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HIV's spread around Europe mapped

Scientists who have mapped HIV's spread across Europe say holidaymakers infected abroad are largely to blame.

By analysing samples from 17 European countries, the international team tracked the movement of the virus around the continent.

Their map shows Greece, Portugal, Serbia and Spain are big HIV exporters, with many tourists to and migrants from these countries leaving with the virus.

The UK is an exporter and importer, *Retrovirology* journal says.

The same is true of Israel, Norway, the Netherlands, Sweden and Switzerland, while countries like Austria, Belgium, Denmark, Germany and Luxembourg are largely importers of HIV, the researchers say.

[See the map](#)

In Poland, HIV is contained but is spread among its inhabitants because of injecting drug-users, the research group found.

To construct their map, the researchers looked at the most common type of HIV circulating in Europe, known as HIV-1 subtype B.

They tracked its migration by creating a family tree for the virus, looking at detailed genetic characteristics that reveal how the virus has been evolving over time.

Lead author Dimitrios Paraskevis, of the University of Athens, said: "Popular tourist destinations like Greece, Portugal and Spain probably spread HIV with tourists infected during their holidays."

In the case of Serbia as an exporter, it is most likely down to its inhabitants travelling to other countries and carrying the virus with them, he said.

However, the researchers also noted that although, overall, Serbia is more of an HIV exporter than an importer, in the league of the HIV-exporting countries, Serbia does not rank very high. Indeed, some of the countries deemed bidirectional (both importers and exporters) ranked higher.

He said: "To a large extent HIV spread within Poland is due to injecting drug-users, who make up around half of the HIV-infected population.

"Viruses move around with travellers - thus health programmes within countries should not only target the national populations, prevention efforts must also be aimed at migrants, travellers and tourists - who are both major sources and targets of HIV."

Rowan Harvey, of the Terrence Higgins Trust, said: "HIV isn't constrained by borders, it's a global epidemic and there are bound to be patterns of transmission between countries.

"Tourists travelling abroad should definitely pack condoms, but people should also be aware that HIV is at its highest level in the UK as well.

"To protect yourself from HIV and other sexually transmitted



Spain is of the most wide-ranging HIV exporters

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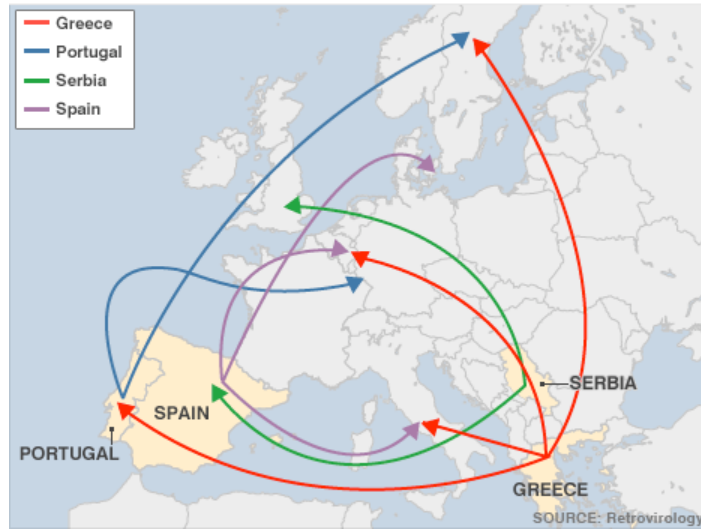
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infections, safer sex is essential both at home and abroad."

MAJOR ROUTES OF HIV SPREAD IN EUROPE



Adapted from the researchers' original map to show the main exporter countries

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Holiday hotspots driving HIV spread

Press Association, Wednesday May 20 2009

Sun, sea and sex holiday destinations have been a major driving force behind the spread of HIV in Europe, a study has suggested.

Greece and Spain are two of the most wide ranging HIV exporters, according to a new map following the march of the Aids virus.

HIV was tracked from both holiday hotspots to seven and five countries respectively.

Portugal, Serbia and Holland also played a major role in the widespread migration of HIV. Other countries - mostly those without popular seaside resorts - had narrower avenues of infection transmission.

Austria, Poland and Luxembourg made no significant contribution to HIV spread, but imported the virus from other countries.

Italy exported infections primarily to Austria while Portugal's main target was Luxembourg. Around 13% of Luxembourg's population is Portuguese. Although Holland does not attract seaside revellers, Amsterdam is a top sex tourism destination.

The map was constructed from genetic information taken from viruses sampled from 16 European countries plus Israel. Researchers focused on the HIV-1 subtype B virus, the most prevalent form of HIV circulating in Europe.

The UK was both a significant exporter and importer of the virus, as were Italy, Israel, Norway, Holland, Sweden and Switzerland.

Dr Dimitrios Paraskevis, from the University of Athens, who led the study reported in the journal *Retrovirology*, said: "Viruses move around with travellers - thus health programmes within countries should not only target the national populations, prevention efforts must also be aimed at migrants, travellers and tourists, who are both major sources and targets of HIV."

Lisa Power, head of policy at the Terrence Higgins Trust charity, said: "This doesn't come as any surprise. We've known for some time with high levels of mobility in the world these days that it's very easy for viruses to move around. What it tells us is that you can't limit HIV prevention and support just to permanent residents."

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Differences in HIV transmission mapped

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ATHENS, Greece, May 19 (UPI) -- ATHENS, Greece, May 19 (UPI) -- Those travelling abroad should take seriously advice to pack their condoms and keep any needles to themselves, a virologist in Greece advises.

Dr. Dimitrios Paraskevis, a virologist at the National Retrovirus Reference Center at the National and Kapodistrian University of Athens, says tourists, travelers and migrants from Greece, Portugal, Serbia and Spain actively export HIV-1 subtype B to other European nations.

An international team of scientists used samples from 17 European countries to construct a viral phylogeography -- a geographic pattern of genetic information taken from viruses at a number of locations that track how and when it spread.

No significant exporting migration of HIV-1 subtype B was observed in Austria, Poland and Luxembourg. However, Greece, Portugal, Serbia and Spain were a source of subtype B to other countries.

The study, published in the journal *Retrovirology*, found the virus spread widely from Greece and Spain to seven and five target countries respectively. Other countries had narrower targets, with Italy exporting HIV to Austria, and Portugal passing the virus primarily to Luxembourg -- some 13 percent of Luxembourg's population is Portuguese.

Other nations such as Austria, Belgium, Denmark, Germany and Luxembourg showed only limited export of HIV-1 subtype B, while for Italy, Israel, Norway, the Netherlands, Sweden, Switzerland and Britain the authors inferred significant bidirectional migration. No significant migration was found in Poland.

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