In the history of medicine, vaccines represent one of the greatest victories over diseases and are among the most effective medical aids ever made available for humans. The prevention and disappearance of infectious diseases, which were, in the past, among the most terrible scourges of humanity, constitute an unequalled success and, undoubtedly, the greatest number of lives saved thanks to medical science. And it is perhaps the disappearance of the daily confrontation with the deadly and disabling consequences of many diseases, due to the discovery of vaccines and antibiotic therapies, that has led citizens to believe that the success over infectious diseases was definitive.\(^1\)\(^2\)\(^3\)

Statistics collected in the USA demonstrate that vaccinations have reduced many serious diseases by more than 99%: 100% for paralytic polio, diphtheria\(^3\) and smallpox, 99% for rubella, congenital rubella, measles, 95% for mumps, 92% for tetanus and whooping cough.\(^1\)\(^2\) Only making reference to 7 out of 12 recommended vaccines, 33,000 deaths and 14 million cases of disease have been prevented for each cohort of newborns, with an enormous saving also in terms of costs. Furthermore, we recollect the epidemic episodes of diphtheria in Russia, in the former Soviet republics, in Belgium and in Germany; of polio in Syria and in the Netherlands in religious communities that refuse vaccinations; the cases of measles in California; in many countries in which endemic diseases have disappeared when the population has been sufficiently vaccinated; on account of these episodes it has not been possible to reach the objective of the total disappearance of the most serious diseases which, on the contrary, have reappeared with their death toll.

After two centuries of slow but inexorable advancement of vaccinations and almost complete eradication of many terrible diseases, there is now a regression of vaccination coverage deriving not only from marginal and occasional objections, but also from a deep crisis of the relationship between medical rationality and public opinion. A crisis that concerns the relationship between science and society, oscillating between the illusions of a miraculous technology and the fear or the delusion of the negative effects of this latter, almost pushing some towards the return of a claimed naturalness, a golden age, when, as Hobbes wrote "life was poor, nasty, brutish and short". However, we must not forget that the incredible increase of life expectancy in good health, notwithstanding the inevitable environmental risks linked to modern agricultural and industrial production, is to the enormous number of young lives saved by the dissemination of vaccinations.\(^1\)\(^2\)\(^4\)

Furthermore, vaccination therapies have an additional large room for improvement and it is sufficient to record the promises of therapeutic vaccinations, immunotherapy and vaccines that prevent precancerous lesions that open enormous rooms for the improvement of health. Notwithstanding this, the vaccines that have historically suffered pointless and damaging attacks are now newly disputed.
The reasons are multiple:

- the widespread irrationality by which reasonable and scientific demonstrations seem on the contrary to reinforce sceptical people in the pre-existing prejudice;

- the prevailing individualism, that leads to forgetting the obligations towards the collective being forgotten;

- the crisis of authority of doctors and the frustration that arises from the many promises not kept by medicine;

- the very extensive use of the internet, in which contradictory and unscientific information prevails, that pushes the most educated and accustomed people to using the network to boycott the vaccines;

- the typical error by which, confronted with a risk that is highly improbable (the adverse reaction to the vaccine), a certain advantage (immunization with respect to a serious disease) is overlooked, allowing themselves to be guided more by mistrust or doubts than by scientific proof;

- the social alarm for past harm by the vaccine, now extremely rare, that however causes the epidemics verified everywhere that the vaccination practice is abandoned or reduced to be forgotten;

- the contradictory information too often present in the mass media;

- the poor training in science in our Country, that is to say in the evaluation of data and facts with respect to unproven opinions, which gives rise to a widespread adhesion to beliefs born of a poor understanding of scientific methodology;

- the difficulty that vaccination programmes find in reaching marginalized and deprived groups.

Furthermore, we must add the pervasive mistrust towards institutions that can lead people to listen to everyday hucksters and conspiracy theories, which are expressions of a radical scepticism regarding to the so called strong powers; the misleading role of “alternative” doctors; the daily presence of charlatans who assert revolutionary discoveries, which cure incurable diseases, and who complain about being opposed and marginalized by the alliance between science and multinationals dedicated to profit. Persons who do not publish any data, who do not address themselves to the specialist literature, who avoid any statistical confirmation and whose expert's opinion often conditions even the judiciary. While in recent times the mass media seem cautious, the tendency exists, especially on the internet, to a false fairness doctrine, by which the evidence produced by science and the fraudulent inventions are placed on the same level, almost for a democratic confrontation.

Vaccines are among the most strictly controlled medicines and guaranteed with regard to safety profiles, because they are prepared for mass administration to healthy or potentially fragile populations such as newborns and the elderly. Vaccines have reached an absolutely reassuring safety level, certified by means of a long authorisation process, which is consistent with the most stringent international legislation in so far as produced according to the most rigorous methodology, by means of randomized and controlled experimental clinical trials, often carried out in double blind tests against a
placebo and subject to the cross-checking of experts. Lastly, the current productive technologies applied to vaccines in use for many years make the administration thereof safe. It is moreover common knowledge that the responses to the most frequent questions inherent in the contemporaneous administration of several vaccines, the absence of negative effects on the immune system and the absolute lack of links between vaccinations and other diseases are rigorously satisfactory.1,6,7,8,9 In particular it is a source of wonder how patently false news, whose author has confessed the fraud, as the relationship between vaccinations and pathologies of the autistic spectrum, still achieved success in the media, sign of credulity and of absolute scientific incompetence.10,11,12-19 Notwithstanding this, we are witnessing a false application of the principle of precaution that, on the contrary, is useful to defend an instrument that prevents the disease by means of infinitesimal doses of antigens.

In conclusion we are confronted with an alarming picture in which medical science and politics must react together in order to protect the collective. Things need to be done not only at the level of the reference to the true and concrete results of medicine but also to address the collective imagination in order to overcome the endemic disinterest in science which, incidentally, manifests itself also with the under-financing of research, with the brain drain and with the success of improvised healers.

The National Federation of the Orders of Doctors and Dentists proposes to:

1) intensify the campaign for health staff to participate in vaccination;

2) intensify the campaigns to enhance the role of the doctor in the promotion of vaccinations;

3) reconfirm the obligation for doctors to collaborate in updating public health measures;

4) improve communication in the context of vaccination with regards to citizens-users in order to favour active and conscious participation of the population in vaccination programmes;

5) guarantee the homogeneity of vaccination campaigns at national level;

6) give the maximum impulse to vaccinations in the first months of life in order to prevent potentially very serious pathologies and to ensure an efficient system of notification and reminder of vaccination appointments in order to reduce instances of incomplete vaccination;

7) sustain all the regional and national regulations tending to reaffirm the necessity for vaccination, by means of measures that validly ascertain the dissent of parents, the assumption of responsibility with respect to the risks of children, the impossibility for children to attend school during epidemic periods, the inability to enrol at nursery school, and possibly insurance against the damages arising from lack of vaccination;

8) call for un-vaccinated persons, upon reaching the age of majority to illustrate their state of immunity and to collect their decision guidance;
9) urge the State and the Companies producing vaccines to give maximum support to research;

10) urge the Government to adopt measures regarding the extension of vaccinations to whoever is present on the national territory and regarding the preparation of guidelines for vaccination campaigns by means of mass media;

11) help overcome the evident misalignment between science and law, hoping that judges will intervene in terms of health taking the methodology of scientific evidence into account in their judgements;

12) urge, against the possible repetition of judgements that establish for the case law the correlation between vaccines and autism founded on single medical certificates, the Ministry for Health and the competent authorities to present themselves to appear in proceedings in collaboration with the Public Prosecutor and to challenge such measures with immediate effect from the first instance proceedings;

13) favour an alliance with citizens and public decision makers in order to correctly manage the overload of information that is misleading, distorted or illusory or in bad faith presented on the internet and to prepare scientific advisers of politicians and the mass media such as to report the debate within the limits of methodological correctness;

14) train researchers and doctors in scientific dissemination, such as to improve the knowledge base with which citizens confront scientific news;

15) align the standards of public structures for the administration of vaccines and to provide periodic epidemiological evaluations applicable to diseases preventable by means of vaccination.

Only in specific cases, such as, for example, some states of immune deficiency, may the doctor advice against a vaccination intervention. The advice not to vaccinate oneself in the remaining conditions, in particular if provided to the public with any means, constitutes an ethical offence.

The doctors reiterate that according to the Constitution of Italy the protection of the individual's health represents a public interest. This constitutional imperative suits vaccine which, by protecting the individual from the possible emergence of serious diseases, protect the community by means of the so-called herd effect, which is achieved when a variable percentage between 85% and 96%, depending on the contagiousness of the disease, leads to a reduction up until the pathogen agents cease to circulate. These concepts of modern medicine, which have saved hundreds of millions of human lives, cannot be neglected.

It is the duty of the Profession to remind doctors, political decision makers and all citizens of this.

The state of health of the population is not a definitively acquired given, but must be continually safeguarded and defended and that applied to every attack that you want to bring to the efficiency of the National Health Service.

**UNANIMOUSLY APPROVED BY THE NATIONAL COUNCIL OF FNOMCeO**
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