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TECHNICAL REPORT

A scoping review of point-of-care testing devices for infectious disease surveillance, prevention and control

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Abbreviations

AMR	Antimicrobial resistance
DDP	Dual Path Platform
DNA	Deoxyribonucleic acid
EAEC	Enteroaggregative Escherichia coli
EEA	European Economic Area
EIEC	Enteroinvasive Escherichia coli
ELISA	Enzyme-linked immunosorbent assay
EPEC	Enteropathogenic Escherichia coli
ETEC	Enterotoxigenic Escherichia coli
EU	European Union
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIV	Human immunodeficiency viruses
HRP	Histidine rich protein
ISO	International Organization for Standardization
LAMP	Loop-mediated isothermal amplification
MeSH	Medical Subject Headings
MRSA	Methicillin resistant Staphylococcus aureus
PCR	Polymerase chain reaction
POC	Point-of-care
POCT	Point-of-Care Testing
PRESS	Peer-Review of Electronic Search Strategies
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews
QA	Quality assurance
RCT	Randomised control trial
RNA	Ribonucleic acid
RSV	Respiratory syncytial virus
SARS	Severe acute respiratory syndrome
STEC	Shiga toxin-producing Escherichia coli
STI	Sexually transmitted infection
TB	Tuberculosis
TP	Treponema pallidum
VTEC	Verocytotoxin-producing Escherichia coli
WHO	World Health Organization

Executive summary

The ability to rapidly diagnose infectious diseases is critical, not only for appropriate and timely treatment of infected patients, but also for infectious disease surveillance, the detection of outbreaks and controlling the rapid spread of infectious diseases nationally and internationally. Point-of-care testing (POCT) for infectious diseases represents a set of technologies that can lead to the rapid detection of such diseases which can influence the way patients are treated for suspected infectious diseases.

This document provides the final report of a scoping review undertaken as part of a wider study on the 'Assessment of point of care testing devices for infectious disease surveillance, prevention and control' that was commissioned by ECDC and undertaken by RAND Europe between November 2019 and April 2020. The objective of the wider project was to assess the availability, use and impact of point-of-care testing devices (POCT) in the EU/EEA Member States and the UK for communicable diseases under EU surveillance. Please note that the data collection was undertaken in 2019, from EU/EEA Member States, thus the UK was still a Member State of the EU at this time. This explains the inclusion of UK data in this report. The project included two parts, a scoping review and a mapping exercise. The objective of the scoping review was to obtain an overview of available POCT devices in Europe and their use for the 56 specific communicable diseases currently under EU surveillance and related health issues.

The final scoping review protocol was developed following the PRISMA-ScR checklist. A broad literature search protocol was developed with corresponding broad inclusion criteria (e.g. any POCT device; any EU/EEA Member State and the UK; any of the infectious diseases of interest). The scoping review focused on academic literature and was limited to between 2014 and 2019. Four databases of peer-reviewed scientific literature were searched to ensure we identified as much of the relevant literature as possible: (1) PubMed, (2) Embase.com (Elsevier), (3) Cochrane Library (Wiley) and (4) Scopus. We ran the database/repository searches between the 15th–22nd November 2019 which returned 11 728 results. Whether a study met the inclusion criteria was based on screening the title and abstract.

Of the results, 1 315 articles were taken forward and 350 articles fully extracted and analysed. Literature reviews formed the largest group of articles, accounting for 115 of the 350 articles. Evaluation studies were the second largest category of reviewed articles, forming 102 of the 350 articles and observational studies made up 37 of the articles. A large number of studies had patients or the general population as their population (148 studies). The majority of the evaluation studies, comparative studies, observational studies and RCTs recruited patients or the general population for the study. The most common study setting was a laboratory (i.e. non-clinical, with the study/evaluation carried out in a laboratory), with 51 studies conducted in this setting. Twenty-four took place in an emergency department and 47 in other secondary care settings. The country with the most conducted studies was the UK (58 studies), closely followed by France (55 studies).

The reviewed literature covered 44 of the diseases/pathogens of interest. The most frequent disease of focus was HIV, covered in 108 studies, followed by influenza (89 studies) and tuberculosis (37 studies). The diseases with the largest number of available POCT devices were influenza (65 devices for all types of influenza) HIV (23 devices) and hepatitis C (11 devices). Out of those POCT devices in which turnaround time was specified, most provided results between 10 and 29 minutes (145 tests). A smaller number provided results in 30-59 minutes (53 tests) and 60-90 minutes (63 tests). Only 33 devices provided results in less than 10 minutes. In most cases, the POCT devices were used only for detection/diagnosis of an infectious disease (252 devices). Very few were used to detect antimicrobial resistance (AMR) or for other (non-detection/diagnosis) reasons. Of the articles that discussed the clinical and patient impact of POCT (69 articles), most described a positive impact, such as allowing for more appropriate use of antimicrobials, reducing the time to diagnosis or treatment, or reducing likelihood of hospital admissions, length of hospital stay and/or waiting times.

Scoping reviews do not aim to critically appraise the literature, nor to provide a synthesised answer to the type of research question typically answered by a systematic review. Although we maintained a broad scope in most areas (e.g. any POCT device, any of the infectious diseases of interest), we only included literature published in English in 2014-2019 and studies conducted in EU/EEA Member States and the UK. This may have led to the exclusion of articles discussing POCT devices in their early development in regions outside the EU/EEA Member States and the UK which may be relevant to an EU/EEA context.

For many years, POCT has been applied to detect and diagnose a range of infectious diseases in a short amount of time and with limited resources and infrastructure, effort and skill required. The ongoing COVID-19 pandemic has highlighted the importance of developing and deploying, on a large scale, POCT devices to detect infectious diseases both for medical care as well as for public health risk management. This is important both to identify when an individual is currently infected and when an individual has been previously infected and recovered. Therefore, an update of this scoping review to include COVID-19 POCT devices would be of value, to document studies performed on their potential usefulness and public health effectiveness in Europe.

1 Introduction

1.1 Background and context

The ability to rapidly diagnose infectious diseases is critical, not only for the appropriate and timely treatment of infected patients, but also for infectious disease surveillance, the detection of outbreaks, and controlling the rapid spread of infectious diseases nationally and internationally. Point-of-care testing (POCT) for infectious diseases represents a set of diagnostics that can lead to the rapid detection of such diseases and influence the way patients are treated for them. The International Organization for Standardization (ISO) defines POCT and near-patient testing for any disease (not just infectious diseases) as 'testing that is performed near or at the site of a patient with the result leading to possible change in the care of the patient' [1]. Throughout Europe and internationally, POCT is used across a variety of settings, including intensive care settings, neonatal and birthing units, operating theatres, general practice, nursing homes, pharmacies, outpatient and off-site clinics and in-home patient care [2], although self-testing is excluded from the ISO definition of POCT [1].

The availability and use of POCT has been increasing in recent decades, both within Europe and internationally [2]. Their increased availability is partly due to technological advances that have made them more robust, easy-to-use and cost-effective, including advances in cell-phone based technologies, lab-on-a-chip platforms, novel assay formats, e.g.[i] automated assays and fully integrated assays (which include all the required reagents and equipment), and advances in the long term storage of reagents needed for POCT [3-5]. Among recent developments, advancements in microfluidics have been of particular importance, allowing tests that were traditionally performed in a central laboratory setting to be performed nearer to the patient, and even in resource-limited settings lacking highly trained staff [4, 5].

The immediate goal of POCT is to use the information it can provide to directly influence the timely and proper care of patients [4]. As such, one of the primary benefits of the tests is that it makes testing for infectious diseases more accessible regardless of existing medical and laboratory infrastructure [3-5]. By making test results available more quickly at the site where the patient is cared for, POCT facilitates more timely and appropriate treatment, for example by avoiding presumptive treatment based on clinical diagnosis rather than confirmed laboratory diagnosis [4]. POCT can also potentially facilitate more efficient care pathways, e.g. avoidance of unnecessary additional laboratory testing if a POCT is negative or admission to an appropriate isolated ward if a POCT is positive, and facilitating better decision-making, leading to fewer complications or a reduction in long-term hospital stays [2].

POCT can also help enable the effective surveillance, prevention and control of infectious disease outbreaks. For example, POCT can be useful in monitoring and containing the spread of malaria, dengue and Ebola viruses, as there is often a lack of trained staff and reliable equipment in areas where these infectious diseases are most prevalent. POCT can help detect and prevent the spread of infectious diseases such as human immunodeficiency virus (HIV) by ensuring that patients are diagnosed at an earlier stage, decreasing unknowing transmission to others. POCT can also make testing more readily available to individuals that may be more at risk of HIV, and who may be lost to follow up if test results require multiple visits [5]. POCT can also be used to distinguish infectious diseases such as Zika virus disease from other febrile illnesses and can help ensure that blood supplies are safe from diseases which can be transmitted through infected blood donations [5]. The use of POCT in infectious disease surveillance, prevention and control is supported by ECDC. For example, in the guidance on infectious disease screening in migrants within European Union (EU)/European Economic Area (EEA) countries, ECDC recommends POCT in primary care settings for HIV, hepatitis B and hepatitis C [6]. The use of POCT also helps address issues around antimicrobial stewardship by avoiding the inappropriate use of antimicrobials for presumed infectious diseases. Avoiding unwarranted use of antimicrobials has been highlighted as an important strategy to help address global challenges around antimicrobial resistance [7, 8].

[i] An assay is a type of test which identifies whether a certain substance is present and the amount of the substance in a sample.

Although POCT for infectious diseases can be beneficial to patient-level care and public health outcomes, there are also several challenges around POCT. Compared to traditional lab-based serological tests, some point-of-care (POC) tests demonstrate low diagnostic accuracy (e.g. sensitivity and specificity[i]) [3, 5], particularly at low concentrations of infectious agent in clinical specimens [4]. As such, results from POCT testing need to be understood in this context, and additional confirmatory tests may sometimes be needed [2].[ii] Connectivity of POCT technology to integrate POCT results with hospital- and lab-based information is also a challenge [3]. Connectivity and real-time data linkages are especially important in relation to the national and international surveillance of infectious diseases, and additional efforts to standardise data and coordinate between stakeholders may open up new possibilities for rapid testing to be used to improve disease surveillance and epidemic preparedness [9].

1.2 Study objectives

The objective of the scoping review was to obtain an overview of available POCT devices in Europe and their use regarding the 56 specific communicable diseases and related health issues that are currently under EU surveillance. The scoping review provided an estimate of the size and nature of the scientific literature available on POCT devices for infectious diseases in Europe and an overview of which of the 56 diseases and related health issues under ECDC surveillance are covered by these POCT devices. The scoping review includes an overview of the POCT devices that are available and the settings in which they are used, as well as their sensitivity, specificity and the clinical impact covered in the available literature. Providing an overview of an area such as this can be accomplished with a scoping review. This type of evidence synthesis aims to bring together the evidence for a particular area to understand the amount and type of available data on the topic at a high level. It does not critically appraise the evidence base nor provide a synthesised answer to a specific research question, such as the effectiveness of an intervention [10]. In the light of the very large number of search results initially returned, we subsequently agreed with ECDC to modify the inclusion criteria of the scoping review protocol to include only POCT studies which originated from EU and EEA countries. Furthermore, we only included articles referencing rapid tests when there was an indication that the rapid test was a point of care device.

The aims of this scoping review are presented below. The synthesis of available evidence will enable us to better understand the type and characteristics of studies that have been conducted on POCT in EU/EEA Member States countries and the UK, and the diseases POCT are available for across the EU and EEA. The data from the can also support work related to POCT, such as the development of strategies across EU/EEA Member States and the UK and other future activities relating to POCT.

Research questions for scoping review study on point-of-care testing devices for infectious disease surveillance, prevention and control:

- For which of the 56 communicable diseases under EU surveillance and their related health issues do POCT devices exist?
- For the 56 communicable diseases under EU surveillance and their related health issues, how many systematic reviews, (comparative) primary research studies and/or mathematical modelling studies of POCT have been published over the last five years?
- What are the main study characteristics (e.g. type of study, size and setting), the main findings of the identified reviews and studies, and which countries contributed (were EU/EEA Member States and the UK involved)?

Information from this scoping review study has also helped to inform a mapping exercise examining the use of POCT in EU/EEA Member States countries and the UK, which was conducted in parallel with this scoping review. Both the scoping and mapping studies will feed into a possible consultative technical meeting that will bring together a variety of stakeholders to discuss and debate the emerging findings of the scoping review. The purpose of the meeting is to assess the use and potential impact of POCT devices in EU/EEA Member States and the UK on public health key functions, particularly infectious disease diagnosis, surveillance and outbreak detection.

[i] The sensitivity refers to a diagnostics test's ability to correctly diagnose an individual with a disease (true positive). The specificity refers to a diagnostics test's ability to correctly identify an individual without a disease (true negative).

[ii] To help address some of the challenges around differing qualities and standards for POCT devices, WHO put together the ASSURED criteria, stating that POCT should be: Affordable; Sensitive; Specific; User-friendly; Rapid and robust; Equipment-free; and Deliverable to end-user [10].

1.3 Structure of this report

The following table provides a high-level mapping of the research questions linked to the part of the document where the relevant discussion can be found.

Table 1. Mapping of the research questions

Research question	Relevant section number(s)	Description of content
For which of the 56 communicable diseases under EU surveillance and their related health issues do POCT devices exist?	Section 3.3.1 and 3.2.7	Section 3.3.1 outlines the names of the POCT tests included in the studies and the diseases they are used for. Section 3.2.7 outlines the diseases covered in the reviewed studies.
For the 56 communicable diseases under EU surveillance and their related health issues, how many systematic reviews, (comparative) primary research studies and/or mathematical modelling studies of POCT have been published over the last 5 years?	Section 0	Section 0 outlines the types and number of each study type.
What are the main study characteristics (e.g. type of study, size and setting) and the main findings of the identified reviews and studies and which countries contributed (where EU/EEA Member States and the UK countries are involved)?	Section 0 (publication date), section 4 (size of study population), section 0 (study setting), section 3 (study population), section 0 (contributing countries), section 3.3 (characteristics of POC tests), section 4 (clinical impact of POC tests) and section 5 (themes of other key findings of the studies).	Sections 0 to 0 outline the main characteristics of the studies. Section 3.3 outlines the key characteristics of the POC tests, including: name, description, diseases covered, turnaround time, intended use and efficacy. Section 3.4 discusses the clinical impacts of introducing POC tests. Section 3.5 summarises the themes arising from the other key findings of the studies.

The remainder of the report is structured as followed:

- Section 2 describes our research approach to the scoping review, including a description of the primary tasks and the associated methodologies.
- Section 3 presents our results in the form of tables, graphs and associated narrative. It also includes the limitations associated with the present review.
- Section 4 provides some concluding remarks about our findings.

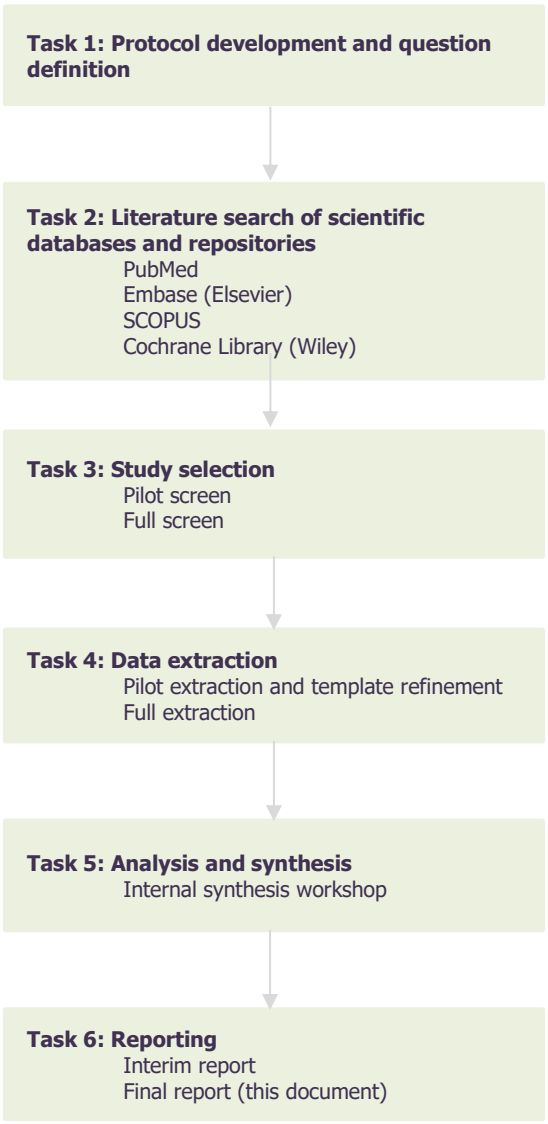
Finally, the annexes contain (i) the PRISMA-ScR checklist [11] for this scoping review (0); (ii) the specific search strategies for the different databases and repositories (0); (iii) information on the drop-down menus used in the extraction template (0); and (iv) the data tables for the results graphs (0).

2 Research approach

2.1 Overview of methods

A scoping review aims to provide an overview of the evidence base of a particular topic, in this case, POCT. This enables us to understand what evidence is available on the use of POCT across EU/EEA Member States and the UK, as well as a high-level overview of the diseases POCT is available for and the key characteristics of the POCT devices used in the reviewed literature. Therefore, we designed the scoping review approach to support us in understanding the size and characteristics of the literature on the topic of POCT. The data from this review will also feed into development and design of the technical meeting which is the next planned stage of this research. The scoping review aims discussed in Section 1.1 are addressed through six main tasks illustrated in Figure 1. We describe each of these tasks in more detail below.

Figure 1. Overview of scoping review tasks



2.1.1 Task 1: Protocol development

The final scoping review protocol was developed following the PRISMA-ScR checklist [12]. This ensured we had considered all the preferred reporting items when designing the research approach. The final protocol provided a detailed overview of the methodology, including the literature search protocol. The PRISMA-ScR checklist can be found in 0.

2.1.2 Task 2: Literature search

We searched for publicly available literature on the availability and use of POCT in EU and EEA countries. The scoping review focused on academic literature and was limited to between 2014 and 2019. The literature search protocol was peer-reviewed by ECDC using the PRESS approach (Peer-Review of Electronic Search Strategies) [13]. We followed the ISO definition of POCT outlined in section 1 and discussed additional parameters to define what tests could be classified as point-of-care with ECDC. These parameters are outlined in Table 3.

As the aim of a scoping review is to collate the evidence base on a particular topic, we chose to search four databases of peer-reviewed scientific literature to ensure we identified as much of the relevant literature as possible. These were: (1) PubMed, (2) Embase.com (Elsevier), (3) Cochrane Library (Wiley) and (4) Scopus.[i] The approach to searching each database followed the same structure, however, each was tailored slightly to meet the search requirements of the database it was being used for, such as using MeSH terms in PubMed or introducing the use of proximity operators. The literature search protocol for each database can be found in 0.

We ran the database/repository searches from the 15 - 22 November 2019 and returned a total of 11 728 results (titles/abstracts). We present a summary of the search results broken down by database/repository in Table 2. We brought the results together using EndNote X8.2 and EndNote X9 reference management software.

Table 2. Summary of search results from scientific database searches

Database/repository	Total number of results	Total number of results minus duplicates from previous database searches
PubMed	8 358	5 345
Embase (Elsevier)	12 566	3 987
Cochrane Database of Systematic Reviews (Wiley)	792	118
SCOPUS	13 212	2 278
Total for PubMed, Embase, Cochrane and SCOPUS, excluding duplicates		**11 728**

2.1.3 Task 3: Study selection

The selection of studies to include in the scoping review was based on a set of inclusion and exclusion criteria, designed in consultation with ECDC (Table 3). Whether a study met the inclusion criteria was based on screening the title and abstract.

Table 3. Inclusion and exclusion criteria for studies in the scoping review

Criteria	Inclusion criteria	Exclusion criteria
Population/topic of interest	Anthrax and its causative agent(s) Avian influenza in humans and its causative agent(s) Botulism and its causative agent(s) Brucellosis and its causative agent(s) Campylobacteriosis and its causative agent(s) Chikungunya virus disease and its causative agent(s) Chlamydia infections and its causative agent(s) Cholera and its causative agent(s) Cryptosporidiosis and its causative agent(s) Dengue and its causative agent(s) Diphtheria and its causative agent(s) Echinococcosis and its causative agent(s) Giardiasis and its causative agent(s) Gonorrhoea and its causative agent(s) Hepatitis A and its causative agent(s) Hepatitis B and its causative agent(s) Hepatitis C and its causative agent(s) HIV infection and AIDS and its causative agent(s) Infections with *Haemophilus influenzae* group B and its causative agent(s) Influenza – including influenza A(H1N1) and its causative agent(s) Invasive meningococcal disease and its causative agent(s) Invasive pneumococcal disease and its causative agent(s) Legionnaires' disease and its causative agent(s) Leptospirosis and its causative agent(s) Listeriosis and its causative agent(s) Lyme neuroborreliosis and its causative agent(s) Malaria and its causative agent(s) Measles and its causative agent(s)	Any other diseases/pathogens

[i] The initial scoping review protocol indicated that we would also search the Medline database. However, the research team librarian confirmed that PubMed contains Medline in its entirety, and Medline is searched as a part of the PubMed database. As our PubMed searches would therefore retrieve articles in Medline we agreed that we would not search Medline separately.

Criteria	Inclusion criteria	Exclusion criteria
	Mumps and its causative agent(s) Pertussis and its causative agent(s) Plague and its causative agent(s) Poliomyelitis and its causative agent(s) Q fever and its causative agent(s) Rabies and its causative agent(s) Rubella and its causative agent(s) Salmonellosis and its causative agent(s) Severe Acute Respiratory Syndrome (SARS) and its causative agent(s) Shiga-toxin/verocytotoxin-producing *Escherichia coli* (STEC/VTEC) infection and its causative agent(s) Shigellosis and its causative agent(s) Smallpox and its causative agent(s) Syphilis and its causative agent(s) Tetanus and its causative agent(s) Tick borne encephalitis and its causative agent(s) Toxoplasmosis, congenital and its causative agent(s) Transmissible spongiform encephalopathies and its causative agent(s) Trichinellosis and its causative agent(s) Tuberculosis and its causative agent(s) Typhoid and paratyphoid and its causative agent(s) Tularaemia and its causative agent(s) Variant Creutzfeldt–Jakob's disease and its causative agent(s) Viral haemorrhagic fever and its causative agent(s) West Nile virus infection and its causative agent(s) Yellow fever and its causative agent(s) Yersiniosis and its causative agent(s) Zika virus disease and its causative agent(s) Congenital Zika virus disease and its causative agent(s) *Streptococcus pneumoniae* *Staphylococcus aureus* *Enterococcus faecium* *Enterococcus faecalis* *Escherichia coli* *Klebsiella pneumoniae* *Acinetobacter baumannii complex* *Pseudomonas aeruginosa* *Clostridium difficile* *Candida spp.* *Staphylococcus argenteus* Antimicrobial resistance in any of the above pathogens/conditions	
Population/topic of interest	Studies conducted in EU/EEA Member States and the UK countries	Studies conducted in non-EU/EEA Member State countries and the UK
Intervention	Rapid (up to 90 minutes) Portable or handheld (do not require laboratory infrastructure) Delivered to end users At least being tested in humans	Does not meet all the requirements for inclusion Devices that are being developed but have not reached the stage of testing in humans
Comparison	Any or no comparison	N/A
Outcome	Communicable disease surveillance, prevention, and control	Uses of POCT other than for communicable disease surveillance, prevention, and control
Study	Peer reviewed article; article in press; conference paper; review; data papers; short survey; clinical trial (all human types); case reports; collected work; comparative study; congress; dataset; equivalence trial; evaluation studies; government document; guideline; historical article; interview; legal case; legislation; meta-analysis; multi-centre study; observational study; practice guideline; randomised control trial; Research Support, N.I.H., Extramural; Research Support, N.I.H., Intramural; Research Support, U.S. Government; systematic review; technical report; twin study	Conference abstract; conference review; editorials; erratum; letter; note; book or book chapter; business article or press; autobiography; bibliography; veterinary studies; dictionary; duplicate publication; expression of concern; Festschrift; interactive tutorial; Introductory Journal Article; lecture; news; newspaper article; overall; patient education handout; periodical index; personal narrative; portrait; publication components; publication formats; publication type category; Research Support; American Recovery and Reinvestment Act; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, Non-P.H.S; Research Support, U.S. Gov't, P.H.S.; Scientific Integrity Review; study characteristics; support of research; validation studies; video-audio media; webcasts
Date	Published between 01 January 2014 and 15-21 November[i] 2019	Published before 2014
Language	English	Non-English

i The searches of the four databases were conducted on different days in November which is why this date ranges across multiple days.

Before starting the screening to select the studies to include in the scoping review, a pilot screening exercise was conducted with the research team. The aim of this exercise was to ensure the research team had a shared understanding of the inclusion/exclusion criteria and to further refine these criteria if necessary. Three reviewers took part in the pilot exercise on 2 December 2019. Each reviewer screened the same 45 articles, which were selected in a pseudorandom fashion by assigning each article from the combined EndNote file with a random number in Excel and then sorting these numbers from smallest to largest. The first 45 articles were selected for the pilot screen. After screening these 45 articles, the three screeners met with the project leader and manager to discuss the studies identified as relevant from the set of 45 and ensure they met the inclusion criteria.

Based on the results of the pilot screening exercise, it became evident that adhering to the original scope of the review, which was to cover articles from any country, would lead to an unmanageable number of articles within the resources available for the project to take forward to the extraction phase. Therefore, in consultation with ECDC, we modified the inclusion criteria of the scoping review protocol so that only POCT studies originating from EU and EEA countries were eligible for inclusion. Those articles that had already been screened were subsequently re-screened to exclude any articles from non-EU/EEA countries. Articles that did not mention the location of the study were included at the screening stage and their location was assessed from the full text and excluded at this stage if it was non-European.

In addition, results from the pilot screening exercise also demonstrated that many articles mention 'rapid testing' in the abstract but do not provide any further information to indicate whether it is referring to a POCT device. In consultation with ECDC, the scoping review protocol exclusion criteria were further modified so that articles which mentioned rapid testing in the abstract without further information to indicate it is a POCT device (such as providing results in less than 90 minutes, portable and/or limited expertise needed for its use) would be excluded. As with the change in inclusion criteria, we re-screened the articles that had already been screened to exclude those that did not provide an indicator that it is a POCT device.

We divided the remaining 11 683 references (11 728 minus 45 from the pilot screening) evenly among four screeners by author last name.

2.1.4 Task 4: Data extraction

After selecting relevant studies during the screening stage, the research team proceeded to data extraction for these studies. The same members of the research team who screened the articles conducted the extraction to keep analysis as consistent as possible and input data into an Excel extraction template (see Table 4). While each team member worked independently, the reviewers communicated regularly regarding any uncertainties about how to extract the data from the studies to resolve any issues early on and to facilitate a consistent approach across the team. If the full text was not available to the research team, any available relevant data were extracted from the abstract of the study.

To refine and finalise the extraction template, a sample extraction of 39 articles was agreed within the project team. We designed the extraction to facilitate the filtering, summarising and analysis of the extracted data in Task 5. Columns were included in the extraction template to answer the research questions, covering the characteristics of the relevant studies, the diseases covered and the key findings relevant to POCT. Where possible, drop-down options were provided in the Excel template to limit the data that could be inputted, helping to facilitate data cleaning and analysis. The drop-down menus are presented in 0.

Table 4. Data extraction table for the scoping review[i]

Citation	Include/exclude based on full-text. If exclude, stop here.	Study/document type	Study size	Study population	Study aims/objectives	Contributing countries	Communicable disease/pathogen and related health issue

Name of POCT device	Description of the POCT device	POCT only used for research recruitment? Yes/no	Turn around time	Study setting (i.e. hospital, home, primary care, community, laboratory)

[i] The drop-down menus are presented in 0.

Intended use	Intended use category	Actual use	Actual use category	Specificity range	Actual specificity	Sensitivity range	Actual sensitivity	Clinical impact	Other key findings

2.1.5 Task 5: Analysis and synthesis

Once we had compiled the Excel extraction table we imported it into R, a statistical computing and graphics software.[i] We used this package to analyse all data recorded using drop-down menus or short-answer formats. These analyses explored the following aspects of the reviewed literature:

- The disease(s)/pathogen(s) of focus;
- The country (s) the study took place in;
- The year the study was published in;
- The type of study;
- The size of the study population;
- The study setting;
- The name of the POCT;
- The intended use of the POCT;
- The turnaround time of the POCT;
- The sensitivity and specificity of the POCT.

These analyses were all conducted by one member of the research team, with ongoing discussions involving other members to ensure a consistent approach across the analyses.

We conducted a manual qualitative analysis in Excel of some open text data in the extraction template to identify and quantify common themes across the papers. This was conducted for data relating to the clinical impact of the POC tests, the themes arising from the other key findings of the study, and to develop a glossary of named POC tests. The process of identifying themes took place in an iterative fashion. We began with an initial pass over all responses to identify common themes in the data, and then looked for commonalities amongst themes in order to further refine the list of themes. Responses were then reviewed again for potential inclusion in the refined list of themes. These analyses were all conducted by one member of the research team.

3 Scoping review results

3.1 Literature search and study selection

The search returned a total of 11 728 results. A summary of the search results broken down by database is presented in Table 5.

Table 5. Summary of search results from scientific database searches

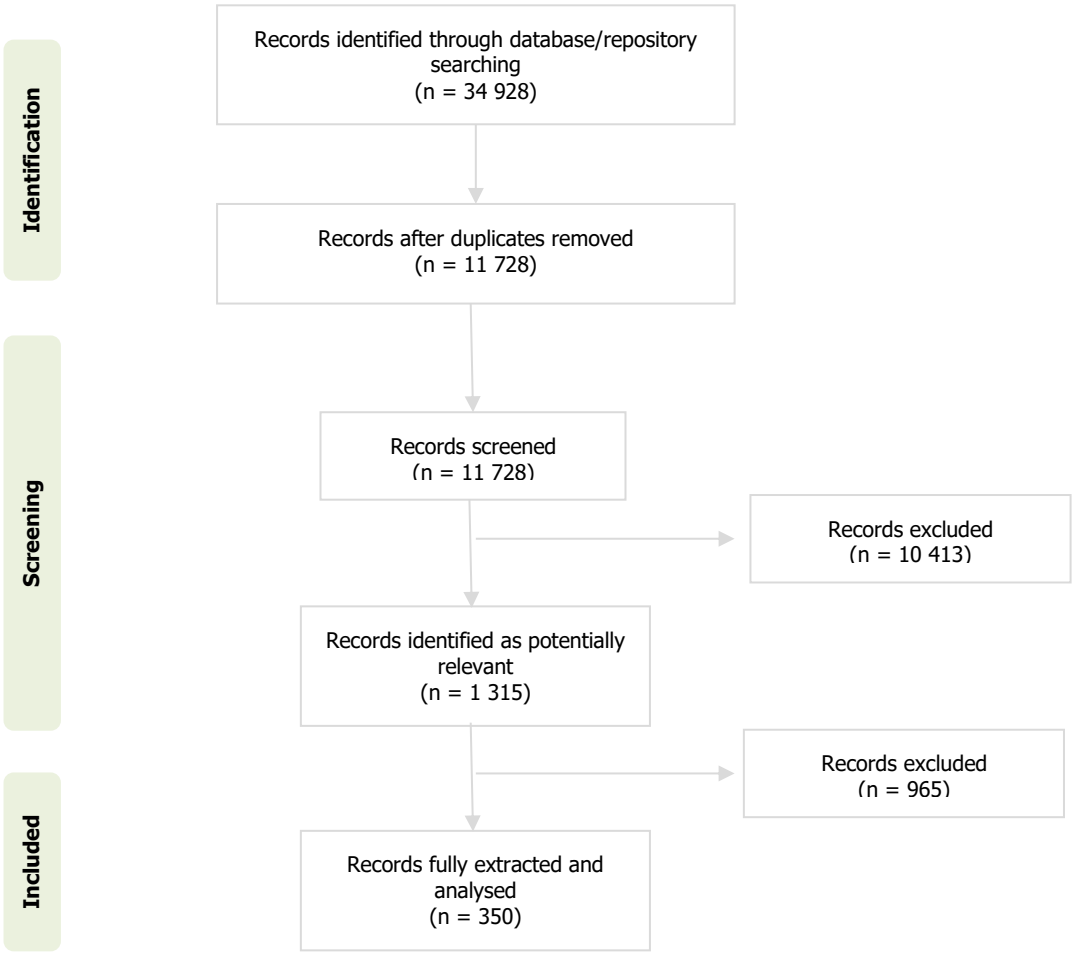
Database/repository	Total number of results	Total number of results minus duplicates from previous database searches
PubMed	8 358	5 345
Embase (Elsevier)	12 566	3 987
Cochrane Database of Systematic Reviews (Wiley)	792	118
SCOPUS	13 212	2 278
Total for PubMed, Embase, Cochrane & SCOPUS, excluding duplicates		**11 728**

The PRISMA diagram in Figure 2 [12] outlines the process of selecting studies to be included in the scoping review. Of the initial 11 728 articles that were put forward for screening, 10 413 were excluded from data extraction and analysis. This left 1 315 articles to be taken forward to the extraction and analysis stage.

[i] For more information, see: https://www.r-project.org/

Due to the large number of abstracts that did not specify which country the study was conducted in and the large number of studies without abstracts, the 1 315 articles that were taken forward to the extraction stage were subject to a full-text review. This ensured the paper was relevant (i.e. included discussion on POCT) and was conducted in an EU/EEA country. Based on this second screen, 965 articles were excluded and 350 were fully extracted and analysed. The primary reasons for excluding these articles was that the study was conducted outside of the EU/EEA, or the article type was out of scope, such as editorials and commentaries. Other reasons for excluding articles included: no indicator that the test used was a POCT; the disease was out of scope; the article was not in English; the POCT had not been tested in humans; only the abstract was accessible (and no useful information was provided in this); the article was a duplicate of another; no specific test was mentioned; or the study was conducted on animals.

Figure 2. PRISMA-ScR flow diagram [14] for the scoping review



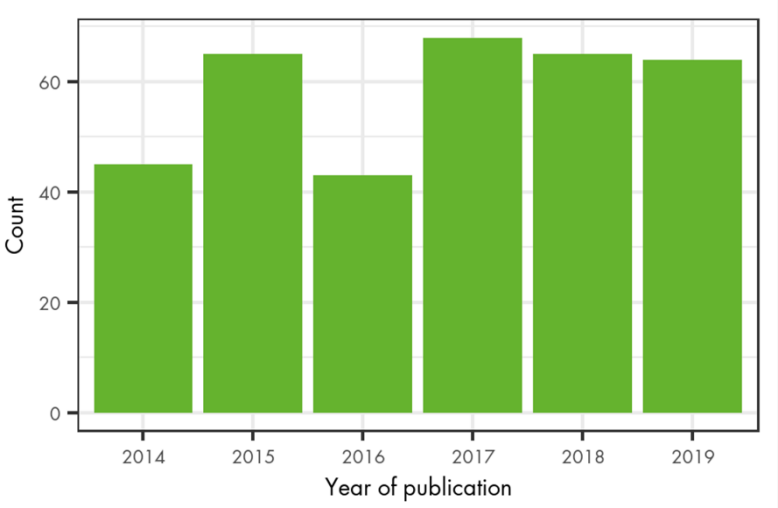
3.2 Overview of the included literature

In this section, we provide an overview of the key characteristics of the 350 included studies, including: publication date, study type, study population, study setting and geographical context. Where appropriate, we provide some examples of articles included in the scoping review, for example, to illustrate some of the clinical impacts reported by the studies.

3.2.1 Publication date

The 350 studies included articles published across the period of interest (2014-2019). It appears that publication on POCT has remained consistent over time, although it was slightly lower in 2014 (45 articles) and 2016 (43 articles). Similar number of publications were seen in 2015 (65 articles), 2017 (68 articles), 2018 (65 articles) and 2019 (64 articles).

Figure 3. Publication date of the reviewed literature



The data table for this figure is in Table 15 in Annex D

3.2.2 Study type

The study type classification of the reviewed literature was based on the PubMed categories for publication type[i] to ensure our classifications aligned with recognised groupings and with our search protocol inclusion criteria. Using these categories also provided more granular detail on the types of studies included in this scoping review. However, we recognise that there is a possibility for overlap across these groups, for example, a multi-centre study may also be a randomised control trial (RCT). During the extraction stage of the scoping review, articles were categorised by the study type that provided the best fit, was the most detailed and were most relevant, for example, the author's description of the study approach and the primary aims of the study.

Literature reviews formed the largest group of articles, accounting for 115 of the 350 articles that were analysed. Reviews included any literature review not defined as systematic or a meta-analysis, for example, narrative pieces on the types of POCT available for various diseases. The reviewed articles included 22 systematic reviews and 15 meta-analyses. Systematic reviews and meta-analyses covered similar topics, such as the barriers and facilitators to introducing POCT, the effectiveness and impact of introducing POCT and a comparison on the effectiveness of different POCT devices.

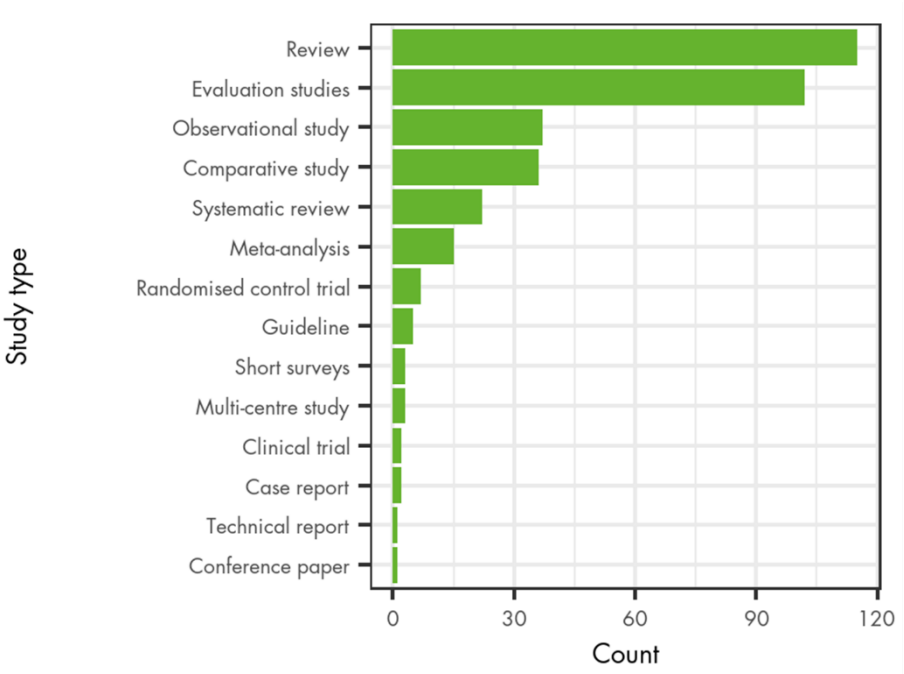
Evaluation studies were the second largest category of reviewed articles, forming 102 of the 350 articles. We classed an article as an evaluation study if a POCT were evaluated for its diagnostic accuracy. If this was compared to another type of POCT, these studies were classed as comparative studies (36 studies were comparative studies).

Observational studies made up 37 of the articles. These consisted of a range of studies, such as qualitative assessments on introducing new testing/POCT interventions in hospitals, e.g. feasibility and acceptability assessments, and secondary analysis of health data, e.g. disease prevalence when using POCT and the impact on patient outcomes and hospital costs from introducing POC tests.

Other study types occurred fewer than 10 times in the reviewed literature, with seven RCTs, five guidelines, three short surveys, three multi-centre studies, two clinical trials, two case reports, one technical report and one conference paper.

[i] For more information, see: https://www.ncbi.nlm.nih.gov/books/NBK3827/table/pubmedhelp.T.publication_types/

Figure 4. Study type of the reviewed literature



The data table can be found in Table 16 in Annex D

3.2.3 Type of study population

The reviewed studies were conducted using a range of different population types, and after extraction, five categories were generated to describe these population types. Table 6 provides the number of studies covering each population type. As the largest number of reviewed studies were literature reviews of some type, the majority of the studies reviewed articles (152 studies). A large number of studies had patients or the general population as their population (148 studies). This covered a wide range of populations, for example, patients with a specific set of symptoms attending an emergency department, patients with infectious disease diagnosis, a particular demographic subset of the public (e.g. migrants or sex workers) or individuals accessing a particular health service. A smaller number used samples from patients or samples of pathogens (35 studies). This included, for example, clinical samples from patients or healthy individuals, or colonies of various pathogens.[i] Healthcare professionals made up the smallest number of studies (11 studies). This included, for example, studies asking healthcare staff about the feasibility and acceptability of introducing a POC test or studies requesting advice from experts on POCT. The population was not described in five studies, all of which were guidelines.

Table 6. Study populations[ii]

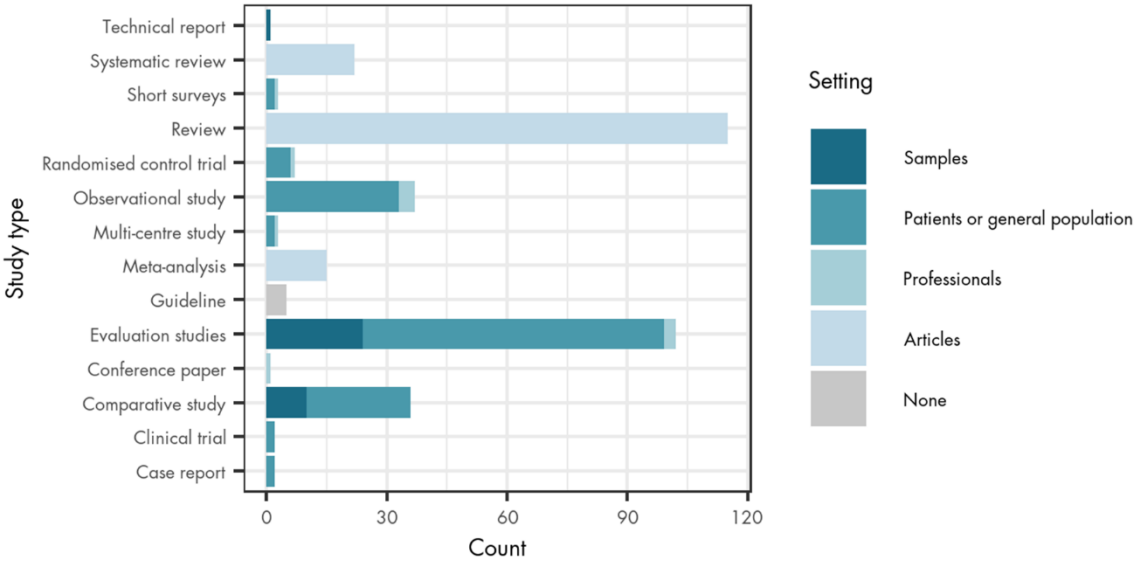
Population type	Number of studies
Articles	152
Patients or general population	148
Samples	35
Professionals	11
None	5

Figure 5 provides a breakdown of the study population by the study type. The majority of the evaluation studies, comparative studies, observational studies and RCTs recruited patients or the general population for the study. Of the reviewed studies, 24 evaluation studies and 26 comparative studies had patient or pathogen samples as the study population.

[i] Studies using pathogen samples were only included if the authors specified that the POC test of focus had been tested on humans.

[ii] The number of studies equals 151 instead of 350 as one study used two different study populations.

Figure 5. Study type by population



The data table can be found in Table 19 in Annex D

3.2.4 Size of the study population

By study population, we refer to the types of participants recruited, or samples used, to conduct a study. Due to the large range of sizes of the study populations in the reviewed literature, we present this data by the study type (Figure 6). The mean, median, minimum and maximum values for the study population by study type can be found in Table 17 in Annex D.

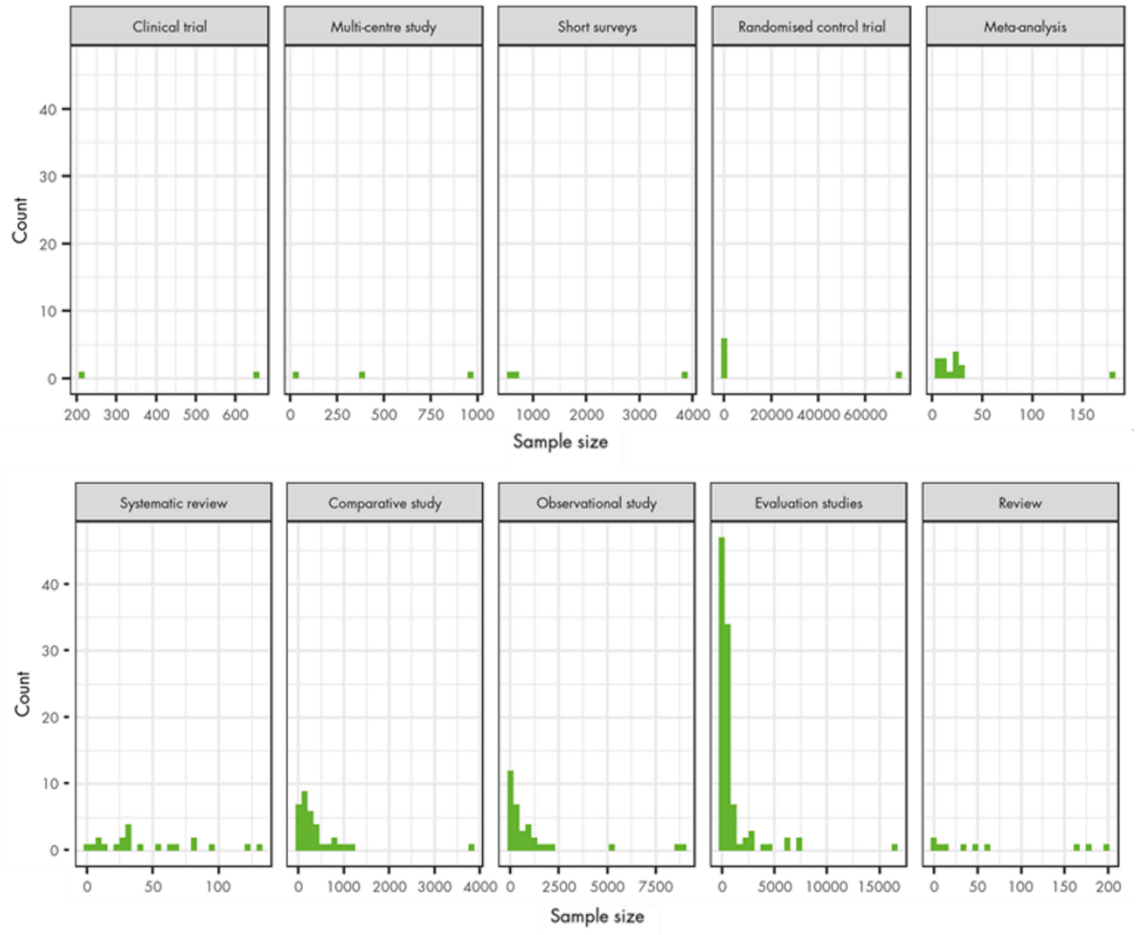
As Figure 6 shows, there was a large range of population sizes across the reviewed literature from one (a systematic review which included only one study) to over 70 000 (for an RCT). However, the study population most often appeared to be below 400.

Clinical trials (with a range of 213–654), multi-centre studies (23–955), short surveys (595–3 881) and RCTs (50-74 161) have large ranges of study populations, with little to no population sizes in between the minimum and maximum value. Reviews also have a large range of number of included studies, from three to 200 studies. However, unlike the aforementioned study types, reviews have a larger number of reviewed articles falling between this range. Systematic reviews (with a range of 1[i]–132) appear to have a similar trend to that of reviews (with a range of 2–200), although with a larger number of reviewed articles falling between the minimum and maximum number.

Comparative studies (with a range of 30–3 845), observational studies (11–8 923) and evaluation studies (2-16 468) have population sizes aggregated closer to the minimum value, with only a very small number of these study types having population sizes at, or close to, the maximum.

[i] For this systematic review, the study assessed more than one article, however only one was relevant to infectious diseases.

Figure 6. Study type by size of the study population[i]



The data table for this figure can be found in Table 17 in Annex D

3.2.5 Study setting

The POCT reported in the reviewed studies were conducted in a range of locations, and after extraction, seven categories were generated to describe these settings. Table 7 provides the number of articles falling into these categories. As this shows, the most common study setting was a laboratory (i.e. non-clinical, with the study/evaluation carried out in a laboratory), with 51 studies conducted in this setting. Due to many articles specifying that a POCT was introduced into an emergency department, a separate category was generated from other secondary care settings. Of the reviewed studies, 24 took place in an emergency department and 47 in other secondary care settings. Many of the studies conducted in other secondary care centres only specified that they were conducted in a hospital, however, others mentioned specific wards or departments, such as infectious diseases department, intensive care unit, paediatrics ward, obstetrics and gynaecology department and geriatric ward. Clinics comprised 33 study settings, which were frequently sexual health/HIV and outpatient clinics, but also genitourinary medicine, travel, dental, hepatology and drug treatment clinics. An additional 18 articles introduced POC tests into the community. The specific location of community testing was not often mentioned in the studies. For those that did provide the location within the community, this covered settings such as community pharmacies, non-government organisations, nursing homes, saunas and HIV checkpoints. The study setting with the smallest number of articles was primary care (14 studies). This usually referred to general practice, however one study focusing on influenza was conducted with ambulatory services [13]. Other settings, covered in 15 studies, included locations such as workplaces and prisons.

[i] This figure does not include conference papers, guidelines, technical reports or case reports as the sample size is absent or too small to be informative.

Table 7. Settings of the included studies[i]

Setting	Number of articles
Laboratory	51
Non-emergency secondary care	47
Clinic	33
Emergency secondary care	24
Community	18
Other	15
Primary care	14

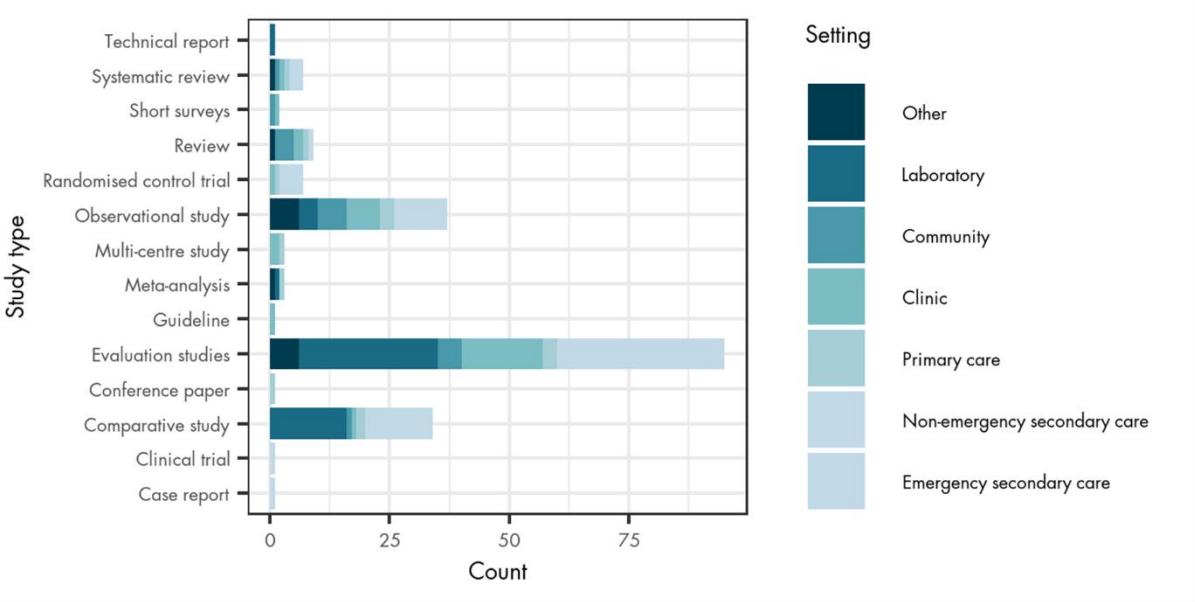
Figure 7 provides an overview of the setting where POC tests were implemented by the study type. As this shows, POC tests covered in the technical reports, guidelines, conference paper, clinical trials and case report only focused on one setting. The remaining study types focused on a range of settings.

Most evaluation studies were conducted in a laboratory (29 out of 95 studies), as well as non-emergency secondary care settings (22 studies) and clinics (17 studies). A small number of evaluation studies were conducted in emergency departments (13 studies), the community (five studies) and primary care (three studies).

Observational studies also demonstrated a range of different study settings. The most common setting was non-emergency secondary care (nine studies), with clinic (seven studies) and community (six studies) also occurring commonly. Laboratory (four studies), primary care (three studies) and emergency departments (two studies) were the less frequently mentioned study settings.

The majority of the comparative studies were conducted in laboratories (16 studies), with non-emergency secondary care (10 studies) also frequently mentioned. Emergency department (four studies), primary care (two studies), clinic and community (one study each) settings were less frequently mentioned.

Figure 7. Study setting by study type



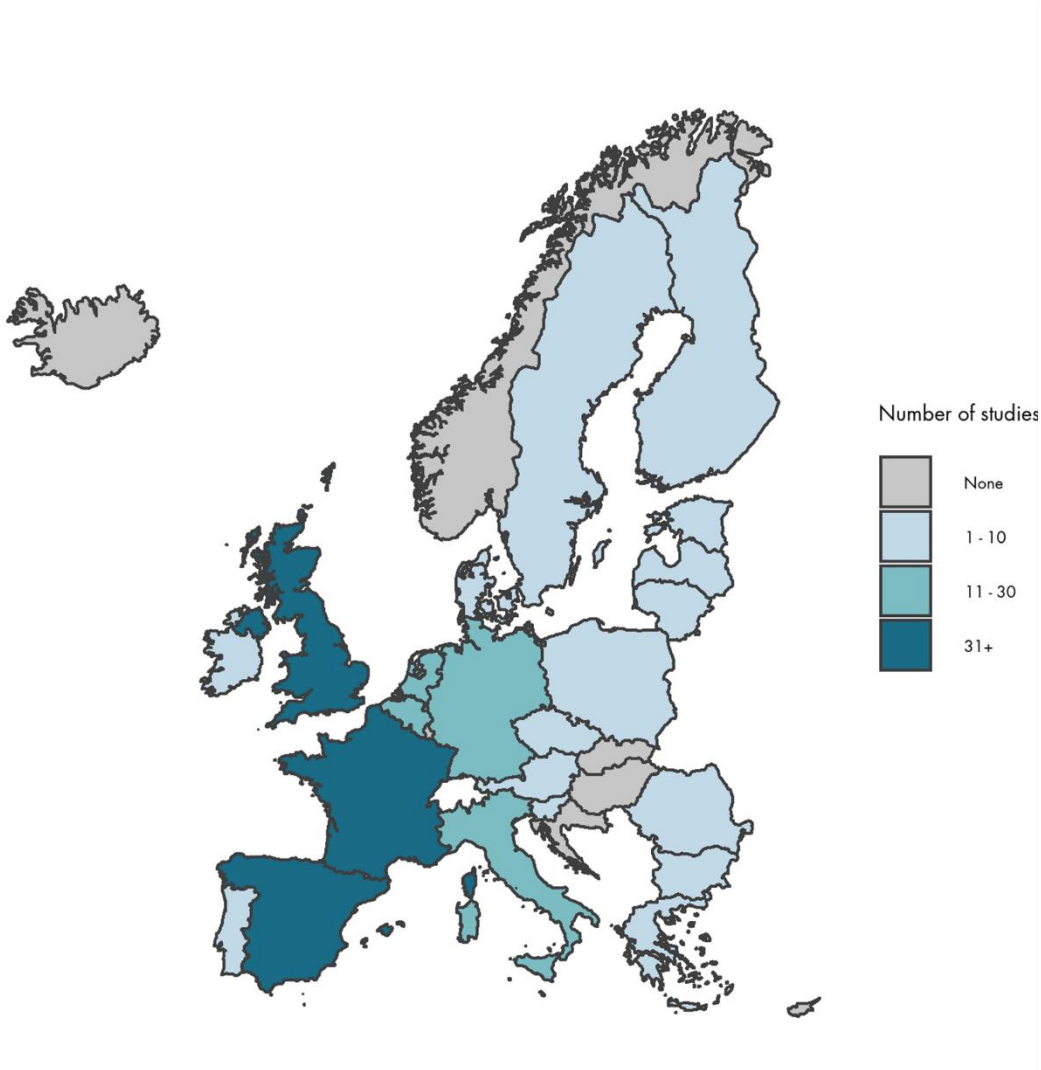
The data table can be found in Table 18 in Annex D

[i] Note than this does not add up to the 350 included articles as some studies did not provide a setting or this was not applicable to record, e.g. for review (n=148)

3.2.6 Contributing countries

During the extraction phase of the project, the country in which the study was conducted was recorded where possible. For literature reviews, we recorded the location in which the studies reviewed by the literature review were conducted, where this was provided. Figure 8 provides an overview of the countries in which the included studies were conducted. As this shows, the country with the most conducted studies was the UK[i] (58 studies), closely followed by France (55 studies). Spain was the third most frequent country (31 studies). Other EU/EEA countries conducted fewer studies (23 studies or less). Fewer studies were identified in Eastern European countries compared to West, North and South. Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Romania and Slovenia conducted only one study each. None of the identified studies were conducted in Cyprus, Croatia, Hungary, Slovakia, Norway, Lichtenstein or Iceland. A specific EU/EEA country was not specified in 14 studies, which were categorised as 'Europe'. In addition, three studies were conducted in countries outside of the EU/EEA, in addition to at least one EU/EEA country.

Figure 8. Countries covered by the reviewed literature



The data table for this figure can be found in Table 20 in Annex D

[i] Note that because our search was run in November 2019 and much of our literature screening and extraction was completed before 31st January 2020, it was agreed with ECDC that the UK would be treated as an EU/EEA country for this analysis.

3.2.7 Disease of focus

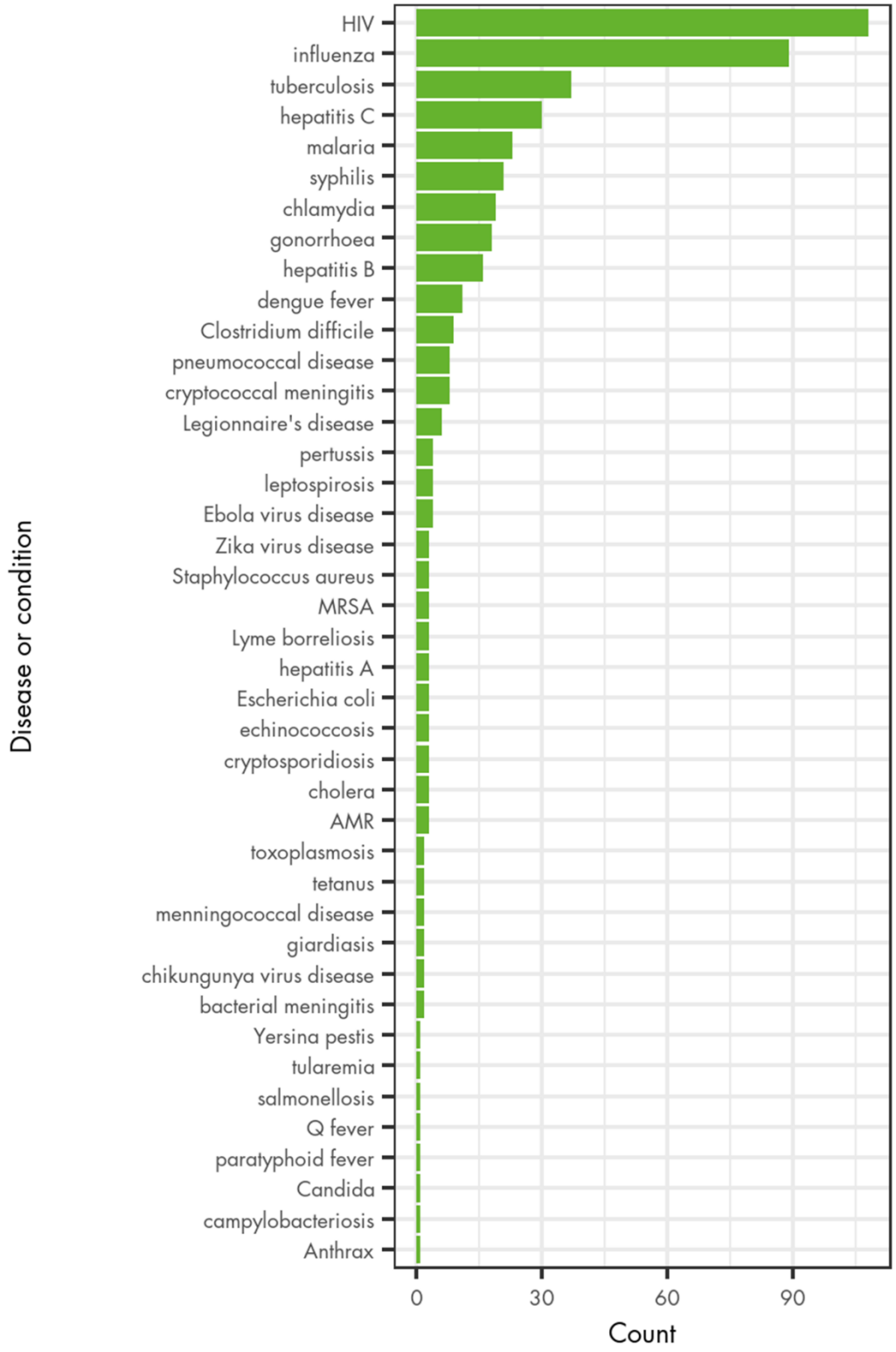
The reviewed literature covered 44 of the diseases/pathogens of interest (Figure 9). Of the 56 diseases and related health conditions under ECDC surveillance, the following were not discussed in any of the reviewed studies:

- Botulism
- Brucellosis
- Listeriosis
- Measles
- Mumps
- Polio
- Rabies
- Rubella
- SARS
- Shigellosis
- Smallpox
- Tick borne encephalitis
- Transmissible spongiform encephalopathies
- Trichinellosis
- Typhoid
- Variant Creutzfeldt-Jakob's disease
- Viral haemorrhagic fevers (except for Ebola virus disease)
- West Nile virus
- Yellow fever
- Yersinosis

It is unclear why these diseases were not covered in the reviewed studies, however, it may be partly due to a lower prevalence of some of these diseases in the EU/EEA Member States and the UK, either because they have been or are close to eradication (e.g. smallpox, polio) or they are more common in other areas of the world (e.g. yellow fever).

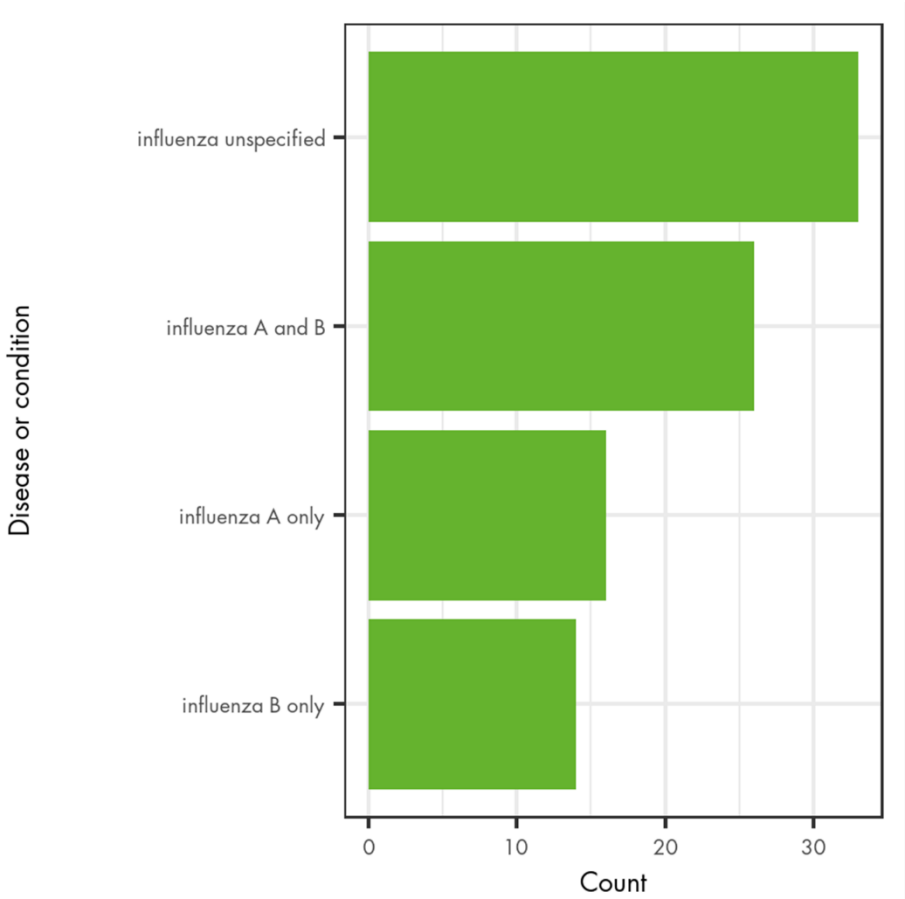
The most frequent disease of focus was HIV, covered in 108 studies. Influenza was the second most common disease of focus, included in 89 studies. Many papers often specified which type of influenza the POCT was able to detect and this is outlined in Figure 10. While 33 of these studies did not specifically mention the influenza strain of focus, the remaining 56 did. Of these, 26 studies covered both influenza A and B, 16 only covered influenza A and 14 covered influenza B. Tuberculosis (TB) was the third most frequently mentioned disease (37 studies) and hepatitis C the fourth (30 studies). All other diseases were covered in 26 or fewer studies. Anthrax, campylobacteriosis, Candida, paratyphoid fever, Q fever, salmonellosis, tularemia, *Yersina pestis* were included in only 1 paper each. This suggests that diseases with a higher prevalence in EU/EEA Member State countries and the UK may be subject to a greater amount of research to develop a POCT. For example, the World Health Organization (WHO) indicates that TB, HIV, STIs and hepatitis are a major concern for Europe [14]. TB causes 40% of deaths related to communicable diseases in Europe and HIV/AIDS is continuing to rise in some Eastern European countries [14]. Influenza is a key cause of mortality among patients with respiratory conditions in Europe, affecting up to 20% of the population leading to 72 000 deaths per year [15].

Figure 9. Diseases, infectious agents and health issues covered in the reviewed literature



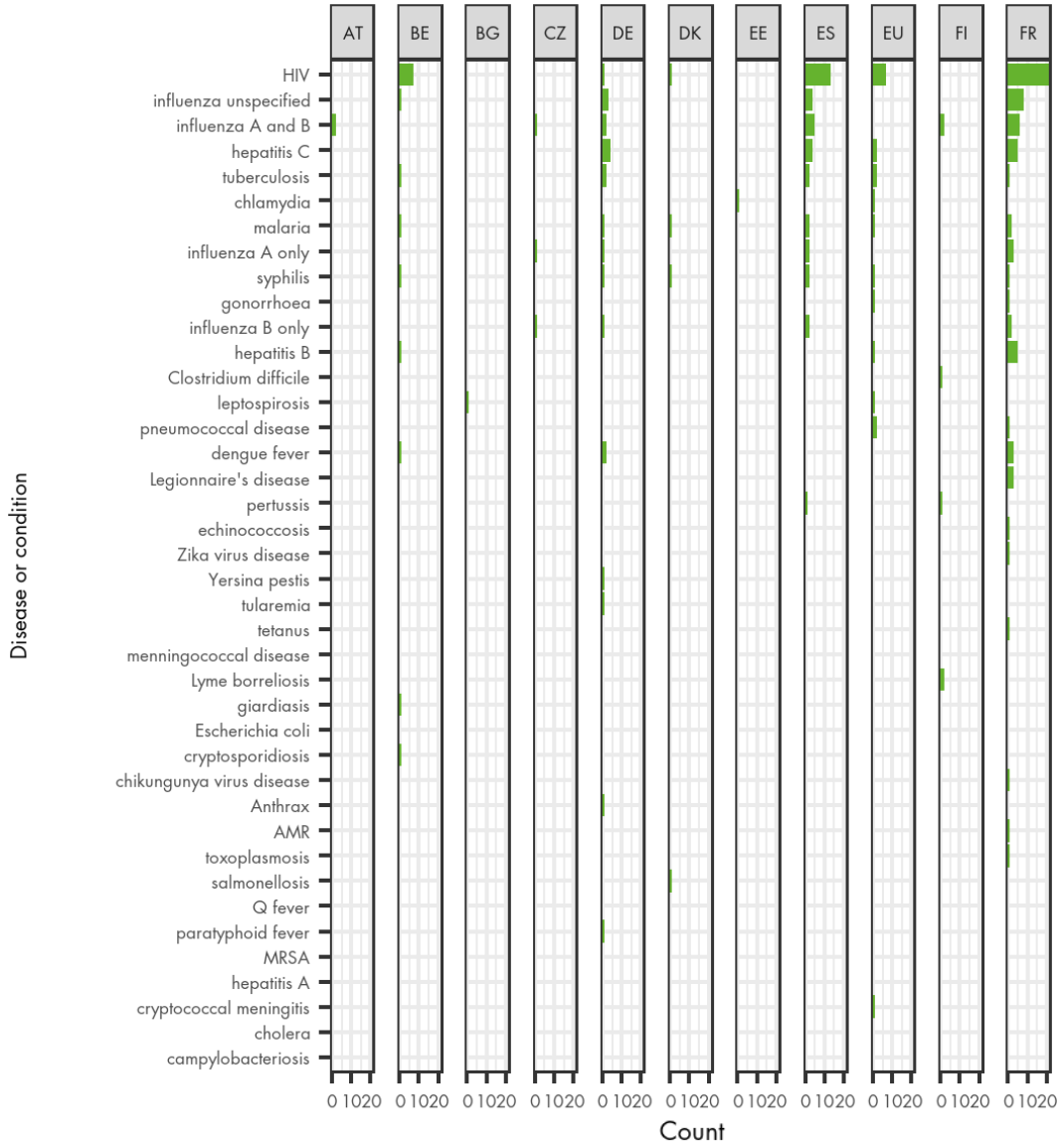
The data table for this graph can be found in Table 21 in Annex D

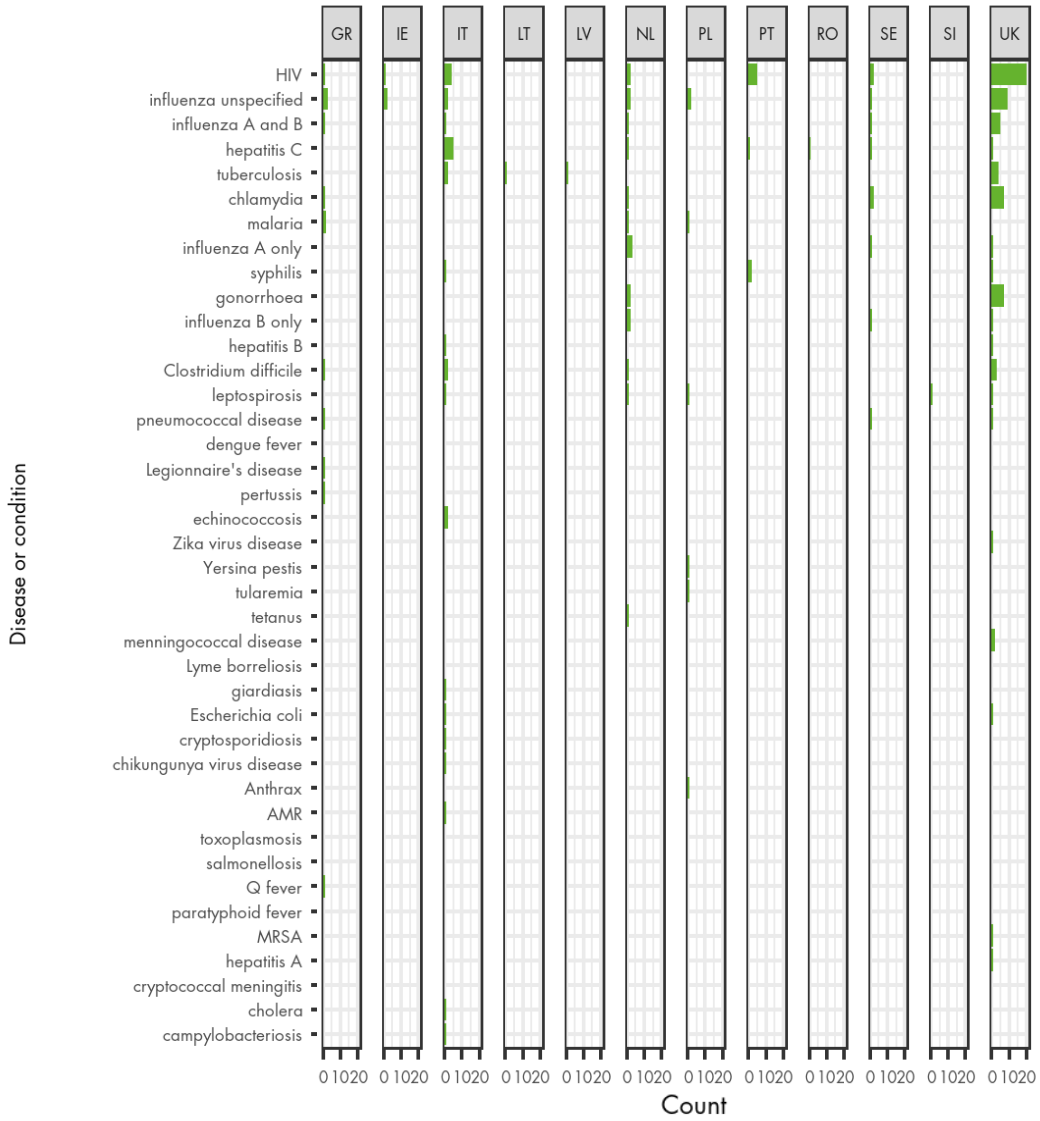
Figure 10. Breakdown of the number of studies covering different types of influenza



For each focus disease, we also analysed which country the study was conducted in (Figure 11). HIV was studied in the highest number of countries (13 countries) and was covered particularly frequently in studies conducted in France (21 studies), the UK (20 studies) and Spain (13 studies). Three countries cover a wider range of diseases than other countries: France (20 diseases), the UK (19) and Italy (17). For the UK and France, this is likely because a larger number of studies was conducted in these countries compared to others. Of the 34 diseases which were only covered in one to two articles, Italy researched seven of these (campylobacteriosis, cholera, AMR, chikungunya virus disease, cryptosporidiosis, *Escherichia coli*, giardiasis). It is unclear why these studies in Italy focus on diseases not covered by other European countries in the literature that we reviewed.

Figure 11. Diseases covered in the reviewed literature by the countries in which the studies were conducted





Austria (AT), Belgium (BE), Bulgaria (BG), Czechia (CZ), Denmark (DK), EU (Europe), France (FR), Germany (DE), Estonia (EE), Finland (FI), Greece (GR), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Netherlands (NL), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Spain (ES), Sweden (SE), United Kingdom (UK).
The data table can be found in Table 22 in Annex D.

3.3 POCT device characteristics

A number of different aspects of the POCT in the reviewed were analysed and will be presented here. This includes the device names, diseases covered and definitions of these tests, as well as the turnaround time, sensitivity and specificity. However, it is important to note here that the data presented in this report are primarily from academic literature in which a POCT may have been implemented for the purpose of conducting that study only. It does not necessarily mean that all the POC tests we discuss here are implemented in routine clinical practice in those countries.

3.3.1 POCT device names, diseases covered and definitions

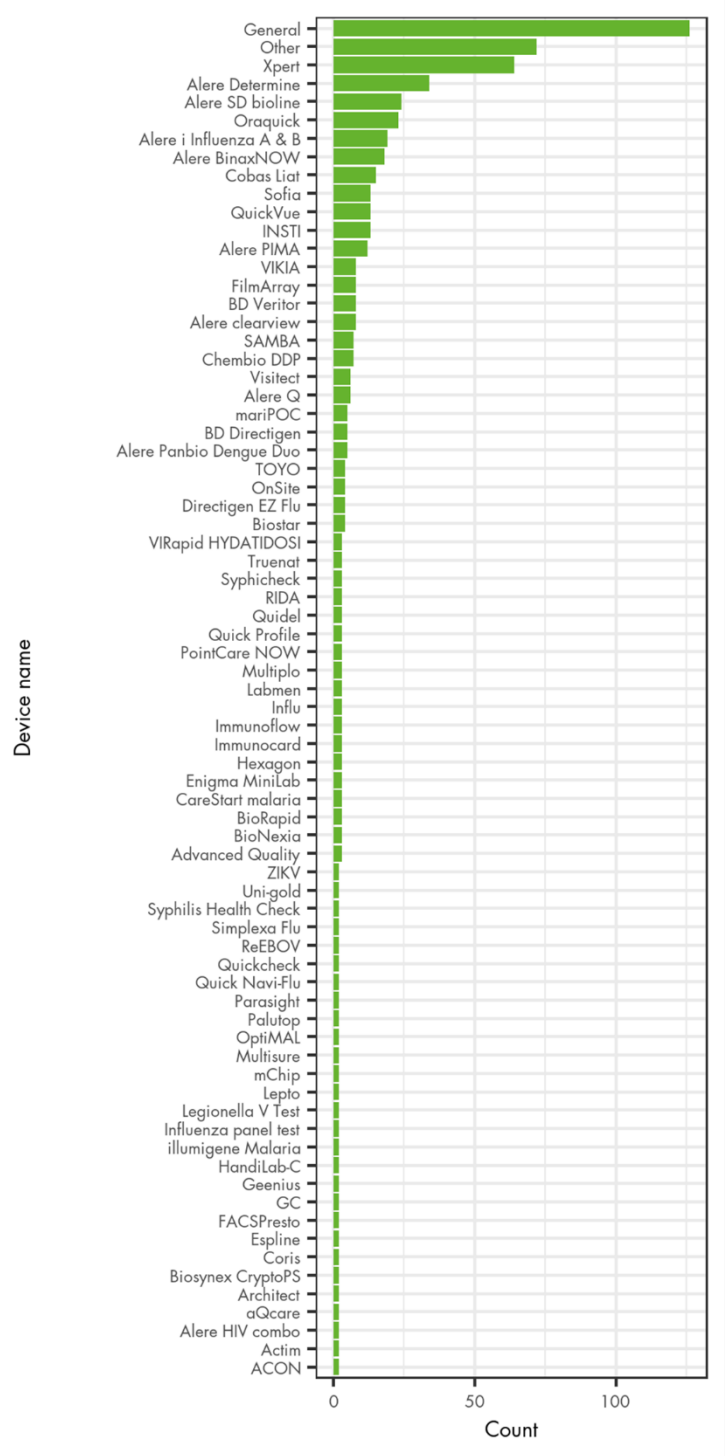
The names or short descriptions of the POCT devices were extracted for this scoping review. For some devices, a branded name was used within the study, e.g. Alere, but for others, a more generic description of the device was provided, e.g. rapid HIV test. Branded names were provided for 519 POCT devices across the 350 reviewed articles. To make this amount of information easier to analyse and visualise, those devices named in only one study were grouped into an 'other' category. For those discussed in two or more studies (447 named tests), a name for the device is derived from those used in the literature was created as a category name. This generated a total of 72 groups covering devices named in two or more studies. An additional 126 devices were described as being POCT but were not given a branded name (as mentioned at the start of this section). We grouped these tests into a 'general' category.

The frequency of these devices is shown in Figure 12. The 'general' and 'other' categories make up the largest groups. From the named devices, Xpert was mentioned the most frequently (64 times). The second most commonly named device, Alere Determine, was mentioned almost half of the number of times (34 times). Alere SD Bioline was the third most frequently mentioned device (24 times).

Table 8 provides a glossary of the POCT devices mentioned in two or more studies. It provides examples of the types of names of these devices in the studies which demonstrates a lack of consistency in naming tests. This may often be because they are brand names but this creates a difficulty in grouping tests into categories. This table also outlines the diseases that the device was used for in the reviewed studies[i], as well as a short definition created based on the information in the reviewed articles.

[i] It is possible that a test covers more than the diseases we have outlined in this table but the diseases were not mentioned in the reviewed literature.

Figure 12. Names of POCT devices



The data table for this figure is in Table 23 in Annex D

Table 8. Glossary of POCT device names, associated tests, diseases covered and short description[i]

POCT device name derived by research team	Examples of test names mentioned in studies	Disease/pathogen covered[ii]	Description
ACON Chlamydia Rapid Test	ACON chlamydia, Acon Chlamydia/ Gonorrhoea Rapid Test	Chlamydia (*Chlamydia trachomatis*) and gonorrhoea	Immunochromatographic rapid test to diagnose either chlamydia or both chlamydia and gonorrhoea.
Actim Influenza A&B		Influenza A & B	Immunochromatographic assays to allow for the qualitative detection of influenza A and B nucleoprotein using a strip. The test is also able to distinguish between influenza A and B viruses.
Advanced Quality	Advanced, Advanced Quality Rapid Anti-HCV Test	Hepatitis C	Lateral flow test for hepatitis C virus using whole blood, plasma or serum.
Alere BinaxNOW	BinaxNOW, Alere BinaxNOW Influenza A & B card, Binax NOW malaria immune chromatography test	Influenza A & B, *Streptococcus pneumoniae*, malaria (*Plasmodium falciparum* and/or *Plasmodium vivax*/*Plasmodium ovale* spp./*Plasmodium malariae*), hepatitis B, pneumococcal infections	Immunochromatographic assays consisting of a strip that allows a qualitative detection and differentiation of a number of pathogens from urine and cerebrospinal fluid. The test detects nucleoproteins of influenza A and B, Histidine rich protein (HRP)-2 to detect *Plasmodium falciparum* and aldolase for other plasmodium species in malaria and membrane C-polysaccharide of *Streptococcus pneumoniae.*
Alere clearview	Clearview, Clearview Chlamydia, Clearview Exact Influenza A and B, Clearview HIV-1/2 STAT-PAK, Clearview Malaria Pf test, Clearview Strep A	Chlamydia (*Chlamydia trachomatis*), influenza A & B, malaria, group A Streptococcus, and HIV	Immunochromatographic test for chlamydia trachomatis, nucleoprotein of influenza A and B viruses and anti-HIV-1 and anti-HIV-2 antibodies.
Alere Determine	Determine, Alere Determine HIV 1/2 Ag/Ab Combo, Alere Determine Syphilis, Alere Determine TB LAM Ag Alere Determine HBsAgTM, Determine HIV 1/2, Determine QuickProfile VIKIA, Determine Combo	HIV, syphilis, TB, hepatitis B	Rapid immunochromatic blood, serum and urine test to detect antigens or antibodies related to a number of diseases. For HIV, HIV-1/2 and HIV-1 p24 antigen are detected, for syphilis, treponemal antibodies are detected and for TB, lipoarabinomannan (part of the cell wall) is detected.
Alere HIV combo	Alere HIV Combo, HIV 1/2 Ag/Ab Combo	HIV	Test to detect both HIV-1/2 antibodies and free HIV-1 p24 antigens using a strip in which the sample diffuses along, and the result read in a window.
Alere i Influenza A & B	Alere and Influenza A&B, Alere I, Alere i Influenza A & B	Influenza A & B	Nucleic amplification test which uses an isothermal nicking-enzyme amplification method to qualitatively detect the nucleic acids of a number of pathogens, including: influenza A and B viruses, respiratory syncytial virus, and group A Streptococcus.
Alere Panbio Dengue Duo	Dengue Duo Rapid Test-SD, Panbio Dengue Duo Cassette, Panbio Dengue Early Rapid, Panbio Early Rapid NS1 and Duo Assay Kit, Alere Panbio Dengue Duo cassette for IgM/IgG analyte, Dengue Duo, Dengue NS1 Ag Strip	Dengue fever	Immunochromatographic assay able to detect non-structural protein 1 (NS1), IgM and IgG for dengue fever diagnosis.
Alere PIMA	Alere PIMA, Alere PIMA CD4, PIMA assay, PIMA	HIV	Image-based CD4 cell counting test for use on venous or capillary blood samples. Cartridges use beads to represent normal and low CD4 cell counts.
Alere Q	Alere q, Alere q HIV 1/2 Detect, Alere q platform, Alere Influenza A + B	Hepatitis C virus and HIV	Non-immunological, nucleic acid testing for hepatitis C virus, HIV-1 and HIV-2 Ribonucleic acid (RNA) detection to measure viral load.
Alere SD bioline	SD Bioline, SD Bioline Chikungunya IgM, SD Bioline Dengue Due NS1 and IgM/IgG Combo device, SD BIOLINE Dengue NS1, SD Bioline HBsAg, SD Bioline HCV, SD Bioline HIV/Syphilis Duo, SD Bioline HIV-1/2 3.0, SD Bioline Influenza A/B/A(H1N1) Pandemic rapid test, SD Bioline Influenza Ag, SD Bioline Malaria Ag Pf/ Pan Rapid Diagnostic Test, SD Bioline Syphilis 3.0, SD BIOLINE Tetanus, SD Bioline Influenza Virus Antigen Test, SD Dengue IgG/IgM, SD Leptospira LF Standard Diagnostics	Hepatitis B, hepatitis C, syphilis, chikungunya virus disease, dengue fever, HIV, influenza A, B and H1N1, malaria, TB, tetanus and leptospirosis	Immunochromographic assay test using serum, plasma or whole blood to detect a range antigens and antibodies. The NS1 protein is detected for dengue, treponemal antibodies for syphilis, Gp41a, p24a, and Gp36a antigens for HIV, nucleoproteins of influenza A and B, hrp-2 and pan-LDH antigens for malaria, anti-IgM antibodies for leptospirosis.
aQcare Chlamydia TRF kit		Chlamydia	Rapid lateral flow assay using fluorescent nanoparticles for chlamydia
Architect HIV Ag/Ab Combo assay		HIV	Fourth generation rapid HIV test which detects HIV antigens and antibodies.
BD Directigen EZ Flu A+B		Influenza A & B	Immunochromatographic assays test to detect the nucleoproteins of influenza A and B and differentiate between the two viruses.
BD Veritor	BD Veritor, BD Veritor Flu A+B, BD Veritor Sytem for rapid detection of flu A+B, BD veritor Influenza A + B, BD veritor RSV, BD Veritor rapid diagnostic assays, Veritor System	Influenza A & B	Immunochromatographic assay to qualitatively detect the nucleoproteins of influenza A and B and respiratory syncytial virus and differentiate between the two viruses using nasopharyngeal aspirate samples.
BioNexia	bioNexia test, bioNexia Influenza A+B, bioNexia Strep A plus, Biopanda Toxo IgG/IgM	Influenza A and B, Legionnaires' disease (*Legionella pneumophila*), toxoplasmosis (*Toxoplasma gondii*), group A streptococcus	Immunochromatographic assay to detect influenza A and B, *Legionella pneumophila*, *Toxoplasma gondii* and group A streptococcus. For Legionnaires' disease detection, *Legionella pneumophila* serogroup 1 is tested for in urine. For toxoplasmosis, IgG and IgM are detected from recombinant *Toxoplasma gondii* antigens.
BioRapid	BioRapid, BioRapid Chlamydia Ag test	Chlamydia (*Chlamydia trachomatis*)	Immunochromatographic test for *Chlamydia trachomatis*.
Biostar	BioStar Optical ImmunoAssay, BioStar Chlamydia, BioStar OIA Flu A/B	Chlamydia, influenza A and B, gonorrhoeae *(Neisseria gonorrhoeae)*	Optical immunoassay which allows visualisation of reactions between antigens and antibodies.

[i] This includes only those tests mentioned in two or more separate studies. Where multiple diseases are covered by the test, this does not necessarily mean one test detects all diseases. Rather, there may be multiple types of the same named test. The diseases named here are those relevant to the scoping review; the tests may also detect pathogens not included in this scoping review).

[ii] Where included in the studies, both the pathogen and disease name are provided.

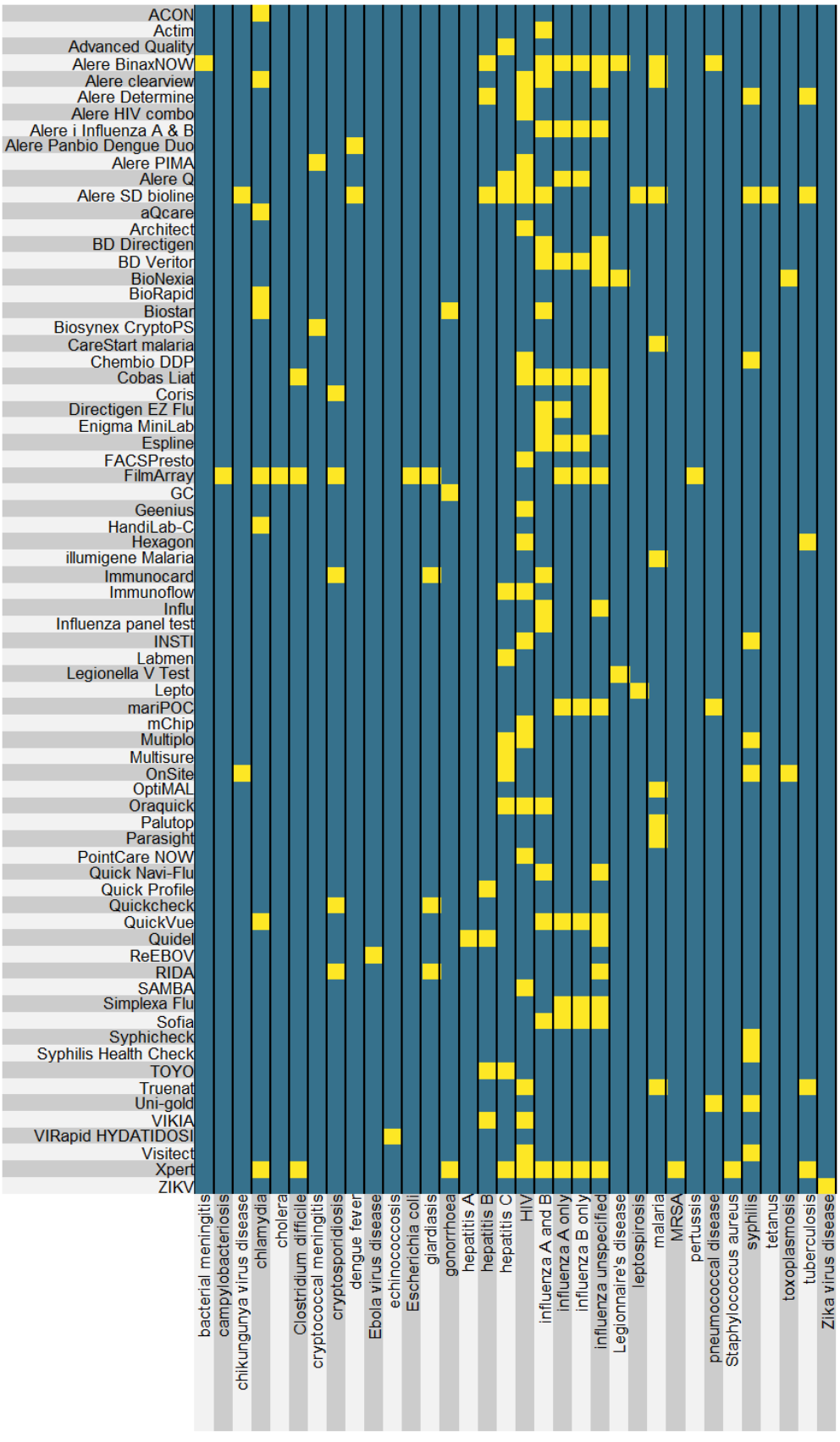
POCT device name derived by research team	Examples of test names mentioned in studies	Disease/pathogen covered[ii]	Description
Biosynex CryptoPS		Cryptococcal meningitis	Lateral flow assay for detecting cryptococcal antigens. A qualitative band is shown in positive samples, with a second quantitative band if antigen levels are high.
CareStart malaria	CareStart Malaria HRP2 (Pf), CareStart Malaria HRP2/pLDH (Pf/PAN) Combo, CareStart malaria pLDH (PAN), CareStart malaria screen, CareStart Pf/Pv, CareStart Malaria	Malaria	Detection of HRP-2 and pLDH antigen for malaria diagnosis.
Chembio Dual Path Platform	Chembio DPP HIV-1/2 Assay, Chembio DPP Syphilis Screen & Confirm Assay, DPP HIV-Syphilis Assay, Dual Path Platform (DDP) Syphilis Test	Syphilis and HIV	Lateral flow test that can either detect syphilis (DDP test), or both syphilis and HIV (Chembio DDP test). For syphilis, antibodies against treponemal and non-treponemal antigens are detected. For HIV, anti-HIV-1 and anti-HIV-2 antibodies are detected. Whole blood, serum or plasma samples can be used.
Cobas Liat	Cobas Liat Influenza A/B, Cobas Liat influenza A/B & respiratory syncytial virus assay, Liat Cdiff Assay, Liat HIV Quant, The cobas Liat System, The LIAT Analyzer, Roche Cobas Liat platform	Influenza A & B, HIV, *Clostridioides difficile*	Rapid nucleic acid amplification test for influenza A and B and respiratory syncytial virus using nasopharyngeal samples.
Coris	Coris BioConcept Influ A&B Uni-Strip, Coris Crypto-Strip, Coris Duo-Strip	Influenza A and B and cryptosporidiosis (Cryptosporidium spp.)	Immunochromatographic tests for influenza A and B and cryptosporidiosis.
Directigen EZ Flu	Directigen EZ Flu A + B, Directigen Flu A	Influenza A & B	Commercially available POCT for influenza.
Enigma MiniLab	Enigma MiniLab, Enigma MiniLab FluAB-RSV PCR assay	Influenza A & B	Assay using nasopharyngeal samples to qualitatively detect influenza A (the matrix gene) and B (the non-structural gene) and respiratory syncytial virus (the fusion gene).
Espline Influenza A&B-N		Influenza A & B	Immunochromatographic assay using a strip to detect influenza A and B nucleoprotein.
FACSPresto		HIV	CD4 cell counting test using capillary or venous blood.
FilmArray	FilmArray, FilmArray Respiratory Panel, FilmArray Respiratory Panel kit version 1.6, FilmArray GI panels	Influenza A and B, Campylobacter spp. (*Campylobacter jejuni, Campylobacter coli*, and *Campylobacter upsaliensis*), *Clostridium difficile* (Toxin A/B), salmonella, *Yersinia enterocolitica*, Vibrio spp. (*Vibrio parahaemolyticus, vibrio vulnificus*, and *Vibrio cholerae*), enteroaggregative *Escherichia coli* (EAEC), enteropathogenic *Escherichia coli* (EPEC), enterotoxigenic *Escherichia coli* (ETEC), Shiga-like toxin-producing *Escherichia coli* (STEC), *Escherichia coli* O157, Shigella/enteroinvasive *Escherichia coli* (EIEC), cryptosporidiosis (Cryptosporidium spp.), giardiasis (*Giardia lamblia*).	Reparatory version of the test detects 17 viruses and 3 bacteria, including influenza A, B and H1N1. Gastrointestinal version of the test detects: Campylobacter (*Campylobacter jejuni, Campylobacter coli*, and *Campylobacter upsaliensis*), *Clostridium difficile* (Toxin A/B), *Plesiomonas shigelloides*, salmonella, *Yersinia enterocolitica*, Vibrio spp. (*Vibrio parahaemolyticus, vibrio vulnificus*, and *Vibrio cholerae*), enteroaggregative *Escherichia coli* (EAEC), enteropathogenic *Escherichia coli* (EPEC), enterotoxigenic *Escherichia coli* (ETEC), Shiga-like toxin-producing *Escherichia coli* (STEC), *Escherichia coli* O157, Shigella/enteroinvasive *Escherichia coli* (EIEC), cryptosporidiosis (Cryptosporidium spp.), giardiasis (*Giardia lamblia*), *Cyclospora cayetanensis*, *Entamoeba histolytica*, adenovirus (F40/41, astrovirus, norovirus GI/GII, rotavirus A, and sapovirus (I, II, IV, and V). The tests integrate a number of different detection methods, including nucleic acid extraction, nested Polymerase chain reaction (PCR) and data analysis to identify a range of viral and bacterial nucleic acid targets in nasopharyngeal and stool samples.
GC	GC Check, GC One-step test, GC RapidResponse	Gonorrhoeae	No description provided.
Geenius	Geenius HIV 1/2Confirmatory Assay, Geenius rapid confirmatory test	HIV	Immunochromatographic test for detecting and differentiating between antibodies to HIV-1 and HIV-2.
HandiLab-C		Chlamydia	Enzyme detection test for chlamydia.
Hexagon	Hexagon chromatographic immunoanalysis, Hexagon HIV	HIV	Immunochromatographic test for detecting antibodies to HIV-1 and HIV-2.
illumigene Malaria	Illumigene Malaria, illumigene Malaria DNA Amplification assay	Malaria (*Plasmodium falciparum*, *Plasmodium vivax, Plasmodium ovale, Plasmodium malariae, and Plasmodium knowlesi*)	Qualitative loop-mediated isothermal amplification (LAMP) test for detecting the mitochondrial Deoxyribonucleic acid (DNA) of plasmodium species. Can detect *Plasmodium falciparum*, *Plasmodium vivax, Plasmodium ovale, Plasmodium malariae, and Plasmodium knowlesi*..
Immunocard Stat!	Immuno card Stat! Flu A&B, ImmunoCardSTAT!®CGE	Influenza A and B, giardiasis (*Giardia lamblia*), cryptosporidiosis (Cryptosporidium spp.)	Immunochromatographic test for influenza A and B, *Giardia lamblia*, Cryptosporidium and *Entamoeba histolytica*.
Immunoflow	ImmunoFlow HCV test, ImmunoFlow HIV1-HIV2	Hepatitis C and HIV	Immunochromatographic cartridge test used for the qualitative detection of NS3, NS4 and NS5 antigens to identify hepatitis C and Gp120, gp41, and gp36b to identify HIV.
Influ	Influ A&B Respi Strip, Influ A&B Uni-Strip	Influenza A and B	Immunochromatographic assay using a strip which identifies and differentiates between influenza A and B nucleoproteins.
Influenza A/B 2 panel test		Influenza A and B	Immunochromatographic assay using a strip which identifies and differentiates between influenza A and B nucleoproteins.
INSTI	INSTI, INSTI HIV-1 Antibody test, INSTI HIV1/HIV 2 in vitro diagnostic test, INSTI HIV-1/HIV-2 Rapid Antibody Test, Insti Multiplex HIV-1/HIV-2/Syphilis Antibody Test	HIV and syphilis	Qualitative immunoassay that can either detect HIV or both HIV and syphilis. Detects HIV 1 and HIV-2 antigens and antibodies.
Labmen HCV test		Hepatitis C	Lateral flow test to detect anti-hepatitis C virus (HCV) antibodies in blood or oral fluid.
Legionella V Test		Legionella	Test for Legionella disease.
Lepto	Leptocheck-WB Zephyr, LeptoTek Dri Dot, LeptoTek Lateral Flow, LeptoTek Lateral Flowa BioMerieux	Leptospirosis	Lateral flow assay to detect for anti-IgM antibody for leptospirosis detection in animals and humans.

POCT device name derived by research team	Examples of test names mentioned in studies	Disease/pathogen covered[ii]	Description
mariPOC	mariPOC, MariPOC respi test	Influenza A and B, *Streptococcus pneumoniae*	Immunofluorescence-based Antigen test for nine respiratory viruses: influenza A and B; respiratory syncytial virus; parainfluenza virus types 1, 2 and 3; human metapneumovirus; human bocavirus; and adenovirus. The test also detects *Streptococcus pneumoniae*.
mChip		HIV	Miniature microfluidic–based enzyme-linked immunosorbent assay (ELISA) that detects gp41 and gp3 antibodies.
Multiplo	Multiplo, Multiplo Rapid TP/HIV Antibody Test	HIV and syphilis	Multiplo detects HIV and Multiplo Rapid *Treponema pallidum* (TP)/HIV Antibody Test detects both HIV and syphilis. Test based on immunofiltration methods to detect HIV and syphilis antigens and antibodies.
Multisure HCV		Hepatitis C	Lateral flow assay containing key antigens from HCV (core, NS3, NS4 and NS5).
OnSite	OnSite, OnSite Syphilis Ab Combo Rapid Test, OnSite Toxo IgG/IgM, OnSite Chikungunya IgM Combo Rapid Test	Hepatitis C, syphilis, toxoplasma and chikungunya virus disease	Test card enclosed in a cassette in which the sample is pulled through by capillary action. Used to detect IgG and IgM from recombinant *Toxoplasma gondii* antigen and anti-HCV antibodies.
OptiMAL	OptiMAL and OptiMAL-IT	Malaria	Detect HRP-2 antigen for malaria detection.
Oraquick	Oraquick, Oraquick HCV rapid antibody test, Oraquick HBV Rapid Antibody Test, OraQuick Rapid HIV-1/2 Antibody Test, OraQuick assay, OraQuick In-Home HIV test, Orasure QuickFlu Rapid Flu A + B test	Hepatitis B, hepatitis C, HIV, Influenza A and B	Immunoassay for a range of viruses. For HCV detection, it identifies anti-HCV antibodies and for HIV it identified HIV-1 and HIV-2 antibodies.
Palutop	Palutop, PALUTOP+ 4	Malaria	No description provided.
Parasight-F		Malaria	Detect HRP-2 antigen for malaria diagnosis.
PointCare NOW		HIV	CD4 cell counting device using flow cytometry to make CD4 cells fluorescent in blood samples so they can be counted by the test.
Quick Navi-Flu		Influenza A and B	Immunochromatographic test for qualitative detection and differentiation of Influenza A and B nucleoprotein.
Quick Profile	Quick Profile, Quick Profile anti-HBsAb, QuickProfile HBV-3 Panel test	Hepatitis B	Rapid test to determine hepatitis B status.
Quickchek	Techlab Quik Chek, Giardia/Cryptosporidium Quik Chek	Giardiasis (*Giardia lamblia*) and cryptosporidium	Immunochromatographic test for *Giardia lamblia* and Cryptosporidium spp.
QuickVue	QuickVue, QuickVue Influenza A + B test, QuickVue Chlamydia Rapid Test, RIDT Quickvue	Chlamydia (*Chlamydia trachomatis*), influenza A and B	Immunochromatographic test for chlamydia, influenza A and B and Group A strep.
Quidel	Quidel QuickVue Influenza A+B, Quidel Sofia influenza A and B flouroescent immunoassay, Quidel QuickVue Influenza A + B	Influenza A and B	Lateral flow immunoassay using immunofluorescence technology. The test can quantitively detect influenza A and B nucleoproteins.
ReEBOV antigen rapid test		Ebola virus disease	No description provided.
RIDA	R-Biopharm RIDA QUICK CG Combi, R-Biopharm RIDA®QUICK Cryptosporidium, RIDA®QUICK Cryptosporidium/Giardia/Entamoeba Combi, RIDAGENE Flu & RSV kit	Cryptosporidiosis (Cryptosporidium spp.), giardiasis, influenza A and B	Immunochromatographic tests for detecting a range of pathogens. Other tests are available to detect norovirus and adeno rotavirus.
SAMBA	SAMBA, SAMBA II, SAMBA HIV Semiquantitative Test, SAMBA HIV-1 qualitative assay, SAMBA I HIV-1 Qual whole blood test, SAMBA II WBSQ	HIV	Semiquantitative assay which amplifies HIV-1 nucleic acid (from groups M, N and O) and produces a blue band if HIV is present in the blood sample. The quantitative test is able to distinguish between patients with viral loads above and below 1000 copies/ml.
Simplexa Flu A/B & RSV kit		Influenza A and B	Detects influenza A and B and RSV.
Sofia Influenza A+ B	Sofia Influenza A+ B, Sofia immunoassay, Sofia fluorescent immunoassay, Sofia, The Sofia Fluorescent Immunoassay Analyzer	Influenza A and B	Lateral flow immunoassays to detect influenza A and B and RSV nucleoprotein antigens. The test demonstrates a positive result using a fluorescent reaction.
Syphicheck	Syphicheck, Syphicheck (qualpro), Syphicheck-WB	Syphilis	Test card enclosed in a cassette to detect syphilis in whole blood, serum or plasma.
Syphilis Health Check		Syphilis	Qualitative immunochromatographic assay for the detection of *Treponema pallidum* antibodies for syphilis diagnosis.
TOYO	TOYO anti-HCV test, Toyo HBsAg rapid test	Hepatitis B and hepatitis C	Lateral flow test to detect hepatitis B and C viruses in blood and oral fluid.
Truenat	Truenat, TrueNat HIV Viral Load, Truenat Uno	TB, HIV and malaria (*Plasmodium falciparum* and *Plasmodium vivax*)	Nucleic acid amplification using PCR to detect TB from sputum samples and HIV and malaria from blood samples.
Uni-gold	Uni-Gold Syphilis Treponemal, Uni-Gold Streptococcus pneumoniae	Syphilis and *Streptococcus pneumoniae*	Lateral flow immunoassay in a cassette to qualitatively detect syphilis and pneumococcal soluble antigens using blood, plasma and serum (for syphilis) or cerebrospinal fluid or urine (for *Streptococcus pneumoniae*).
VIKIA	VIKIA, VIKIA HIV, VIKIA BioMérieux, VIKIA HBsAg, VIKIA HIV 1/2	HIV, hepatitis B	Lateral flow test that detects anti-HIV and anti-hepatitis B virus (HBV) antibodies.
VIRapid HYDATIDOSI		Cystic echinococcosis	Immunochromatographic test based on purified antigen B and antigen 5 of human cystic echinococcosis
Visitect	Visitect, Visitect CD4, Visitect syphilis	Syphilis and HIV	ELISA test to detect syphilis and CD4 protein on T cells to determine if T lymphocytes are above or below a threshold in HIV.

POCT device name derived by research team	Examples of test names mentioned in studies	Disease/pathogen covered[ii]	Description
Xpert	Cepheid Gene Xpert, Cepheid Xpert CT/NG, Cepheid Xpert Flu Assay, Cepheid Xpert GBS system, Cepheid Xpert HIV-1 Viral Load, Cepheid Xpert Influenza+RSV Xpress Assay, Cepheid Xpert MRSA, GeneXpert R MTB/Rif Ultra assay, GeneXpert Omni, Xpert Flu A & B, Xpert Carba-R assay, Xpert HCV Viral Load test, Xpert GBS molecular test, Xpert molecular assay, Xpert MRB/RIF, XpertMRSA - G3 version, XpertMRSA - NxG version	Influenza A and B, Clostridium difficile, *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, HIV, Methicillin resistant *Staphylococcus aureus* (MRSA), TB, hepatitis C, *Staphylococcus aureus*, group B streptococcus	Real-time PCR nucleic acid amplification test for a number of pathogens. In *Clostridium difficile* infections, the genes for toxin B (tcdB), binary toxin (cdt) and a point mutation associated with PCR ribotype are detected. In chlamydia and gonorrhoea diagnosis, the DNA of the bacteria is detected from vaginal or urine swabs. For HIV diagnosis, the viruses RNA and DNA are detected. In hepatitis C, the viruses RNA is detected. When using the test for TB, it can be used to both detect the presence of TB and identify if the TB will be resistant to rifampicin treatment. For influenza, the test can detect and differentiate influenza A (including H1N1) and B, with some also able to detect RSV.
ZIKV	ZIKV NASBA, ZIKV RT-RPA assay	Zika virus disease	Recombinase polymerase amplification assay to detect Zika virus nucleic acid.

To visualise the data in Table 8, we analysed the availability of POCT devices mentioned in two or more studies by disease (Figure 13). This demonstrates the variation in the number of POCT devices available for different diseases. The diseases with the largest number of available POCT devices are influenza (65 devices for all types if influenza) HIV (23 devices) and hepatitis C (11 devices). For 13 diseases, we only identified one available POCT device in the reviewed literature: AMR, bacterial meningitis, campylobacteriosis, cholera, Ebola virus disease, echinococcosis, *Escherichia coli*, hepatitis A, MRSA, pertussis, *Staphylococcus aureus*, tetanus and Zika virus disease.

Figure 13. POCT devices available by disease



3.3.2 POCT device turnaround time

Where possible, the turnaround time (i.e. the time between conducting the test and receiving the results) of the devices was recorded and categorised in the following way: <10 minutes, 10-29 minutes, 30-59 minutes and 60-90 minutes. If a study discussed a device with a turnaround time of 90 minutes or more, it was excluded at the screening stage (see the inclusion and exclusion criteria (Table 3 of section 2.1.3) for more detail). These categories were generated based on natural 'break points' in the data and reflect the use of POCT. For example, tests able to provide results in less than 10 minutes may be most preferable for use in primary care, where appointments are often short. However, if a patient is admitted to hospital, longer turnaround times may be tolerable.

The distribution of turnaround times is shown in Table 9. As this demonstrates, the majority of the studies did not provide a turnaround time for the POCT device of focus (379). Out of those POC devices in which turnaround time was specified, most provided results between 10 and 29 minutes (145 tests). A smaller number provided results in 30-59 minutes (53 tests) and 60-90 minutes (63 tests). Only 33 devices provided results in less than 10 minutes.

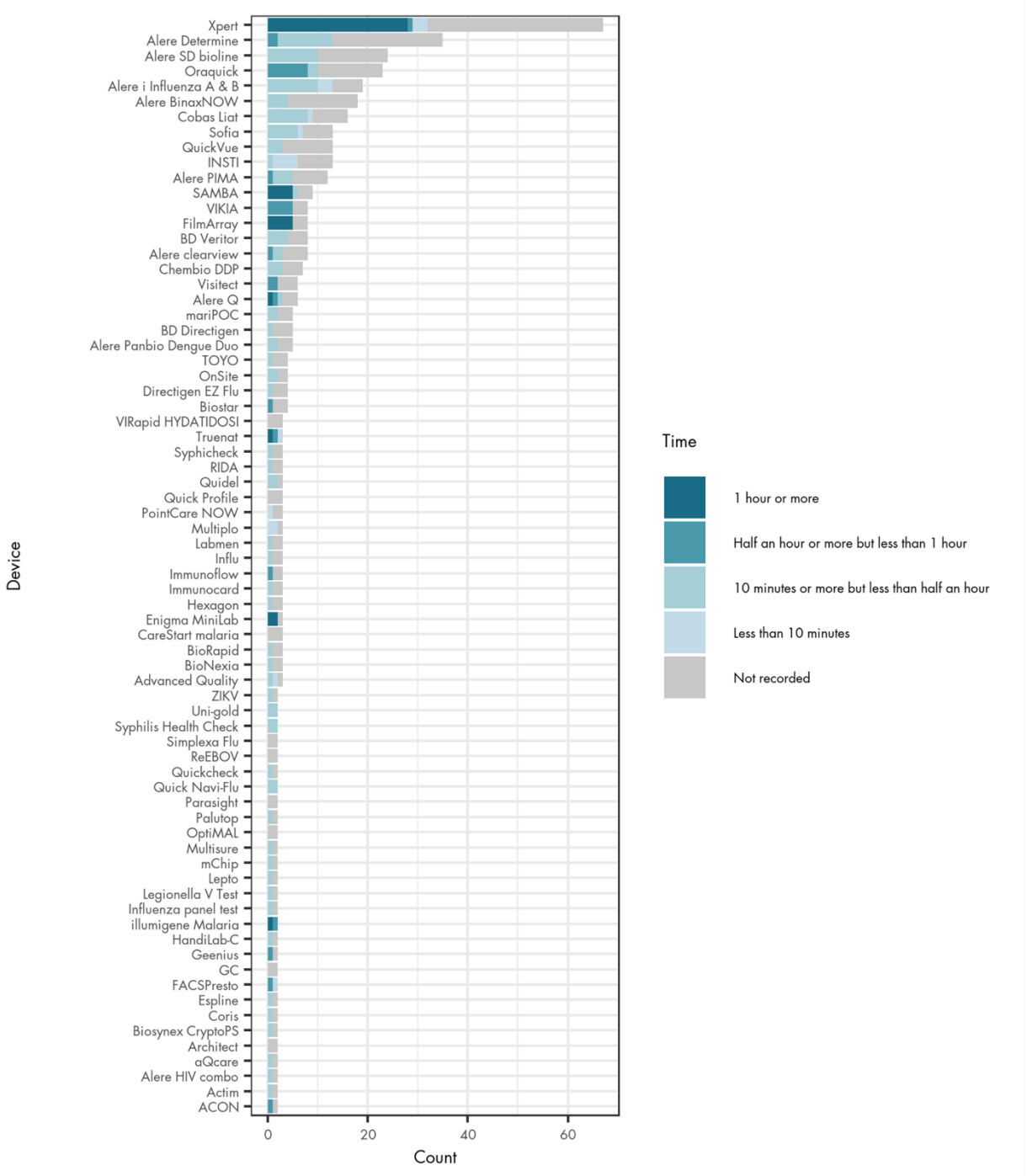
Table 9. Time for POCT devices to deliver results[i]

Time to result	Number of POCT devices
Less than 10 minutes	33
10 minutes or more but less than half an hour	145
Half an hour or more but less than 1 hour	53
1 hour-1.5 hours	63
Not recorded	379

For those devices named in two or more separate studies, the turnaround time was analysed (Figure 14). As this analysis shows, there are some discrepancies between studies as to the accurate turnaround time of a POCT device, for example, SAMBA which has a reported turnaround time of both 60-90 minutes and 10-29 minutes. This may be due to variation in how studies are carried out, and/or a lack of standardisation in naming tests across the reviewed literature. It is also possible that the POCT device has been developed further over the period between 2014 – 2019, which may have affected the manufacturer's instructions for use, or there are multiple types of devices with the same or similar names but different turnaround times. However, it appears that Xpert, SAMBA and FilmArray generally have longer turnaround times than other POCT devices, taking 60-90 minutes in most studies. However, for both Xpert and SAMBA, the reviewed studies indicate very mixed turnaround times. SAMBA has turnaround times of both 60-90 minutes and 10-29 minutes, and Xpert's turnaround times range between 60-90 minutes, 10-29 minutes and less than 10 minutes. The other POCT devices with the largest reported variation in turnaround time are FACSPresto (which has a turnaround time specified in two studies as 30-59 minutes and less than 10 minutes) and Truenat and Alere Q (studies suggest the turnaround time is 60-90 minutes, 30-59 minutes and less than 10 minutes).

[i] This does not equal the number of reviewed articles (350) as multiple tests were covered in some studies.

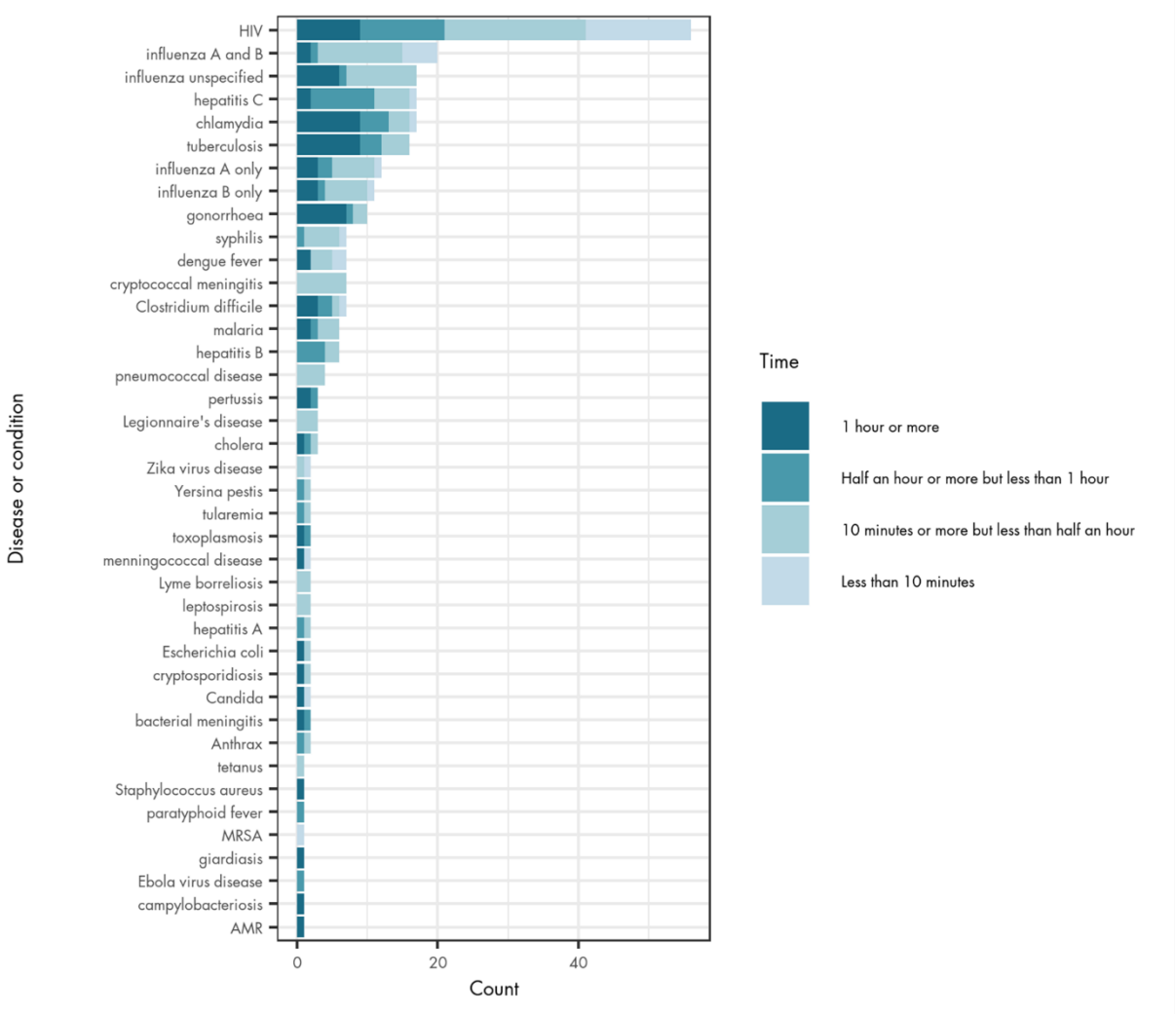
Figure 14. Length of time to result by POCT device



The POCT device turnaround time was also analysed by disease (Figure 15). The analysis demonstrates that turnaround time varies by the type of device used for a disease. The discrepancies highlighted in the previous figure in turnaround time per device will also contribute to this variation within diseases. However, this analysis suggests that chlamydia, TB and gonorrhoea may often have longer testing times (60-90 minutes), although the evidence shows that testing times are still mixed for these diseases. Syphilis, cryptococcal meningitis, pneumococcal disease, Legionnaire's disease, Zika, Lyme borreliosis, leptospirosis, tetanus and MRSA demonstrate quicker turnaround times (29 minutes or less). Also of note are the large discrepancies in turnaround time for Candida species and meningococcal disease. Both of these diseases were discussed in relation to two different POCTs demonstrating turnaround times of both 60-90 minutes and less than 10 minutes. For Candida species, one study focused on two different devices which may have contributed to this large variation. However, for meningococcal disease, both assessed POCT devices using LAMP technology and so it is unclear why the turnaround times are so different. When interpreting this data, it is important to note that some of the variation seen in turnaround time could be due to differences in the number of studies that have been undertaken.

For those diseases we identified fewer studies for, it may be that the turnaround time becomes more varied as a greater number of studies are conducted.

Figure 15. Time taken for POCT to produce a result by disease



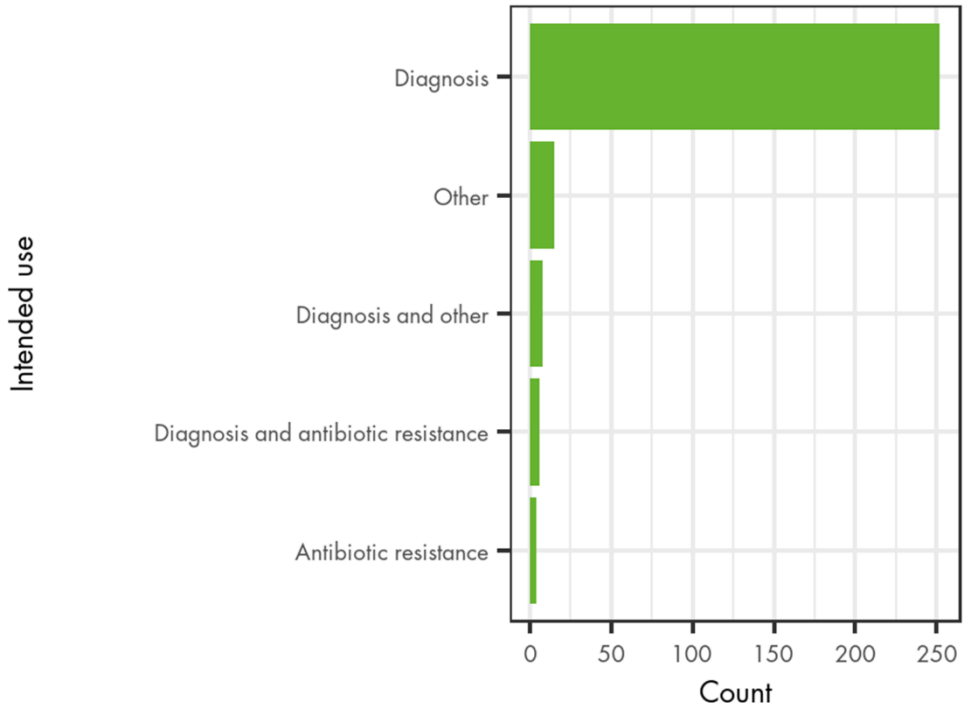
The data table can be found in Table 24 in Annex D

3.3.3 Intended use of the POCT devices

The intended use of the POCT device was recorded where this was specified. We classified the intended use of the POCT devices into five categories: 1) detection/diagnosis of pathogen; 2) antimicrobial resistance (AMR) detection; 3) other uses; 4) diagnosis/detection of pathogen and detection of AMR; 5) diagnosis/detection of pathogen and other uses (Figure 16). These categories were selected as diagnosis/detection is the primary use of POCT devices, however, they can also be used for detecting AMR and for other purposes, although to a lesser extent.

As this shows, in the vast majority of cases, the POCT devices were used for detection/diagnosis of an infectious disease (252 devices). In addition, eight devices were used for both diagnosis/detection and other purposes and six devices were used for both diagnosis/detection of a pathogen and to detect AMR. A small number of tests were used to detect AMR only (four devices). Those devices used to detect antibiotic resistance were used mainly for TB (24 devices), but also chlamydia (2 devices) and carbapenem-resistant bacteria (1 device). Additionally, 15 devices were used for other purposes which included activities such as screening, surveillance and patient management/monitoring.

Figure 16. Intended use of POCT devices[i]



The data table can be found in Table 25 in Annex D

While actual use of the POCT devices was also extracted where possible, this was often the same as the intended use of the device (Table 10). For example, 168 of the POCT devices were described as having an intended and actual use of diagnosis/detection, whereas when the intended use of a POCT device was specified as diagnosis/detection, it was used for other purposes for only nine devices. Therefore, we only describe the analysis on the intended use which is more relevant to understanding POCT device use more generally, rather than actual use which may be more specific to the study in which it is being used.

Table 10. Comparison of intended and actual use of the POC devices reported within a paper[ii]

		Actual use				
Intended use		Antibiotic resistance	Diagnosis/detection	Diagnosis/detection and antibiotic resistance	Diagnosis/detection and other	Other
	Antibiotic resistance	1	0	0	0	0
	Diagnosis/detection	0	168	0	2	7
	Diagnosis/detection and antibiotic resistance	1	2	1	0	0
	Diagnosis/detection and other	0	1	0	4	0
	Other	0	1	0	0	12

i This does not include the studies where intended use was not specified (n=91).

ii Only POCT devices with both a specified intended and actual use are presented here. For other devices, either the intended or actual use was not specified.

3.3.4 Diagnostic accuracy of POCT device

The diagnostic sensitivity and specificity (diagnostic accuracy) of the POCT devices in the reviewed articles were analysed where provided and grouped into ranges.

Sensitivity

The sensitivity refers to a diagnostics device's ability to correctly diagnose an individual with a disease (true positive). For example, a device with a sensitivity of 90% can correctly diagnose an individual 90% of the time.

The specificity refers to a diagnostics device's ability to correctly identify an individual without a disease (true negative). For example, a device with a specificity of 90% can correctly identify an individual without the disease 90% of the time.

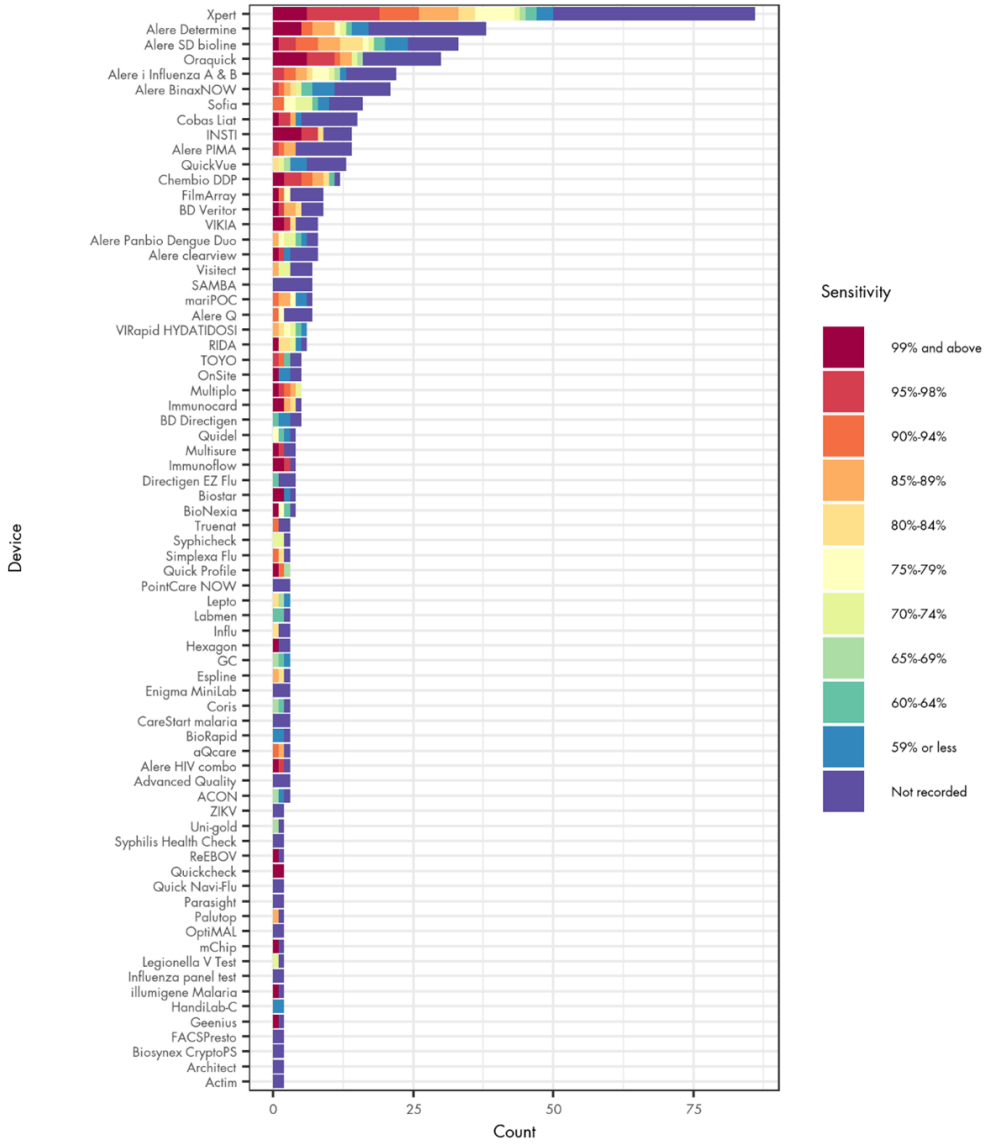
As Table 11 shows, the sensitivity values were not provided for 392 devices. For studies in which the sensitivity was provided for one or more devices, these fell across a large range of different sensitivities. A total of 161 devices reported sensitivities of 90% or higher, and over a third of these had a sensitivity of 99% and above (63 devices). However, a similar number of devices also reported sensitivities of 59% or lower (57 devices).

Table 11. Sensitivity of the reviewed POCT devices

Sensitivity	Number of tests
99% and above	63
95%-98%	53
90%-94%	45
85%-89%	47
80%-84%	30
75%-79%	27
70%-74%	25
65%-69%	11
60%-64%	25
59% or less	57
Not recorded	392

The sensitivities of the POCT devices named in two or more separate studies were also analysed (Figure 17). This analysis highlights the differences in assessment of device sensitivity. This may reflect the difficulties in categorising devices due to a lack of standardised device names, or changes over time as outlined in section 3.4.1. However, the results indicate that devices with higher sensitivities may include Oraquick, INSTI, Chembio DDP, Multisure, Immunoflow, Hexagon, Alere HIV combo, ReEBOV, Quickcheck, mChip, Illumigene Malaria Geenius and Biostar.

Figure 17. Sensitivity of the named POCT devices



Specificity

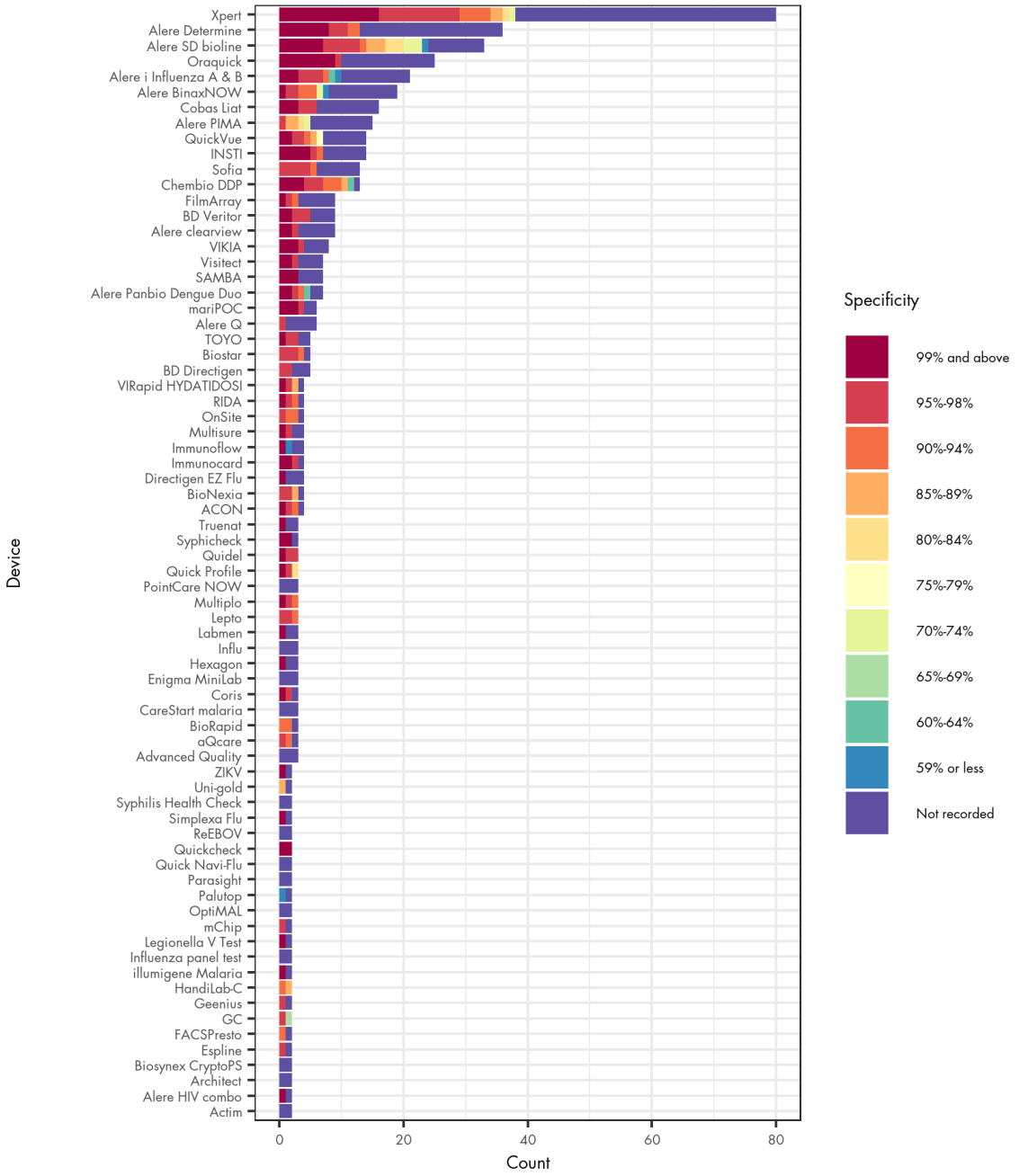
The same analysis for specificity was undertaken as for sensitivity. Table 12 outlines that specificity was not provided for 522 devices. For those devices in which specificity was provided, the majority had relatively high values, with 126 devices reporting specificities of 99% or above and 103 between 95% and 98%. Compared to the sensitivity, the number of devices with low values was much lower, with only 6 devices reported as having a specificity of 59% or lower.

Table 12. Specificity of the reviewed POCT devices

Specificity	Number of tests
99% and above	126
95%-98%	103
90%-94%	44
85%-89%	21
80%-84%	9
75%-79%	3
70%-74%	8
65%-69%	1
60%-64%	6
59% or less	6
Not recorded	522

As with sensitivity, the specificity of each device was analysed (Figure 18) and this demonstrates similar results (the specificity in terms of the values for the same device differing across studies). However, these results may indicate that the majority of named devices have relatively high specificity. Of the studies we examined, devices with lower specificity results included Alere SD Bioline, Immunoflow, Palutop and GC. It should be noted here that for many of the devices outlined here, only a small number of reviewed studies explored the specificity. Other studies may have been conducted on these POCT devices which may indicate higher specificity.

Figure 18. Named POCT device specificity



3.4 Clinical impacts of POCT

Of the reviewed articles, 69 discussed the clinical and patient impacts of POCT. These were analysed qualitatively by identifying themes that arose across the extracted information. The themes covered and the number of articles that identified a theme are outlined below[i]:

- More appropriate antimicrobial use (19 studies)
- A decrease in the time to diagnosis and/or treatment (18 studies)
- Reduction in length of stay, hospital admissions and/or waiting times (15 studies)
- No clinical impact identified (14 studies)
- The ability to detect a higher number of cases of the infectious disease/higher testing rates (14 studies)
- Reduction in healthcare costs (nine studies)
- More appropriate infection control measures (seven studies)
- Prevention of infectious disease transmission (seven studies)
- Fewer additional medical tests needed for a patient (six studies)
- Improved care linkage and patient management (six studies)
- Reductions in patient morbidity and/or mortality (six studies)
- Improved treatment adherence by the patient (three studies).

As this list demonstrates, the majority of clinical impacts discussed in the articles were positive, with a small number not identifying any impact (14 studies). Only two studies found a negative impact of using POCT, both relating to the cost of the tests. The themes which were discussed in more than 10 papers will be outlined in more detail below. We also provide further details on the articles which suggested negative impacts as a result of using POCT.

3.4.1 Positive clinical impact

These results suggest that the most commonly identified positive clinical impact in the studies was more appropriate prescription and use of antimicrobials [13, 16-33]. In particular, fewer antibiotics were prescribed in unnecessary cases (e.g. cases of viral infections) and/or more appropriate treatments were prescribed instead, often in a timelier manner. In some cases, unnecessary antibiotic treatment was discontinued early. A small number of papers (three studies) specifically referred to the reduction in prescriptions of oseltamivir for treating influenza [18, 29, 31]. Some studies provided quantitative data for the reduction in antibiotic prescriptions. Cantais et al. (2019) demonstrated a 70% reduction in antibiotic treatment (falling from 16.9% to 5.1%) for influenza in a paediatric emergency ward when testing was used in a digital immunoassay [22].

Of the articles we reviewed, 18 suggested the use of POCT reduces the time taken to diagnose an infectious disease and/or start treatment compared to traditional laboratory-based testing techniques [16, 18, 28, 32, 34-48]. Two studies found that this was of particular use in speeding up the treatment of drug-resistant TB [34, 37]. Three studies provided quantitative information regarding the reduction in time to diagnosis and/or treatment [32, 43, 47]. Two of these explored the impact of the Xpert test [43, 47]. The first of these explored the impact of the Xpert test to diagnose bone and joint TB and found that the time to starting treatment reduced from 36 days to three days [43]. Similarly, another Xpert study demonstrated that the use of the Xpert test to diagnose 100 patients with chlamydia and gonorrhoea reduced time to treatment, as the time to obtain results fell from three to four working days to one day [47]. The third study explored the impact on turnaround time from using the Cobas Liat test for influenza by comparing it to the BD MAX system, a lab real-time PCR test. The study found that the time from sample collection to test results fell significantly from 194 minutes to 47 minutes ($p = <0.0001$) which was found to be due to faster collection of samples in the emergency department, shorter time for the test to run and no additional time needed to communicate the test results from the laboratory to the clinicians [32].

Out of the studies exploring the clinical impact of POCT, 15 identified reductions in length of stay, hospital admissions and/or emergency department waiting times [16-19, 22-24, 28, 32, 33, 49-53]. While it is possible that other factors contributed to these reductions, it is likely that the change from traditional laboratory testing to POCT was the main driver. Six of these studies provided quantitative data on this reduction when testing for influenza. Soto et al. (2016) found that the use of the Xpert Flu test to detect influenza reduced the average number of hours spent in the emergency department by 9.4 hours, compared with patients tested with traditional diagnostic approaches [49]. Three studies explored the impact of the Cobas Liat test for influenza. One of these studies found that the influenza ward admitted 168 patients during the time of the study, freeing up 779 single-room bed days [50]. Brooke-Pearce et al. (2019) used the Cobas Liat test for influenza and found that length of stay reduced by 3.4 days for influenza positive patients and by 5.8 days for influenza negative patients [28].

[i] Note that the numbers presented here do not add up to 69 as many articles discussed more than one clinical impact.

The third study using the Cobas Liat test (comparing it to the BD MAX system, a lab real-time PCR test) found that time in the emergency department significantly reduced for influenza positive patients, falling from 3.83 to 3.63 hours (p= 0.028) between the 2016-17 (when lab PCR testing was conducted) and 2017-18 (when the POCT was used) influenza seasons.[i]

In addition, the number of influenza-positive patients attending the emergency department admitted to the hospital was significantly lower (91% of influenza positive patients in 2016-17 compared to 73% in 2017-18, p= <0.0001), and this was the same for influenza negative patients (93% in 2016-17 compared to 80% in 2017-18, p= <0.0001). For influenza negative patients, the lower admission rate reflects the reduced level of unnecessary isolation. This study also found length of stay to be shorter when using the Cobas Liat test, which, for influenza positive patients, reduced from 5.86 to 4.61 days (p= <0.0001) [32]. However, as this study was conducted over two separate influenza seasons, it is not possible to reach a consensus as to whether the POCT device was responsible for these improvements (e.g. the 2017-18 influenza season may have been less severe overall than the 2016-17 season). Brachmann et al. (2019) found that the use of the Alere i influenza A & B test for influenza reduced the time a patient occupied an emergency department exam room by 2.9 hours on weekdays and four hours at weekends [51]. Cantais et al. (2019) found that hospital stay reduced by 25% with the use of a rapid influenza digital immunoassay compared to routine assays.

From the reviewed studies, 14 reviewed identified that the use of POCT allows for a higher testing rate and/or diagnosis of a greater number of cases [24, 34, 37, 38, 44, 54-62]. Of these 16 studies, six identified that the use of POCT can increase testing rates in hard to reach populations [54-56, 58, 59, 62], particularly for populations at high risk of HIV, e.g. men who have sex with men, or who have not been tested for HIV before and populations at higher risk of contracting sexually transmitted infections (STIs), e.g. , sex workers and drug users.

3.4.2 Negative impacts

A small number of papers identified negative economic impacts as a result of using POC tests (n=2) [33, 42]. Gaydos et al. (2014) found that the British Chlamydia Rapid Test and the Clearview Chlamydia POC assay are both more expensive than using traditional nucleic acid amplification tests. Finally, Linehan et al. (2018) found that an unintended consequence of using the Xpert Flu assay to test for influenza was an increase in the number of tests being sent due to greater test availability and changes in the requesting patterns of clinical staff [33].

3.5 Other key findings

A number of other key findings relevant to POCT were extracted from the reviewed literature. We provide a brief overview of the types of topics recorded in this column:

- 97 studies discussed the advantages and/or benefits of using the specific test or type of POCT
- 74 studies discussed the limitations of the POCT or type of test, including the barriers to implementing the test
- 66 studies discuss the factors that influence the efficacy, sensitivity and specificity of the POCT
- 58 studies compared the POCT of focus to other types of testing, both other POCT/rapid tests and traditional diagnostic approaches (without providing figures on the sensitivity and specificity compared to the other test)
- 42 studies provide sensitivity and specificity details of the POCT compared to other types of testing (both other POCT/rapid tests and traditional diagnostic approaches)
- 38 studies discuss the costs, affordability and/or cost-effectiveness of implementing POC tests
- 35 studies discuss the feasibility and acceptability of implementing POC tests in practice, from the perspective of both healthcare professionals and patients
- 20 studies discuss whether the POCT of focus is recommended (or not) for use by governments or other organisations, or meets a set of standards, such as the WHO ASSURED (Affordable, Sensitive, Specific, User-friendly, Rapid and robust, Equipment-free and Deliverable to end-users) standards
- 19 studies discussed the diagnostic accuracy of POCTs in further detail
- 14 studies provide an indication of whether the test is implemented in practice and the extent of use
- Nine studies discuss whether further testing is needed after conducting a POCT.

[i] P values indicate the significance of a result, with a value of <0.05 indicating that there is a significant result, i.e. the result did not occur due to chance.

3.6 Limitations of the analysis

The limitations of this analysis fall into two categories: those that are inherent in scoping reviews due to their focus on breadth rather than depth of evidence, and those that are specific to this review as defined by the limits placed on its scope.

Scoping reviews are a relatively recent addition to the toolbox of approaches available to researchers conducting evidence synthesis, and they have characteristic features that distinguish them from other types of literature reviews. Namely, scoping reviews are employed to appraise the size and scope of a body of evidence in a field of interest, to determine and define key concepts in a field, and to identify gaps in the evidence [10]. They do not aim to critically appraise the literature, nor to provide a synthesised answer to the type of research question typically answered by a systematic review (e.g. intervention effectiveness, population outcomes, etc. [10]. Scoping reviews, therefore, by definition, sacrifice depth for breadth.

In this scoping review, we seek to provide a broad characterisation of the evidence, which is the appropriate approach for answering the agreed scope of research questions (see Section1.1). We are interested in understanding the quantity of relevant evidence, the article types and study designs employed and the countries in which evidence is being accumulated. High-level data was extracted for each of the columns set out in Table 4, but as is the case with all scoping reviews, we did not assess the quality of the evidence. The value of the extracted data is therefore limited to answering the agreed scope for the research questions.

The inclusion criteria identified at the inception stages was aimed at maximising the scope of the included evidence. However, as outlined in section 2.1, it was necessary to place some limits on the review's scope due to the large number of articles identified for the study selection task. Although we maintained a broad scope in most areas (e.g. any POCT device, any of the infectious diseases of interest), we only included literature published in English. The search also focused on only literature published between 2014 and 2019. In addition, in light of the large number of articles identified at the end of the literature search task, the inclusion criteria of the protocol were changed, in agreement with ECDC, to geographically limit the study selection to only EU/EEA Member State countries and the UK. This may have led to the exclusion of articles discussing POCT devices in their early development in regions outside the EU/EEA which may have been relevant to an EU/EEA context. Finally, due to the large number of articles mentioning 'rapid testing' in the abstract, the exclusion criteria of the protocol were changed, following consultation with ECDC, to exclude any articles which did not provide further evidence that the device in question is POC (such as providing results in less than 90 minutes, portable and/or limited expertise needed for its use). This may have led to the exclusion of potentially relevant articles; however, not enough information was provided in the abstract to justify full-text extraction.

4 Concluding remarks

For many years, POCT has been applied to detect and diagnose a range of infectious diseases in a short amount of time and with limited resources and infrastructure, effort and skill required. The ongoing COVID-19 pandemic has highlighted the importance of developing and deploying, on a large scale, POCT devices to detect infectious diseases both for medical care as well as for public health risk management. This is important both to identify when an individual is currently infected (antigen test) and when an individual has been previously infected and recovered (antibody test). Therefore, an update of this scoping review to include COVID-19 POCT devices would be of value to document studies performed on their potential usefulness and public health effectiveness in Europe.

This scoping review has focused on examining the use of POCT for the 56 diseases under ECDC surveillance (and a small number of other diseases of interest) in EU/EEA Member States countries and the UK. As mentioned, the research had a broad scope to gain an understanding of the type of research that has been conducted on POCT in EU/EEA Member States and the UK. We were interested in studies researching any of the diseases of interest with any type of POCT and conducted in any EU/EEA Member State country and the UK. As per the approach to a scoping review, the aim was not to critically assess the findings of the included studies or their quality but to provide an overview of the types of research that has been conducted 2014-2019. This allows us to understand the size and nature of the literature on this topic.

In Figure 19, we present a word cloud of the 100 most frequently occurring words within the titles of the 350 included articles. This provided a high-level visualisation of the common words used within the titles of the included studies and is intended to complement the analysis outlined in the previous section. It demonstrates the diverse range of POCT and diseases covered within the reviewed literature.

Figure 19. Word cloud highlighting the most frequently occurring words within the titles of all the included articles[i]

It is important to be able to understand the types of POCT devices in use across countries, for which diseases and the efficacy of the devices. This will enable gaps to be identified, e.g. diseases lacking in rapid POCT devices, and if certain devices are not accurate or precise enough for use in clinical settings. This study will also enable ECDC to develop and support advances in the use of POCT for diagnosis of infectious diseases but also potentially for other uses, such as disease surveillance and control.

The subsections below summarise the key findings of the scoping review, including: the overview of the literature, the study population and size, the geographical location the studies were conducted in, the number and types of diseases, the characteristics of the POCT devices, the clinical impacts of POCT and the themes arising from the other key findings of the studies.

Overview of the literature

- The scoping review identified 350 articles published between 2014 and 2019 that met the inclusion criteria.
- These included 115 reviews, 102 evaluation studies, 37 observation studies, 36 comparative studies, 22 systematic reviews, 15 meta-analysis and 24 studies of other types.

Study population and size

- The study populations of the reviewed literature included articles (152 secondary research articles), patients or the general population (148 studies), samples from patients or of pathogens (35 studies) or healthcare professionals (11 studies). No study population was reported in 5 studies or guidelines.
- The size of the study population covered a large range and varied by type of study. The population size of clinical trials, multi-centre studies, short surveys and RCTs generally fell as bimodal distributions clustered at or close to the minimum and maximum value. The sizes of populations used in comparative studies, observational studies and evaluation studies were skewed to the left, closer to the minimum value, with only a small number of studies having population sizes at, or close to, the maximum value.

[i] The titles of all the included articles were input to an online word cloud generating software (https://worditout.com/).

Geographical location and study setting

- Geographical coverage of the reviewed articles includes 24 EU/EEA Member State countries and the UK. The most commonly reported countries where the reviewed studies were conducted in are the UK (58 articles), France (55 articles) and Spain (31 articles). Fewer studies were conducted in Eastern European countries.
- The study settings, i.e. the setting in which the study was carried out, covered laboratories (i.e. non-clinical, with the study/evaluation carried out in a laboratory), non-emergency secondary care, emergency departments, clinics, the community, primary care and other. The most commonly reported study settings were laboratories (51 studies) non-emergency secondary care (47 studies) and clinics (33 studies).

Disease coverage

- The reviewed literature covered 44 of the diseases of interest.
- The most common diseases of focus were HIV (108 studies), influenza (89 studies) and TB (37 studies). This may suggest that diseases with a high health burden and of public health concern in EU/EEA Member State countries and the UK are subject to a greater amount of research to develop effective POCT devices.
- When looking at the disease of focus by the country the study was conducted in, HIV POCT was studied in the highest number of locations (13 countries). HIV POCT was researched the most in France (21 studies), the UK (20 studies) and Spain (13 studies).
- Three countries studied POCT devices for a wider range of diseases when compared to other countries. These were France (20 diseases), the UK (19 diseases) and Italy (17 diseases).

POCT device characteristics

- 519 devices were named across the 350 reviewed articles and an additional 126 devices were not named, but rather a more generic description of the device was provided, e.g. rapid HIV test. Those devices named in more than two separate studies were grouped, resulting in 72 named device groups. Those devices mentioned in only one study were recorded in an 'other' group.
- From the named devices, Xpert was the most frequently mentioned (64 times), followed by Alere Determine (34 times) and Alere SD Bioline (24 times). The glossary of POCT devices demonstrates the lack of a standardised approach to naming or referring to devices in research, including those with branded names.
- For the majority of devices, turnaround time was not provided (379). For those devices with turnaround times, the most common range of time to produce a result was 10-29 minutes. Only 33 devices provided results in less than 10 minutes, and 63 devices took 60-90 minutes.
- For studies providing a description of the intended use of the POCT devices, the vast majority are used for detection/diagnosis of a disease (252 tests), or detection/diagnosis alongside other uses (6 tests) or AMR detection (4 tests). Only 4 tests were used for AMR detection alone. The majority of AMR detection was for TB.
- The sensitivity and specificity varied across the reviewed studies. Sensitivity values were provided for 383 devices, with 161 of these reporting sensitivities above 90%. However, 57 devices also reported sensitivities 59% or lower. Specificity values were generally higher than sensitivity, with 273 devices reported having specificities of 90% or above.
- There are differences in the reported turnaround time, sensitivity and specificity for POCT devices as various values were provided across studies for the same device. This may be due to both methodological variations in studies as well as difficulties in categorising the POC devices due to a lack of standardisation in device naming or version reporting.

Clinical impacts of POCT

- Of the reviewed articles, 69 discussed the clinical and patient impacts of POC devices. These covered a range of themes.
- The impacts most commonly mentioned were more appropriate use of antimicrobials (19 times), a decrease in time to diagnosis and/or treatment (18 times), a reduction in length of stay, hospital admissions and/or waiting times (15 times) and ability to detect more infectious disease cases (14 times). No clinical impact was identified in 14 studies, and two studies reported negative operational outcomes.

Other key findings of the reviewed studies

- A number of different themes were identified from the other key findings of the reviewed studies.
- The most commonly discussed themes were discussions of the advantages/benefits of using POCT (97 studies), the limitations of using POCT (74 studies) and the factors that influence the efficacy of the POCT (66 studies).

4.1 Questions the analysis has raised

While the aim of a scoping review is to provide an overview of the type of research on a particular topic, rather than in-depth analysis of the available research, this scoping review has identified a number of questions and possible areas for future research.

- What are the reasons for some EU/EEA Member State countries and the UK conducting a greater number of studies on POC tests than others?
- What types of studies have been conducted for each disease identified in this scoping review?
- What are the reasons for this scoping review indicating that some diseases/pathogens or related health issues such as AMR may not have POCT available (e.g. lower prevalence/importance of disease for EU/EEA Member State countries and the UK, portable devices not suitable, not commercially viable etc.)? Are there any diseases/pathogens in which no POCT is available for globally?
- What are the types and characteristics of available POCT devices for COVID-19 in the EU/EEA Member State countries and the UK?
- Are the types and characteristics of available POCT devices very different in other parts of the world than in the EU/EEA?
- Is there evidence that sensitivity and specificity of POCT devices is increasing overtime, or that turnaround time is reducing? If this is the case, does this account for the variation in diagnostic accuracy and turnaround time seen for POC tests in this review?
- Is there a need to develop a standardised approach to naming POCT devices to support research and reporting on diagnostic evaluation studies assessing the availability and diagnostic accuracy of POCT devices?
- Is there scope for the use of POCT devices to be expanded beyond their primary use as a diagnostic tool (e.g. screening, AMR monitoring, surveillance)?

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Annex A. PRISMA-ScR checklist

Table 13. Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist [12]

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE
TITLE			
Title	1	Identify the report as a scoping review.	9
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	9-11, 14-19, 23-67
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	9-11
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	11
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A[i]
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	14, 16-18
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	74-117
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	74-117
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	15-21
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	19-21
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	15-21
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	22
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	14-19
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.[ii]	17-20
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	19-21, 23-61
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	64-66
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	63-67
Limitations	20	Discuss the limitations of the scoping review process.	62
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	63-67
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	9[iii]

i As detailed in the ITT, ECDC does not request protocol registration for scoping reviews.

ii The citations of the reviewed studies will be provided to ECDC in a separate document.

[iii] ECDC were the sole funders for this scoping review and the research team does not have any conflicts of interest in this regard. ECDC provided support and guidance in development of the literature search protocol, extraction template and draft reports. Analysing the sources of funding for the included literature was out of scope of this review.

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.
** Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.*
† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote).
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).
From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. ;169:467–473. doi: 10.7326/M18-0850

Annex B. Search strategies for the different databases and repositories

PubMed search strings and number of search hits

56 diseases

Date Limitation: 2014-present

This search was run on 15 November 2019.

Search strings	No of hits
#1 Point of care test*[tw] OR POCT[tw] OR rapid diagnostic test*[tw] OR rapid test*[tw] OR bedside test*[tw] OR near patient test*[tw] OR handheld device*[tw] OR handheld instrument*[tw] OR portable test*[tw] OR portable device*[tw] OR portable instrument*[tw] OR bedside computing[tw] OR Infectious disease testing[tw] OR infectious disease screening*[tw] OR point of care technolog*[tw] OR bedside technolog*[tw] OR point of care system*[tw] OR point-of-care systems[MeSH] OR point-of-care testing[MeSH]	12 821
#2 Anthrax[tw] OR anthracis[tw] OR "Anthrax"[Mesh] OR "Bacillus anthracis"[Mesh]	1 804
#3 #1 AND #2	13
#4 botulism[tw] OR botulinum[tw] OR botulism[Mesh] OR “Clostridium botulinum”[Mesh]	6 346
#5 #1 AND #4	11
#6 brucellosis[tw] OR Brucella[tw] OR b. abortus[tw] OR b.canis[tw] OR b. melitensis[tw] OR b.ovis[tw] OR b. suis[tw] OR brucellosis[Mesh] OR Brucella[Mesh]	2 909
#7 #1 AND #6	19
#8 Campylobacteriosis[tw] OR campylobacter*[tw] OR c.coli[tw] OR c.fetus[tw] OR c.hyointestinalis[tw] OR c.jejuni[tw] OR c.lari[tw] OR c.rectus[tw] OR c.sputorum[tw] OR c.upsaliensis[tw] OR "Campylobacter"[Mesh] OR “Campylobacter infections“ [Mesh]	3 655
#9 #1 AND #8	11
#10 chikungunya[tw] OR chikv[tw] OR “chikungunya virus”[Mesh] OR “Chikungunya fever“ [Mesh]	3 345
#11 #1 AND #10	43
#12 Chlamydia[tw] OR c.trachomatis[tw] OR c.pneumoniae[tw] OR c.psittaci[tw] OR trachoma[tw] OR inclusion conjunctivitis[tw] OR ophthalmia neonatorum[tw] OR Lymphogranuloma venereum[tw] OR LGV[tw] OR Psittacosis[tw] OR “Chlamydia infections“ [Mesh] OR “Chlamydia trachomatis“ [Mesh]	5 688
#13 #1 AND #12	124
#14 cholera[tw] OR Vibrio cholerae[tw] OR v. cholerae[tw] OR cholera[Mesh] OR “Vibrio cholerae”[Mesh]	4 433
#15 #1 AND #14	34
#16 cryptosporidi*[tw] OR c.parvum[tw] OR “cryptosporidiosis“ [Mesh] OR “cryptosporidium“ [Mesh]	2 156
#17 #1 AND #16	18
#18 dengue[tw] OR DENV[tw] OR dengue[Mesh] OR dengue virus[Mesh]	10 098
#19 #1 AND #18	189
#20 diphtheria[tw] OR Corynebacterium diphtheriae[tw] OR Klebs-Loffler bacillus[tw][i] OR diphtheria[Mesh] OR Corynebacterium diphtheriae[Mesh] OR Corynebacterium infections[Mesh]	3 151
#21 #1 AND #20	1

[i] After running this search on the 15 November, we identified a typo in this search string relating to *Klebs-Loeffler bacillus.* We re-ran the search on the 12 December with the correct spelling of this term and did not identify any additional search hits.

Search strings	No of hits
#22 echinococc*[tw] OR E. granulosus[tw] OR E. multilocularis[tw] OR hydatid cyst[tw] OR Hydatid disease*[tw] OR Echinococcus[Mesh] OR Echinococcosis[Mesh]	3 341
#23 #1 AND #22	15
#24 giardia*[tw] OR Lamblia[tw] OR Lamblias[tw] OR Lambliasis[tw] OR G. intestinalis[tw] OR "G. duodenalis"[tw] OR "G. muris"[tw] OR Giardia[Mesh] OR Giardiasis[Mesh]	2 151
#25 #1 AND #24	18
#26 gonorrhoea*[tw] OR gonorrhea*[tw] OR gonococc*[tw] OR N. gonorrhoeae[tw] OR gonorrhea[Mesh] OR Neisseria gonorrhoeae[Mesh]	3 516
#27 #1 AND #26	107
#28 hepatitis A[tw] OR hep A[tw] OR hepatitis virus a[tw] OR hav[tw] OR "hepatitis A"[Mesh] OR "Hepatitis A virus"[Mesh]	3 137
#29 #1 AND #28	11
#30 hepatitis B[tw] OR hep b[tw] OR hepatitis virus b[tw] OR HBV[tw] OR dane particle[tw] OR "hepatitis B"[Mesh] OR "Hepatitis B virus"[Mesh]	22 913
#31 #1 AND #30	198
#32 hepatitis C[tw] OR "hep C"[tw] OR hepatitis virus c[tw] OR HCV[tw] OR hepacivirus c[tw] OR "hepatitis C"[Mesh] OR hepacivirus[Mesh]	28 073
#33 #1 AND #32	226
#34 HIV[tw] OR human immunodeficiency virus*[tw] OR human immune deficiency virus*[tw] OR "immune deficiency associated virus"[tw] OR "immune deficiency associated viruses"[tw] OR " immunodeficiency associated virus"[tw] OR " immunodeficiency associated viruses"[tw] OR acquired immunodeficiency syndrome[tw] OR acquired immune deficiency syndrome[tw] OR AIDS[tw] OR HIV[Mesh] OR Acquired Immunodeficiency Syndrome[Mesh]	101 957
#35 #1 AND #34	1 173
#36 Haemophilus influenzae type b[tw] OR Hemophilus influenzae type b[tw] OR Hib[tw] OR H. influenzae type b[tw] OR Haemophilus influenzae group B[tw] OR Hemophilus influenzae group B[tw] OR Haemophilus influenzae type b[Mesh]	864
#37 #1 AND #36	4
#38 flu[tw] OR influenza*[tw] OR H1N1[tw] OR Influenza, Human[Mesh] OR influenza in birds[Mesh] OR "Influenza A Virus, H1N1 Subtype"[Mesh]	32 065
#39 #1 AND #38	343
#40 Legionella[tw] OR L. pneumophila[tw] OR Legionnaire's disease[tw] OR legionnaires' disease[tw] OR Pontiac fever[tw] OR Legionella pneumophila[Mesh] OR Legionnaires' Disease[Mesh]	2 009
#41 #1 AND #40	19
#42 leptospirosis[tw] OR Leptospira[tw] OR L. interrogans[tw] OR L. kirschneri[tw] OR L. borgpetersenii[tw] OR L. santarosai[tw] OR L. noguchii[tw] OR L. weilii[tw] OR L. alexanderi[tw] OR L. alstoni[tw] OR L. kmetyi[tw] OR Leptospira[Mesh] OR Leptospirosis[Mesh]	2 134
#43 #1 AND #42	49
#44 Listerios*[tw] OR Listeria*[tw] OR L. monocytogenes[tw] OR L. seeligeri[tw] OR L. ivanovii[tw] OR L. welshimeri[tw] OR L. grayi[tw] OR L. innocua[tw] OR L. marthii[tw] OR L. rocourtiae[tw] OR Listeria[Mesh] OR Listeriosis[Mesh]	5 589
#45 #1 AND #44	9
#46 Lyme disease[tw] OR Borrelia[tw] OR neuroborreliosis[tw] OR Lyme disease[Mesh] OR Borrelia burgdorferi[Mesh]	3 767
#47 #1 AND #46	16
#48 malaria[tw] OR Plasmodium[tw] OR P. falciparum[tw] OR P. vivax[tw] OR P. ovale[tw] OR P. malariae[tw] OR P. knowlesi[tw] OR Paludism[tw] OR Malaria[Mesh] OR Plasmodium[Mesh]	24 633
#49 #1 AND #48	1 219

Search strings	No of hits
#50 Measles[tw] OR Rubeola[tw] OR Measles[Mesh] OR Measles virus[Mesh] OR morbillivirus[MeSH]	4 918
#51 #1 AND #50	8
#52 mumps[tw] OR parotitis[tw] OR "epidemic parotid virus*"[tw] OR "epidemic parotiditis virus*"[tw] OR "epidemic parotitides virus*"[tw] OR "epidemic parotitus virus*"[tw] OR mumps[Mesh] OR mumps virus[Mesh][i]	1 871
#53 #1 AND #52	3
#54 Neisseria meningitidis[tw] OR meningococc*[tw] OR meningitis, bacterial[Mesh] OR meningitis, meningococcal[Mesh] OR Neisseria meningitidis[Mesh]	5 140
#55 #1 AND #54	33
#56 pertussis[tw] OR whooping cough[tw] OR Whooping Cough[Mesh] OR Bordetella pertussis[Mesh] OR Pertussis Toxin[Mesh]	3 950
#57 #1 AND #56	11
#58 plague*[tw] OR Yersinia pestis[tw] OR y. pestis[tw] OR Black death[tw] OR plague[Mesh] OR Yersinia[Mesh] OR Yersinia infections[Mesh] OR "Yersinia pestis"[Mesh]	3 862
#59 #1 AND #58	13
#60 polio[tw] OR poliomyelitis[tw] OR poliovirus*[tw] OR polioenterovirus*[tw] OR poliomyelitis[Mesh] OR poliovirus[Mesh]	3 464
#61 #1 AND #60	2
#62 Q fever[tw] OR Coxiella[tw] OR C. burnetii[tw] OR Abattoir fever[tw] OR Coxiellosis[tw] OR Q fever[Mesh] OR coxiella[Mesh]	1 412
#63 #1 AND #62	4
#64 rabies[tw] OR rabies[Mesh] OR rabies virus[Mesh]	2 738
#65 #1 AND #64	6
#66 rubella[tw] OR rubellavirus[tw] OR RuV[tw] OR German measles[tw] OR rubella[Mesh] OR rubella virus[Mesh]	2 264
#67 #1 AND #66	9
#68 salmonellosis[tw] OR Salmonella enterica[tw] OR Salmonella*[tw] OR S. Enteritidis[tw] OR S.Typhimurium[tw] OR S.Typhi[tw] OR Salmonella enterica[Mesh] OR Salmonella infections[Mesh] OR "Salmonella"[Mesh]	15 416
#69 #1 AND #68	93
#70 SARS*[tw] OR severe acute respiratory syndrome[tw] OR severe acute respiratory syndrome-related coronavirus[tw] OR Severe Acute Respiratory Syndrome[Mesh] OR SARS virus[Mesh]	2 043
#71 #1 AND #70	4
#72 verocytotoxin-producing Escherichia coli[tw] OR Shiga toxin-producing Escherichia coli[tw] OR VTEC[tw] OR STEC[tw] OR verocytotoxin-producing E. coli[tw] OR Shiga toxin-producing E. coli[tw] OR STEC/VTEC[tw] OR EHEC[tw] OR SLTEC[tw] OR Shiga-Toxigenic Escherichia coli[Mesh] OR non-O157[tw] OR coli-O157[tw]	4 184
#73 #1 AND #72	36
#74 Shigella*[tw] OR shigellosis[tw] OR S. dysenteriae[tw] OR S. flexneri[tw] OR S. boydii[tw] OR S. sonnei[tw] OR bacillary dysentery[tw] OR Shigella[Mesh] OR Dysentery, Bacillary[Mesh]	2 637
#75 #1 AND #74	10

[i] After running this search on the 15 November, we identified an error in the string relating to the epidemic parotid virus terms, in that PubMed cannot search truncations (*) inside of quotation marks. We created a correct search string (Epidemic[tw] AND virus*[tw] AND (parotid[tw] OR parotiditis[tw] OR parotitides[tw] OR parotitus[tw])) and re-ran this search on 12 December, however the number of search hits remained the same.

Search strings	No of hits
#76 smallpox*[tw] OR Variola*[tw] OR smallpox[Mesh] OR variola virus[Mesh]	820
#77 #1 AND #76	1
#78 Streptococcus pneumonia*[tw] OR S. pneumonia*[tw] OR diplococcus pneumonia*[tw] OR d. pneumonia*[tw] OR pneumococcus[tw] OR pneumococcal[tw] OR IPD[tw] OR Streptococcus pneumoniae[Mesh] OR Pneumococcal Infections[Mesh]	10 613
#79 #1 AND #78	36
#80 Syphilis[tw] OR Treponema pallidum[tw] OR T. pallidum[tw] OR Chancre[tw] OR syphilis[Mesh] OR Treponema pallidum[Mesh]	4 750
#81 #1 AND #80	214
#82 tetanus[tw] OR Clostridium tetani[tw] OR C. tetani[tw] OR Bacillus tetani[tw] OR B. tetani[tw] OR tetanus[Mesh] OR Clostridium tetani[Mesh]	3 296
#83 #1 AND #82	10
#84 tick borne encephalitis*[tw] OR tick-borne encephalitis*[tw] OR TBE*[tw] OR Encephalitis, Tick-Borne [Mesh] OR Encephalitis Viruses, Tick-Borne[Mesh]	2 070
#85 #1 AND #84	1
#86 toxoplasm*[tw] OR Toxoplasma[Mesh] OR Toxoplasmosis, Congenital[Mesh]	5 575
#87 #1 AND #86	24
#88 Transmissible spongiform encephalopath*[tw] OR TSEs[tw] OR Bovine spongiform encephalopath*[tw] OR Mad cow disease[tw] OR Encephalopathy, Bovine Spongiform[Mesh]	717
#89 #1 AND #88	6
#90 trichina*[tw] OR trichinellosis[tw] OR trichinosis[tw] OR Trichinella*[tw] OR T. britovi[tw] OR T. murrelli[tw] OR T. nativa[tw] OR T. nelson[tw] OR T. spiralis[tw] OR T. papuae[tw] OR T. pseudospiralis[tw] OR T. zimbabwensis[tw] OR Trichinellosis[Mesh] OR Trichinella[Mesh]	628
#91 #1 AND #90	2
#92 tuberculosis[tw] OR MTB[tw] OR LTBI[tw] OR koch's disease[tw] OR M. africanum[tw] OR M. canetti[tw] OR M. caprae[tw] OR M. orygis[tw] OR tuberculosis[Mesh] OR Mycobacterium tuberculosis[Mesh]	42 320
#93 #1 AND #92	365
#94 typhoid[tw] OR paratyphoid[tw] OR Salmonella Typhi*[tw] OR Salmonella Paratyphi*[tw] OR Salmonella Paratyphosa[tw] OR Enteric fever[tw] OR salmonella schottmuelleri[tw] OR salmonella hirschfeldii[tw] OR S. Typhi[tw] OR S. paratyphi[tw] OR S. schottmuelleri[tw] OR S. hirschfeldii[tw] OR Typhoid fever[Mesh] OR paratyphoid fever[Mesh]	6 933
#95 #1 AND #94	63
#96 tularemia[tw] OR tularaemia[tw] OR Francisella tularensis[tw] OR Pasteurella tularensis[tw] OR bacterium tularense[tw] OR tularemia[Mesh] OR Francisella tularensis[Mesh]	976
#97 #1 AND #96	7
#98 ((prion[tw] OR prions[tw]) AND (variant[tw] AND (Creutzfeldt-Jakob[tw] OR Creutzfeldt Jakob[tw] OR CJD[tw] OR Creutzfeldt-Jakob Syndrome[MeSH])) OR (variant cjd[tw] OR v cjd[tw] OR v-cjd[tw] OR vcjd[tw]))	243
#99 #1 AND #98	1
#100 viral hemorrhagic fever*[tw] OR viral haemorrhagic fever*[tw] OR arenavirus[tw] OR filovirus[tw] OR ebola*[tw] OR EBOV[tw] OR Lassa[tw] OR Marburg virus[tw] OR Marburgvirus[tw] OR lassavirus[tw] OR marv[tw] OR Hantavirus[tw] OR Hanta virus[tw] OR Junin virus[tw] OR "Machupo mammarenavirus"[tw] OR nairovirus[tw] OR Crimean-congo hemorrhagic fever virus[tw] OR CCHF*[tw] OR zaire ebolavirus[tw] OR omsk hemorrhagic fever virus[tw] OR OHFV[tw] OR kyasanur forest disease virus[tw] OR rift valley fever virus[tw] OR RVF[tw] OR Hemorrhagic Fevers, Viral[Mesh] OR filoviridae[Mesh] OR Hemorrhagic Fever, Ebola[Mesh] OR ebolavirus[Mesh] OR Marburg Virus Disease[Mesh] OR Lassa virus[Mesh] OR Lassa fever[Mesh]	14 924
#101 #1 AND #100	247

Search strings	No of hits
#102 West Nile Virus[tw] OR West Nile flavivirus[tw] OR WNV[tw] OR West Nile Fever[tw] OR Egypt 101[tw] virus[tw] OR Kunjin virus[tw] OR West Nile Virus[Mesh] OR "West Nile Fever"[Mesh]	2 186
#103 #1 AND #102	6
#104 Yellow fever[tw] OR YFV[tw] OR Yellow fever[Mesh] OR Yellow fever virus[Mesh]	1 774
#105 #1 AND #104	12
#106 Yersiniosis[tw] OR Yersinia enterocolitica[tw] OR Y. enterocolitica[tw] OR Yersinia pseudotuberculosis[tw] OR Y. pseudotuberculosis[tw] OR Yersinia[Mesh] OR Yersinia infections[Mesh]	1 879
#107 #1 AND #106	7
#108 Zika[tw] OR Zikas[tw] OR Zikv[tw] OR zikav[tw] OR congenial zika[tw] OR Zika virus[Mesh] OR Zika virus infection[Mesh]	6 871
#109 #1 AND #108	55
#110 #3 OR #5 OR #7 OR #9 OR #11 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29 OR #31 OR #33 OR #35 OR #37 OR #39 OR #41 OR #43 OR #45 OR #47 OR #49 OR #51 OR #53 OR #55 OR #57 OR #59 OR #61 OR #63 OR #65 OR #67 OR #69 OR #71 OR #73 OR #75 OR #77 OR #79 OR #81 OR #83 OR #85 OR #87 OR #91 OR #93 OR #95 OR #97 OR #99 OR #101 OR #103 OR #105 OR #107 OR #109	3 582

AMR pathogen searches (PubMed)

Date Limitation: 2014-present

This search was run on 15 November 2019.

Search strings	No. of hits
#1 Point of care test*[tw] OR POCT[tw] OR rapid diagnostic test*[tw] OR rapid test*[tw] OR bedside test*[tw] OR near patient test*[tw] OR handheld device*[tw] OR handheld instrument*[tw] OR portable test*[tw] OR portable device*[tw] OR portable instrument*[tw] OR bedside computing[tw] OR Infectious disease testing[tw] OR infectious disease screening*[tw] OR point of care technolog*[tw] OR bedside technolog*[tw] OR point of care system*[tw] OR point-of-care systems[MeSH] OR point-of-care testing[MeSH]	12 828
#2 Staphylococcus aureus[tw] OR micrococcus aureus[tw] OR microccus pyogenes[tw] OR Staphylococcus aureus[Mesh] OR Enterococcus faecium[tw] OR streptococcus faecium[tw] OR Enterococcus faecium[Mesh] OR Enterococcus faecalis[tw] OR streptococcus Group D[tw] OR streptococcus faecalis[tw] OR enterococcus fecalis[tw] OR enterococcus I form[tw] OR enterococcus proteiformis[tw] OR micrococcus ovalis[tw] OR micrococcus zymogenes[tw] OR paraghurt[tw] OR streptococcus fecalis[tw] OR streptococcus glycerinaceus[tw] OR streptococcus liquefaciens[tw] OR streptococcus ovalis[tw] OR th 69[tw] OR Enterococcus faecalis[MeSH] OR Escherichia coli[tw] OR e coli[tw] OR e. coli[tw] OR Alkalescens-Dispar Group[tw] OR EAggEC[tw] OR Bacillus coli[tw] OR "Bacillus escherichii"[tw] OR Bacterium coli[tw] OR "bacterium E3"[tw] OR coli bacillus[tw] OR coli bacterium[tw] OR colibacillus[tw] OR colon bacillus[tw] OR Enterococcus coli[tw] OR "Escherichia alkalescens dispart"[tw] OR Escherichia coli[Mesh] OR Klebsiella pneumoniae[tw] OR Klebsiella rhinoscleromatis[tw] OR "b. Friedlander"[tw] OR bacillus pneumoniae[tw] OR Bacterium pneumoniae crouposae[tw] OR bacterium pneumonie crouposae[tw] OR "friedlaender bacillus"[tw] OR friedlander bacillus[tw] OR "hyalococcus pneumoniae"[tw] OR k. Pneumoniae[tw] OR klebsiella crouposa[tw] OR Klebsiella Pn[tw] OR klebsiella pneumonia[tw] OR Klebsiella pneumoniae aerogenes[tw] OR pneumobacillus[tw] OR Klebsiella pneumoniae[Mesh] OR Acinetobacter baumannii[tw] OR Acinetobacter baumannii[MeSH] OR "Acinetobacter Infections"[Mesh] OR Pseudomonas aeruginosa[tw] OR Pseudomonas pyocyanea[tw] OR Bacillus aeruginosus[tw] OR Bacillus pyocyaneus[tw] OR "Bacterium aeruginosum" [tw] OR Bacterium pyocyaneum[tw] OR "blue pus organism" [tw] OR "Micrococcus pyocyaneus" [tw] OR P. Aeruginosa[tw] OR "Pseudomonas polycolor" [tw] OR "Pseudomonas pyoceaneus" [tw] OR Pseudomonas pyocyaneus[tw] OR Pseudomonas aeruginosa[MeSH] OR staphylococcus argenteus[tw]	119 401
#3 antimicrobial resistance[tw] OR antimicrobial testing[tw] OR Antimicrobial susceptibility[tw] OR Antibiotic susceptibility*[tw] OR antibiotic resistance[tw] OR antibiotic testing[tw] OR multi-drug resistant[tw] OR multidrug-resistant[tw] OR carbapenem-resistant[tw] OR carbapenemase[tw] OR methicillin resistant[tw] OR vancomycin-resistant[tw] OR extended-spectrum beta-lactamase[tw] OR ESBL[tw] OR AMR[tw] OR resistan*[tw] OR MDR[tw] OR XDR[tw] OR PDR[tw] OR pandrug resistance[tw] OR pan-drug resistance[tw] OR Drug Resistance, Microbial[Mesh] OR "Disease Resistance"[Mesh] OR "Drug Resistance"[Mesh:NoExp] OR "Drug Resistance, Bacterial"[Mesh]	332 622
#4 #1 AND #2 AND #3	121

Nosocomial pathogen searches (PubMed)

Date Limitation: 2014-present

This search was run on 15 November 2019.

Search strings	No of hits
#1 Point of care test*[tw] OR POCT[tw] OR rapid diagnostic test*[tw] OR rapid test*[tw] OR bedside test*[tw] OR near patient test*[tw] OR handheld device*[tw] OR handheld instrument*[tw] OR portable test*[tw] OR portable device*[tw] OR portable instrument*[tw] OR bedside computing[tw] OR Infectious disease testing[tw] OR infectious disease screening*[tw] OR point of care technolog*[tw] OR bedside technolog*[tw] OR point of care system*[tw] OR point-of-care systems[MeSH] OR point-of-care testing[MeSH]	12 828
#2 Streptococcus pneumoniae[tw] OR Pneumococc*[tw] OR Diplococcus pneumoniae[tw] OR Micrococcus pneumoniae[tw] OR Streptococcus pneumoniae[Mesh] OR Pneumococcal Infections[Mesh] OR Staphylococcus aureus[tw] OR micrococcus aureus[tw] OR microccus pyogenes[tw] OR Staphylococcus aureus[Mesh] OR Enterococcus faecium[tw] OR streptococcus faecium[tw] OR Enterococcus faecium[Mesh] OR Enterococcus faecalis[tw] OR streptococcus Group D[tw] OR streptococcus faecalis[tw] OR enterococcus fecalis[tw] OR enterococcus I form[tw] OR enterococcus proteiformis[tw] OR micrococcus ovalis[tw] OR micrococcus zymogenes[tw] OR paraghurt[tw] OR streptococcus fecalis[tw] OR streptococcus glycerinaceus[tw] OR streptococcus liquefaciens[tw] OR streptococcus ovalis[tw] OR th 69[tw] OR Enterococcus faecalis[MeSH] OR Escherichia coli[tw] OR e coli[tw] OR e. coli[tw] OR Alkalescens-Dispar Group[tw] OR EAggEC[tw] OR Bacillus coli[tw] OR "Bacillus escherichii"[tw] OR Bacterium coli[tw] OR "bacterium E3"[tw] OR coli bacillus[tw] OR coli bacterium[tw] OR colibacillus[tw] OR colon bacillus[tw] OR Enterococcus coli[tw] OR "Escherichia alkalescens dispart"[tw] OR Escherichia coli[Mesh] OR Klebsiella pneumoniae[tw] OR Klebsiella rhinoscleromatis[tw] OR "b. Friedlander"[tw] OR bacillus pneumoniae[tw] OR Bacterium pneumoniae crouposae[tw] OR bacterium pneumonie crouposae[tw] OR "friedlaender bacillus"[tw] OR friedlander bacillus[tw] OR "hyalococcus pneumoniae"[tw] OR k. Pneumoniae[tw] OR klebsiella crouposa[tw] OR Klebsiella Pn[tw] OR klebsiella pneumonia[tw] OR Klebsiella pneumoniae aerogenes[tw] OR pneumobacillus[tw] OR Klebsiella pneumoniae[Mesh] OR Acinetobacter baumannii[tw] OR Acinetobacter baumannii[MeSH] OR "Acinetobacter Infections"[Mesh] OR Pseudomonas aeruginosa[tw] OR Pseudomonas pyocyanea[tw] OR Bacillus aeruginosus[tw] OR Bacillus pyocyaneus[tw] OR "Bacterium aeruginosum" [tw] OR Bacterium pyocyaneum[tw] OR "blue pus organism" [tw] OR "Micrococcus pyocyaneus" [tw] OR P. Aeruginosa[tw] OR "Pseudomonas polycolor" [tw] OR "Pseudomonas pyoceaneus" [tw] OR Pseudomonas pyocyaneus[tw] OR Pseudomonas aeruginosa[MeSH] OR Clostridium difficile[tw] OR Clostridioides difficile[tw] or c diff[tw] OR c. diff[tw] OR c difficile[tw] OR c. difficile[tw] OR Pseudomembranous colitis[tw] OR Clostridium difficile[MeSH] OR "Clostridium sordellii"[Mesh] OR "Clostridium perfringens"[Mesh] OR Candida[tw] OR C. glabrata[tw] OR candida glabrata[tw] OR candida auris[tw] OR Candidiasis[tw] OR Candidosis[tw] OR candidas[tw] OR monilia[tw] OR monilias[tw] OR torulopsis utilis[tw] OR Candida[MeSH] OR Candidiasis[MeSH] OR staphylococcus argenteus[tw]	149 370

Search strings	No of hits
#3 Nosocomial infection*[tw] OR Healthcare associated infection*[tw] OR healthcare acquired infection*[tw] OR Health care associated infection*[tw] OR health care acquired infection*[tw] OR HCAI[tw] OR Hospital acquired infection*[tw] OR HAI[tw] OR cross infection*[tw] OR hospital infection*[tw] OR "Cross Infection"[Mesh]	17 448
#4 #1 AND #2 AND #3	33

General infectious disease search (PubMed)

Date Limitation: 2014-present

This search was run on 15 November 2019.

Search strings	No of hits
#1 Point of care test*[tw] OR POCT[tw] OR rapid diagnostic test*[tw] OR rapid test*[tw] OR bedside test*[tw] OR near patient test*[tw] OR handheld device*[tw] OR handheld instrument*[tw] OR portable test*[tw] OR portable device*[tw] OR portable instrument*[tw] OR bedside computing[tw] OR Infectious disease testing[tw] OR infectious disease screening*[tw] OR point of care technolog*[tw] OR bedside technolog*[tw] OR point of care system*[tw] OR point-of-care systems[MeSH] OR point-of-care testing[MeSH]	12 828
#2 antimicrobial resistance[tw] OR antimicrobial testing[tw] OR Antimicrobial susceptibility[tw] OR Antibiotic susceptibility*[tw] OR antibiotic resistance[tw] OR antibiotic testing[tw] OR multi-drug resistant[tw] OR multidrug-resistant[tw] OR carbapenem-resistant[tw] OR carbapenemase[tw] OR methicillin resistant[tw] OR vancomycin-resistant[tw] OR extended-spectrum beta-lactamase[tw] OR ESBL[tw] OR AMR[tw] OR resistan*[tw] OR MDR[tw] OR XDR[tw] OR PDR[tw] OR pandrug resistance[tw] OR pan-drug resistance[tw] OR Drug Resistance, Microbial[Mesh] OR "Disease Resistance"[Mesh] OR "Drug Resistance"[Mesh:NoExp] OR "Drug Resistance, Bacterial"[Mesh] OR Nosocomial infection*[tw] OR Healthcare associated infection*[tw] OR healthcare acquired infection*[tw] OR Health care associated infection*[tw] OR health care acquired infection*[tw] OR HCAI[tw] OR Hospital acquired infection*[tw] OR HAI[tw] OR cross infection*[tw] OR hospital infection*[tw] OR "Cross Infection"[Mesh] OR Infectious disease*[tw] OR Communicable disease*[tw] OR infection*[tw] OR Communicable Diseases[Mesh] OR Sexually transmitted infection*[tw] OR Sexually transmitted disease*[tw] OR STI[tw] OR STD[tw] OR Venereal disease*[tw] OR Sexually Transmitted Diseases[Mesh] OR Respiratory infection*[tw] OR Respiratory tract infection*[tw] OR Pleural Empyema*[tw] OR Thoracic Empyemas[tw] OR Pyothorax[tw] OR Tuberculous Empyema[tw] OR "Respiratory Tract Infections"[Mesh] OR Gastrointestinal infection*[tw] OR vaccine-preventable infection*[tw] OR vaccine-preventable disease*[tw] OR VPD[tw] OR VPI[tw] OR "Vaccines"[Mesh] OR Emerging infection*[tw] OR Emerging infectious disease*[tw] OR Emerging communicable disease*[tw] OR re-emerging communicable disease*[tw] OR reemerging communicable disease*[tw] OR reemerging infectious disease*[tw] OR re-emerging infectious disease*[tw] OR re-emerging infection*[tw] OR reemerging infection*[tw] OR "Communicable Diseases, Emerging"[Mesh] OR Sepsis[tw] OR Septicemia[tw] OR Septicaemia[tw] OR Septic shock[tw] OR Bloodstream infection*[tw] OR Blood infection*[tw] OR Pyemia[tw] OR Pyemias[tw] OR Pyohemia[tw] OR Pyohemias[tw] OR Pyaemia[tw] OR Pyaemias[tw] OR Blood Poisoning[tw] OR Sepsis[MeSH] OR Viral meningitis[tw] OR Bacterial meningitis[tw] OR Fungal meningitis[tw] OR Parasitic meningitis[tw] OR Meningitis, Viral[Mesh] OR Meningitis, Bacterial[Mesh] OR Meningitis, Fungal[Mesh] OR urinary tract infection*[tw] OR UTI[tw] OR bacteriuria[tw] OR pyuria[tw] OR urinary tract infections[Mesh] OR Bacterial pneumonia*[tw] OR viral pneumonia*[tw] OR fungal pneumonia*[tw] OR Infectious pneumonia*[tw] OR Pneumonia, Bacterial[Mesh] OR Pneumonia, Viral [Mesh] OR diarrhoea[tw] OR diarrhea[tw] OR diarrheal disease*[tw] OR diarrhoeal disease*[tw] OR "Diarrhea"[Mesh]	845 440
#3 #1 AND #2	4 352

PubMed search summary

Search summary	Total number of results (before de-duplication)	Number of unique results (after de-duplication)[i]
56 Diseases	3 852	3 852
AMR pathogens	121	108
Nosocomial pathogens	33	13
General infectious diseases	4 352	1 642
Total	**8 358**	**5 345**

[i] De-duplication occurred after each type of search was run in each database, hence the number of unique citations reduces from PubMed to Cochrane. The searches are in the order in which they were conducted across each database, with the 56 disease search conducted in PubMed being the first search, and the general infectious disease in Cochrane being the last. The results presented in these annexes are in the order in which they were searched.

Embase search strings and number of search hits

56 diseases

Date Limitation: 2014-2019

This search was run on 18 November 2019.

Search strings	No of hits
#1 'Point of care test*':ab,ti,kw OR POCT:ab,ti,kw OR 'rapid diagnostic test*':ab,ti,kw OR 'rapid test*':ab,ti,kw OR 'bedside test*':ab,ti,kw OR 'near patient test*':ab,ti,kw OR 'handheld device*':ab,ti,kw OR 'handheld instrument*':ab,ti,kw OR 'portable test*':ab,ti,kw OR 'portable device*':ab,ti,kw OR 'portable instrument*':ab,ti,kw OR 'bedside computing':ab,ti,kw OR 'Infectious disease testing':ab,ti,kw OR 'infectious disease screening*':ab,ti,kw OR 'point of care technolog*':ab,ti,kw OR 'bedside technolog*':ab,ti,kw OR 'point of care system*':ab,ti,kw OR 'point of care system'/exp OR 'point of care testing'/exp AND [2014-2019]/py	19 039
#2 Anthrax:ab,ti,kw OR anthracis:ab,ti,kw OR 'Anthrax'/exp OR 'Bacillus anthracis'/exp AND [2014-2019]/py	2 524
#3 #1 AND #2	15
#4 botulism:ab,ti,kw OR botulinum:ab,ti,kw OR botulism/exp OR 'Clostridium botulinum'/exp AND [2014-2019]/py	9 073
#5 #1 AND #4	17
#6 brucellosis:ab,ti,kw OR Brucella:ab,ti,kw OR 'b. abortus':ab,ti,kw OR 'b.canis':ab,ti,kw OR 'b. melitensis':ab,ti,kw OR 'b.ovis':ab,ti,kw OR 'b. suis':ab,ti,kw OR brucellosis/exp OR Brucella/exp AND [2014-2019]/py	4 238
#7 #1 AND #6	33
#8 campylobacteriosis:ab,ti,kw OR campylobacter*:ab,ti,kw OR 'c.coli':ab,ti,kw OR 'c.fetus':ab,ti,kw OR 'c.hyointestinalis':ab,ti,kw OR 'c.jejuni':ab,ti,kw OR 'c.lari':ab,ti,kw OR 'c.rectus':ab,ti,kw OR 'c.sputorum':ab,ti,kw OR 'c.upsaliensis':ab,ti,kw OR campylobacter/exp OR 'campylobacteriosis'/exp AND [2014-2019]/py	5 466
#9 #1 AND #8	28
#10 (chikungunya NEAR/2 (virus OR fever)):ab,ti,kw OR chikv:ab,ti,kw OR 'chikungunya virus'/exp OR chikungunya/exp AND [2014-2019]/py	4 442
#11 #1 AND #10	65
#12 Chlamydia:ab,ti,kw OR 'c.trachomatic':ab,ti,kw OR 'c.pneumoniae':ab,ti,kw OR 'c.psittaci':ab,ti,kw OR trachoma:ab,ti,kw OR 'inclusion conjunctivitis':ab,ti,kw OR 'ophthalmia neonatorum':ab,ti,kw OR 'Lymphogranuloma venereum':ab,ti,kw OR LGV:ab,ti,kw OR psittacosis:ab,ti,kw OR Chlamydia/exp OR 'Chlamydia trachomatis'/exp AND [2014-2019]/py	9 657
#13 #1 AND #12	233
#14 cholera:ab,ti,kw OR 'vibrio cholerae':ab,ti,kw OR 'v. cholerae':ab,ti,kw OR cholera/exp OR 'vibrio cholerae'/exp AND [2014-2019]/py	6 288
#15 #1 AND #14	51
#16 cryptosporidi*:ab,ti,kw OR 'c.parvum':ab,ti,kw OR cryptosporidiosis/exp OR cryptosporidium/exp AND [2014-2019]/py	3 163
#17 #1 AND #16	37
#18 dengue:ab,ti,kw OR DENV:ab,ti,kw OR dengue/exp OR 'Dengue virus'/exp AND [2014-2019]/py	1 4574
#19 #1 AND #18	307
#20 diphtheria:ab,ti,kw OR 'Corynebacterium diphtheriae':ab,ti,kw OR 'Klebs-Loffler bacillus':ab,ti,kw OR diphtheria/exp OR 'Corynebacterium diphtheriae'/exp OR 'Corynebacterium infection'/exp AND [2014-2019]/py	4 714
#21 #1 AND #20	3
#22 echinococc*:ab,ti,kw OR 'E. granulosus':ab,ti,kw OR 'E. multilocularis':ab,ti,kw OR 'Hydatid cyst':ab,ti,kw OR 'Hydatid disease*':ab,ti,kw OR 'Echinococcus'/exp OR 'echinococcosis'/exp AND [2014-2019]/py	4946
#23 #1 AND #22	24
#24 giardia*:ab,ti,kw OR Lamblia:ab,ti,kw OR Lamblias:ab,ti,kw OR Lambliasis:ab,ti,kw OR 'G. intestinalis':ab,ti,kw OR 'g. duodenalis':ab,ti,kw OR 'g. muris':ab,ti,kw OR giardia/exp OR giardiasis/exp AND [2014-2019]/py	3 451

Search strings	No of hits
#25 #1 AND #24	38
#26 gonorrhoea*:ab,ti,kw OR gonorrhea*:ab,ti,kw OR gonococc*:ab,ti,kw OR N. gonorrhoeae:ab,ti,kw gonorrhea/exp OR Neisseria gonorrhoeae/exp AND [2014-2019]/py	3 661
#27 #1 AND #26	149
#28 'hepatitis A':ab,ti,kw OR 'hep A':ab,ti,kw OR 'hepatitis virus A':ab,ti,kw OR hav:ab,ti,kw OR 'hepatitis A'/exp OR 'Hepatitis A virus'/exp AND [2014-2019]/py	4 744
#29 #1 AND #28	22
#30 'hepatitis B':ab,ti,kw OR 'hep b':ab,ti,kw OR 'hepatitis virus B':ab,ti,kw OR HBV:ab,ti,kw OR 'dane particle':ab,ti,kw OR 'hepatitis B'/exp OR 'Hepatitis B virus'/exp AND [2014-2019]/py	46 939
#31 #1 AND #30	380
#32 'hepatitis C':ab,ti,kw OR 'hep C':ab,ti,kw OR 'hepatitis virus C':ab,ti,kw OR HCV:ab,ti,kw OR 'hepacvirus c':ab,ti,kw OR 'hepatitis C'/exp OR 'Hepacivirus'/exp AND [2014-2019]/py	60 212
#33 #1 AND #32	530
#34 HIV:ab,ti,kw OR 'human immunodeficiency virus':ab,ti,kw OR 'human immune deficiency virus*':ab,ti,kw OR 'immune deficiency associated virus':ab,ti,kw OR 'immune deficiency associated viruses':ab,ti,kw OR 'immunodeficiency associated virus':ab,ti,kw OR 'immunodeficiency associated viruses':ab,ti,kw OR 'acquired immunodeficiency syndrome':ab,ti,kw OR 'acquired immune deficiency syndrome':ab,ti,kw OR AIDS:ab,ti,kw OR 'Human immunodeficiency virus'/exp OR 'acquired immune deficiency syndrome'/exp AND [2014-2019]/py	145 076
#35 #1 AND #34	1 948
#36 'haemophilus influenza type b':ab,ti,kw OR 'hemophilus influenza type b':ab,ti,kw OR Hib:ab,ti,kw OR 'H. influenzae type b':ab,ti,kw OR 'hemophilus influenza group b':ab,ti,kw OR 'haemophilus influenza group b':ab,ti,kw OR 'Haemophilus influenzae type b'/exp AND [2014-2019]/py	1 267
#37 #1 AND #36	4
#38 flu:ab,ti,kw OR influenza*:ab,ti,kw OR H1N1:ab,ti,kw OR 'influenza'/exp OR 'avian influenza'/exp OR 'Influenza A virus (H1N1)'/exp AND [2014-2019]/py	46 940
#39 #1 AND #38	505
#40 legionella:ab,ti,kw OR 'L. pneumophila':ab,ti,kw OR (Legionnaire* near/2 disease*):ab,ti,kw OR 'pontiac fever':ab,ti,kw OR 'legionella pneumophila'/exp OR 'legionnaire disease'/exp AND [2014-2019]/py	3 091
#41 #1 AND #40	23
#42 leptospirosis:ab,ti,kw OR Leptospira:ab,ti,kw OR 'L. interrogans':ab,ti,kw OR 'L. kirschneri':ab,ti,kw OR 'L. borgpetrsenii':ab,ti,kw OR 'L. santarosai':ab,ti,kw OR 'L. noguchii':ab,ti,kw OR 'L. weilii':ab,ti,kw OR 'L. alexanderi':ab,ti,kw OR 'L. alstoni':ab,ti,kw OR 'L. kmetyi':ab,ti,kw OR 'Leptospira'/exp OR 'Leptospirosis'/exp AND [2014-2019]/py	3 104
#43 #1 AND #42	83
#44 Listerios*:ab,ti,kw OR Listeria*:ab,ti,kw OR 'L. monocytogenes':ab,ti,kw OR 'L. seeligeri':ab,ti,kw OR 'L. ivanovii':ab,ti,kw OR 'L. welshimeri':ab,ti,kw OR 'L. grayi':ab,ti,kw OR 'L. innocua':ab,ti,kw OR 'L. marthii':ab,ti,kw OR 'L. rocourtiae':ab,ti,kw OR 'Listeria'/exp OR 'listeriosis'/exp AND [2014-2019]/py	7 950
#45 #1 AND #44	21
#46 (Lyme* near/2 disease):ab,ti,kw OR Borrelia:ab,ti,kw OR neurobirreliosis:ab,ti,kw OR 'Lyme disease'/exp OR 'Borrelia burgdorferi'/exp AND [2014-2019]/py	5 285
#47 #1 AND #46	28
#48 malaria:ab,ti,kw OR Plasmodium:ab,ti,kw OR 'P. falciparum':ab,ti,kw OR 'P. vivax':ab,ti,kw OR 'P. ovale':ab,ti,kw OR 'P. malariae':ab,ti,kw OR 'P. knowlesi':ab,ti,kw OR Paludism:ab,ti,kw OR Malaria/exp OR Plasmodium/exp AND [2014-2019]/py	36 369
#49 #1 AND #48	2 020
#50 Measles:ab,ti,kw OR Rubeola:ab,ti,kw OR Measles/exp OR 'Measles virus'/exp OR 'Morbillivirus'/exp AND [2014-2019]/py	7 247

Search strings	No of hits
#51 #1 AND #50	22
#52 mumps:ab,ti,kw OR parotitis:ab,ti,kw OR 'epidemic parotid virus*':ab,ti,kw OR 'epidemic parotiditis virus*':ab,ti,kw OR 'epidemic parotitides virus*':ab,ti,kw OR 'epidemic parotitus virus*':ab,ti,kw OR mumps/exp OR mumps virus/exp AND [2014-2019]/py	889
#53 #1 AND #52	3
#54 'Neisseria meningitidis':ab,ti,kw OR meningococcus:ab,ti,kw OR meningococc*:ab,ti,kw OR 'bacterial meningitis'/exp OR 'epidemic meningitis'/exp OR 'Neisseria meningitidis'/exp AND [2014-2019]/py	7 464
#55 #1 AND #54	38
#56 pertussis:ab,ti,kw OR 'whooping cough':ab,ti,kw OR 'Whooping Cough'/exp OR 'Bordetella pertussis'/exp OR 'pertussis toxin'/exp	38 262
#57 #1 AND #56	19
#58 plague*:ab,ti,kw OR 'Yersinia pestis':ab,ti,kw OR 'Y. pestis':ab,ti,kw OR 'Black death':ab,ti,kw OR plague/exp OR Yersinia/exp OR 'Yersinia infections'/exp OR 'Yersinia pestis'/exp AND [2014-2019]/py	6 007
#59 #1 AND #58	30
#60 polio:ab,ti,kw OR poliomyelitis:ab,ti,kw OR poliovirus*:ab,ti,kw OR polioenterovirus*:ab,ti,kw OR poliomyelitis/exp OR 'Poliomyelitis virus'/exp AND [2014-2019]/py	4 987
#61 #1 AND #60	6
#62 'Q fever':ab,ti,kw OR Coxiella:ab,ti,kw OR 'C. burnetii':ab,ti,kw OR 'Abattoir fever':ab,ti,kw OR Coxiellosis:ab,ti,kw OR 'Q fever'/exp OR coxiella/exp AND [2014-2019]/py	1 843
#63 #1 AND #62	10
#64 rabies:ab,ti,kw OR rabies/exp OR 'rabies virus'/exp AND [2014-2019]/py	3 523
#65 #1 AND #64	8
#66 rubella:ab,ti,kw OR rubellavirus:ab,ti,kw OR RuV:ab,ti,kw OR 'German measles':ab,ti,kw OR rubella/exp OR 'rubella virus'/exp AND [2014-2019]/py	3373
#67 #1 AND #66	11
#68 salmonellosis:ab,ti,kw OR 'Salmonella enterica':ab,ti,kw OR Salmonella:ab,ti,kw OR 'S. Enteritidis':ab,ti,kw OR 'S.Typhimurium':ab,ti,kw OR 'S. Typhi':ab,ti,kw OR Salmonella enterica/exp OR 'salmonellosis'/exp OR 'Salmonella'/exp AND [2014-2019]/py	21 969
#69 #1 AND #68	160
#70 SARS*:ab,ti,kw OR 'severe acute respiratory syndrome':ab,ti,kw OR 'severe acute respiratory syndrome-related coronavirus':ab,ti,kw OR 'severe acute respiratory syndrome'/exp OR 'SARS coronavirus'/exp AND [2014-2019]/py	3 017
#71 #1 AND #70	18
#72 'verocytotoxin-producing Escherichia coli':ab,ti,kw OR 'Shiga toxin-producing Escherichia coli':ab,ti,kw OR VTEC:ab,ti,kw OR STEC:ab,ti,kw OR 'verocytotoxin producing E. coli':ab,ti,kw OR 'Shiga toxin producing E. coli':ab,ti,kw OR EHEC:ab,ti,kw OR SLTEC:ab,ti,kw OR non-O157:ab,ti,kw OR coli-O157:ab,ti,kw OR 'Shiga toxin producing Escherichia coli'/exp AND [2014-2019]/py	4 406
#73 #1 AND #72	33
#74 Shigella*:ab,ti,kw OR shigellosis:ab,ti,kw OR 'S. dysenteriae':ab,ti,kw OR 'S. flexneri':ab,ti,kw OR 'S. boydii':ab,ti,kw OR 'S. sonnei':ab,ti,kw OR 'bacillary dysentery':ab,ti,kw OR Shigella/exp OR 'shigellosis'/exp AND [2014-2019]/py	4 920
#75 #1 AND #74	18
#76 smallpox*:ab,ti,kw OR Variola*:ab,ti,kw OR smallpox/exp OR 'Smallpox virus'/exp AND [2014-2019]/py	1 187
#77 #1 AND #76	5

Search strings	No of hits
#78 'Streptococcus pneumonia*':ab,ti,kw OR 'S. pneumonia*':ab,ti,kw OR 'diplococcus pneumonia*':ab,ti,kw OR 'd. pneumonia*':ab,ti,kw OR pneumococcal:ab,ti,kw OR IPD:ab,ti,kw OR pneumococcus:ab,ti,kw OR 'Streptococcus pneumoniae'/exp OR 'pneumococcal infection'/exp AND [2014-2019]/py	19 779
#79 #1 AND #78	101
#80 Syphilis:ab,ti,kw OR 'Treponema pallidum':ab,ti,kw OR 'T. pallidum':ab,ti,kw OR Chancre:ab,ti,kw OR syphilis/exp OR 'treponema pallidum'/exp AND [2014-2019]/py	9 084
#81 #1 AND #80	422
#82 tetanus:ab,ti,kw OR 'Clostridium tetani':ab,ti,kw OR 'C. tetani':ab,ti,kw OR 'Bacillus tetani':ab,ti,kw OR 'B. tetani':ab,ti,kw OR tetanus/exp OR 'Clostridium tetani'/exp AND [2014-2019]/py	4 882
#83 #1 AND #82	11
#84 'tick borne encephalitis*':ab,ti,kw OR 'tick-borne encephalitis*':ab,ti,kw OR TBE*:ab,ti,kw OR 'tick borne encephalitis'/exp OR 'Tick borne encephalitis virus'/exp AND [2014-2019]/py	2 214
#85 #1 AND #84	1
#86 toxoplasm*:ab,ti,kw OR Toxoplasma/exp OR 'congenital toxoplasmosis'/exp AND [2014-2019]/py	7 565
#87 #1 AND #86	37
#88 'transmissible spongiform encephalopath*':ab,ti,kw OR TSEs:ab,ti,kw OR 'Bovine spongiform encephalopath*':ab,ti,kw OR 'Mad cow disease':ab,ti,kw OR 'bovine spongiform encephalopathy'/exp AND [2014-2019]/py	1 057
#89 #1 AND #88	12
#90 trichina*:ab,ti,kw OR trichinellosis:ab,ti,kw OR trichinosis:ab,ti,kw OR Trichinella*:ab,ti,kw OR 't. britovi':ab,ti,kw OR 't. murrelli':ab,ti,kw OR 't. nativa':ab,ti,kw OR 't. nelson':ab,ti,kw OR 't. spiralis':ab,ti,kw OR 't. papuae':ab,ti,kw OR 't. pseudospiralis':ab,ti,kw OR 't. zimbabwensis':ab,ti,kw OR Trichinellosis/exp OR Trichinella/exp AND [2014-2019]/py	866
#91 #1 AND #90	3
#92 tuberculosis:ab,ti,kw OR MTB:ab,ti,kw OR LTBI:ab,ti,kw OR 'koch* disease':ab,ti,kw OR 'm. africanum':ab,ti,kw OR 'm. canetti':ab,ti,kw OR 'm. caprae':ab,ti,kw OR 'm. orygis':ab,ti,kw OR tuberculosis/exp OR 'Mycobacterium tuberculosis'/exp AND [2014-2019]/py	67 411
#93 #1 AND #92	602
#94 typhoid:ab,ti,kw OR paratyphoid:ab,ti,kw OR 'Salmonella Typhi':ab,ti,kw OR 'Salmonella Paratyphi':ab,ti,kw OR 'salmonella schottmuelleri':ab,ti,kw OR 'salmonella hirschfeldii':ab,ti,kw OR 'S. Typhi':ab,ti,kw OR 'S. Paratyphi':ab,ti,kw OR 's. schottmuelleri':ab,ti,kw OR 's. hirschfeldii':ab,ti,kw OR 'Enteric fever':ab,ti,kw OR 'Typhoid fever'/exp OR 'paratyphoid fever'/exp AND [2014-2019]/py	4 467
#95 #1 AND #94	75
#96 tularemia:ab,ti,kw OR tularaemia:ab,ti,kw OR 'Francisella tularensis':ab,ti,kw OR 'pasteurella tularensis':ab,ti,kw OR 'bacterium tularense':ab,ti,kw OR tularemia/exp OR 'Francisella tularensis'/exp	6 522
#97 #1 AND #96	10
#98 ((prion:ab,ti,kw OR prions:ab,ti,kw) AND ((variant:ab,ti,kw AND (Creutzfeldt-Jakob*:ab,ti,kw OR CJD:ab,ti,kw OR 'Creutzfeldt Jakob disease'/exp))) OR (vCJD:ab,ti,kw OR 'variant cjd':ab,ti,kw OR v-cjd:ab,ti,kw OR vcjd:ab,ti,kw)) AND [2014-2019]/py	433
#99 #1 AND #98	1
#100 'viral hemorrhagic fever*':ab,ti,kw OR 'viral haemorrhagic fever*':ab,ti,kw OR arenavirus:ab,ti,kw OR filovirus:ab,ti,kw OR ebola*:ab,ti,kw OR EBOV:ab,ti,kw OR Lassa:ab,ti,kw OR 'Marburg virus':ab,ti,kw OR Marburgvirus:ab,ti,kw OR lassavirus:ab,ti,kw OR marv:ab,ti,kw OR hantavirus:ab,ti,kw OR 'hanta virus':ab,ti,kw OR 'junin virus':ab,ti,kw OR 'Machupo mammarenavirus':ab,ti,kw OR nairovirus:ab,ti,kw OR 'Crimean-congo hemorrhagic fever virus':ab,ti,kw OR CCHF*:ab,ti,kw OR 'zaire ebolavirus':ab,ti,kw OR 'omsk hemorrhagic fever virus':ab,ti,kw OR OHFV:ab,ti,kw OR 'kyasanur forest disease virus':ab,ti,kw OR 'rift valley fever virus':ab,ti,kw OR RVF:ab,ti,kw OR 'virus hemorrhagic fever'/exp OR filoviridae/exp OR 'Ebola hemorrhagic fever'/exp OR ebolavirus/exp OR 'Marburg hemorrhagic fever'/exp OR 'Lassa virus'/exp OR 'Lassa fever'/exp AND [2014-2019]/py	12 362
#101 #1 AND #100	201

Search strings	No of hits
#102 ('west nile' NEAR/2 (fever OR virus)):ab,ti,kw OR 'West Nile flavivirus':ab,ti,kw OR 'egypt 101 virus':ab,ti,kw OR 'kunjin virus':ab,ti,kw OR WNV:ab,ti,kw OR 'West Nile Virus'/exp OR 'West Nile fever'/exp AND [2014-2019]/py	3 533
#103 #1 AND #102	22
#104 'Yellow fever':ab,ti,kw OR YFV:ab,ti,kw OR 'Yellow fever'/exp OR 'Yellow fever virus'/exp AND [2014-2019]/py	2 679
#105 #1 AND #104	20
#106 Yersiniosis:ab,ti,kw OR 'Yersinia enterocolitica':ab,ti,kw OR 'Y. enterocolitica':ab,ti,kw OR 'Y. pseudotuberculosis':ab,ti,kw OR 'Yersinia pseudotuberculosis':ab,ti,kw OR Yersinia/exp OR 'Yersinia infection'/exp AND [2014-2019]/py	3 841
#107 #1 AND #106	27
#108 Zika:ab,ti,kw OR Zikas:ab,ti,kw OR Zikv:ab,ti,kw OR Zikav:ab,ti,kw OR 'congenial zika':ab,ti,kw OR 'Zika virus'/exp OR 'Zika fever'/exp AND [2014-2019]/py	9 053
#109 #1 AND #108	102
#110 #3 OR #5 OR #7 OR #9 OR #11 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29 OR #31 OR #33 OR #35 OR #37 OR #39 OR #41 OR #43 OR #45 OR #47 OR #49 OR #51 OR #53 OR #55 OR #57 OR #59 OR #61 OR #63 OR #65 OR #67 OR #69 OR #71 OR #73 OR #75 OR #77 OR #79 OR #81 OR #83 OR #85 OR #87 OR #91 OR #93 OR #95 OR #97 OR #99 OR #101 OR #103 OR #105 OR #107 OR #109	6 150

AMR pathogen searches (Embase)

Date Limitation: 2014-2019

This search was run on 18 November 2019.

Search strings	No. of hits
#1 'Point of care test*':ab,ti,kw OR POCT:ab,ti,kw OR 'rapid diagnostic test*':ab,ti,kw OR 'rapid test*':ab,ti,kw OR 'bedside test*':ab,ti,kw OR 'near patient test*':ab,ti,kw OR 'handheld device*':ab,ti,kw OR 'handheld instrument*':ab,ti,kw OR 'portable test*':ab,ti,kw OR 'portable device*':ab,ti,kw OR 'portable instrument*':ab,ti,kw OR 'bedside computing':ab,ti,kw OR 'Infectious disease testing':ab,ti,kw OR 'infectious disease screening*':ab,ti,kw OR 'point of care technolog*':ab,ti,kw OR 'bedside technolog*':ab,ti,kw OR 'point of care system*':ab,ti,kw OR 'point of care system'/exp OR 'point of care testing'/exp AND [2014-2019]/py	19 039
#2 'Staphylococcus aureus':ab,ti,kw OR 'micrococcus aureus':ab,ti,kw OR 'microccus pyogenes':ab,ti,kw OR Staphylococcus aureus/exp OR 'Enterococcus faecium':ab,ti,kw OR 'streptococcus faecium':ab,ti,kw OR 'Enterococcus faecium'/exp OR 'Enterococcus faecalis':ab,ti,kw OR 'streptococcus Group D':ab,ti,kw OR 'streptococcus faecalis':ab,ti,kw OR 'enterococcus fecalis':ab,ti,kw OR 'enterococcus I form':ab,ti,kw OR 'enterococcus proteiformis':ab,ti,kw OR 'micrococcus ovalis':ab,ti,kw OR 'micrococcus zymogenes':ab,ti,kw OR paraghurt:ab,ti,kw OR 'streptococcus fecalis':ab,ti,kw OR 'streptococcus glycerinaceus':ab,ti,kw OR 'streptococcus liquefaciens':ab,ti,kw OR 'streptococcus ovalis':ab,ti,kw OR 'th 69':ab,ti,kw OR 'Enterococcus faecalis'/exp OR 'Escherichia coli':ab,ti,kw OR 'e coli':ab,ti,kw OR 'e. coli':ab,ti,kw OR 'Alkalescens-Dispar Group':ab,ti,kw OR EAggEC:ab,ti,kw OR 'Bacillus coli':ab,ti,kw OR 'Bacillus escherichii':ab,ti,kw OR 'Bacterium coli':ab,ti,kw OR 'bacterium E3':ab,ti,kw OR 'coli bacillus':ab,ti,kw OR 'coli bacterium':ab,ti,kw OR colibacillus:ab,ti,kw OR 'colon bacillus':ab,ti,kw OR 'Enterococcus coli':ab,ti,kw OR 'Escherichia alkalescens dispart':ab,ti,kw OR 'Escherichia coli'/exp OR 'Klebsiella pneumoniae':ab,ti,kw OR 'Klebsiella rhinoscleromatis':ab,ti,kw OR 'b. Friedlander':ab,ti,kw OR 'bacillus pneumoniae':ab,ti,kw OR 'Bacterium pneumoniae crouposae':ab,ti,kw OR 'bacterium pneumonie crouposae':ab,ti,kw OR 'friedlaender bacillus':ab,ti,kw OR 'friedlander bacillus':ab,ti,kw OR 'hyalococcus pneumoniae':ab,ti,kw OR 'k. Pneumoniae':ab,ti,kw OR 'klebsiella crouposa':ab,ti,kw OR 'Klebsiella Pn':ab,ti,kw OR 'klebsiella pneumonia':ab,ti,kw OR 'Klebsiella pneumoniae aerogenes':ab,ti,kw OR pneumobacillus:ab,ti,kw OR 'Klebsiella pneumoniae'/exp OR 'Acinetobacter baumannii':ab,ti,kw OR 'Acinetobacter baumannii'/exp OR 'Acinetobacter infection'/exp OR 'Pseudomonas aeruginosa':ab,ti,kw OR 'Pseudomonas pyocyanea':ab,ti,kw OR 'Bacillus aeruginosus':ab,ti,kw OR 'Bacillus pyocyaneus':ab,ti,kw OR 'Bacterium aeruginosum':ab,ti,kw OR 'Bacterium pyocyaneum':ab,ti,kw OR 'blue pus organism':ab,ti,kw OR 'Micrococcus pyocyaneus':ab,ti,kw OR P. Aeruginosa:ab,ti,kw OR 'Pseudomonas polycolor':ab,ti,kw OR 'Pseudomonas pyoceaneus':ab,ti,kw OR 'Pseudomonas pyocyaneus':ab,ti,kw OR 'Pseudomonas aeruginosa'/exp OR 'staphylococcus argenteus':ab,ti,kw AND [2014-2019]/py	36 986
#3 'antimicrobial resistance':ab,ti,kw OR 'antimicrobial testing':ab,ti,kw OR 'Antimicrobial susceptibility':ab,ti,kw OR 'Antibiotic susceptibility*':ab,ti,kw OR 'antibiotic resistance':ab,ti,kw OR 'antibiotic testing':ab,ti,kw OR 'multi-drug resistant':ab,ti,kw OR 'multidrug-resistant':ab,ti,kw OR carbapenem-resistant:ab,ti,kw OR carbapenemase:ab,ti,kw OR methicillin resistant:ab,ti,kw OR vancomycin-resistant:ab,ti,kw OR 'extended-spectrum beta-lactamase':ab,ti,kw OR ESBL:ab,ti,kw OR AMR:ab,ti,kw OR resistan*:ab,ti,kw OR MDR:ab,ti,kw OR XDR:ab,ti,kw OR PDR:ab,ti,kw OR pandrug resistance:ab,ti,kw OR pan-drug resistance:ab,ti,kw OR 'disease resistance'/exp OR 'drug resistance'/de OR 'antibiotic resistance'/exp AND [2014-2019]/py	450 729

Search strings	No. of hits
#4 #1 AND #2 AND #3	36

Nosocomial pathogen search (Embase)

Date Limitation: 2014-2019

This search was run on 18 November 2019.

Search strings	No. of hits
#1 'Point of care test*':ab,ti,kw OR POCT:ab,ti,kw OR 'rapid diagnostic test*':ab,ti,kw OR 'rapid test*':ab,ti,kw OR 'bedside test*':ab,ti,kw OR 'near patient test*':ab,ti,kw OR 'handheld device*':ab,ti,kw OR 'handheld instrument*':ab,ti,kw OR 'portable test*':ab,ti,kw OR 'portable device*':ab,ti,kw OR 'portable instrument*':ab,ti,kw OR 'bedside computing':ab,ti,kw OR 'Infectious disease testing':ab,ti,kw OR 'infectious disease screening*':ab,ti,kw OR 'point of care technolog*':ab,ti,kw OR 'bedside technolog*':ab,ti,kw OR 'point of care system*':ab,ti,kw OR 'point of care system'/exp OR 'point of care testing'/exp AND [2014-2019]/py	19 039
#2 'Streptococcus pneumoniae':ab,ti,kw OR Pneumococc*:ab,ti,kw OR 'Diplococcus pneumoniae':ab,ti,kw OR 'Micrococcus pneumoniae':ab,ti,kw OR 'Streptococcus pneumoniae'/exp OR 'Pneumococcal Infection'/exp OR 'Staphylococcus aureus':ab,ti,kw OR 'micrococcus aureus':ab,ti,kw OR 'micrococcus pyogenes':ab,ti,kw OR 'Staphylococcus aureus'/exp OR 'Enterococcus faecium':ab,ti,kw OR 'streptococcus faecium':ab,ti,kw OR Enterococcus faecium/exp OR 'Enterococcus faecalis':ab,ti,kw OR 'streptococcus Group D':ab,ti,kw OR 'streptococcus faecalis':ab,ti,kw OR 'enterococcus fecalis':ab,ti,kw OR 'enterococcus l form':ab,ti,kw OR 'enterococcus proteiformis':ab,ti,kw OR 'micrococcus ovalis':ab,ti,kw OR 'micrococcus zymogenes':ab,ti,kw OR 'paraghurt':ab,ti,kw OR 'streptococcus fecalis':ab,ti,kw OR 'streptococcus glycerinaceus':ab,ti,kw OR 'streptococcus liquefaciens':ab,ti,kw OR 'streptococcus ovalis':ab,ti,kw OR 'th 69':ab,ti,kw OR 'Enterococcus faecalis'/exp OR 'Escherichia coli':ab,ti,kw OR 'e coli':ab,ti,kw OR 'e. coli':ab,ti,kw OR 'Alkalescens-Dispar Group':ab,ti,kw OR EAggEC:ab,ti,kw OR 'Bacillus coli':ab,ti,kw OR 'Bacillus escherichii':ab,ti,kw OR 'Bacterium coli':ab,ti,kw OR 'bacterium E3':ab,ti,kw OR 'coli bacillus':ab,ti,kw OR 'coli bacterium':ab,ti,kw OR colibacillus:ab,ti,kw OR 'colon bacillus':ab,ti,kw OR 'Enterococcus coli':ab,ti,kw OR 'Escherichia alkalescens dispart':ab,ti,kw OR Escherichia coli/exp OR 'Klebsiella pneumoniae':ab,ti,kw OR 'Klebsiella rhinoscleromatis':ab,ti,kw OR 'b. Friedlander':ab,ti,kw OR 'bacillus pneumoniae':ab,ti,kw OR 'Bacterium pneumoniae crouposae':ab,ti,kw OR 'bacterium pneumonie crouposae':ab,ti,kw OR 'friedlaender bacillus':ab,ti,kw OR 'friedlander bacillus':ab,ti,kw OR 'hyalococcus pneumoniae':ab,ti,kw OR 'k. Pneumoniae':ab,ti,kw OR 'klebsiella crouposa':ab,ti,kw OR 'Klebsiella Pn':ab,ti,kw OR 'klebsiella pneumonia':ab,ti,kw OR 'Klebsiella pneumoniae aerogenes':ab,ti,kw OR pneumobacillus:ab,ti,kw OR Klebsiella pneumoniae/exp OR 'Acinetobacter baumannii':ab,ti,kw OR 'Acinetobacter baumannii'/exp OR 'Acinetobacter infection'/exp OR 'Pseudomonas aeruginosa':ab,ti,kw OR 'Pseudomonas pyocyanea':ab,ti,kw OR 'Bacillus aeruginosus':ab,ti,kw OR 'Bacillus pyocyaneus':ab,ti,kw OR 'Bacterium aeruginosum':ab,ti,kw OR 'Bacterium pyocyaneum':ab,ti,kw OR 'blue pus organism':ab,ti,kw OR 'Micrococcus pyocyaneus':ab,ti,kw OR 'P. Aeruginosa':ab,ti,kw OR 'Pseudomonas polycolor':ab,ti,kw OR 'Pseudomonas pyoceaneus':ab,ti,kw OR 'Pseudomonas pyocyaneus':ab,ti,kw OR 'Pseudomonas aeruginosa'/exp OR 'Clostridium difficile':ab,ti,kw OR 'Clostridioides difficile':ab,ti,kw or 'c diff':ab,ti,kw OR 'c. diff':ab,ti,kw OR 'c difficile':ab,ti,kw OR 'c. difficile':ab,ti,kw OR 'Pseudomembranous colitis':ab,ti,kw OR 'Clostridium difficile'/exp OR 'Clostridium perfringens'/exp OR 'Clostridium sordellii'/exp OR Candida:ab,ti,kw OR 'C. glabrata':ab,ti,kw OR 'candida glabrata':ab,ti,kw OR 'candida auris':ab,ti,kw OR Candidiasis:ab,ti,kw OR Candidosis:ab,ti,kw OR candidas:ab,ti,kw OR monilia:ab,ti,kw OR monilias:ab,ti,kw OR 'torulopsis utilis':ab,ti,kw OR 'Candida'/exp OR 'candidiasis'/exp OR 'staphylococcus argenteus':ab,ti,kw AND [2014-2019]/py	96 318
#3 'Nosocomial infection*':ab,ti,kw OR 'Healthcare associated infection*':ab,ti,kw OR 'healthcare acquired infection*':ab,ti,kw OR 'Health care associated infection*':ab,ti,kw OR 'health care acquired infection*':ab,ti,kw OR HCAI:ab,ti,kw OR 'Hospital acquired infection*':ab,ti,kw OR HAI:ab,ti,kw OR 'cross infection*':ab,ti,kw OR 'hospital infection*':ab,ti,kw OR 'Cross Infection'/exp AND [2014-2019]/py	16 810
#4 #1 AND #2 AND #3	18

General infectious disease search (Embase)

Date Limitation: 2014-2019

This search was run on 18 November 2019.

Search strings	No. of hits
#1 'Point of care test*':ab,ti,kw OR POCT:ab,ti,kw OR 'rapid diagnostic test*':ab,ti,kw OR 'rapid test*':ab,ti,kw OR 'bedside test*':ab,ti,kw OR 'near patient test*':ab,ti,kw OR 'handheld device*':ab,ti,kw OR 'handheld instrument*':ab,ti,kw OR 'portable test*':ab,ti,kw OR 'portable device*':ab,ti,kw OR 'portable instrument*':ab,ti,kw OR 'bedside computing':ab,ti,kw OR 'Infectious disease testing':ab,ti,kw OR 'infectious disease screening*':ab,ti,kw OR 'point of care technolog*':ab,ti,kw OR 'bedside technolog*':ab,ti,kw OR 'point of care system*':ab,ti,kw OR 'point of care system'/exp OR 'point of care testing'/exp AND [2014-2019]/py	19 039
#2 'antimicrobial resistance':ab,ti,kw OR 'antimicrobial testing':ab,ti,kw OR 'Antimicrobial susceptibility':ab,ti,kw OR 'Antibiotic susceptibility*':ab,ti,kw OR 'antibiotic resistance':ab,ti,kw OR 'antibiotic testing':ab,ti,kw OR 'multi-drug resistant':ab,ti,kw OR 'multidrug-resistant':ab,ti,kw OR carbapenem-resistant:ab,ti,kw OR carbapenemase:ab,ti,kw OR 'methicillin resistant':ab,ti,kw OR 'vancomycin-resistant':ab,ti,kw OR 'extended-spectrum beta-lactamase':ab,ti,kw OR ESBL:ab,ti,kw OR AMR:ab,ti,kw OR resistan*:ab,ti,kw OR MDR:ab,ti,kw OR XDR:ab,ti,kw OR PDR:ab,ti,kw OR 'pandrug resistance':ab,ti,kw OR 'pan-drug resistance':ab,ti,kw OR 'disease resistance'/exp OR 'drug resistance'/de OR 'antibiotic resistance'/exp OR 'Nosocomial infection*':ab,ti,kw OR 'Healthcare associated infection*':ab,ti,kw OR 'healthcare acquired infection*':ab,ti,kw OR 'Health care associated infection*':ab,ti,kw OR 'health care acquired infection*':ab,ti,kw OR HCAI:ab,ti,kw OR 'Hospital acquired infection*':ab,ti,kw OR HAI:ab,ti,kw OR 'cross infection*':ab,ti,kw OR 'hospital infection*':ab,ti,kw OR 'Cross Infection'/exp OR 'Infectious disease*':ab,ti,kw OR 'Communicable disease*':ab,ti,kw OR infection*:ab,ti,kw OR 'communicable disease'/exp OR 'Sexually transmitted infection*':ab,ti,kw OR 'Sexually transmitted disease*':ab,ti,kw OR STI:ab,ti,kw OR STD:ab,ti,kw OR 'Venereal disease*':ab,ti,kw OR 'sexually transmitted disease'/exp OR 'Respiratory infection*':ab,ti,kw OR 'Respiratory tract infection*':ab,ti,kw OR 'Pleural Empyema*':ab,ti,kw OR 'Thoracic Empyemas':ab,ti,kw OR Pyothorax:ab,ti,kw OR 'Tuberculous Empyema':ab,ti,kw OR 'respiratory tract infection'/exp OR 'Gastrointestinal infection*':ab,ti,kw OR 'gastrointestinal infection'/exp OR 'vaccine-preventable infection*':ab,ti,kw OR 'vaccine-preventable disease*':ab,ti,kw OR VPD:ab,ti,kw OR VPI:ab,ti,kw OR 'vaccine'/exp OR 'Emerging infection*':ab,ti,kw OR 'Emerging infectious disease*':ab,ti,kw OR 'Emerging communicable disease*':ab,ti,kw OR 're-emerging communicable disease*':ab,ti,kw OR 'reemerging communicable disease*':ab,ti,kw OR 'reemerging infectious disease*':ab,ti,kw OR 're-emerging infectious disease*':ab,ti,kw OR 're-emerging infection*':ab,ti,kw OR 'reemerging infection*':ab,ti,kw OR Sepsis:ab,ti,kw OR Septicemia:ab,ti,kw OR Septicaemia:ab,ti,kw OR 'Septic shock':ab,ti,kw OR 'Bloodstream infection*':ab,ti,kw OR 'Blood infection*':ab,ti,kw OR Pyemia:ab,ti,kw OR Pyemias:ab,ti,kw OR Pyohemia:ab,ti,kw OR Pyohemias:ab,ti,kw OR Pyaemia:ab,ti,kw OR Pyaemias:ab,ti,kw OR 'Blood Poisoning':ab,ti,kw OR Sepsis/exp OR 'Viral meningitis':ab,ti,kw OR 'Bacterial meningitis':ab,ti,kw OR 'Fungal meningitis':ab,ti,kw OR 'Parasitic meningitis':ab,ti,kw OR 'virus meningitis'/exp OR 'fungal meningitis'/exp OR 'bacterial meningitis'/exp OR 'urinary tract infection*':ab,ti,kw OR UTI:ab,ti,kw OR bacteriuria:ab,ti,kw OR pyuria:ab,ti,kw OR 'urinary tract infection'/exp OR 'Bacterial pneumonia*':ab,ti,kw OR 'viral pneumonia*':ab,ti,kw OR 'fungal pneumonia*':ab,ti,kw OR 'Infectious pneumonia*':ab,ti,kw OR 'bacterial pneumonia'/exp OR 'virus pneumonia'/exp OR diarrhoea:ab,ti,kw OR diarrhea:ab,ti,kw OR 'diarrheal disease*':ab,ti,kw OR 'diarrhoeal disease*':ab,ti,kw OR 'diarrhea'/exp AND [2014-2019]/py	130 2318
#3 #1 AND #2	6 362

Embase search summary

Search summary	Number of initial results (before de-duplication)	Number of unique results (after de-duplication)
56 Diseases	6 150	2 710
AMR pathogens	36	12
Nosocomial pathogens	18	4
General infectious diseases	6 362	1 261
Total	**12 566**	**3 987**

Scopus search strings and number of search hits

56 diseases

Date Limitation: 2014-2019

This search was run on 19 November 2019.

Search strings	No. of hits
#1 TITLE-ABS-KEY ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*") AND PUBYEAR > 2013	24 810
#2 TITLE-ABS-KEY (Anthrax OR anthracis) AND PUBYEAR > 2013	2 837
#3 #1 AND #2	24
#4 TITLE-ABS-KEY (botulism OR botulinum) AND PUBYEAR > 2013	10 150
#5 #1 AND #4	22
#6 TITLE-ABS-KEY (brucellosis OR Brucella OR "b. abortus" OR "b. canis" OR "b. melitensis" OR "b. ovis" OR "b. suis") AND PUBYEAR > 2013	4 429
#7 #1 AND #6	41
#8 TITLE-ABS-KEY (campylobacteriosis OR campylobacter* OR "c.coli" OR "c.fetus" OR "c.hyointestinalis" OR "c.jejuni" OR "c.lari" OR "c.rectus" OR "c.sputorum" OR "c.upsaliensis") AND PUBYEAR > 2013	5 789
#9 #1 AND #8	41
#10 TITLE-ABS-KEY ((chikungunya W/2 (virus OR fever))) OR TITLE-ABS-KEY (chikv)) AND PUBYEAR > 2013	3 340
#11 #1 AND #10	49
#12 TITLE-ABS-KEY (Chlamydia OR "c.trachomatic" OR "c.pneumoniae" OR "c.psittaci" OR trachoma OR "inclusion conjunctivitis" OR "ophthalmia neonatorum" OR "Lymphogranuloma venereum" OR LGV OR psittacosis) AND PUBYEAR > 2013	7 504
#13 #1 AND #12	202
#14 TITLE-ABS-KEY (cholera OR "vibrio cholerae" OR "v. cholerae") AND PUBYEAR > 2013	7 041
#15 #1 AND #14	63
#16 TITLE-ABS-KEY (cryptosporidi* OR "c.parvum") AND PUBYEAR > 2013	3 249
#17 #1 AND #16	39
#18 TITLE-ABS-KEY (dengue OR DENV) AND PUBYEAR > 2013	14 180
#19 #1 AND #18	294
#20 TITLE-ABS-KEY (diphtheria OR "Corynebacterium diphtheriae" OR "Klebs-Loffler bacillus") AND PUBYEAR > 2013	5 250
#21 #1 AND #20	4
#22 TITLE-ABS-KEY (echinococc* OR "E. granulosusv" OR "E. multilocularis" OR "Hydatid cyst" OR "Hydatid disease*") AND PUBYEAR > 2013	4 479
#23 #1 AND #22	24
#24 TITLE-ABS-KEY (giardia* OR Lamblia OR Lamblias OR Lambliasis OR "G. intestinalis" OR "g. duodenalis" OR "g. muris") AND PUBYEAR > 2013	3 350
#25 #1 AND #24	49

Search strings	No. of hits
#26 TITLE-ABS-KEY (gonorrhoea* OR gonorrhea* OR gonococc*) AND PUBYEAR > 2013	5 100
#27 #1 AND #26	175
#28 TITLE-ABS-KEY ("hepatitis A" OR "hep A" OR "hepatitis virus A" OR hav) AND PUBYEAR > 2013	5 224
#29 #1 AND #28	22
#30 TITLE-ABS-KEY ("hepatitis B" OR "hep b" OR "hepatitis virus B" OR HBV OR "dane particle") AND PUBYEAR > 2013	32 858
#31 #1 AND #30	322
#32 TITLE-ABS-KEY ("hepatitis C" OR "hep C" OR "hepatitis virus C" OR HCV OR "hepacvirus c") AND PUBYEAR > 2013	37 366
#33 #1 AND #32	375
#34 TITLE-ABS-KEY (HIV OR "human immunodeficiency virus" OR "human immune deficiency virus*" OR "immune deficiency associated virus" OR "immune deficiency associated viruses" OR "immunodeficiency associated virus" OR "immunodeficiency associated viruses" OR "acquired immunodeficiency syndrome" OR "acquired immune deficiency syndrome" OR AIDS) AND PUBYEAR > 2013	138 609
#35 #1 AND #34	1 995
#36 TITLE-ABS-KEY ("haemophilus influenza type b" OR "hemophilus influenza type b" OR Hib OR "H. influenzae type b" OR "hemophilus influenza group b" OR "haemophilus influenza group b") AND PUBYEAR > 2013	832
#37 #1 AND #36	3
#38 TITLE-ABS-KEY (flu OR influenza* OR H1N1) AND PUBYEAR > 2013	48 205
#39 #1 AND #38	622
#40 TITLE-ABS-KEY (legionella OR "L. pneumophila" OR (Legionnaire* w/2 disease*) OR "pontiac fever") AND PUBYEAR > 2013	3 094
#41 #1 AND #40	41
#42 TITLE-ABS-KEY (leptospirosis OR Leptospira OR "L. interrogans" OR "L. kirschneri" OR "L. borgpetrsenii" OR "L. santarosai" OR "L. noguchii" OR "L. weilii" OR "L. alexanderi" OR "L. alstoni" OR "L. kmetyi") AND PUBYEAR > 2013	3 183
#43 #1 AND #42	81
#44 TITLE-ABS-KEY (Listerios* OR Listeria* OR "L. monocytogenes" OR "L. seeligeri" OR "L. ivanovii" OR "L. welshimeri" OR "L. grayi" OR "L. innocua" OR "L. marthii" OR "L. rocourtiae") AND PUBYEAR > 2013	10 644
#45 #1 AND #44	35
#46 TITLE-ABS-KEY ((Lyme* w/2 disease) OR Borrelia OR neurobirreliosis) AND PUBYEAR > 2013	5 005
#47 #1 AND #46	34
#48 TITLE-ABS-KEY (malaria OR Plasmodium OR "P. falciparum" OR "P. vivax" OR "P. ovale" OR "P. malariae" OR "P. knowlesi" OR Paludism) AND PUBYEAR > 2013	32 358
#49 #1 AND #48	1 557
#50 TITLE-ABS-KEY (Measles OR Rubeola) AND PUBYEAR > 2013	7 101
#51 #1 AND #51	22
#52 TITLE-ABS-KEY (mumps OR parotitis OR "epidemic parotid virus*" OR "epidemic parotiditis virus*" OR "epidemic parotitides virus*" OR "epidemic parotitus virus*") AND PUBYEAR > 2013	3 528
#53 #1 AND #52	12
#54 TITLE-ABS-KEY ("Neisseria meningitidis" OR meningococcus OR meningococc*) AND PUBYEAR > 2013	5 059
#55 #1 AND #54	39

Search strings	No. of hits
#56 TITLE-ABS-KEY (pertussis OR "whooping cough") AND PUBYEAR > 2013	6 204
#57 #1 AND #56	24
#58 TITLE-ABS-KEY (plague* OR "Yersinia pestis" OR "Y. pestis" OR "Black death") AND PUBYEAR > 2013	8 428
#59 #1 AND #58	27
#60 TITLE-ABS-KEY (polio OR poliomyelitis OR poliovirus* OR polioenterovirus*) AND PUBYEAR > 2013	5 568
#61 #1 AND #60	8
#62 TITLE-ABS-KEY ("Q fever" OR Coxiella OR "C. burnetii" OR "Abattoir fever" OR Coxiellosis) AND PUBYEAR > 2013	1 811
#63 #1 AND #62	11
#64 TITLE-ABS-KEY (rabies) AND PUBYEAR > 2013	3 901
#65 #1 AND #64	13
#66 TITLE-ABS-KEY (rubella OR rubellavirus OR RuV OR "German measles") AND PUBYEAR > 2013	4 014
#67 #1 AND #66	19
#68 TITLE-ABS-KEY (salmonellosis OR "Salmonella enterica" OR Salmonella OR "S. Enteritidis" OR "S.Typhimurium" OR "S. Typhi") AND PUBYEAR > 2013	26 672
#69 #1 AND #68	182
#70 TITLE-ABS-KEY (SARS* OR "severe acute respiratory syndrome" OR "severe acute respiratory syndrome-related coronavirus") AND PUBYEAR > 2013	4 431
#71 #1 AND #70	18
#72 TITLE-ABS-KEY ("verocytotoxin-producing Escherichia coli" OR "Shiga toxin-producing Escherichia coli" OR VTEC OR STEC OR "verocytotoxin-producing E. coli" OR "Shiga toxin-producing E. coli" OR EHEC OR SLTEC OR non-O157 OR coli-O157) AND PUBYEAR > 2013	6 324
#73 #1 AND #72	65
#74 TITLE-ABS-KEY (Shigella* OR shigellosis OR "S. dysenteriae" OR "S. flexneri" OR "S. boydii" OR "S. sonnei" OR "bacillary dysentery") AND PUBYEAR > 2013	4 986
#75 #1 AND #74	25
#76 TITLE-ABS-KEY (smallpox* OR Variola*) AND PUBYEAR > 2013	1 470
#77 #1 AND #76	8
#78 TITLE-ABS-KEY ("Streptococcus pneumonia*" OR "S. pneumonia*" OR "diplococcus pneumonia*" OR "d. pneumonia*" OR pneumococcal OR IPD OR pneumococcus) AND PUBYEAR > 2013	17 390
#79 #1 AND #78	129
#80 TITLE-ABS-KEY (Syphilis OR "Treponema pallidum" OR "T. pallidum" OR chancre) AND PUBYEAR > 2013	6 791
#81 #1 AND #80	325
#82 TITLE-ABS-KEY (tetanus OR "Clostridium tetani" OR "C. tetani" OR "Bacillus tetani" OR "B. tetani") AND PUBYEAR > 2013	5 954
#83 #1 AND #82	18
#84 TITLE-ABS-KEY ("tick borne encephalitis*" OR "tick-borne encephalitis*" OR TBE*) AND PUBYEAR > 2013	2 228
#85 #1 AND #84	4

Search strings	No. of hits
#86 TITLE-ABS-KEY (toxoplasm*) AND PUBYEAR > 2013	7 817
#87 #1 AND #86	52
#88 TITLE-ABS-KEY ("transmissible spongiform encephalopath*" OR TSEs OR "Bovine spongiform encephalopath*" OR "Mad cow disease") AND PUBYEAR > 2013	1 083
#89 #1 AND #88	11
#90 TITLE-ABS-KEY (trichina* OR trichinellosis OR trichinosis OR Trichinella* OR "t. britovi" OR "t. murrelli" OR "t. nativa" OR "t. nelson" OR "t. spiralis" OR "t. papuae" OR "t. pseudospiralis" OR "t. zimbabwensis") AND PUBYEAR > 2013	922
#91 #1 AND #90	4
#92 TITLE-ABS-KEY (tuberculosis OR MTB OR LTBI OR "koch's disease" OR "m. africanum" OR "m. canetti" OR "m. caprae" OR "m. orygis") AND PUBYEAR > 2013	57 650
#93 #1 AND #92	962
#94 TITLE-ABS-KEY (typhoid OR paratyphoid OR "Salmonella Typhi" OR "Salmonella Paratyphi" OR "salmonella schottmuelleri" OR "salmonella hirschfeldii" OR "S. Typhi" OR "S. Paratyphi" OR "s. schottmuelleri" OR "s. hirschfeldii" OR "Enteric fever") AND PUBYEAR > 2013	5064
#95 #1 AND #94	84
#96 TITLE-ABS-KEY (tularemia OR tularaemia OR "Francisella tularensis" OR "pasteurella tularensis" OR "bacterium tularense") AND PUBYEAR > 2013	1 297
#97 #1 AND #96	12
#98 TITLE-ABS-KEY ((prion OR prions) AND ((variant) AND (Creutzfeldt-Jakob* OR CJD)) OR (vCJD OR "variant cjd" OR v-cjd OR vcjd)) AND PUBYEAR > 2013	298
#99 #1 AND #98	2
#100 TITLE-ABS-KEY ("viral hemorrhagic fever*" OR "viral haemorrhagic fever*" OR arenavirus OR filovirus OR ebola* OR EBOV OR Lassa OR "Marburg virus" OR Marburgvirus OR lassavirus OR marv OR hantavirus OR "hanta virus" OR "junin virus" OR "Machupo mammarenavirus" OR nairovirus OR "Crimean-congo hemorrhagic fever virus" OR CCHF* OR "zaire ebolavirus" OR "omsk hemorrhagic fever virus" OR OHFV OR "kyasanur forest disease virus" OR "rift valley fever virus" OR RVF) AND PUBYEAR > 2013	12 934
#101 #1 AND #100	221
#102 TITLE-ABS-KEY (("west nile" W/2 (fever OR virus))) OR TITLE-ABS-KEY ("West Nile flavivirus" OR "egypt 101 virus" OR "kunjin virus" OR WNV) AND PUBYEAR > 2013	3 256
#103 #1 AND #102	17
#104 TITLE-ABS-KEY ("Yellow fever" OR YFV) AND PUBYEAR > 2013	2 814
#105 #1 AND #104	24
#106 TITLE-ABS-KEY (Yersiniosis OR "Yersinia enterocolitica" OR "Y. enterocolitica" OR "Y. pseudotuberculosis") AND PUBYEAR > 2013	1 418
#107 #1 AND #106	8
#108 TITLE-ABS-KEY (Zika OR Zikas OR Zikv OR Zikav OR "congenial zika") AND PUBYEAR > 2013	8 500
#109 #1 AND #108	102
#110 #3 OR #5 OR #7 OR #9 OR #11 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29 OR #31 OR #33 OR #35 OR #37 OR #39 OR #41 OR #43 OR #45 OR #47 OR #49 OR #51 OR #53 OR #55 OR #57 OR #59 OR #61 OR #63 OR #65 OR #67 OR #69 OR #71 OR #73 OR #75 OR #77 OR #79 OR #81 OR #83 OR #85 OR #87 OR #91 OR #93 OR #95 OR #97 OR #99 OR #101 OR #103 OR #105 OR #107 OR #109	5 947

AMR pathogen search (Scopus)

Date Limitation: 2014-2019

This search was run on 20 November 2019.

Search strings	No. of hits
#1 TITLE-ABS-KEY ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*") AND PUBYEAR > 2013	24 817
#2 TITLE-ABS-KEY ("Staphylococcus aureus" OR "micrococcus aureus" OR "micrococcus pyogenes") OR TITLE-ABS-KEY ("Enterococcus faecium" OR "streptococcus faecium") OR TITLE-ABS-KEY ("Enterococcus faecalis" OR "streptococcus Group D" OR "streptococcus faecalis" OR "enterococcus fecalis" OR "enterococcus I form" OR "enterococcus proteiformis" OR "micrococcus ovalis" OR "micrococcus zymogenes" OR paraghurt OR "streptococcus fecalis" OR "streptococcus glycerinaceus" OR "streptococcus liquefaciens" OR "streptococcus ovalis" OR "th 69") OR TITLE-ABS-KEY ("Escherichia coli" OR "e coli" OR "e. coli" OR "Alkalescens-Dispar Group" OR EAggEC OR "Bacillus coli" OR "Bacillus escherichii" OR "Bacterium coli" OR "bacterium E3" OR "coli bacillus" OR "coli bacterium" OR colibacillus OR "colon bacillus" OR "Enterococcus coli" OR "Escherichia alkalescens dispart") OR TITLE-ABS-KEY ("Klebsiella pneumoniae" OR "Klebsiella rhinoscleromatis" OR "b. Friedlander" OR "bacillus pneumoniae" OR "Bacterium pneumoniae crouposae" OR "bacterium pneumonie crouposae" OR "friedlaender bacillus" OR "friedlander bacillus" OR "hyalococcus pneumoniae" OR "k. Pneumoniae" OR "klebsiella crouposa" OR "Klebsiella Pn" OR "klebsiella pneumonia" OR "Klebsiella pneumoniae aerogenes" OR pneumobacillus) OR TITLE-ABS-KEY ("Acinetobacter baumannii") OR TITLE-ABS-KEY ("Pseudomonas aeruginosa" OR "Pseudomonas pyocyanea" OR "Bacillus aeruginosus" OR "Bacillus pyocyaneus" OR "Bacterium aeruginosum" OR "Bacterium pyocyaneum" OR "blue pus organism" OR "Micrococcus pyocyaneus" OR "P. Aeruginosa" OR "Pseudomonas polycolor" OR "Pseudomonas pyoceaneus" OR "Pseudomonas pyocyaneus") OR TITLE-ABS-KEY ("staphylococcus argenteus") AND PUBYEAR > 2013	190 118
#3 TITLE-ABS-KEY ("antimicrobial resistance" OR "antimicrobial testing" OR "Antimicrobial susceptibility" OR "Antibiotic susceptibility*" OR "antibiotic resistance" OR "antibiotic testing" OR "multi-drug resistant" OR "'multidrug-resistant" OR carbapenem-resistant OR carbapenemase OR "methicillin resistant" OR vanomycin-resistant OR "extended-spectrum beta-lactamase" OR ESBL OR AMR OR resistan* OR MDR OR XDR OR PDR OR pandrug resistance OR pan-drug resistance	61 612
#4 #1 AND #2 AND #3	133

Nosocomial pathogen search (Scopus)

Date Limitation: 2014-2019

This search was run on 20 November 2019.

Search strings.	No. of hits
#1 TITLE-ABS-KEY ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*") AND PUBYEAR > 2013	24 817
#2 TITLE-ABS-KEY ("Streptococcus pneumoniae" OR Pneumococc* OR "Diplococcus pneumoniae" OR "Micrococcus pneumoniae") OR TITLE-ABS-KEY ("Staphylococcus aureus" OR "micrococcus aureus" OR "micrococcus pyogenes") OR TITLE-ABS-KEY ("Enterococcus faecium" OR "streptococcus faecium") OR TITLE-ABS-KEY ("Enterococcus faecalis" OR "streptococcus Group D" OR "streptococcus faecalis" OR "enterococcus fecalis" OR "enterococcus I form" OR "enterococcus proteiformis" OR "micrococcus ovalis" OR "micrococcus zymogenes" OR paraghurt OR "streptococcus fecalis" OR "streptococcus glycerinaceus" OR "streptococcus liquefaciens" OR "streptococcus ovalis" OR "th 69") OR TITLE-ABS-KEY ("Escherichia coli" OR "e coli" OR "e. coli" OR "Alkalescens-Dispar Group" OR EAggEC OR "Bacillus coli" OR "Bacillus escherichii" OR "Bacterium coli" OR "bacterium E3" OR "coli bacillus" OR "coli bacterium" OR colibacillus OR "colon bacillus" OR "Enterococcus coli" OR "Escherichia alkalescens dispart") OR TITLE-ABS-KEY ("Klebsiella pneumoniae" OR "Klebsiella rhinoscleromatis" OR "b. Friedlander" OR "bacillus pneumoniae" OR "Bacterium pneumoniae crouposae" OR "bacterium pneumonie crouposae" OR "friedlaender bacillus" OR "friedlander bacillus" OR "hyalococcus pneumoniae" OR "k. Pneumoniae" OR "klebsiella crouposa" OR "Klebsiella Pn" OR "klebsiella pneumonia" OR "Klebsiella pneumoniae aerogenes" OR pneumobacillus) OR TITLE-ABS-KEY ("Acinetobacter baumannii") OR TITLE-ABS-KEY ("Pseudomonas aeruginosa" OR "Pseudomonas pyocyanea" OR "Bacillus aeruginosus" OR "Bacillus pyocyaneus" OR "Bacterium aeruginosum" OR "Bacterium pyocyaneum" OR "blue pus organism" OR "Micrococcus pyocyaneus" OR "P. Aeruginosa" OR "Pseudomonas polycolor" OR "Pseudomonas pyoceaneus" OR "Pseudomonas pyocyaneus") OR TITLE-ABS-KEY ("Clostridium difficile" OR "Clostridioides difficile" or "c diff" OR "c. diff" OR "c difficile" OR "c. difficile" OR "Pseudomembranous colitis") OR TITLE-ABS-KEY (Candida OR "C. glabrata" OR "candida glabrata" OR "candida auris" OR Candidiasis OR Candidosis OR candidas OR monilia OR monilias OR "torulopsis utilis") OR TITLE-ABS-KEY ("staphylococcus argenteus") AND PUBYEAR > 2013	232 932

Search strings.	No. of hits
#3 TITLE-ABS-KEY ("Nosocomial infection*" OR "Healthcare associated infection*" OR "healthcare acquired infection*" OR "Health care associated infection*" OR "health care acquired infection*" OR HCAI OR "Hospital acquired infection*" OR HAI OR "cross infection*" OR "hospital infection*") AND PUBYEAR > 2013	23 369
#4 #1 AND #2 AND #3	60

General infectious disease search (Scopus)

Date Limitation: 2014-2019

This search was run on 20 November 2019.

Search strings	No. of hits
#1 TITLE-ABS-KEY ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*") AND PUBYEAR > 2013	2 4817
#2 TITLE-ABS-KEY ("antimicrobial resistance" OR "antimicrobial testing" OR "Antimicrobial susceptibility" OR "Antibiotic susceptibility*" OR "antibiotic resistance" OR "antibiotic testing" OR "multi-drug resistant" OR "'multidrug-resistant" OR carbapenem-resistant OR carbapenemase OR "methicillin resistant" OR vanomycin-resistant OR "extended-spectrum beta-lactamase" OR ESBL OR AMR OR resistan* OR MDR OR XDR OR PDR OR "pandrug resistance" OR "pan-drug resistance") OR TITLE-ABS-KEY ("Nosocomial infection*" OR "Healthcare associated infection*" OR "healthcare acquired infection*" OR "Health care associated infection*" OR "health care acquired infection*" OR HCAI OR "Hospital acquired infection*" OR HAI OR "cross infection*" OR "hospital infection*") OR TITLE-ABS-KEY ("Infectious disease*" OR "Communicable disease*" OR infection*) OR TITLE-ABS-KEY ("Sexually transmitted infection*" OR "Sexually transmitted disease*" OR STI OR STD OR "Venereal disease*") OR TITLE-ABS-KEY ("Respiratory infection*" OR "Respiratory tract infection*" OR "Pleural Empyema*" OR "Thoracic Empyemas" OR Pyothorax OR "Tuberculous Empyema") OR TITLE-ABS-KEY ("Gastrointestinal infection*") OR TITLE-ABS-KEY ("vaccine-preventable infection*" OR "vaccine-preventable disease*" OR VPD OR VPI) OR TITLE-ABS-KEY ("Emerging infection*" OR "Emerging infectious disease*" OR "Emerging communicable disease*" OR "re-emerging communicable disease*" OR "reemerging communicable disease*" OR "reemerging infectious disease*" OR "re-emerging infectious disease*" OR "re-emerging infection*" OR "reemerging infection*") OR TITLE-ABS-KEY (Sepsis OR Septicemia OR Septicaemia OR "Septic shock" OR "Bloodstream infection*" OR "Blood infection*" OR Pyemia OR Pyemias OR Pyohemia OR Pyohemias OR Pyaemia OR Pyaemias OR "Blood Poisoning") OR TITLE-ABS-KEY ("Viral meningitis" OR "Bacterial meningitis" OR "Fungal meningitis" OR "Parasitic meningitis") OR TITLE-ABS-KEY ("urinary tract infection*" OR UTI OR bacteriuria OR pyuria) OR TITLE-ABS-KEY ("Bacterial pneumonia*" OR "viral pneumonia*" OR "fungal pneumonia*" OR "Infectious pneumonia*") OR TITLE-ABS-KEY (diarrhoea OR diarrhea OR "diarrheal disease*" OR "diarrhoeal disease*") AND PUBYEAR > 2013	783 208
#3 #1 AND #2	7 072

Scopus search summary

Search summary	Number of initial results (before de-duplication)	Number of unique results (after de-duplication)
56 Diseases	5 947	1 423
AMR pathogens	133	22
Nosocomial pathogens	60	11
General infectious diseases	7 072	822
Total	**13 212**	**2 278**

Cochrane search strings and search hits

56 diseases

This search was run on 21 November 2019.

Search strings	No. of hits
#1 ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*"):ti,ab,kw OR ([mh "point-of-care systems"] OR [mh "point-of-care testing"])	1 096
#2 Anthrax:ti,ab,kw OR anthracis:ti,ab,kw OR [mh Anthrax] OR [mh “Bacillus anthracis”]	70
#3 #1 AND #2	0
#4 botulism:ti,ab,kw OR botulinum:ti,ab,kw OR [mh botulism] OR [mh “Clostridium botulinum”]	2 655
#5 #1 AND #4	0
#6 brucellosis:ti,ab,kw OR Brucella:ti,ab,kw OR “b. abortus”:ti,ab,kw OR “b.canis”:ti,ab,kw OR “b. melitensis”:ti,ab,kw OR “b.ovis”:ti,ab,kw OR “b. suis”:ti,ab,kw OR [mh brucellosis] OR [mh Brucella]	159
#7 #1 AND #6	1
#8 (campylobacteriosis OR campylobacter* OR "c.coli" OR "c.fetus" OR "c.hyointestinalis" OR "c.jejuni" OR "c.lari" OR "c.rectus" OR "c.sputorum" OR "c.upsaliensis"):ti,ab,kw OR [mh "Campylobacter"] OR [mh “Campylobacter infections“]	119
#9 #1 AND #8	3
#10 (chikungunya NEAR/2 (virus OR fever)):ti,ab,kw OR chikv:ti,ab,kw OR [mh “chikungunya virus”] OR [mh chikungunya]	71
#11 #1 AND #10	0
#12 Chlamydia:ti,ab,kw OR “c.trachomatis”:ti,ab,kw OR “c.pneumoniae”:ti,ab,kw OR “c.psittaci”:ti,ab,kw OR trachoma:ti,ab,kw OR “inclusion conjunctivitis”:ti,ab,kw OR “ophthalmia neonatorum”:ti,ab,kw OR “Lymphogranuloma venereum”:ti,ab,kw OR LGV:ti,ab,kw OR psittacosis:ti,ab,kw OR [mh “Chlamydia infections”] OR [mh “Chlamydia trachomatis”]	902
#13 #1 AND #12	17
#14 (cholera OR "vibrio cholerae" OR "v. cholerae"):ti,ab,kw OR [mh cholera] OR [mh “vibrio cholerae”]	223
#15 #1 AND #14	1
#16 cryptosporidi*:ti,ab,kw OR “c.parvum”:ti,ab,kw OR [mh cryptosporidiosis] OR [mh cryptosporidium]	105
#17 #1 AND #16	4
#18 dengue:ti,ab,kw OR DENV:ti,ab,kw OR [mh dengue] OR [mh “Dengue virus”]	542
#19 #1 AND #17	15
#20 diphtheria:ti,ab,kw OR “Corynebacterium diphtheriae”:ti,ab,kw OR “Klebs Loffler bacillus”:ti,ab,kw OR [mh diphtheria] OR [mh “Corynebacterium diphtheriae”] OR [mh “Corynebacterium infection”]	1 003
#21 #1 AND #20	0
#22 echinococc*:ti,ab,kw OR “E. granulosus”:ti,ab,kw OR “Hydatid cyst”:ti,ab,kw OR “Hydatid disease*”:ti,ab,kw OR [mh “Echinococcus”] OR [mh “echinococcosis”]	54
#23 #1 AND #22	0
#24 giardia*:ti,ab,kw OR Lamblia:ti,ab,kw OR Lamblias:ti,ab,kw OR Lambliasis:ti,ab,kw OR “G. intestinalis”:ti,ab,kw OR “g. duodenalis”:ti,ab,kw OR “g. muris”:ti,ab,kw OR [mh giardia] OR [mh giardiasis]	122
#25 #1 AND #24	3

Search strings	No. of hits
#26 gonorrhoea*:ti,ab,kw OR gonorrhea*:ti,ab,kw OR gonococc*:ti,ab,kw OR "n. gonorrhoeae":ti,ab,kw OR [mh gonorrhea] OR [mh "Neisseria gonorrhoeae"]	518
#27 #1 AND #26	13
#28 "hepatitis A":ti,ab,kw OR "hep A":ti,ab,kw OR "hepatitis virus A":ti,ab,kw OR hav:ti,ab,kw OR [mh "hepatitis A"] OR [mh "Hepatitis A virus"]	1 333
#29 #1 AND #28	2
#30 "hepatitis B":ti,ab,kw OR "hep b":ti,ab,kw OR "hepatitis virus B":ti,ab,kw OR HBV:ti,ab,kw OR "dane particle":ti,ab,kw OR [mh "hepatitis B"] OR [mh "Hepatitis B virus"]	9 178
#31 #1 AND #30	20
#32 ("hepatitis C" OR "hep C" OR "hepatitis virus C" OR HCV OR "hepacvirus c" OR "hepatitis C"):ti,ab,kw OR "hep C":ti,ab,kw OR "hepatitis virus C":ti,ab,kw OR HCV:ti,ab,kw OR "hepacvirus c":ti,ab,kw OR [mh "hepatitis C"] OR [mh hepacivirus]	5 804
#33 #1 AND #32	33
#34 HIV:ti,ab,kw OR "human immunodeficiency virus":ti,ab,kw OR "human immune deficiency virus*":ti,ab,kw OR "immune deficiency associated viruses":ti,ab,kw OR "immunodeficiency associated virus":ti,ab,kw OR "immunodeficiency associated viruses":ti,ab,kw OR "acquired immunodeficiency syndrome":ti,ab,kw OR "acquired immune deficiency syndrome":ti,ab,kw OR AIDS:ti,ab,kw OR [mh "Human immunodeficiency virus"] OR [mh "acquired immune deficiency syndrome"]	18 946
#35 #1 AND #34	181
#36 "haemophilus influenzae type b":ti,ab,kw OR "hemophilus influenzae type b":ti,ab,kw OR Hib:ti,ab,kw OR "H. influenzae type b":ti,ab,kw OR "hemophilus influenza group b":ti,ab,kw OR "haemophilus influenza group b":ti,ab,kw OR [mh "Haemophilus influenzae type b"]	592
#37 #1 AND #36	0
#38 flu:ti,ab,kw OR influenza*:ti,ab,kw OR H1N1:ti,ab,kw OR [mh "Influenza, Human"] OR [mh "influenza in birds"] OR [mh "Influenza A Virus, H1N1 Subtype"]	6 426
#39 #1 AND #38	48
#40 legionella:ti,ab,kw OR "L. pneumophila":ti,ab,kw OR (Legionnaire* near/2 disease*):ti,ab,kw OR "pontiac fever":ti,ab,kw OR [mh "legionella pneumophila"] OR [mh "legionnaire disease"]	71
#41 #1 AND #40	0
#42 leptospirosis:ti,ab,kw OR Leptospira:ti,ab,kw OR "L. interrogans":ti,ab,kw OR "L. kirschneri":ti,ab,kw OR "L. borgpetersenii":ti,ab,kw OR "L. santarosai":ti,ab,kw OR "L. noguchii":ti,ab,kw OR "L. weilii":ti,ab,kw OR "L. alexanderi":ti,ab,kw OR "L. alstoni":ti,ab,kw OR "L. kmetyi":ti,ab,kw OR [mh "Leptospira"] OR [mh "Leptospirosis"]	7
#43 #1 AND #42	2
#44 Listerios*:ti,ab,kw OR Listeria*:ti,ab,kw OR "L. monocytogenes":ti,ab,kw OR "L. seeligeri":ti,ab,kw OR "L. ivanovii":ti,ab,kw OR "L. welshimeri":ti,ab,kw OR "L. grayi":ti,ab,kw OR "L. innocua":ti,ab,kw OR "L. marthii":ti,ab,kw OR "L. rocourtiae":ti,ab,kw OR [mh "Listeria"] OR [mh "Listeriosis"]	88
#45 #1 AND #44	1
#46 (Lyme* near/2 disease):ti,ab,kw OR Borrelia:ti,ab,kw OR neurobirreliosis:ti,ab,kw OR [mh "Lyme disease"] OR [mh "Borrelia burgdorferi"]	58
#47 #1 AND #46	0
#48 malaria:ti,ab,kw OR Plasmodium:ti,ab,kw OR "P. falciparum":ti,ab,kw OR "P. vivax":ti,ab,kw OR "P. ovale":ti,ab,kw OR "P. malariae":ti,ab,kw OR "P. knowlesi":ti,ab,kw OR Paludism:ti,ab,kw OR [mh Malaria] OR [mh Plasmodium]	3 604
#49 #1 AND #48	221
#50 Measles:ti,ab,kw OR Rubeola:ti,ab,kw OR [mh Measles] OR [mh "Measles virus"] OR [mh morbillivirus]	548
#51 #1 AND #50	0

Search strings	No. of hits
#52 Mumps:ti,ab,kw OR parotitis:ti,ab,kw OR "epidemic parotid virus*":ti,ab,kw OR "epidemic parotiditis virus*":ti,ab,kw OR "epidemic parotitides virus*":ti,ab,kw OR "epidemic parotitus virus*":ti,ab,kw OR [mh mumps] OR [mh “mumps virus”]	313
#53 #1 AND #52	0
#54 "Neisseria meningitidis":ti,ab,kw OR meningococcus:ti,ab,kw OR meningococc*:ti,ab,kw OR [mh "meningitis, bacterial"] OR [mh "meningitis, meningococcal"] OR [mh "Neisseria meningitidis"]	814
#55 #1 AND #54	5
#56 pertussis:ti,ab,kw OR "whooping cough":ti,ab,kw OR [mh "Whooping Cough"] OR [mh “Bordetella pertussis”] OR [mh “Pertussis Toxin”]	954
#57 #1 AND #56	0
#58 plague*:ti,ab,kw OR "Yersinia pestis":ti,ab,kw OR "Y. pestis":ti,ab,kw OR "Black death":ti,ab,kw OR [mh plague] OR [mh Yersinia] OR [mh "Yersinia infections"] OR [mh "Yersinia pestis"]	158
#59 #1 AND #58	0
#60 polio:ti,ab,kw OR poliomyelitis:ti,ab,kw OR poliovirus*:ti,ab,kw OR polioenterovirus*:ti,ab,kw OR [mh poliomyelitis] OR [mh poliovirus]	805
#61 #1 AND #60	0
#62 "Q fever":ti,ab,kw OR Coxiella:ti,ab,kw OR "C. burnetii":ti,ab,kw OR "Abattoir fever":ti,ab,kw OR Coxiellosis:ti,ab,kw OR [mh "Q fever"] OR [mh coxiella]	27
#63 #1 AND #62	0
#64 rabies:ti,ab,kw OR [mh rabies] OR [mh "rabies virus"]	221
#65 #1 AND #64	0
#66 rubella:ti,ab,kw OR rubellavirus:ti,ab,kw OR RuV:ti,ab,kw OR "German measles":ti,ab,kw OR [mh rubella] OR [mh "rubella virus"]	347
#67 #1 AND #66	0
#68 salmonellosis:ti,ab,kw OR "Salmonella enterica":ti,ab,kw OR Salmonella:ti,ab,kw OR "S. Enteritidis":ti,ab,kw OR "S.Typhimurium":ti,ab,kw OR "S. Typhi":ti,ab,kw OR [mh "Salmonella enterica"] OR [mh “Salmonella infections”] OR [mh "Salmonella"]	359
#69 #1 AND #68	4
#70 SARS*:ti,ab,kw OR "severe acute respiratory syndrome":ti,ab,kw OR "severe acute respiratory syndrome-related coronavirus":ti,ab,kw OR [mh "Severe Acute Respiratory Syndrome"] OR [mh "SARS virus"]	130
#71 #1 AND #70	0
#72 "verocytotoxin-producing Escherichia coli":ti,ab,kw OR "Shiga toxin-producing Escherichia coli":ti,ab,kw OR VTEC:ti,ab,kw OR STEC:ti,ab,kw OR "verocytotoxin-producing E. coli":ti,ab,kw OR "Shiga toxin-producing E. coli":ti,ab,kw OR EHEC:ti,ab,kw OR SLTEC:ti,ab,kw OR non-O157:ti,ab,kw OR coli-O157:ti,ab,kw OR [mh "Shiga-Toxigenic Escherichia coli"]	39
#73 #1 AND #72	1
#74 Shigella*:ti,ab,kw OR shigellosis:ti,ab,kw OR "S. dysenteriae":ti,ab,kw OR "S. flexneri":ti,ab,kw OR "S. boydii":ti,ab,kw OR "S. sonnei":ti,ab,kw OR "bacillary dysentery":ti,ab,kw OR [mh Shigella] OR [mh "Dysentery, Bacillary"]	136
#75 #1 AND #74	2
#76 smallpox*:ti,ab,kw OR Variola*:ti,ab,kw OR [mh smallpox] OR [mh “variola virus”]	88
#77 #1 AND #75	0
#78 "Streptococcus pneumonia*":ti,ab,kw OR "S. pneumonia*":ti,ab,kw OR "diplococcus pneumonia*":ti,ab,kw OR "d. pneumonia*":ti,ab,kw OR pneumococcus:ti,ab,kw OR pneumococcal:ti,ab,kw OR IPD:ti,ab,kw OR [mh "Streptococcus pneumoniae"] OR [mh "Pneumococcal Infections"]	1 170
#79 #1 AND #76	6

Search strings	No. of hits
#80 Syphilis:ti,ab,kw OR "Treponema pallidum":ti,ab,kw OR "T. pallidum":ti,ab,kw OR chancre:ti,ab,kw OR [mh syphilis] OR [mh "Treponema pallidum"]	413
#81 #1 AND #80	21
#82 tetanus:ti,ab,kw OR "Clostridium tetani":ti,ab,kw OR "C. tetani":ti,ab,kw OR "Bacillus tetani":ti,ab,kw OR "B. tetani":ti,ab,kw OR [mh tetanus] OR [mh "Clostridium tetani"]	1221
#83 #1 AND #82	3
#84 "tick borne encephalitis*":ti,ab,kw OR "tick-borne encephalitis*":ti,ab,kw OR TBE*:ti,ab,kw OR [mh "Encephalitis, Tick-Borne"] OR [mh "Encephalitis Viruses, Tick-Borne"]	169
#85 #1 AND #84	4
#86 toxoplasm*:ti,ab,kw OR [mh Toxoplasma] OR [mh "Toxoplasmosis, Congenital"]	155
#87 #1 AND #86	0
#88 "transmissible spongiform encephalopath*":ti,ab,kw OR TSEs:ti,ab,kw OR "Bovine spongiform encephalopath*":ti,ab,kw OR "Mad cow disease":ti,ab,kw OR [mh "Encephalopathy, Bovine Spongiform"]	13
#89 #1 AND 88	0
#90 trichina*:ti,ab,kw OR trichinellosis:ti,ab,kw OR trichinosis:ti,ab,kw OR Trichinella*:ti,ab,kw OR "t. britovi":ti,ab,kw OR "t. murrelli":ti,ab,kw OR "t. nativa":ti,ab,kw OR "t. nelson":ti,ab,kw OR "t. spiralis":ti,ab,kw OR "t. papuae":ti,ab,kw OR "t. pseudospiralis":ti,ab,kw OR "t. zimbabwensis":ti,ab,kw OR [mh Trichinellosis] OR [mh Trichinella]	0
#91 #1 AND #90	0
#92 tuberculosis:ti,ab,kw OR MTB:ti,ab,kw OR LTBI:ti,ab,kw OR "koch's disease":ti,ab,kw OR "m. africanum":ti,ab,kw OR "m. canetti":ti,ab,kw OR "m. caprae":ti,ab,kw OR "m. orygis":ti,ab,kw OR [mh tuberculosis] OR [mh "Mycobacterium tuberculosis"]	4 102
#93 #1 AND #92	52
#94 typhoid:ti,ab,kw OR paratyphoid:ti,ab,kw OR "Salmonella Typhi":ti,ab,kw OR "Salmonella Paratyphi":ti,ab,kw OR "salmonella schottmuelleri":ti,ab,kw OR "salmonella hirschfeldii":ti,ab,kw OR "S. Typhi":ti,ab,kw OR "S. Paratyphi":ti,ab,kw OR "s. schottmuelleri":ti,ab,kw OR "s. hirschfeldii":ti,ab,kw OR "Enteric fever":ti,ab,kw OR [mh "Typhoid fever"] OR [mh "paratyphoid fever"]	326
#95 #1 AND #94	4
#96 tularemia:ti,ab,kw OR tularaemia:ti,ab,kw OR "Francisella tularensis":ti,ab,kw OR "pasteurella tularensis":ti,ab,kw OR "bacterium tularense":ti,ab,kw OR [mh tularemia] OR [mh "Francisella tularensis"]	7
#97 #1 AND #96	0
#98 ((prion OR prions):ti,ab,kw AND ((variant) AND ("Creutzfeldt-Jakob*" OR CJD OR [mh "Creutzfeldt-Jakob Syndrome"]):ti,ab,kw)) OR ((prion OR prions):ti,ab,kw AND (vCJD OR "variant cjd" OR v-cjd OR vcjd)):ti,ab,kw	3
#99 #1 AND #98	0
#100 "viral hemorrhagic fever*":ti,ab,kw OR "viral haemorrhagic fever*":ti,ab,kw OR arenavirus:ti,ab,kw OR filovirus:ti,ab,kw OR ebola*:ti,ab,kw OR EBOV:ti,ab,kw OR Lassa OR "Marburg virus":ti,ab,kw OR Marburgvirus:ti,ab,kw OR lassavirus:ti,ab,kw OR marv:ti,ab,kw OR hantavirus:ti,ab,kw OR "hanta virus":ti,ab,kw OR "junin virus":ti,ab,kw OR "Machupo mammarenavirus":ti,ab,kw OR nairovirus:ti,ab,kw OR "Crimean-congo hemorrhagic fever virus":ti,ab,kw OR CCHF*:ti,ab,kw OR "zaire ebolavirus":ti,ab,kw OR "omsk hemorrhagic fever virus":ti,ab,kw OR OHFV OR "kyasanur forest disease virus":ti,ab,kw OR "rift valley fever virus":ti,ab,kw OR RVF:ti,ab,kw OR [mh "Hemorrhagic Fevers, Viral"] OR [mh filoviridae] OR [mh "Hemorrhagic Fever, Ebola"] OR [mh ebolavirus] OR [mh "Marburg Virus Disease"] OR [mh "Lassa virus"] OR [mh "Lassa fever"]	697
#101 #1 AND #100	4
#102 (("west nile" NEAR/2(fever OR virus)):ti,ab,kw) OR "West Nile flavivirus":ti,ab,kw OR "egypt 101 virus":ti,ab,kw OR "kunjin virus":ti,ab,kw OR WNV:ti,ab,kw OR [mh "West Nile Virus"] OR [mh "West Nile Fever"]	43

Search strings	No. of hits
#103 #1 AND #102	0
#104 "Yellow fever":ti,ab,kw OR YFV:ti,ab,kw OR [mh "Yellow fever"] OR [mh "Yellow fever virus"]	73
#105 #1 AND #104	0
#106 Yersiniosis:ti,ab,kw OR "Yersinia enterocolitica":ti,ab,kw OR "Y. enterocolitica":ti,ab,kw OR "Y. pseudotuberculosis":ti,ab,kw OR [mh Yersinia] OR [mh "Yersinia infections"]	12
#107 #1 AND #106	0
#108 Zika:ti,ab,kw OR Zikas:ti,ab,kw OR Zikv:ti,ab,kw OR Zikav:ti,ab,kw OR "congenial zika":ti,ab,kw OR [mh "zika virus"] OR [mh "zika virus infection"]	86
#109 #1 AND #108	1
#110 #3 OR #5 OR #7 OR #9 OR #11 OR #13 OR #15 OR #17 OR #19 OR #21 OR #23 OR #25 OR #27 OR #29 OR #31 OR #33 OR #35 OR #37 OR #39 OR #41 OR #43 OR #45 OR #47 OR #49 OR #51 OR #53 OR #55 OR #57 OR #59 OR #61 OR #63 OR #65 OR #67 OR #69 OR #71 OR #73 OR #75 OR #77 OR #79 OR #81 OR #83 OR #85 OR #87 OR #91 OR #93 OR #95 OR #97 OR #99 OR #101 OR #103 OR #105 OR #107 OR #109	507
Apply Publication YEAR FILTER TO TRIALS (2014-2019) :	**399**

AMR pathogen search (Cochrane)

This search was run on 22 November 2019.

Search strings	No. of hits
#1 ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*"):ti,ab,kw OR ([mh "point-of-care systems"] OR [mh "point-of-care testing"])	1 096
#2 "Staphylococcus aureus":ti,ab,kw OR "micrococcus aureus":ti,ab,kw OR "microccus pyogenes":ti,ab,kw OR [mh Staphylococcus aureus] OR "Enterococcus faecium":ti,ab,kw OR "streptococcus faecium":ti,ab,kw OR [mh "Enterococcus faecium"] OR "Enterococcus faecalis":ti,ab,kw OR "streptococcus Group D":ti,ab,kw OR "streptococcus faecalis":ti,ab,kw OR "enterococcus fecalis":ti,ab,kw OR "enterococcus l form":ti,ab,kw OR "enterococcus proteiformis":ti,ab,kw OR "micrococcus ovalis":ti,ab,kw OR "micrococcus zymogenes":ti,ab,kw OR paraghurt:ti,ab,kw OR "streptococcus fecalis":ti,ab,kw OR "streptococcus glycerinaceus":ti,ab,kw OR "streptococcus liquefaciens":ti,ab,kw OR "streptococcus ovalis":ti,ab,kw OR "th 69":ti,ab,kw OR [mh "Enterococcus faecalis"] OR "Escherichia coli":ti,ab,kw OR "e coli":ti,ab,kw OR "e. coli":ti,ab,kw OR "Alkalescens-Dispar Group":ti,ab,kw OR EAggEC:ti,ab,kw OR "Bacillus coli":ti,ab,kw OR "Bacillus escherichii":ti,ab,kw OR "Bacterium coli":ti,ab,kw OR "bacterium E3":ti,ab,kw OR "coli bacillus":ti,ab,kw OR "coli bacterium":ti,ab,kw OR colibacillus:ti,ab,kw OR "colon bacillus":ti,ab,kw OR "Enterococcus coli":ti,ab,kw OR "Escherichia alkalescens dispart":ti,ab,kw OR [mh "Escherichia coli"] OR "Klebsiella pneumoniae":ti,ab,kw OR "Klebsiella rhinoscleromatis":ti,ab,kw OR "b. Friedlander":ti,ab,kw OR "bacillus pneumoniae":ti,ab,kw OR "Bacterium pneumoniae crouposae":ti,ab,kw OR "bacterium pneumonie crouposae":ti,ab,kw OR "friedlaender bacillus":ti,ab,kw OR "friedlander bacillus":ti,ab,kw OR "hyalococcus pneumoniae":ti,ab,kw OR "k. Pneumoniae":ti,ab,kw OR "klebsiella crouposa":ti,ab,kw OR "Klebsiella Pn":ti,ab,kw OR "klebsiella pneumonia":ti,ab,kw OR "Klebsiella pneumoniae aerogenes":ti,ab,kw OR pneumobacillus:ti,ab,kw OR [mh "Klebsiella pneumoniae"] OR "Acinetobacter baumannii":ti,ab,kw OR [mh "Acinetobacter baumannii"] OR [mh "Acinetobacter Infections"] OR "Pseudomonas aeruginosa":ti,ab,kw OR "Pseudomonas pyocyanea":ti,ab,kw OR "Bacillus aeruginosus":ti,ab,kw OR "Bacillus pyocyaneus":ti,ab,kw OR "Bacterium aeruginosum":ti,ab,kw OR "Bacterium pyocyaneum":ti,ab,kw OR "blue pus organism":ti,ab,kw OR "Micrococcus pyocyaneus":ti,ab,kw OR "P. Aeruginosa":ti,ab,kw OR "Pseudomonas polycolor":ti,ab,kw OR "Pseudomonas pyoceaneus":ti,ab,kw OR "Pseudomonas pyocyaneus":ti,ab,kw OR [mh "Pseudomonas aeruginosa"] OR "staphylococcus argenteus":ti,ab,kw	4 292

Search strings	No. of hits
#3 ("antimicrobial resistance" OR "antimicrobial testing" OR "Antimicrobial susceptibility" OR "Antibiotic susceptibility*" OR "antibiotic resistance" OR "antibiotic testing" OR "multi-drug resistant" OR "'multidrug-resistant" OR carbapenem-resistant OR carbapenemase OR "methicillin resistant" OR vanomycin-resistant OR "extended-spectrum beta-lactamase" OR ESBL OR AMR OR resistan* OR MDR OR XDR OR PDR OR "pandrug resistance" OR "pan-drug resistance"):ti,ab,kw OR [mh "Drug Resistance, Microbial"] OR [mh "Disease Resistance"] OR [mh "Drug Resistance, Bacterial"]	43 488
#4 MeSH descriptor: [Drug Resistance] this term only	354
#5 #3 OR #4	43 488
#6 #1 AND #2 AND #5	8
Apply Publication YEAR FILTER TO TRIALS (2014-2019)	7

Nosocomial pathogen search (Cochrane)

This search was run on the 22 November 2019.

Search strings	No. of hits
#1 ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*"):ti,ab,kw OR ([mh "point-of-care systems"] OR [mh "point-of-care testing"])	1 096
#2 ("Streptococcus pneumoniae" OR Pneumococc* OR "Diplococcus pneumoniae" OR "Micrococcus pneumoniae"):ti,ab,kw OR [mh "Streptococcus pneumoniae"] OR [mh "Pneumococcal Infections"] OR ("Staphylococcus aureus" OR "micrococcus aureus" OR "micrococcus pyogenes"):ti,ab,kw OR [mh "Staphylococcus aureus"] OR ("Enterococcus faecium" OR "streptococcus faecium"):ti,ab,kw OR [mh "Enterococcus faecium"] OR "Enterococcus faecalis":ti,ab,kw OR "streptococcus Group D":ti,ab,kw OR "streptococcus faecalis":ti,ab,kw OR "enterococcus fecalis":ti,ab,kw OR "enterococcus I form":ti,ab,kw OR "enterococcus proteiformis":ti,ab,kw OR "micrococcus ovalis":ti,ab,kw OR "micrococcus zymogenes":ti,ab,kw OR paraghurt:ti,ab,kw OR "streptococcus fecalis":ti,ab,kw OR "streptococcus glycerinaceus":ti,ab,kw OR "streptococcus liquefaciens":ti,ab,kw OR "streptococcus ovalis":ti,ab,kw OR "th 69":ti,ab,kw OR [mh "Enterococcus faecalis"] OR "Escherichia coli":ti,ab,kw OR "e coli":ti,ab,kw OR "e. coli":ti,ab,kw OR "Alkalescens-Dispar Group":ti,ab,kw OR EAggEC:ti,ab,kw OR "Bacillus coli":ti,ab,kw OR "Bacillus escherichii":ti,ab,kw OR "Bacterium coli":ti,ab,kw OR "bacterium E3":ti,ab,kw OR "coli bacillus":ti,ab,kw OR "coli bacterium":ti,ab,kw OR colibacillus:ti,ab,kw OR "colon bacillus":ti,ab,kw OR "Enterococcus coli":ti,ab,kw OR "Escherichia alkalescens dispart":ti,ab,kw OR [mh "Escherichia coli"] OR "Klebsiella pneumoniae":ti,ab,kw OR "Klebsiella rhinoscleromatis":ti,ab,kw OR "b. Friedlander":ti,ab,kw OR "bacillus pneumoniae":ti,ab,kw OR "Bacterium pneumoniae crouposae":ti,ab,kw OR "bacterium pneumonie crouposae":ti,ab,kw OR "friedlaender bacillus":ti,ab,kw OR "friedlander bacillus":ti,ab,kw OR "hyalococcus pneumoniae":ti,ab,kw OR "k. Pneumoniae":ti,ab,kw OR "klebsiella crouposa":ti,ab,kw OR "Klebsiella Pn":ti,ab,kw OR "klebsiella pneumonia":ti,ab,kw OR "Klebsiella pneumoniae aerogenes":ti,ab,kw OR pneumobacillus:ti,ab,kw OR [mh "Klebsiella pneumoniae"] OR "Acinetobacter baumannii":ti,ab,kw OR [mh "Acinetobacter baumannii"] OR [mh "Acinetobacter Infections"] OR "Pseudomonas aeruginosa":ti,ab,kw OR "Pseudomonas pyocyanea":ti,ab,kw OR "Bacillus aeruginosus":ti,ab,kw OR "Bacillus pyocyaneus":ti,ab,kw OR "Bacterium aeruginosum":ti,ab,kw OR "Bacterium pyocyaneum":ti,ab,kw OR "blue pus organism":ti,ab,kw OR "Micrococcus pyocyaneus":ti,ab,kw OR "P. Aeruginosa":ti,ab,kw OR "Pseudomonas polycolor":ti,ab,kw OR "Pseudomonas pyoceaneus":ti,ab,kw OR "Pseudomonas pyocyaneus":ti,ab,kw OR [mh "Pseudomonas aeruginosa"] OR ("Clostridium difficile" OR "Clostridioides difficile" or "c diff" OR "c. diff" OR "c difficile" OR "c. difficile" OR "Pseudomembranous colitis"):ti,ab,kw OR [mh "Clostridium difficile"] OR [mh "Clostridium sordellii"] OR [mh "Clostridium perfringens"] OR (Candida OR "C. glabrata" OR "candida glabrata" OR "candida auris" OR Candidiasis OR Candidosis OR candidas OR monilia OR monilias OR "torulopsis utilis"):ti,ab,kw OR [mh Candida] OR [mh Candidiasis] OR "staphylococcus argenteus":ti,ab,kw	7 414
#3 ("Nosocomial infection*" OR "Healthcare associated infection*" OR "healthcare acquired infection*" OR "Health care associated infection*" OR "health care acquired infection*" OR HCAI OR "Hospital acquired infection*" OR HAI OR "cross infection*" OR "hospital infection*"):ti,ab,kw OR [mh "Cross Infection"]	1 845
#4 #1 AND #2 AND #3	3
Apply Publication YEAR FILTER TO TRIALS (2014-2019)	3

General infectious disease search (Cochrane)

This search was run on the 22 November 2019.

Search strings	No. of hits
#1 ("Point of care test*" OR POCT OR "rapid diagnostic test*" OR "rapid test*" OR "bedside test*" OR "near patient test*" OR "handheld device*" OR "handheld instrument*" OR "portable test*" OR "portable device*" OR "portable instrument*" OR "bedside computing" OR "Infectious disease testing" OR "infectious disease screening*" OR "point of care technolog*" OR "bedside technolog*" OR "point of care system*"):ti,ab,kw OR ([mh "point-of-care systems"] OR [mh "point-of-care testing"])	1 096
#2 ("antimicrobial resistance" OR "antimicrobial testing" OR "Antimicrobial susceptibility" OR "Antibiotic susceptibility*" OR "antibiotic resistance" OR "antibiotic testing" OR "multi-drug resistant" OR "multidrug-resistant" OR carbapenem-resistant OR carbapenemase OR "methicillin resistant" OR vanomycin-resistant OR "extended-spectrum beta-lactamase" OR ESBL OR AMR OR resistan* OR MDR OR XDR OR PDR OR "pandrug resistance" OR "pan-drug resistance"):ti,ab,kw OR [mh "Drug Resistance, Microbial"] OR [mh "Disease Resistance"] OR [mh "Drug Resistance, Bacterial"] OR ("Nosocomial infection*" OR "Healthcare associated infection*" OR "healthcare acquired infection*" OR "Health care associated infection*" OR "health care acquired infection*" OR HCAI OR "Hospital acquired infection*" OR HAI OR "cross infection*" OR "hospital infection*"):ti,ab,kw OR [mh "Cross Infection"] OR ("Infectious disease*" OR "Communicable disease*" OR infection*):ti,ab,kw OR [mh "Communicable Diseases"] OR ("Sexually transmitted infection*" OR "Sexually transmitted disease*" OR STI OR STD OR "Venereal disease*"):ti,ab,kw OR [mh "Sexually Transmitted Diseases"] OR ("Respiratory infection*" OR "Respiratory tract infection*" OR "Pleural Empyema*" OR "Thoracic Empyemas" OR Pyothorax OR "Tuberculous Empyema"):ti,ab,kw OR [mh "Respiratory Tract Infections"] OR "Gastrointestinal infection*":ti,ab,kw OR ("vaccine-preventable infection*" OR "vaccine-preventable disease*" OR VPD OR VPI):ti,ab,kw OR [mh "Vaccines"] OR ("Emerging infection*" OR "Emerging infectious disease*" OR "Emerging communicable disease*" OR "re-emerging communicable disease*" OR "reemerging communicable disease*" OR "reemerging infectious disease*" OR "re-emerging infectious disease*" OR "re-emerging infection*" OR "reemerging infection*"):ti,ab,kw OR [mh "Communicable Diseases, Emerging"] OR (Sepsis OR Septicemia OR Septicaemia OR "Septic shock" OR "Bloodstream infection*" OR "Blood infection*" OR Pyemia OR Pyemias OR Pyohemia OR Pyohemias OR Pyaemia OR Pyaemias OR "Blood Poisoning"):ti,ab,kw OR [mh Sepsis] OR ("Viral meningitis" OR "Bacterial meningitis" OR "Fungal meningitis" OR "Parasitic meningitis"):ti,ab,kw OR [mh "Meningitis, Viral"] OR [mh "Meningitis, Bacterial"] OR [mh "Meningitis, Fungal"] OR ("urinary tract infection*" OR UTI OR bacteriuria OR pyuria):ti,ab,kw OR [mh "urinary tract infections"] OR ("Bacterial pneumonia*" OR "viral pneumonia*" OR "fungal pneumonia*" OR "Infectious pneumonia*"):ti,ab,kw OR [mh "Pneumonia, Bacterial"] OR [mh "Pneumonia, Viral"] OR (diarrhoea OR diarrhea OR "diarrheal disease*" OR "diarrhoeal disease*"):ti,ab,kw OR [mh "Diarrhea"]	127 442
#3 MeSH descriptor: [Drug Resistance] this term only	354
#4 #2 OR #3	127 442
#5 #1 AND #4	469
Apply Publication YEAR FILTER TO TRIALS (2014-2019)	383

Cochrane search summary

Search summary	Number of initial results (after de-duplication)	Number of unique results (after de-duplication)
56 diseases	399	73
AMR pathogens	7	1
Nosocomial pathogens	3	0
General infectious diseases	383	44
Total	**792**	**118**

Summary of search results

Table 14. Summary of search results across the four databases

	PubMed	Embase	Scopus	Cochrane	Total
Number of search hits before de-duplication of articles identified through more than one database					
56 Diseases	3 852	6 150	5 947	399	
AMR pathogens	121	36	133	7	
Nosocomial pathogens	33	18	60	3	
General infectious diseases	4 352	6 362	7 072	383	
Total number of initial citations per database	**8 358**	**12 566**	**13 212**	**792**	**34 928**
Number of search hits after de-duplication of articles identified through more than one database					
56 Diseases	3852	2 710	1 423	73	
AMR pathogens	108	12	22	1	
Nosocomial pathogens	13	4	11	0	
General infectious diseases	1 642	1 261	822	44	
Total number of unique citations per database	**5 345**	**3 987**	**2 278**	**118**	**11 728**

Total number of unique citations across the four databases: 11 728

Annex C. Extraction template drop-down menus

In this annex, we present the drop-down menus that were available to researchers when using the extraction template to record data extracted from the included articles.

Study/document type		Sensitivity and specificity ranges	Intended/actual use categories	If POCT is used only for study recruitment[i]
Review	Collected works	99% and above	Diagnosis	Yes
Systematic review	Comparative study	95%-98%	Antibiotic resistance	No
Meta-analysis	Congress	90%-94%	Other	
Clinical trial	Dataset	85%-89%	Diagnosis and antibiotic resistance	
Case report	Equivalence trial	80%-84%	Diagnosis and other	
Government document	Evaluation studies	75%-79%	Antibiotic resistance and other	
Guideline	Historical article	70%-74%	Diagnosis, antibiotic resistance, and other	
Legislation	Interview	65%-69%	N/A	
Observational study	Legal case	60%-64%		
Conference paper	Multi-centre study	59% or less		
Data papers	Research support	N/A		
Short surveys	Technical report			
	Twin study			
	Randomised control trial			

[i] This column was not analysed as the majority of studies did not use POCT for study recruitment only and the analysis was not deemed to be relevant.

Annex D. Data tables

Table 15. Data table for Figure 3 (publication date)

Year	Number of articles
2014	45
2015	65
2016	43
2017	68
2018	65
2019	64

Table 16. Data table for Figure 4 (study type)[i]

Study type	Number of studies
Review	115
Evaluation studies	102
Observational study	37
Comparative study	36
Systematic review	22
Meta-analysis	15
Randomised control trial	7
Guideline	5
Multi-centre study	3
Short surveys	3
Case report	2
Clinical trial	2
Conference paper	1
Technical report	1

Table 17. Data table for Figure 6 (study type by size)[ii]

Study type	Mean study size	Median study size	Minimum study size	Maximum study size
Clinical trial	433.5	433.5	213	654
Multi-centre study	457.6667	395	23	955
Short surveys	1733	723	595	3 881
Randomised control trial	11059.57	720	50	74 161
Meta-analysis	29.64286	19.5	5	179
Systematic review	46.61905	32	1	132
Comparative study	413.8824	222.5	30	3 845
Observational study	1136.294	339.5	11	8 923
Evaluation studies	967.9208	317	2	16 468
Review	71.4	41	2	200

[i] One study covered more than one type of study, conducting both a systematic review and a randomised control trial: Nicholson, K. G., K. R. Abrams, S. Batham, M. J. Medina, F. C. Warren, M. Barer, A. Bermingham, T. W. Clark, N. Latimer, M. Fraser, N. Perera, K. Rajakumar & M. Zambon. 2014. 'Randomised controlled trial and health economic evaluation of the impact of diagnostic testing for influenza, respiratory syncytial virus and Streptococcus pneumoniae infection on the management of acute admissions in the elderly and high-risk 18- to 64-year-olds.' Health Technol Assess 18(36): 1-274, vii-viii. doi:10.3310/hta18360.

[ii] This does not include conference papers, guidelines, technical reports or case reports as the sample size is absent or uninformative.

Table 18. Data table for Figure 7 (study setting by study type)

	Emergency secondary care	Non-emergency secondary care	Primary care	Clinic	Community	Laboratory	Other
Case report	0	1	0	0	0	0	0
Clinical trial	1	0	0	0	0	0	0
Comparative study	4	10	2	1	1	16	0
Conference paper	0	0	1	0	0	0	0
Evaluation studies	13	22	3	17	5	29	6
Guideline	0	0	0	1	0	0	0
Meta-analysis	0	0	1	0	0	1	1
Multi-centre study	0	0	1	2	0	0	0
Observational study	2	9	3	7	6	4	6
Randomised control trial	2	3	1	1	0	0	0
Review	0	1	1	2	4	0	1
Short surveys	0	0	0	1	1	0	0
Systematic review	2	1	1	1	1	0	1
Technical report	0	0	0	0	0	1	0

Table 19. Data table for Figure 5 (study type by study population)

	None	Articles	Professionals	Patients or general population	Samples
Case report	0	0	0	2	0
Clinical trial	0	0	0	2	0
Comparative study	0	0	0	26	10
Conference paper	0	0	1	0	0
Evaluation studies	0	0	3	75	24
Guideline	5	0	0	0	0
Meta-analysis	0	15	0	0	0
Multi-centre study	0	0	1	2	0
Observational study	0	0	4	33	0
Randomised control trial	0	0	1	6	0
Review	0	115	0	0	0
Short surveys	0	0	1	2	0
Systematic review	0	22	0	0	0
Technical report	0	0	0	0	1

Table 20. Data table for Figure 8 (countries covered by the reviewed literature)

Country	Number of studies
UK	58
France	55
Spain	31
Italy	23
Germany	18
Netherlands	16
Europe	14
Belgium	13
Portugal	8
Sweden	8
Finland	6
Greece	5
Poland	5
Denmark	3
International	3
Ireland	3
Austria	2
Bulgaria	1
Czech Republic	1
Estonia	1

Country	Number of studies
Latvia	1
Lithuania	1
Romania	1
Slovenia	1

Table 21. Data table for Figure 9 (diseases covered by the reviewed literature)

Disease	Number of studies	Disease	Number of studies
HIV	108	*Escherichia coli*	3
Influenza (total)	89	Hepatitis A	3
Tuberculosis	37	Lyme borreliosis	3
Hepatitis C	30	MRSA	3
Malaria	23	*Staphylococcus aureus*	3
Syphilis	21	Zika virus disease	3
Chlamydia	19	Bacterial meningitis	2
Gonorrhoea	18	Chikungunya virus disease	2
Hepatitis B	16	Giardiasis	2
Dengue fever	11	Menningococcal disease	2
Clostridium difficile	9	Tetanus	2
Cryptococcal meningitis	8	Toxoplasmosis	2
Pneumococcal disease	8	Anthrax	1
Legionnaire's disease	6	Campylobacteriosis	1
Ebola virus disease	4	Candida	1
Leptospirosis	4	Paratyphoid fever	1
Pertussis	4	Q fever	1
AMR	3	Salmonellosis	1
Cholera	3	Tularemia	1
Cryptosporidiosis	3	*Yersina pestis*	1
Echinococcosis	3		

Table 22. Data table for Figure 11 (diseases covered by country of study)

	Austria	Belgium	Bulgaria	Czech Republic	Denmark	Estonia	Europe	Finland	France	Germany	Greece	International	Ireland	Italy	Latvia	Lithuania	Netherlands	Poland	Portugal	Romania	Slovenia	Spain	Sweden	UK		Total
HIV	0	7	0	0	1	0	7	0	21	1	1	0	1	4	0	0	2	0	5	0	0	13	2	20		**85**
Influenza unspecified	0	1	0	0	0	0	0	0	8	3	3	0	2	2	0	0	2	2	0	0	0	4	1	9		**37**
Influenza A and B	2	0	0	1	0	0	0	2	6	2	1	0	0	1	0	0	1	0	0	0	0	5	1	5		**27**
Hepatitis C	0	0	0	0	0	0	2	0	5	4	0	0	0	5	0	0	1	0	1	1	0	4	1	1		**25**
Tuberculosis	0	1	0	0	0	0	2	0	1	2	0	0	0	2	1	1	0	0	0	0	0	2	0	4		**16**
Chlamydia	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	7		**13**
Influenza A only	0	0	0	1	0	0	0	0	3	1	0	0	0	0	0	0	3	0	0	0	0	2	1	1		**12**
Malaria	0	1	0	0	1	0	1	0	2	1	2	0	0	0	0	0	1	1	0	0	0	2	0	0		**12**
Gonorrhoea	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7		**11**
Syphilis	0	1	0	0	1	0	1	0	1	1	0	0	0	1	0	0	0	0	2	0	0	2	0	1		**11**
Influenza B only	0	0	0	1	0	0	0	0	2	1	0	0	0	0	0	0	2	0	0	0	0	2	1	1		**10**
Hepatitis B	0	1	0	0	0	0	1	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1		**9**
Clostridium difficile	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	1	0	0	0	0	0	0	3		**8**
Leptospirosis	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	1		**7**
Dengue fever	0	1	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**6**
Pneumococcal disease	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1		**6**
Legionnaire's disease	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		**4**
Echinococcosis	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0		**3**

	Austria	Belgium	Bulgaria	Czech Republic	Denmark	Estonia	Europe	Finland	France	Germany	Greece	International	Ireland	Italy	Latvia	Lithuania	Netherlands	Poland	Portugal	Romania	Slovenia	Spain	Sweden	UK		Total
Pertussis	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		**3**
AMR	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**2**
Anthrax	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0		**2**
Chikungunya virus disease	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**2**
Cryptosporidiosis	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**2**
Escherichia coli	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1		**2**
Giardiasis	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**2**
Lyme borreliosis	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**2**
Menningococcal disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		**2**
Tetanus	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		**2**
Tularemia	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0		**2**
Yersina pestis	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0		**2**
Zika virus disease	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		**2**
Campylobacteriosis	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**1**
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		**1**
Cryptococcal meningitis	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**1**
Hepatitis A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		**1**
MRSA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		**1**
Paratyphoid fever	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**1**
Q fever	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		**1**
Salmonellosis	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**1**
Toxoplasmosis	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		**1**
Total	**2**	**15**	**1**	**3**	**4**	**1**	**20**	**6**	**68**	**22**	**13**	**0**	**3**	**28**	**1**	**1**	**18**	**7**	**8**	**1**	**1**	**37**	**10**	**68**		

Table 23. Data table for Figure 12 (POCT device name)

Device name	Number of studies mentioned in	Device name	Number of studies mentioned in
General	126	**PointCare NOW**	3
Other	72	**Quick Profile**	3
Xpert	64	**Quidel**	3
Alere Determine	34	**RIDA**	3
Alere SD bioline	24	**Syphicheck**	3
Oraquick	23	**Truenat**	3
Alere i Influenza A & B	19	**VIRapid HYDATIDOSI**	3
Alere BinaxNOW	18	**ACON**	2
Cobas Liat	15	**Actim**	2
INSTI	13	**Alere HIV combo**	2
QuickVue	13	**aQcare**	2
Sofia	13	**Architect**	2
Alere PIMA	12	**Biosynex CryptoPS**	2
Alere clearview	8	**Coris**	2
BD Veritor	8	**Espline**	2
FilmArray	8	**FACSPresto**	2
VIKIA	8	**GC**	2
Chembio DDP	7	**Geenius**	2
SAMBA	7	**HandiLab-C**	2
Alere Q	6	**illumigene Malaria**	2
Visitect	6	**Influenza panel test**	2

Device name	Number of studies mentioned in	Device name	Number of studies mentioned in
Alere Panbio Dengue Duo	5	**Legionella V Test**	2
BD Directigen	5	**Lepto**	2
mariPOC	5	**mChip**	2
Biostar	4	**Multisure**	2
Directigen EZ Flu	4	**OptiMAL**	2
OnSite	4	**Palutop**	2
TOYO	4	**Parasight**	2
Advanced Quality	3	**Quick Navi-Flu**	2
BioNexia	3	**Quickcheck**	2
BioRapid	3	**ReEBOV**	2
CareStart malaria	3	**Simplexa Flu**	2
Enigma MiniLab	3	**Syphilis Health Check**	2
Hexagon	3	**Uni-gold**	2
Immunocard	3	**ZIKV**	2
Immunoflow	3		
Influ	3		
Labmen	3		
Multiplo	3		

Table 24. Data table for Figure 15 (time to produce POCT device result by disease)[i]

	Less than 10 minutes	10 minutes or more but less than half an hour	Half an hour or more but less than 1 hour	60-90 minutes
AMR	0	0	0	1
Campylobacteriosis	0	0	0	1
Ebola virus disease	0	0	1	0
Giardiasis	0	0	0	1
MRSA	1	0	0	0
Paratyphoid fever	0	0	1	0
Staphylococcus aureus	0	0	0	1
Tetanus	0	1	0	0
Anthrax	0	1	1	0
Bacterial meningitis	0	0	1	1
Candida	1	0	0	1
Cryptosporidiosis	0	1	0	1
Escherichia coli	0	1	0	1
Hepatitis A	0	1	1	0
Leptospirosis	0	2	0	0
Lyme borreliosis	0	2	0	0
Menningococcal disease	1	0	0	1
Toxoplasmosis	0	0	1	1
Tularemia	0	1	1	0
Yersina pestis	0	1	1	0
Zika virus disease	1	1	0	0
Cholera	0	1	1	1
Legionnaire's disease	0	3	0	0
Pertussis	0	0	1	2
Pneumococcal disease	0	4	0	0
Hepatitis B	0	2	4	0
Malaria	0	3	1	2
Clostridium difficile	1	1	2	3
Cryptococcal meningitis	0	7	0	0
Dengue fever	2	3	0	2
Syphilis	1	5	1	0

[i] The turnaround time was not provided for 379 POCT devices.

	Less than 10 minutes	10 minutes or more but less than half an hour	Half an hour or more but less than 1 hour	60-90 minutes
Gonorrhoea	0	2	1	7
Influenza B only	1	6	1	3
Influenza A only	1	6	2	3
Tuberculosis	0	4	3	9
Chlamydia	1	3	4	9
Hepatitis C	1	5	9	2
Influenza unspecified	0	10	1	6
Influenza A and B	5	12	1	2
HIV	15	20	12	9

Table 25. Data table for Figure 16 (intended use of POCT device)[i]

Intended use	Number
Diagnosis	252
Other	15
Diagnosis and other	8
Diagnosis and antibiotic resistance	6
Antibiotic resistance	4

[i] This does not include the tests where intended use was not specified (n=91).

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