Major measles outbreaks will likely occur during 2021 as an unexpected consequence of the COVID-19 pandemic, according to a new academic article.

The Lancet article has called for urgent international action to prevent potentially devastating measles epidemics in the coming years.

Lead author Professor Kim Mulholland, from the Murdoch Children's Research Institute and Chair of the World Health Organization's SAGE Working Group on measles and rubella vaccines, said that many children have missed out on measles vaccination this year, making future measles outbreaks inevitable.

Professor Mulholland said while 2020 had been a quiet year for measles, in part due to travel reductions and national COVID-19 control measures, the economic impacts would lead to many cases of childhood malnutrition.

Malnutrition worsens the severity of measles, leading to poorer outcomes and more deaths, especially in low- and middle-income countries.

"Children who die from measles are often malnourished, but acute measles pushes many surviving children into malnutrition," he said. "Malnutrition, along with measles-associated immune suppression, leads to delayed mortality, while co-existing vitamin A deficiency can also lead to measles-associated blindness.

"The coming months are likely to see increasing numbers of unimmunised children who are susceptible to measles. Many live in poor, remote communities where health systems are less resilient, and malnutrition and vitamin A deficiency are already increasing."

Professor Mulholland said the COVID-19 pandemic had also had a profound effect on the control of vaccine preventable diseases, with vaccination campaigns paused in the early months of 2020 and routine immunisation services greatly disrupted in many countries.

The WHO estimates that by the end of October, 2020, delayed vaccination campaigns in 26 countries have led to 94 million children missing scheduled measles vaccine doses.

"All these factors create the environment for severe measles outbreaks in 2021, accompanied by increased death rates and the serious consequences of measles that were common decades ago," Professor Mulholland said. "This is despite the fact that we have a highly cost effective way to prevent this disease through measles vaccination."

In 2019, before the pandemic started, the world experienced a dramatic return of measles, more than at any time in the past 20 years. WHO data indicates that there were 9.8 million measles cases and 207,000 deaths in 2019, 50 percent more than
Most measles deaths in 2019 have been in Africa, many associated with major outbreaks in Madagascar and the Democratic Republic of the Congo. Measles also re-emerged in South America, especially among Indigenous communities.

"The inadequate vaccination that led to the 2019 measles outbreaks has still not been adequately addressed, and the situation is now exacerbated by service disruptions during the COVID-19 pandemic so that high-risk, unimmunised children are clustered together in unreached communities," Professor Mulholland said.

The article has identified three pillars for immediate action:

- Help countries reach unimmunised children through catch-up immunisation and campaigns
- Better prepare countries for expected outbreaks. WHO and partners have developed a Strategic Response Plan to assist with measles outbreak prevention, preparedness and response
- Maintain measles and rubella elimination targets. WHO's new Measles Rubella Strategic Framework 2021?2030, aligned with the Immunization Agenda 2030 provides a plan for strengthening routine immunisation and surveillance.

Professor Mulholland said the solutions would help end the cycle of inadequate immunisation and outbreaks of the past decade.

"Without concerted efforts now, it is likely that the coming years will see an increase in measles and its severe, frequently fatal, complications," he said.
