

Impact of measles infections in England revealed

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Measles causes significant absence from school or work and has a much larger impact on people's daily lives than illnesses like flu or chicken pox, according to a new study by researchers from the London School of Hygiene & Tropical Medicine and Public Health England. The study, published in *PLOS ONE*, is the first of its kind to look at the short-term impact of measles on individuals' health-related quality of life.

The study found that, on average, [measles illness](#) lasted for almost 14 days. 63% of people reported spending time off [work](#) or school due to measles infection, and among them the average number of days missed was nearly 10 (9.6), equivalent to two working weeks. 37% of people reported that a caregiver had also stayed home from work to look after them – the average number of days away from work for the caregiver was just over seven.

The data were gathered through questionnaire responses from 203 individuals in England with confirmed cases of measles during the epidemics in 2012 and 2013. More than 90% of these respondents had not been vaccinated against measles.

Researchers also asked individuals with measles to rate their health during and after their period of sickness. They then used the standard UK measurement of Quality-Adjusted Life Years (QALYs) - a combined measure of quantity and quality of life – to assess how sick measles made people feel.

They found that people who have measles feel more unwell than people with [flu](#) or [chicken pox](#). People with measles reported that the infection had a large impact on their ability to perform their usual daily activities, and caused high levels of pain and anxiety.

The analysis showed that the average number of QALYs lost due to measles was 0.019 per patient (equivalent to 6.9 quality-adjusted life days). This compared with 0.008 QALYs (2.92 quality-adjusted life days) per patient for H1N1v influenza, as reported in other studies.

In the 12 months from 1 June 2012, Public Health England reported that there were 2,366 laboratory-confirmed cases of measles. Using these figures the researchers estimated that the overall burden of disease in terms of QALYs lost in England during this period was 44.2 QALYs.

Based on the study data, 1,534 of the individuals with measles would have taken time off work or school, resulting in 14,527 days of lost productivity over the 12 month period. An additional 904 people would have taken time off work to care for somebody with measles, giving a combined total of 23,110 days of lost productivity.

Lead author, Dominic Thorrington from the London School of Hygiene & Tropical Medicine, said: "Our study found that measles infection causes people to miss a large number of days at school or work, which has wider implications for education and the economy.

"This is the first study to collect data on how sick people with measles actually feel, which helps us to understand the impact that measles infection has on the population so that we can compare the burden of measles to other diseases. This will help policy makers decide what level of resources should be allocated to prevent or control measles outbreaks.

"It is very important that all children receive the measles vaccination, as

the virus is so highly infectious it only requires a small proportion of the community not to be vaccinated for serious outbreaks to occur."

Outbreaks of measles in the UK and many other European countries have been increasing over recent years, with around 3,207 laboratory-confirmed cases reported by Public Health England from January 2012 to the end of June 2013.

Dr Mary Ramsay, from Public Health England, who was also an author on the study, said: "Measles is normally considered a mild childhood illness, but as this research demonstrates it still has a significant impact on people's daily lives. Parents should ensure their children are fully protected against measles, mumps and rubella with two doses of the MMR vaccine to ensure protection against this potentially fatal disease.

"Parents of unvaccinated children, as well as older teenagers and young adults who may have missed MMR vaccination, should be aware it is never too late to get vaccinated against measles and they should make an appointment with their GP to get vaccinated as soon as possible."

The authors note that a limitation of the research was the fact that the study was a retrospective evaluation using self-reported metrics, although this is similar to other evaluations of the health-related quality of life loss for other infectious diseases.

More information: Dominic Thorrington, Mary Ramsay, Albert Jan van Hoek, John Edmunds, Roberto Vivancos, Antoaneta Bukasa, Ken Eames, The effect of measles on health-related quality of life: a patient-based survey. *PLOS ONE*. [dx.plos.org/10.1371/journal.pone.0105153](https://doi.org/10.1371/journal.pone.0105153)

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