soins-et-resistance-aux-antibiotiques/infections-associees-aux-soins/donnees/
19. https://sante.gouv.fr/soins-et-maladies/qualite-des-soins-et-pratiques/securite/infections-associees-aux-soins-ias/
20. https://www.inserm.fr/dossier/infections-nosocomiales/
21. https://sante.gouv.fr/prevention-en-sante/addictions/
22. https://www.e-cancer.fr/Professionnels-de-sante/Les-chiffres-du-cancer-en-France/Epidemiologie-des-cancers/Donnees-globales