



Public Health
England

Protecting and improving the nation's health

Chikungunya in England, Wales and Northern Ireland: 2014

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Introduction

Chikungunya is a mosquito-borne infection transmitted by the bite of an infected female *Aedes* mosquito. It is characterised by a sudden onset of fever usually accompanied by joint pain (arthralgia); however, symptoms can range from mild or non-existent to severe. Serious complications are not common, but, rarely, in older people the disease can contribute to the cause of death, particularly if there is other underlying illness.

Chikungunya was first discovered in Africa, although reported human infections remained at low numbers for several years. In 2005, the African strain of chikungunya virus mutated and spread across the islands of the Indian Ocean, including Réunion, Mayotte, Mauritius and the Seychelles, resulting in a major outbreak lasting several months that peaked in 2006. In 2006 to 2007 the outbreak extended to India, and has subsequently affected several other countries in South and South East Asia and the Pacific region.

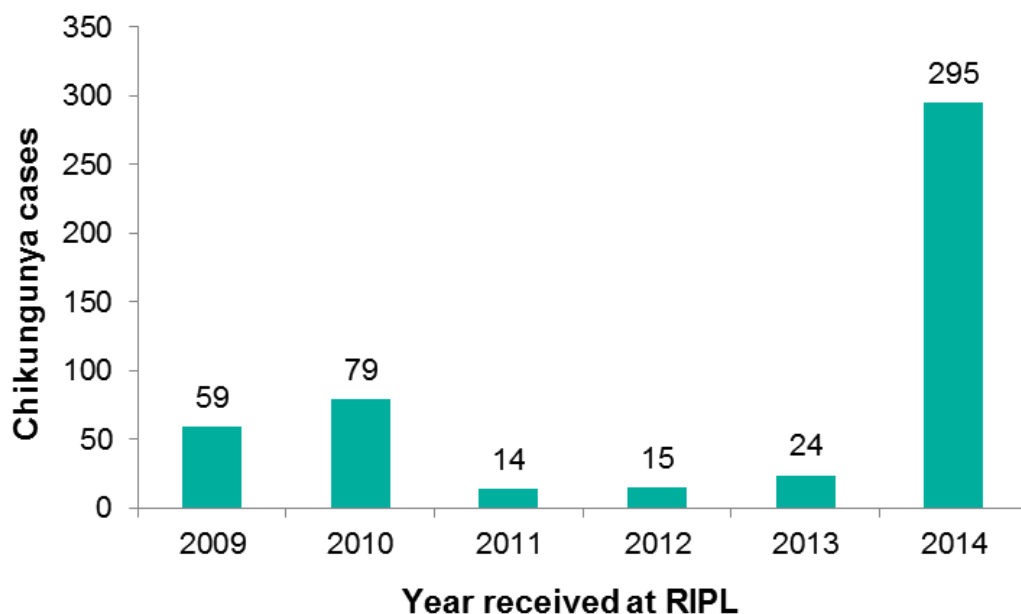
At the end of 2013, indigenously acquired chikungunya was first reported in St Martin, a French overseas territory in the Caribbean. By 13 March 2015, most countries and territories in the Caribbean and parts of South and Central America had reported cases of indigenous chikungunya. To date over 1.25 million suspected cases have been reported of which 25,400 have been laboratory-confirmed and 183 have died [1]. Chikungunya does not occur in the UK; it is a travel-associated infection. Before 2014 the majority of cases reported in the UK were acquired in the Indian Ocean islands, South and South East Asia and Africa [2].

More information about chikungunya is available at www.gov.uk/chikungunya.

General trend

In England, Wales and Northern Ireland, 295 individual cases of chikungunya infection were reported by the PHE Rare and Imported Pathogens Laboratory (RIPL) in 2014, more than a 12-fold increase compared to 2013 (24 cases) (Figure 1). Of these, 86 (29%) were confirmed cases (RT-PCR +ve and/or +ve virus isolation) and 209 (71%) were probable cases (IgM and IgG +ve and seroconversion between acute and convalescent samples). The majority of cases (207, 70%) were reported in the final quarter of the year.

Figure 1. Cases of chikungunya in England, Wales and Northern Ireland: 2009 to 2014

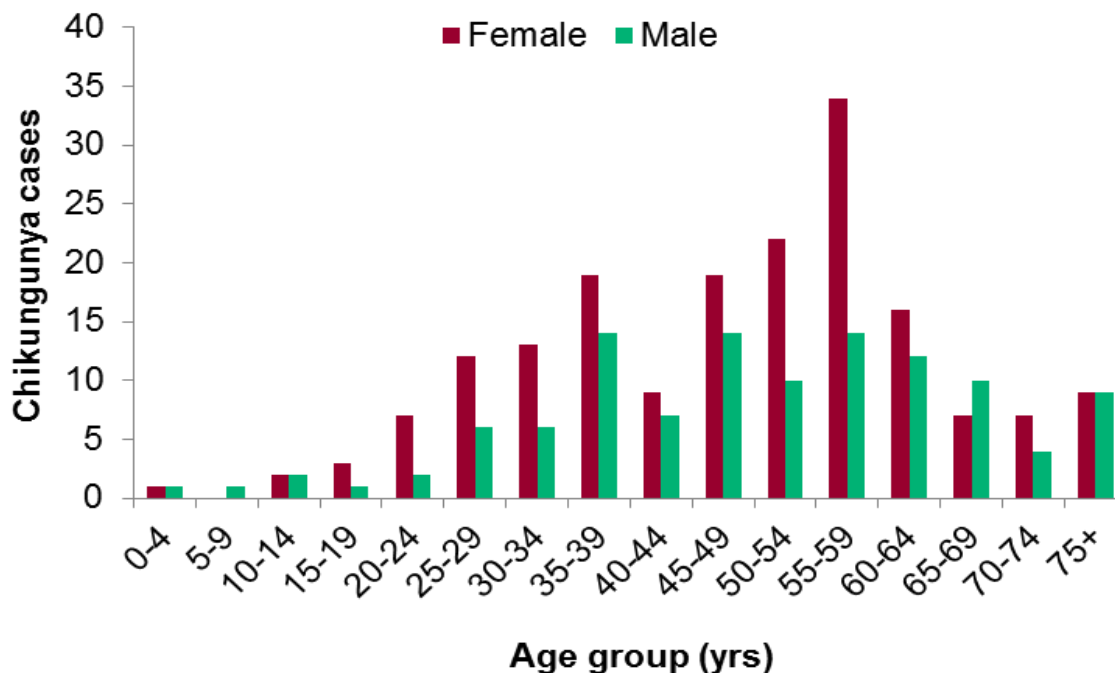


Age and sex

In 2014, age and sex were known for 293/295 cases of chikungunya in England, Wales and Northern Ireland (Figure 2), of which 61% were female. Usually there is a slight preponderance of male cases reflecting overall travel trends so the higher proportion of female cases is unusual.

In the first three quarters of 2014, 59% of visits by UK residents to the Caribbean were female [3] so this higher proportion of cases in females in 2014 is so far consistent with more recent travel trends. The median age for all cases was 51 years (range 0-87 years), reflecting the fact that almost a quarter of visits to the Caribbean by UK residents are in those aged 45-54 years [3]; there was no major difference in median age between genders (52 years for males and 50.5 years for females).

Figure 2. Cases of chikungunya by age and sex, England, Wales and Northern Ireland: 2014 (N=293)



Geographical distribution

Residential postcode is not always available for chikungunya cases, therefore the geographical region of the cases is defined by the sending laboratory. The highest number of cases are usually reported in London but all regions, including Wales and Northern Ireland, have shown an increase in case numbers in 2014 (Table 1).

Table 1. Cases of chikungunya by geographical distribution, England, Wales and Northern Ireland: 2013 and 2014

Geographical area	2014	2013
London PHE Centre	133	8
West Midlands PHE Centre	25	-
Anglia and Essex PHE Centre	17	3
Avon, Gloucestershire and Wiltshire PHE Centre	18	-
Yorkshire and Humber PHE Centre	13	4
Sussex, Surrey and Kent PHE Centre	14	2
Greater Manchester PHE Centre	11	2
Thames Valley PHE Centre	13	-
East Midlands PHE Centre	10	1
Wessex PHE Centre	8	-
South Midlands and Hertfordshire PHE Centre	7	1
Cheshire and Merseyside PHE Centre	7	-
Devon, Cornwall and Somerset PHE Centre	6	-
Cumbria and Lancashire PHE Centre	4	1
North East PHE Centre	4	-
Wales	4	2
Northern Ireland	1	-
Total	295	24

Travel history

Of 295 cases reported in England, Wales and Northern Ireland, 267 (92%) had a country/ies/region of travel stated: 244 travelled to a single country, three to two countries, one to three countries and 19 to a continental region only, making a total of 272 reported travel destinations.

Active and enhanced surveillance of chikungunya is not conducted in the UK. Clinical and travel history details for cases are dependent upon what the diagnosing clinician writes on the laboratory request form when the sample is sent to RIPL. Often clinical details such as date of onset and symptoms, past vaccination status and travel history (such as country and dates of travel) that would aid laboratory staff to confirm the diagnosis of chikungunya (or indeed other infections), are missing.

The data below should therefore be interpreted with caution, especially for travel history where more than one country has been given. It is recommended that those sending

samples to RIPL adhere to the guidance about what information to include, as set out in the [RIPL User Manual](#).

In Table 2, all reported travel destinations have been included; the majority of cases, where travel history was known (239/272, 88%), had travelled to the Caribbean and South America. Most cases were reported towards the end of the year reflecting the progress of the outbreak in this region [Figure 3].

In previous years, chikungunya cases reported in England, Wales and Northern Ireland have been associated with travel to South and South East Asia (the majority to India); of the non Caribbean/South American cases in 2014, 23 were associated with travel to South and South East Asia (same as in 2013) and eight were associated with travel to Africa (compared to two in 2013).

Table 2 Cases of chikungunya by region of travel, England, Wales and Northern Ireland: 2014 and 2013

Region of travel [4]	2014	2013
Caribbean	227	-
Southern Asia	13	10
South America	12	-
South-Eastern Asia	10	13
Eastern Africa	3	1
Western Africa	3	1
Africa unspecified	2	-
Oceania	1	1
Northern America	1	-
Unknown	28	2
Total*	300	28

* Note that the totals in Table 2 are higher than the total number of cases as four cases travelled to more than one country. All possible countries/regions of infection are included for analysis if no dates of travel or onset have been stated; in reality a case is likely to have acquired his/her infection in only one country.

Of the 12 cases acquired in South America, eight were associated with travel to Guyana, three to Colombia and one to Venezuela. A breakdown of cases acquired in the Caribbean is illustrated in Figure 4; Jamaica and Barbados were the most commonly reported countries of travel, followed by Grenada, Dominican Republic, Antigua and Barbuda, St Lucia and Trinidad and Tobago. Although all of these destinations are popular holiday destinations for UK travellers [3], there is a substantial community of migrants resident in the UK who were born in Jamaica, Grenada, Trinidad and Tobago, Barbados, St Lucia, Guyana and Colombia [5], which may also influence

the number of UK residents who travel to these countries to visit friends and relatives. Reason for travel and country of birth for cases of chikungunya, however, is not available from laboratory surveillance.

Figure 3. Cases of chikungunya by month received and destination of travel, where known, England, Wales and Northern Ireland: 2014 (N=272)

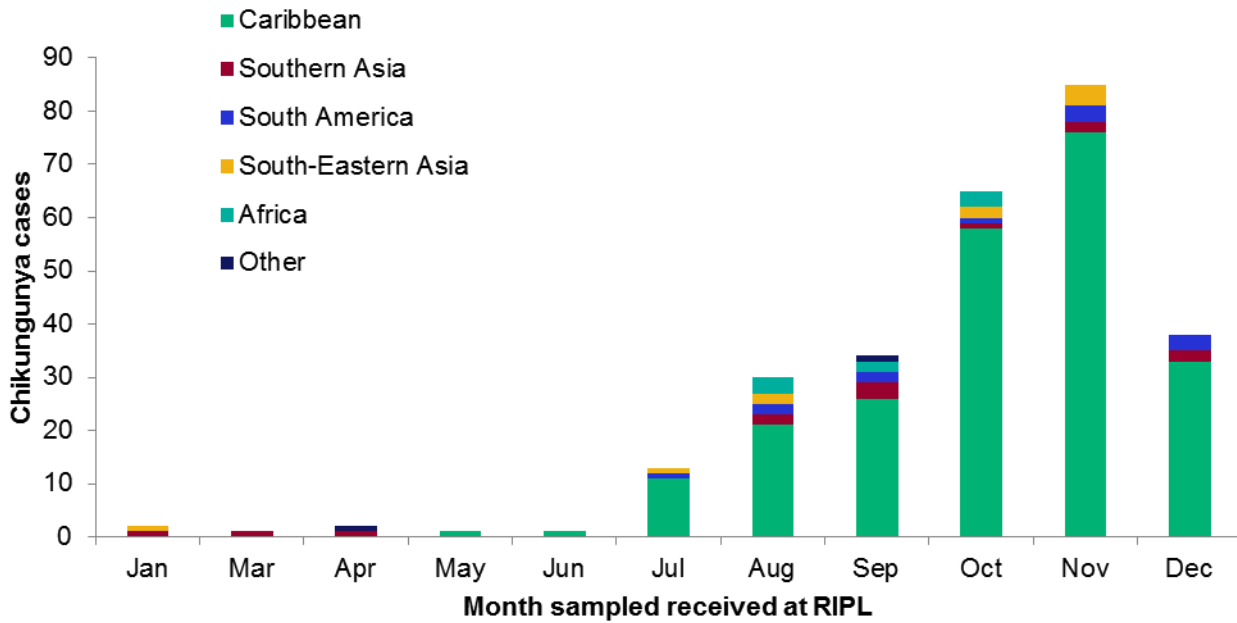
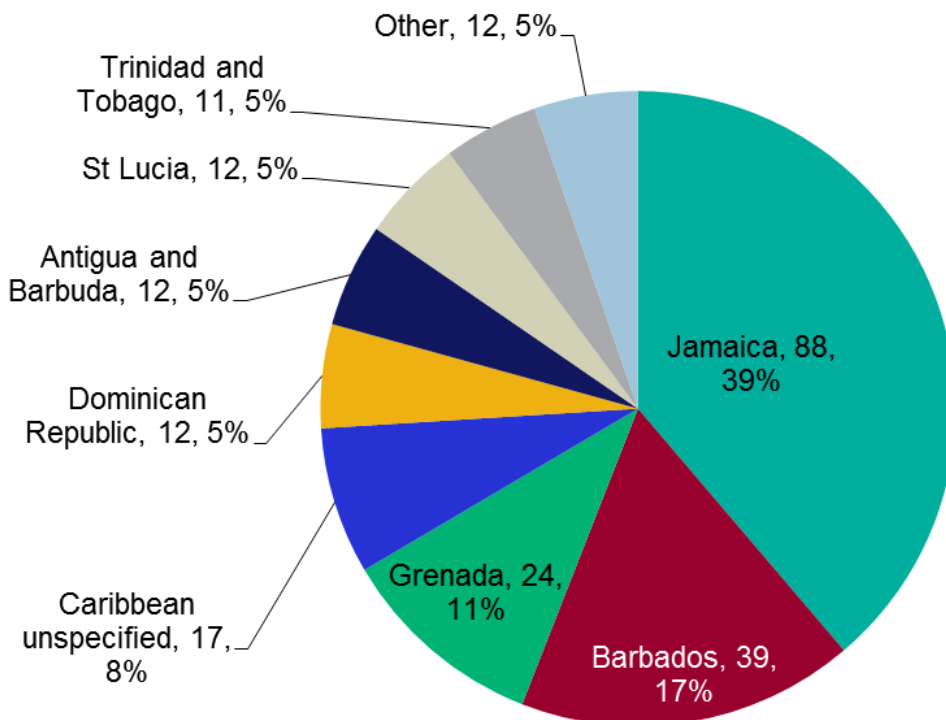


Figure 4. Cases of chikungunya acquired in the Caribbean by country of travel, England, Wales and Northern Ireland: 2014 (N=227)



The increase in chikungunya infections reported in travellers in 2014 highlights the need for increased awareness among all travellers, including those who may have been born in the country they are visiting, about the risk of chikungunya when travelling to Asia, Africa, the Caribbean, South America and the Pacific. There is no vaccine to protect against chikungunya. Precautions must be taken to avoid mosquito bites particularly during the day around dawn and dusk. Mosquito bite avoidance advice is available on the [National Travel Health Network and Centre \(NaTHNaC\) website](#).

Data sources

Chikungunya infections for England, Wales and Northern Ireland comprise laboratory reports from the PHE Rare and Imported Pathogens Laboratory, Porton Down (extracted using laboratory receipt date). Data cleaning and analysis were undertaken by the PHE Travel and Migrant Health Section, Colindale.

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