

AT A GLANCE

April 2018



Understanding the principles and limits of measles vaccines could save more lives

The recent focus on and alarm at the numbers of measles cases across the EU, specifically Romania, has strengthened calls to increase vaccine rates across the EU, but recent analysis confirming well-established principles of epidemiology highlights the need to see those outbreaks in a broader context that predicts such outcomes. Looking at specific features of measles vaccines shows why current vaccine interventions are not delivering the expected promises and could fail in preventing further outbreaks in the future. It is now time for a more integrated health policy approach to tackle measles and reduce its mortality rate.

Key Findings

- The WHO warns about a 4-fold increase in measles: [“Europe observes a 4-fold increase in measles cases in 2017 compared to previous year”](#)¹ In an article on the European Parliament site it states: [“Measles cases have tripled in the EU in just one year.”](#)² We are concerned about the interpretation of these statistical data.
- The European Centre for Disease Control (ECDC) and prevention, in its [Rapid Risk Assessment - On-going outbreak of measles in Romania, risk of spread and epidemiological situation in EU/EEA countries](#)³, warned that the reported measles cases were increasing in Romania compared with previous years due to a fall in vaccination rates and that a measles epidemic threatened the EU/EEA. We are concerned that data were not considered or compared for the previous recent years, or that other influences were not considered for the extraordinarily high mortality rate in Romania.
- The ECDC proposed strengthening immunisation by facilitating access to vaccination and identifying those incompletely or not vaccinated. It failed however to address the fundamental reasons for outbreaks of measles and failed to see current outbreaks in the overall context of measles cycles. These failures will facilitate more lives being put at risk until they are addressed. Above all, improvements are needed in nutrition, access to clean water and appropriate medical care in Romania. We are concerned that the

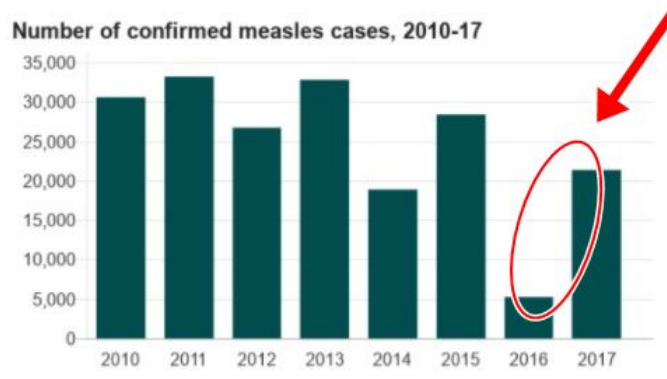
evidence around increased vaccine uptake and compulsory vaccines is not strong, as pointed out by [MEP Piernicola Pedicini \(ENVI\)](#) ⁴

- A very recent outbreak [in Portugal showed that 80% of the cases had received two doses of the measles vaccine](#) ⁵ thereby demonstrating the inherent limits of measles vaccines. The Portuguese health authorities are not recommending more vaccines. Another outbreak in Sweden over recent months shows that of 28 individuals infected with measles, [most were fully-vaccinated](#) ⁶. We are concerned that these examples, and others, are not being considered when assessing the limits of vaccination.

It is important to understand that mass vaccination cannot address the fundamental reasons for measles outbreaks if it fails to see them in the overall context of the natural cycle of the disease. Lack of vaccination is not the cause of measles cycles and therefore cannot be the preventative solution. Understanding the limits of vaccination and implementing or reinforcing alternative measures that have demonstrated their efficacy in the reduction of mortality and morbidity in the past, such as [Vitamin A supplementation as advised by the WHO](#), is essential. ⁷

Overview:

The WHO states that there is a 4-fold increase in measles cases in 2017 [compared with 2016](#). This graph shows the number of confirmed measles cases from 2010 - 2017. We find it misleading to the public that the WHO has chosen to focus on the result of last year alone, because it does not give the real overall picture of the situation.

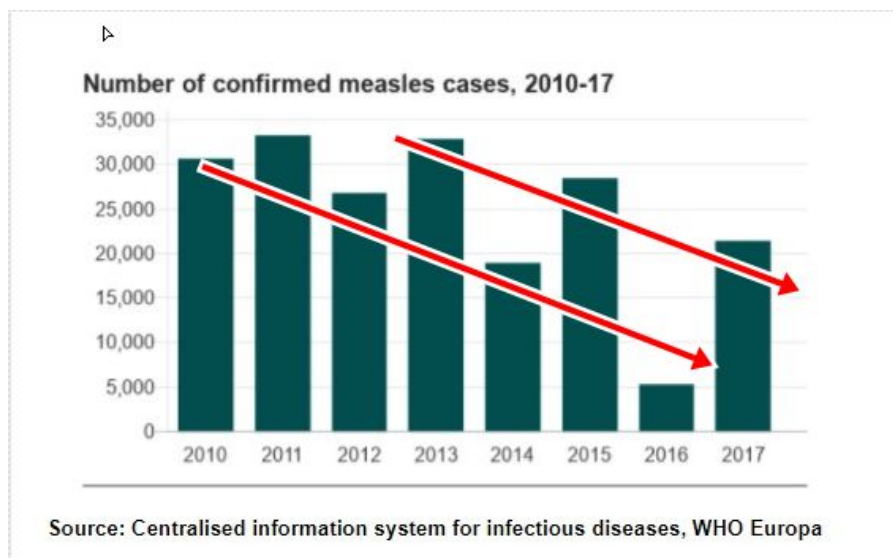


Source: Centralised information system for infectious diseases, WHO Europa

We find it more accurate to broaden the perspective and look at the statistical data over a more extended period to see the overall trend.

It is also important to observe that measles outbreaks come in cycles: some years have higher peaks, while in other years there are fewer disease outbreaks. If you take the measles situation over the last 8 years, there are hardly grounds for describing the increase of disease in 2017 as a major crisis. Every second year the result will show a negative number, but is this latest increase really a “crisis” that needs intervention?

Another more accurate interpretation would be that year 2016 had unusually few cases - in fact the 2016 incidence of measles was the lowest ever recorded in European epidemiological history - and that 2017 actually represents a downward trend with a peak in 2013 followed by a lower number in 2015 and ending on an even lower number in 2017. If we look at this graph again we see two parallel declining trends of measles outbreaks in Europe in the last 8 years.



[Red arrows added]

The statistical basis for data on measles cases is also riddled with uncertainty. Many countries started very late to introduce mandatory reporting systems for measles. We must also take into consideration that only 61% of these 2017 cases are laboratory confirmed.

The ECDC has stated:

In 2016, measles outbreaks were seen in a number of EU/EEA countries; and an increase in the number of cases continues to be observed in 2017. Previous and on-going measles outbreaks in three other EU countries have been epidemiologically linked to the current outbreak in Romania. However, additional knowledge on genotypic characterisation of the virus is needed to allow further insight into the epidemiological investigations.

Data were analysed and the following was stated:

The latest available vaccination coverage data from the World Health Organization (WHO) in 2015 show that vaccination coverage was above the 95% target in 17 EU/EEA countries for the first dose of measles containing vaccines (MCV) (range: 85–99%). In eight countries, vaccination coverage for the second dose of MCV was at least 95% (range: 74–99%). Therefore, the vaccination coverage in many EU/EEA countries remains suboptimal.

The ECDC states that due to these suboptimal vaccination rates, measles outbreaks occurred and ipso facto - due to this fact - more vaccination is required. That analysis is however not complete and serious omissions have been made that impact the health and safety of EU citizens. Such omissions lend to the more correct term - *res ipsa loquitur* - things speaks for themselves.

The ECDC is using *Herd Immunity* targets and suggests that by increasing vaccination rates, those targets will be met. Herd Immunity suggests that if enough people are immunised against a disease, that disease will fail to outbreak significantly and threaten the target population.

If the premise of *Herd Immunity* e.g. that 95% of a population must be immunised against measles to prevent its spread, is accepted, there are two assumptions in that argument:

1. All those vaccinated are immunised, and
2. No other factors influence immunisation.

Failure to eradicate a disease can facilitate that disease becoming endemic (continued prevalence of a disease in a specific population or area) and threaten outbreaks.

This conclusion is based on a mathematical hypothesis erroneously linked to the concept of *Herd Immunity* and not on evidence-based epidemiological observations.

If this concept were indeed derived from the observation of measles disease cycles within limited communities, the assumption that it is equally valid for vaccine-induced immunity would be found to be false.

The target of vaccinating 95% of a population to prevent the spread of measles, is a 'herd immunity hypothesis' calculated on the theoretical number of people who would be infected by a contaminated individual. It IS NOT an epidemiological observation. 'Evidence-based' analysis of outbreak reports, have often clearly contradicted this hypothesis.

Inherent limits to measles vaccines and the possibility of achieving ‘herd immunity’

1. In order for measles to remain endemic it requires large populations, and does not survive in small populations. It is a fact that between 2 and 10% of any population will not respond adequately to vaccination. This is termed [Primary Vaccine Failure](#) ⁸ and is associated with genetic factors.
2. Based on figures from the report [Czech CDC \(page 24\)](#) ⁹ the percentage of vaccinated people with protective measles antibody titres declines considerably 30 years after vaccination (less than 90%) and even more 40 years after vaccination (less than 80%). This explains the high percentage of vaccinated adults in the recent measles outbreaks. The rates vary however according to individuals and protection can wane much earlier in some people post vaccination which will inevitably become a delicate issue in managing outbreaks. This is termed [Secondary Vaccine Failure](#). ¹⁰
3. Once vaccinated, a person can become infected with measles and pass on the disease without showing any signs of infection. This is the reason why some vaccine inserts will recommend that pregnant women or immune-compromised people avoid contact with recently vaccinated children. These are called [‘Asymptomatic Carriers.’](#) ¹¹
4. Measles can have on-going ‘silent circulation’. Both vaccinated and unvaccinated individuals can be asymptomatic carriers, making it impossible to ‘track’ the virus accurately and truly manage outbreaks.
5. Children under 12 months have measles antibodies acquired in pre-natal life and through breastfeeding. Early vaccination in the first months of life is ineffective. Maternal vaccine-induced immunity is however weaker than in the pre-vaccine era. Vaccination has created a risk for this fragile group that was previously protected.
6. Elimination of measles can occur in small populations or ‘closed entities’, but it is likely to remain endemic in large populations and with large population movements, typical in our ‘globalized world’.
7. Measles vaccines contain weakened live viruses that can infect a vaccinated person and start vaccine-induced outbreaks.

Discussion:

These factors are the reasons why measles cannot be eradicated and populations with very high vaccine uptake will still have measles outbreaks. More important is the fact that vaccination has created a higher risk for more fragile categories: pregnant mothers, young infants but also adults and, in a few years the first generation of senior ‘vaccinated’ people, with low immunity to measles. Complications leading to hospitalization, and sometimes even death, are likely to occur in these fragile groups. The solid, lifelong protection conveyed by natural infection has been replaced with a vaccine-induced immunity that wanes over time. Waning immunity among the vaccinated, combined with lower natural disease boosting will create substantial numbers of measles-susceptible people in highly vaccinated populations.

A closer look at outbreak reports shows that in almost all countries this trend is on the rise.

A discussion among vaccine experts is whether the danger of vaccine-driven mutations of pathogenic agents could be a future threat. Given this perspective, the understanding of and discussion about vaccines could be far more complicated.

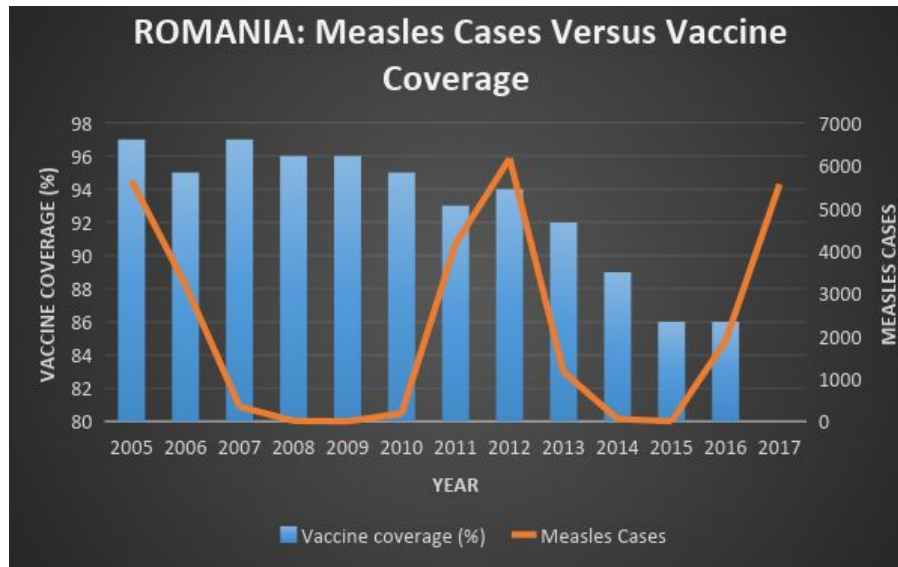
Conclusion:

The inherent limits of measles vaccination policies are well known to all vaccine experts but are quietly termed as ‘the need to develop new vaccines’ and are not shared or openly debated. An urgent discussion about these issues seems absolutely essential, prior to promoting or enforcing further vaccination campaigns. Without taking these far more complicated perspectives into account, the consequences of the prevailing on-going vaccine policy could be that we end up with a negative result affecting the overall health situation in the population.

Romanian measles cases and vaccine coverage

The recent 2016 and 2017 data on measles cases and vaccine coverage from Romania demonstrate the conclusion made above. The chart below demonstrates clearly that just focusing on current data fails to take the natural cycles of the disease, independent of the vaccination rate, into consideration and thus leads to misinterpreting those data.

It demonstrates clearly that “outbreaks” of measles also occurred despite very high rates of vaccination coverage in previous years.



Given primary/secondary failure and asymptomatic carriers, vaccination can never achieve immunisation at the levels required to meet proposed herd immunity targets, outbreaks will always happen and they will usually happen in predictable cycles, since births bring new potentially susceptible targets for the infection. These data are consistent with data from around the Globe.

Global data: difficulty in eliminating measles

The sobering fact that attempting to eradicate measles by vaccination just does not work has been observed and understood for many years and reflected in the literature.

Measles was supposed to be eradicated in 1967. The goal of eradicating measles was already set in 1963, when the United States health authorities came out strongly and told the population they were expecting the disease to be eradicated by 1967.

A campaign was initiated in the autumn of 1966 to eliminate measles from the United States. By vaccinating all the susceptible 8 to 10 million children, measles was projected to be eliminated from the United States by 1967. 15 years later, measles rates had declined but the expected quick eradication had not occurred. The response at that point, was to vaccinate all children and not just "susceptible" children. The new plan would be to eliminate measles from the United States by 1982.

It wasn't however until 1980 that a stable live vaccine became available. Those vaccinated before 1980 might not be as immune as had originally been believed because it was later determined that these older vaccines were not necessarily effective. In the year 2000, the USA declared that the country had eradicated measles – 33 years after the original elimination

target. In 2012 however, the CDC had to rescind that announcement, stating that measles had reappeared and was spreading. Some researchers believe it is impossible to eradicate measles, and according to Dr Levy's calculations, measles cases will increase again towards 2050:

«However, despite short-term success in eliminating the disease, long-range projections demonstrate that the proportion of susceptibles in the year 2050 may be greater than in the pre-vaccine era. Present vaccine technology and public health policy must be altered to deal with this eventuality.» D. L. Levy [The future of measles in highly immunized populations, a modeling approach](#),¹² *American journal of epidemiology*, June 1983

We have to be aware that a segment of the population still has lifelong immunity from natural measles infection. This applies mainly to people over the age of 40. What will happen when the numbers of this naturally-immune part of the population are reduced?

Dr Wang *et. al* published a paper in 2014 entitled [Difficulties in eliminating measles and controlling rubella and mumps: a cross-sectional study of a first measles and rubella vaccination and a second measles, mumps, and rubella vaccination](#)¹³ The reported coverage of the measles-rubella (MR) or measles-mumps-rubella (MMR) vaccine is **greater than 99.0%** in Zhejiang province. **However, the incidence of measles, mumps, and rubella remains high.** [Emphasis added].

In that sample only 9 people contracted measles whose vaccine status was unknown (unvaccinated?); compared with 78 acquiring measles that were vaccinated.

Dr Ma *et. al* noted in the study [Monitoring progress towards the elimination of measles in China: an analysis of measles surveillance data](#):¹⁴

The number of measles cases reported in the first 10 months of 2013 – 26,443 cases – was three times the number reported in the whole of 2012.

Considering that the study showed there were 707 measles outbreaks between 2009 and 2012 and that there was a **significant increase in measles outbreaks following that, with increasing vaccination**, this argues against the effectiveness of the vaccine.

Those data agree with [Dr Poland](#)¹⁵, considered a leading expert in vaccination and measles:

*We found 18 reports of measles outbreaks in very highly-immunized school populations where 71% to 99.8% of students were immunized against measles. Despite these high rates of immunization, 30% to 100% (mean, 77%) of all measles cases in these outbreaks occurred in previously immunized students. In our hypothetical school model, **after more than 95% of schoolchildren are immunized against measles, the majority of measles cases occur in appropriately immunized children...***

The apparent paradox is that as measles immunization rates rise to high levels in a population, **measles becomes a disease of immunized persons.**

Despite significant efforts and increasing vaccine uptake as prescribed by the Regional Committee of the WHO Western Pacific Region and the Chinese Ministry of Health's initiated mandatory measles vaccination programme to accomplish eradication of measles by 2012, it failed. As reported by Dr Wang et al in [Difficulties in eliminating measles and controlling rubella and mumps: a cross-sectional study of a first measles and rubella vaccination and a second measles, mumps, and rubella vaccination](#):¹⁶

Measles outbreaks continued in 2008, with 12,782 cases reported... From 2009 to 2011, the incidence of measles remained high... Similarly, the incidence of mumps increased...

Finally, the reported cases of rubella increased... Therefore, the elimination of measles and control of mumps and rubella are urgent public health priorities in local regions.

Mandomando *et. al* writing in the [The American Journal of Tropical Medicine and Hygiene](#):¹⁷

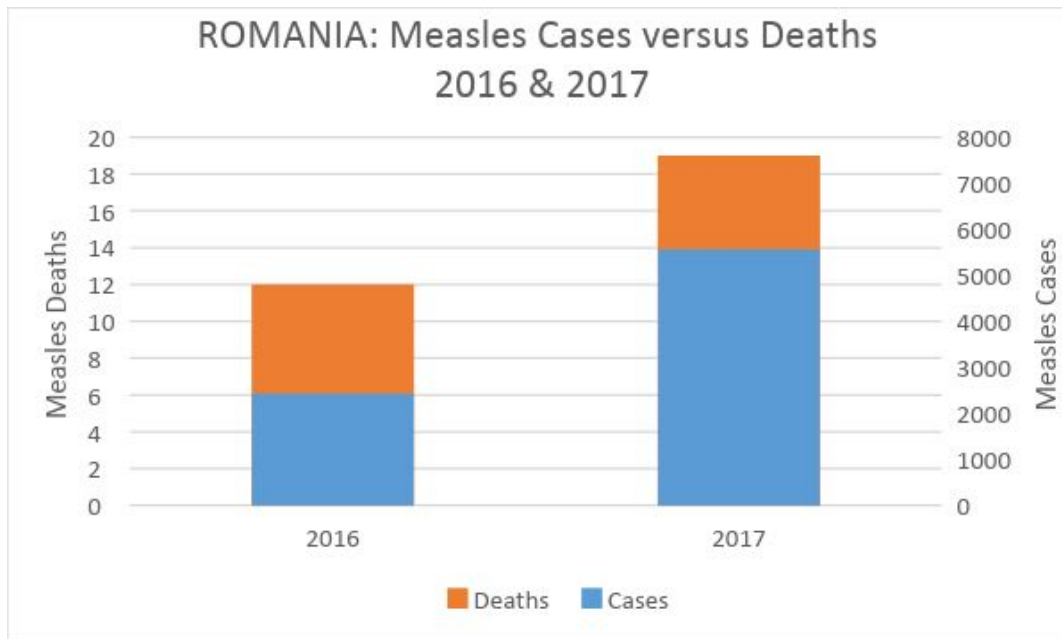
Overall, 20.7% (6 of 29) of persons known to have received measles vaccine had non-protective titers.

Scientific literature demonstrates that eradication of measles by vaccination is not possible in large populations. Vaccines have limits due to various mechanisms such as primary and secondary failure. Infection can also be facilitated by asymptomatic carriers.

Deaths per number of measles cases increase

What is extremely concerning from the Romanian data is the sudden increase in reported deaths per number of cases. This fact has not been noted and discussed. Although there is some discrepancy in the data, the analysis of current cases and deaths from measles in 2016 and 2017 is as follows:

The death rates from 2016 and 2017 measles cases are 0.5% and 0.3%, respectively. The vast majority of deaths according to the [March 2017 ECDC report](#)¹⁸ were in the <1 years and 1 – 4 years groups. These numbers are concerning when we compare these death rates with pre-measles vaccine death rates.



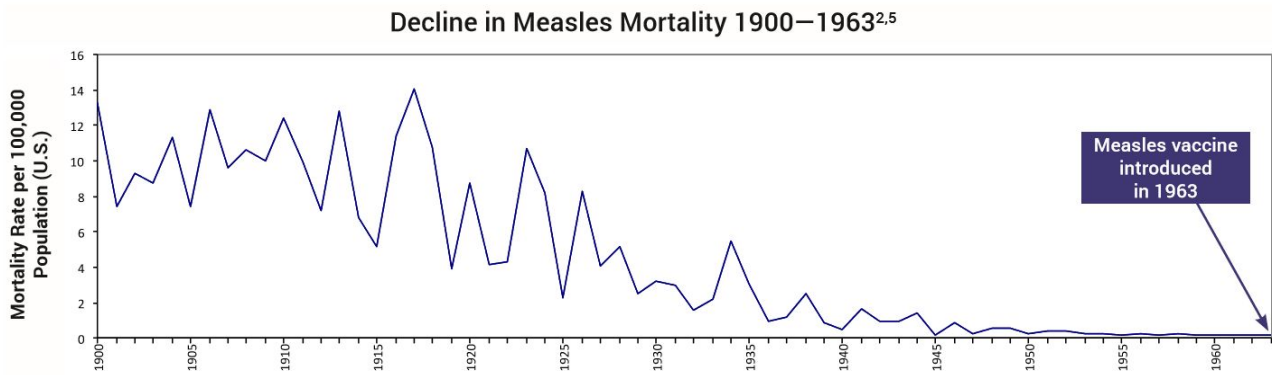
Dr Langmuir *et. al* in the February, 1962 issue of the [American Journal of Public Health and Nation's Health](#) ¹⁹ commented:

The morbidity figures [of measles] testify to the stability of the biological balance of measles during the period [1912 – 1959]. **The decline in mortality demonstrates the degree to which we have adapted to this balance and have learned to live with this parasite.** [Emphasis added].

Before introducing mass vaccination in the United States, it was a recognized fact that measles no longer represented any major health hazard. From the British Medical Journal in 1959:

*“To give some idea of the main features of the disease as it appears today and of how it is best treated, we invited some general practitioners to write short reports on the cases they have seen in their practices recently. . . **These writers agree that measles is nowadays normally a mild infection, and they rarely have occasion to give prophylactic gamma globulin.**”*
(*Measles Epidemic, British Medical Journal, February 7 1959, p. 354*) [Emphasis added]

This decline in measles cases and death rate prior to the introduction of the vaccine is unknown to the vast majority of public and government officials:



Source: [Physicians for informed consent](#) ²⁰

Dr Langmuir and colleagues demonstrated that the case fatality associated with measles' infection, prior to the introduction of a vaccine, for <1 years old, was approximately 4 per 10,000; for 2 – 4 years between 0.6 and 1.5 per 10,000 and case fatality overall was 1 death per 10,000 or 0.01%. The under 1 year of age group suffered the highest case fatality rate.

These data may reveal a worrying trend: the current Romanian case fatality rate reported for 2016 has increased **50 times** compared with the pre-vaccine era; and **34 times** in 2017 compared with the pre-vaccine era. These data indicate an increase in deaths per measles cases of significant order after the introduction of the measles vaccine but have not been assessed or discussed.

A thorough analysis and explanation of these figures is required and may include the following: **Incorrect diagnosis and estimation of morbidity and mortality** is not uncommon and there are many reasons for that. A common problem is an inability to [differentiate clinically](#) ²¹ measles from other diseases. Another problem is [cross reactivity](#) ²² between measles and other diseases upon testing. Those problems are further exacerbated by a lack of advanced testing in a timely fashion to definitively confirm the [diagnosis or not of measles](#).²³ Once standard or advanced lab testing has confirmed a case of measles then other cases that are not lab-confirmed but are epidemiologically "linked" to the "confirmed" case are diagnosed as measles. Of course, there may also be patients with comorbidities that may have led to their death but would be recorded as a *measles death*. There is significant room for error in that process.

At the end of 2017, there were **10.279** reported cases of measles on the site of the Romanian National Centre for Surveillance and Control of Infectious Diseases, of which **1.969** were for the year 2016. [This means 8.310 "confirmed" cases of measles in 2017.](#) ²⁴

However, Romania reported [only 4.487 confirmed measles cases to the WHO for 2017.](#) ²⁵ These numbers are very confusing and should be investigated more thoroughly.

As far as reported death cases are concerned, one can read on the homepage of the Romanian National Centre for Surveillance and Control of Infectious Disease that there have been 46 “measles deaths” in the on-going [epidemic \(2016-2018\)](#).²⁶ At a more careful look however, measles is mentioned in the column “Cause of death” for only 10 of the 46 “measles deaths”. Most of them died of other causes (acute respiratory arrest, bronchial pneumonia, sepsis, malnutrition, pneumonia, multiple organ failure, Niemann-Pick syndrome, anaemia, encephalitis etc.) and had many comorbidities without which they might have survived.

The reported measles death rate in Romania has increased significantly and may be due to various factors: misdiagnosis, insufficient vitamin A and C levels, inappropriate use of antipyretics known to increase measles complications and deaths several times, a very low standard of living in the affected regions and a lack of access to medical care, exacerbated by an exodus of healthcare professionals after joining the EU.

Asymmetrical data or outliers can skew statistics and should be taken into consideration as they may hide causal factors. In the case of measles outbreaks across the EU, Romania accounted for under half the cases but most of the deaths. There are three factors here that deserve mention:

1. Access to appropriate medical care
2. Nutritional status
 - a. Appropriate breastfeeding
 - b. Access to clean water

Access to medical care:

A Reuter’s article [Romania's healthcare exodus](#) ²⁷ sheds light on why the “measles” death rate may be so high:

“Medical staff leaving Romania at an almost massive pace deepens the problems of the healthcare system,” former health minister Vlad Voiculescu has said. “Entire hospitals are facing a major personnel deficit and entire towns don’t have a family physician.”

This despite the fact that Romania is a leading EU state when it comes to the number of

medical graduates, but the system - ridden with corruption, inefficiencies and politicized management - has been unable to motivate them to stay.

The shortages are even starker in rural areas. The consequences are dire. Romania is one of the EU states with the fewest doctors. Nearly a third of hospital positions are vacant and the health ministry estimates one in four Romanians has insufficient access to essential healthcare.”

The [CDC MMRW](#) ²⁸ report revealed:

During December 1 1996-September 30 1997, a total of 20,034 cases of measles (incidence: 88.7 per 100,000 population) were reported to the Ministry of Health (MOH) in Romania ([Figure_1](#)); 13 cases were fatal. ²⁹

That equates to a death rate of 0.065% compared with 0.5 and 0.3% for 2016 and 2017, respectively: an increase in death rate by a factor of 7.7 times. Notably, the 0.065% death rate dates from 1996, prior to Romania joining the EU, compared with the 2016 and 2017 death rates of 0.5 and 0.3%, respectively, after joining the EU. It is important to note that joining the EU facilitated the mass exodus of medical professionals: doctors and nurses who simply would not be available to manage children significantly unwell with measles infections.

[World Vision International](#) ³⁰ reported from the INSMC :

In Romania one out of five pregnant women had no medical examination before giving birth and the maternal mortality rate is twice as high as the European average, three times higher than in Slovenia, Slovakia and Bulgaria, almost six time higher than in Italy and Spain and ten times higher than in Austria and Poland. One out of four rural women is not insured and one in ten pregnant women is a minor. 26,000 teenage pregnancies were reported in 2015 and the number is increasing in rural areas. The mortality rate during the first semester of 2017 has increased alarmingly to 19.5/100,000 live births, being twice the rate in 2016: 8.9 deaths per 100,000 live births. This proves a major deficiency in the assistance and monitoring of pregnant Romanian women (source INSMC).

Poor access to clean water and appropriate medical care significantly affects the health of Romanians and impacts the outcomes from disease and medical management of pregnant females.

Nutritional impact on measles

A main focus of “blame” for the recent Romanian measles outbreaks was the [Romani community](#).³¹

“The biggest outbreak last year was in Romania, where there were 5,562 cases and which accounted for most of the deaths. The country’s large rural Roma population — also known as Gypsies — often do not vaccinate their children and may not take them to hospitals promptly when they fall ill. The country also has an underfunded public health system.”

The [CDC emerging Infectious Disease journal](#) ³² reported on the Romani community and nutritional deficiency:

“We describe the potential roles of malnutrition and vitamin A deficiency as risk factors for severe measles in adults from this community... Roma people in Europe experience some of the worst health conditions in the industrialized world: they live in overcrowded conditions and have limited access to prevention programs and to healthcare services (2,5). In such populations, deficiencies of vitamins, such as A, C, and E, have been reported (6). Vitamin A deficiency has been associated with severe cases of measles in children in developing countries (7,8).

In the study [Prevalence and assessment of malnutrition risk among hospitalized children in Romania](#) ³³ - 58% of children were at risk of malnutrition, and 24% were at high risk.

Dr Behar reported on nutritional status and disease in **A deadly combination: World Health, 1974:**

“A debilitated organism is far less resistant to attack by invading microorganisms. Ordinary measles or diarrhoea – harmless and short-lived diseases among well-fed children – are usually serious and often fatal to the chronically malnourished. Before vaccines existed, practically every child in all countries caught measles, but 300 times more deaths occurred in the poorer countries than in the richer ones [due to malnutrition].”

Breastfeeding

Doctors Silverdale and Montgomery in their 2009 study [Breast-feeding and a subsequent diagnosis of measles](#) ³⁴ demonstrated the following:

“Breast-feeding for more than three months was negatively associated with a diagnosis of clinical measles infection after adjustment for crowding, social class, measles

vaccination, parity and sex with an odds ratio (95% confidence interval) of 0.69 (0.60–0.81) compared with those who never breast-fed.”

A 2014 study looking at [Vaccine effectiveness and risk factors associated with measles among children presenting to the hospitals of Karachi, Pakistan](#)³⁵ reported:

“Children with Measles were also more likely to be not given breast milk in initial 2 years of life...”

And concluded that:

“For Measles elimination, mothers’ education on breastfeeding and appropriate weaning practices is required.”

Another 2014 study researching [Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: a cross-sectional and analytical study](#)³⁶ reported:

“Malnutrition is an underlying factor in more than 50% of the major causes of infant mortality-Pneumonia, diarrhoeal disease and measles which account for 70% of infant mortality. Therefore, programs to promote adequate nutrition for age can help reduce mortality from these disease conditions and indispensable to achievement of MDG 4.”

And that:

“More effort by health workers and policy makers should be directed to mothers along the fault lines to encourage the practice of EBF [exclusive breast feeding].”

As far back as 2012, UNICEF recognised that Romania had amongst the lowest breastfeeding rates in Europe. Reported in [Romania Insider](#):³⁷

“Fewer mothers in Romania breastfeed their babies than almost anywhere else in the EU, according to new information released by UNICEF in partnership with the local authorities. Only 12.6 percent of Romanian women breastfeed their children – among the lowest rates in Europe.”

Clean water

A basic requirement of healthy living is clean water, without which significant morbidity and mortality will be the outcome. [Associated infections from unclean water](#)³⁸ weaken the host and may facilitate disease and/or comorbidities such as diarrhoea. [Co-morbidities such as diarrhoea and pneumonia](#)³⁹ may increase the chance of significant complications and death from a virus such as measles.

The [WECF reported in 2014](#) ⁴⁰ that there were significant problems with access to clean water and proper sewage facilities in Romania:

“Only 11 % of the rural population have sanitary sewage at home. Seven million people in rural areas of Romania get their drinking water from wells. These wells are often polluted with nitrates, bacteria, and pesticides. Poor sanitary conditions and latrines, the mismanagement of waste dumps and agricultural waste cause groundwater and surface water pollution. Health effects include both the long-term (thyroid and brain dysfunction) and the immediate (blue-baby-disease, diarrhoea, parasitic diseases, hepatitis). They can be lethal to adults, but in particular to newborn babies and small children.”

[The EU has started to address the problem](#) ⁴¹ of access to clean water in Romania:

“Six projects that aim to facilitate the population’s access to drinking water in Romania will get total funds of EUR 129 million from EU’s Cohesion Fund.”

And [Initiatives have been implemented](#) ⁴² to address healthcare reform as reported by UNICEF but it was concerned that:

“Health care service reform started late and the quality of many services is still far from what is desired.”

There is little doubt that nutritional status, breastfeeding and access to clean water play an important role in disease prevention and outcome. Romania has significant deficits in those areas that impact prevention and recovery from measles and may facilitate an increase in death rates.

Summary:

- High levels of vaccination do not prevent measles outbreaks.
- Endemic measles *cycles* naturally and will continue to have outbreaks, regardless of high vaccine coverage.
- The reported death rate in Romania from measles cases has significantly increased compared with *before its membership of the EU in 2007* by 7.5 times and by up to 50 times compared with pre-vaccine historical data in the west, i.e. before they started vaccination in the late sixties.
 - Misdiagnosis may play a role in that, along with other factors including:
 - Malnutrition
 - Limited access to clean water as well as medical care and health education
- The focus should be on:
 - Improving access to medical care
 - Encouraging medical professionals to remain in Romania
 - Improving the nutritional status of Romanians
 - Improving access to clean water
 - Increasing the standard of living in the rural areas
 - Education to improve maternal care of infants

In closing: failure to grasp the above information will ensure that EU citizens, especially the young, are at threat from inappropriate and ineffective health policies. It is time to consider a more integrated approach and focus on other important areas in tackling measles, other than vaccination. Vaccination has limits and cannot eradicate measles in large populations.

Last comment:

We urge every member of the European Parliament to be very cautious about the influential power of the pharmaceutical industry in the case of vaccine policies. We are glad to see that amendments have been made to the ENVI paper to emphasize more transparency, because any public health policy must be open to constant scrutiny, independent scientific inquiry and an open debate.

From European Parliament, press room: [“Health Committee MEPs warn against dropping vaccination rates”](#)⁴³

Transparency is particularly crucial when policies involve close collaboration between the state as regulator and the industry being regulated, not least when the industry in question has been prosecuted for corrupt practices.

Further reading: [“Corruption in the pharmaceutical sector, Diagnosing the challenges”](#)⁴⁴

Please find further information on our website: <http://www.efvv.eu>

Endnotes:

- 1 WHO press release 19. feb. 2018, [Europe observes a 4-fold increase in measles cases in 2017 compared to previous year](#)
- 2 European Parliament, news, 21.03.2018, [Vaccines: MEPs concerned about drop in vaccination rates in the EU](#)
- 3 The European Centre for Disease Control (ECDC) and prevention, in its [Rapid Risk Assessment - Ongoing outbreak of measles in Romania, risk of spread and epidemiological situation in EU/EEA countries](#)
- 4 Should vaccines really be compulsory? [MEP Piernicola Pedicini \(ENVI\)](#).
- 5 A very recent outbreak [in Portugal showed that 80% of the cases had received two doses of the measles vaccine](#)
- 6 Dagens nyheter 30.03.2018 [Mässlingsutbrottet: De flesta smittade hade tidigare skydd](#)
- 7 WHO: [Vitamin A supplementation for preventing morbidity and mortality in children from 6 months to 5 years of age](#)
- 8 Study: [The re-emergence of measles in developed countries: Time to develop the next-generation measles vaccines?](#)
- 9 Data from Czech CDC, page 24 in this report; [Víceúčelový sérologický přehled](#)
- 10 Study: [A large observational study to concurrently assess persistence of measles specific B-cell and T-cell immunity in individuals following two doses of MMR vaccine.](#)
- 11 Study: [An in-host model of acute infection: Measles as a case study](#)
- 12 David L. Levy: [HE FUTURE OF MEASLES IN HIGHLY IMMUNIZED POPULATIONS A MODELING APPROACH](#)
- 13 Study: [Difficulties in Eliminating Measles and Controlling Rubella and Mumps: A Cross-Sectional Study of a First Measles and Rubella Vaccination and a Second Measles, Mumps, and Rubella Vaccination](#)
- 14 Dr Ma et. al, Study: [Monitoring progress towards the elimination of measles in China: an analysis of measles surveillance data:](#)
- 15 G. A. Polan, [Failure to reach the goal of measles elimination: Apparent paradox of measles infections in immunized persons](#)
- 16 Wang et al in [Difficulties in eliminating measles and controlling rubella and mumps: a cross-sectional study of a first measles and rubella vaccination and a second measles, mumps, and rubella vaccination:](#)
- 17 Mandomando *et. al* writing in the [The American Journal of Tropical Medicine and Hygiene:](#)
- 18 [March 2017 ECDC report](#)
- 19 Dr Langmuir *et. al* in the February, 1962 issue of the [American Journal of Public Health and Nation's Health](#)
- 20 [Physicians for informed consent](#)
- 21 ECDC Disease [factsheet about rubella](#)

- 22 [False Positive Rubeola IgM Tests](#)
- 23 [Measles case in West Zealand](#)
- 24 [Romanian national health institute](#)
- 25 WHO: [Measles and Rubella Surveillance Data](#)
- 26 Romanian National Centre for Surveillance and Control of Infectious Disease that there have been 46 “measles deaths” in the on-going [epidemic \(2016-2018\)](#).
- 27 A Reuters article [Romania's healthcare exodus](#)
- 28 The [CDC MMRW](#) report
- 29 CDC: [Measles Outbreak -- Romania, 1997](#)
- 30 [World Vision International](#)
- 31 Romanian measles outbreaks and the [Romani community](#).
- 32 The [CDC emerging Infectious Disease journal](#)
- 33 Study [Prevalence and assessment of malnutrition risk among hospitalized children in Romania](#)
- 34 Doctors Silverdale and Montgomery in their 2009 study [Breast-feeding and a subsequent diagnosis of measles](#)
- 35 A 2014 study looking at [Vaccine effectiveness and risk factors associated with measles among children presenting to the hospitals of Karachi, Pakistan](#)
- 36 Another 2014 study researching [Infant feeding practices and maternal socio-demographic factors that influence practice of exclusive breastfeeding among mothers in Nnewi South-East Nigeria: a cross-sectional and analytical study](#)
- 37 As far back as 2012, UNICEF recognised that Romania had amongst the lowest breastfeeding rates in Europe. Reported in [Romania Insider](#):
- 38 [Associated infections from unclean water](#)
- 39 CDC: [Complications of Measles](#)
- 40 WEFC, Romania - [Safe Drinking Water](#)
- 41 Romania-insider, [EU money for access to drinking water in Romania](#)
- 42 Unicef, Romania, [Quality of health services](#)
- 43 From European Parliament, press room: [“Health Committee MEPs warn against dropping vaccination rates](#)
- 44 Transparency International, [“Corruption in the pharmaceutical sector, Diagnosing the challenges”](#)