



EVALUATION REPORT OF THE
TRAVEL MEDICINE
INFORMATION SERVICE MODEL
ON ENDEMIC AND CURRENTLY EPIDEMIC DISEASES
IN THE COUNTRIES OF ORIGIN AND TRANSIT

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The CARE model of Travel Medicine Information Service was developed taking into account the IOM recognized Mediterranean Migration Routes and implemented using Digital Disease Detection Technologies.

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Executive Summary

Migrants arriving to the EU are generally in good health. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes. Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage.

Health-care workers (HCW) assessing the health of newly arrived migrants in point of entry Southern European Union countries, need to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients. However due to high workloads and fragmentation of current information sources, it might be hard for those professionals to access current reference sources and receive regular situational updates.

For this reason, the CARE Project WP5 ISS-Italy team produced a model for Travel Medicine Information Service for frontline HCWs and piloted it by producing 13 weekly dispatches between October and December 2016.

The 13 dispatches provided a total of 57 signals with a mean intrinsic timeliness of 3,2 days, in line with weekly reporting. Most signals concerned communicable disease outbreaks occurring on Mediterranean migratory routes caused by pathogens with much shorter incubation periods than the mean length of the migratory journey. This finding confirms that most fears of migrants arriving with severe acute and highly communicable diseases are unmotivated and due to a misunderstanding of communicable disease epidemiology on migratory routes.

At the same time, the dispatches offered situation-awareness that is very important for the health assessment of individuals. General information of living conditions and major outbreaks in countries along the migratory routes can support healthcare workers in reconstructing their patient's migratory journey, prior diseases (anamnesis) and *en route* living conditions faced (e.g. some transit countries due to conflict/insecurity and/or ongoing outbreaks face a severe disruption of their health systems).

Most users were very/extremely satisfied with the CARE dispatch service in terms providing updated information, targeted to their information needs. The information received was rated as very/extremely relevant by 54% of users and of very/extremely high quality by 69%. Most users also assessed that the dispatch service was very/extremely useful for their work and in supporting them in conducting more targeted health assessments.

According to 86% of respondents, the "CARE Travel Medicine dispatch service" met its objective of providing information to frontline healthcare workers, which can be used in guiding healthcare provision to migrants / refugees.

Evaluation of the CARE Travel Medicine Information Service Model

1. Introduction

CARE -Common Approach for REfugees and other migrants' health project (CARE) is a European project that has received funding from the European Union's Health Programme (2014-2020), aiming to promote access to appropriate health care for migrants and refugees.

More specifically, the CARE project is developing an integrated model for migrant and refugee healthcare provision, including targeted tools, protocols and processes, and monitoring of communicable disease spread.

Among other activities, the CARE project developed and piloted a model of Travel Medicine Information Service (hereby Information Service Model) targeting frontline health care workers in migration holding centres.

The main output of this activity were 13 weekly dispatches that were sent to frontline Health Care Workers (HCW) identified by each country participating to the CARE Project (Slovenia, Croatia, Malta, Italy and Greece) and Portugal between October and December 2016.

1.1. Rationale

Migrants arriving to the EU are generally in good health. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes. Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage.

HCWs assessing the health of newly arrived migrants in point of entry Southern European Union countries, need to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients. However, due to high workloads and fragmentation of current information sources, it might be hard for those professionals to access information and receive regular situational updates.

For this reason, CARE project partners decided to experiment an innovative Information Service Model for frontline HCWs using Digital Disease Detection Technologies.

The CARE project Information Service Model was a Travel Medicine Information Service for point of entry Southern European Union countries. It aimed to provide updated information on epidemic prone diseases occurring in countries part of Mediterranean migration routes.

This Service produced weekly dispatches compiled using Digital Disease Detection technologies from a number of different internet sources (including institutional official websites as well as non-official sources, e.g. online news. articles and blogs). For each information in the dispatch, the official/non official nature of the source was stated. This dispatch could therefore contain non-verified information and was only to be used to increase HCWs' situation awareness in order to support them in performing clinical health evaluations.

An appendix on diseases and countries of interest, identified through an online survey targeting frontline HCWs assessing the health of newly arrived migrants in the countries participating in the CARE project, complemented the dispatches.

ISS-Italy piloted this innovative Information Service aiming to explore its implementation feasibility and usefulness for target users.

1.2. Structure of this report

This report describes the **CARE Travel Medicine Information Service Model**, including the evaluation that was conducted at the end of the CARE project among those who piloted the service.

Following a **general overview of the activities** performed by the CARE project in relation to the Information Service Model, the evaluation methodology used is described. Following this, the report presents the results of a survey conducted among the CARE Travel Medicine Dispatch recipients.

2. Overview of the activities performed by the CARE project to set up the Travel Medicine Information Service Model

The CARE project aimed to provide frontline HCWs in migration holding centres with information that can be helpful in guiding the migrant individual health assessment, screening and vaccination offer as appropriate.

The main outputs of this activity were 13 weekly dispatches that were sent to frontline HCWs in Italy, Greece, Malta, Slovenia, Croatia and Portugal between October and December 2016.

In order to develop these outputs and evaluate them, the ISS-Italy team performed the activities described in this section.

2.1. Identification of target audience

In June 2016, all the national institutions part of the CARE WP5 met in Rome, at the Istituto Superiore di Sanità (ISS), to discuss the activities that would be performed by this Work package.

In this occasion, the objectives and methods of the Travel Medicine Information Service Model were presented. Participants provided advice on the content of the information needs survey that would be performed targeting frontline HCWs assessing the health of newly arrived migrants in the countries participating in the CARE project and on the layout of the dispatch itself.

At the time of this meeting, only Italy and Greece were directly receiving migrants. All other partners were receiving only relocated migrants. This change in migration routes was not foreseeable at the time the project was written. Participants agreed **that HCW in migration hotspots and in local health units as well as point of entry medical officers would be the best target users for the dispatch.**

WP5 meeting participants agreed to be the identified national focal points for this activity. Each would receive the needs assessment questionnaire and the dispatch and would forward them to the target audience they identified in their country.

During or at the end of the pilot, the same participants provided ISS-Italy with the contact details of people they involved as target audience. These people were invited to evaluate the activity.

2.2. Collection of data on the information needs

In order to design an information service well suited to the information needs of its target audience, ISS-Italy designed an online information needs questionnaire (Appendix 1).

The survey was launched on the 29th July 2016. Through the CARE national focal points for WP5, the survey was forwarded to the identified target audience in each participating country.

Seventy-eight people answered the survey. Of those, 55 (71%) were from Croatia, 12 (15%) from Greece, 6 (8%) from Italy. One respondent was from Malta, one from Slovenia and three from Serbia (working in Croatia).

In line with the identified target audience, 56 respondents (72%) were medical doctors and 17 (22%) nurses. Seventy (90%) reported being able to read and interact in English. Most (52, 67%) reported being actively involved in performing clinical health assessments for newly arrived migrants. Among those, 27 (52%) consulted daily and 15 (29%) once or twice a week.

Most (58, 74%) reported less than one year experience in migrant health. The survey also reflected a high turnover target population: 49% of the surveyed people reported they would not work with migrants during the dispatch release period.

This created a possible misalignment between the population for which information needs were assessed and the population that would be receiving the dispatch.

Syria, Afghanistan, Pakistan and Nigeria were the most frequently reported countries of origin of migrants. Those countries were selected for the development of the first part of the static section of the dispatch (see section 2.3.1).

In terms of the diseases of concern, respondents indicated a wide spectrum of interests. When focusing on the information needs of 30% or more of respondents, we identified the following priority diseases/conditions: Tuberculosis, Scabies, Malaria, Meningitis, Gastroenteritis, Hepatitis C, Poliomyelitis and Influenza.

2.3. Development of the CARE Travel Medicine Information dispatches

The Care Travel Medicine Information Model produced dispatches composed of two sections:

- **a static section** (not updated each week) that compiled available public official information on infectious disease epidemiology and vaccination coverage in the most common countries of origin of migrants. This section was developed on the basis of the results of the described information needs assessment survey targeting the target audience (see section 2.2).
- **a dynamic section** (updated weekly) on ongoing outbreaks in countries along the recognized Mediterranean migration routes to the EU [1]. This section was compiled and updated using event based surveillance (as defined by the World Health Organization –WHO [2]) based on Digital Disease Detection Technology [3].

2.3.1. DEVELOPMENT OF THE DISPATCH STATIC SECTION

The static section was **an appendix to the dispatch** with the aim to complement the CARE Information Service Model.

It focused on the priority diseases and more frequent countries of origin of migrants as identified by the target audience (see section 2.2) in Italy, Greece, Malta, Croatia and Slovenia. All sources cited in the static section were official sources (Appendix 2).

The static section was divided in two parts. The first part focussed on immunization coverage in countries of origin of migrants. It provided links to the WHO Global dataset on immunization coverage and to the WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries for Syria, Afghanistan, Pakistan and Nigeria.

The second part focussed on endemic/epidemic diseases of interest to the target audience. This part provided links to global updates on the epidemiology and clinical management of communicable diseases by country for travel medicine purposes published by the WHO and the US Centres for Disease Control and Prevention (CDC). It also provided links to relevant documents produced by the European Centre for Disease Control and Prevention (ECDC), the European Commission and the International Organization of Migration (IOM). Finally, for each priority disease/condition identified through the online survey (chapter 2.2), links to available updates by disease/ disease group and to disease distribution maps were provided.

2.3.2. DEVELOPMENT OF THE DISPATCH DYNAMIC SECTION

“Digital Disease Detection” is the term used to describe the “*use of media sources – like Facebook, Twitter, web searches, news reports, chat rooms, and blog posts – and other digital technologies to detect early indications of a disease outbreak, and track the spread of diseases*”[4]. The notion that rumours concerning outbreaks can be extremely useful for early detection

date back to the 1990s [5]. However it was thanks to subsequent technological advances that increased the ability to scan and detect public health threats [6] that this approach evolved. Today a growing number of internet-based applications and rapid communication tools exist.

The concept of epidemic intelligence (EI) [7] was defined in the early 2000s to include all activities related to the early identification of potential health hazards and their verification, assessment, and investigation in order to provide information to guide appropriate actions in public health [8-9]. What was innovative about EI was the integration of the monitoring of rumours to existing surveillance activities. This was possible by formalizing the methodology of event-based surveillance (EBS) [10-12] aimed at capturing information from immediately available unstructured data, from sources that go beyond the health sector [13].

Event based surveillance is a relatively new discipline in public health, its implementation well established in particular at global level in WHO, ECDC, and the CDC [14-15]. To our knowledge, this is the first time that EBS has been used to inform an Information Service Model targeting frontline HCW catering for newly arrived migrants.

The CARE project Travel medicine Information dispatch dynamic section was developed using the Medical Information System (MedISys). MedISys is a fully automatic event-based surveillance platform that monitors reporting on infectious diseases in humans and animals; chemical, biological, radiological, and nuclear (CBRN) threats; plant health; and food and feed contaminations on the internet [16-17]. The system retrieves news articles from specialized official and nonofficial medical sites, general news media, and selected blogs; categorizes all incoming articles according to predefined multilingual disease categories; identifies known names, such as organizations, people, and locations; extracts events; clusters news articles; and calculates statistics to detect emerging threats.

Analysts working with this platform can also use a non-public collaborative tool called NewsDesk to select automatically retrieved articles and create and deliver reports. The MedISys platform has been used in the past to monitor infectious diseases of public health importance [18-20] also during mass gatherings [21-22].

In preparation for the release of the CARE project Travel Medicine Information Dispatches, we defined lists of countries part of the IOM defined Mediterranean Migration routes [1]. In collaboration with the EC Joint Research Centre in Ispra, we created additional MedISys categories by linking key word lists of countries by migration route using a Boolean filter with a wide range of communicable disease categories already indexed in the MedISys system (Figure 1).

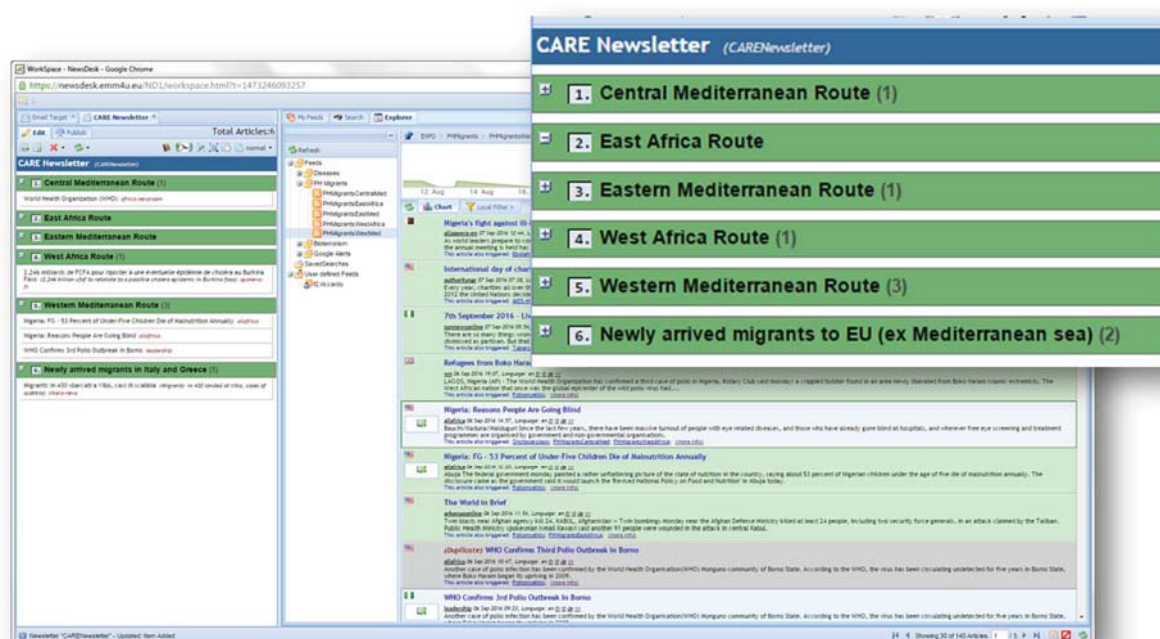


Figure 1 - Customization of disease filters by countries in the IOM defined migration routes

Using NewsDesk, we developed a customized dispatch template and updated it weekly on the basis of the signals detected (Appendix 3). The dispatch in pdf format was then sent each week to the target audience, described in chapter 2.1.

2.4. Evaluation

We analysed the dispatches produced during the duration of the pilot in order to describe quantitatively and qualitatively the signals detected and provide an estimate of intrinsic timeliness (i.e. time from online publication to publication in the CARE dispatch).

We also asked end users to compile an online questionnaire to assess usefulness, the perceived timeliness of the information service and the quality of the information received. This online questionnaire was developed in agreement with the team in charge of performing the project internal evaluation.

The findings of this evaluation are detailed in the following chapter of this report.

3. CARE Travel Medicine Information Service Model Evaluation Methodology

3.1. Study question

To what extent the developed Information Service Model on endemic and currently epidemic diseases in the migrant's countries of origin and transit, can guide their health assessment?

3.2. Evaluation Objectives

The general aim of the evaluation was **to assess whether** the CARE Information Service Model was able to provide information to frontline healthcare workers, which can be used in guiding healthcare provision to migrants / refugees.

3.2.1. SPECIFIC OBJECTIVES

- To **describe** the information collected and contained in the dispatches produced.
- To assess the users' **level of satisfaction** with the dispatches in terms of the **quality and relevance** of the received information.
- To assess the **overall added value** of the Information Service Model.

3.3. Analysis of the dispatch content

For the duration of the pilot, ISS-Italy automatically imported data on signals detected by date, disease group, and source from the CARE weekly dispatches in a Microsoft Access database (Microsoft Corp, Redmond, WA).

We performed a frequency analysis on the **content of signals, type of sources** and calculated the **mean intrinsic timeliness** of signal publication. Intrinsic timeliness was calculated on all dispatches except the first issue, that had a longer reporting timeframe.

3.4. Evaluation survey

The evaluation survey focussed on the following priority attributes: **Utility, Quality and Relevance**. It also took into account the information needs of the CARE project WP3 in charge of internal evaluation.

The ISS-Italy team developed an online questionnaire (Appendix 4) targeting all users of the CARE Dispatch. As described in section 2.1. the partner Institution experts participating in WP5 (national focal points for this activity) provided a list of 32 people who had received the CARE dispatches.

All the end users of the Information Service Model were contacted via email on the 20th of February 2017 and asked to compile the online evaluation. An email reminder was sent to end users on the 27th of February and to WP5 national focal points for this activity on the 7th of March 2017. Data collection was completed on the 20th of March 2017.

4. CARE Travel Medicine Information Service Model Evaluation Results

4.1. Description of the information contained in the dispatches

During the pilot period, the CARE project produced 13 travel medicine dispatches. In total, 57 signals were reported: 39 (68%) from West Africa and Western Mediterranean Routes; 10 (18%) from East Africa and Eastern Mediterranean Routes; 5 (9%) from the Central Mediterranean Route and 3 (5%) from entry countries in Europe. The mean intrinsic timeliness was **3,2 days** (range 0 –7 days), as is expected for weekly reporting.

Thirty signals (53%) were picked up from non-official sources (e.g. media, blogs) and 27 (47%) from official sources (e.g. WHO). The signals most frequently detected the following diseases/conditions: Cholera, MERS-CoV, Rift Valley Fever and Measles (Figure 2).

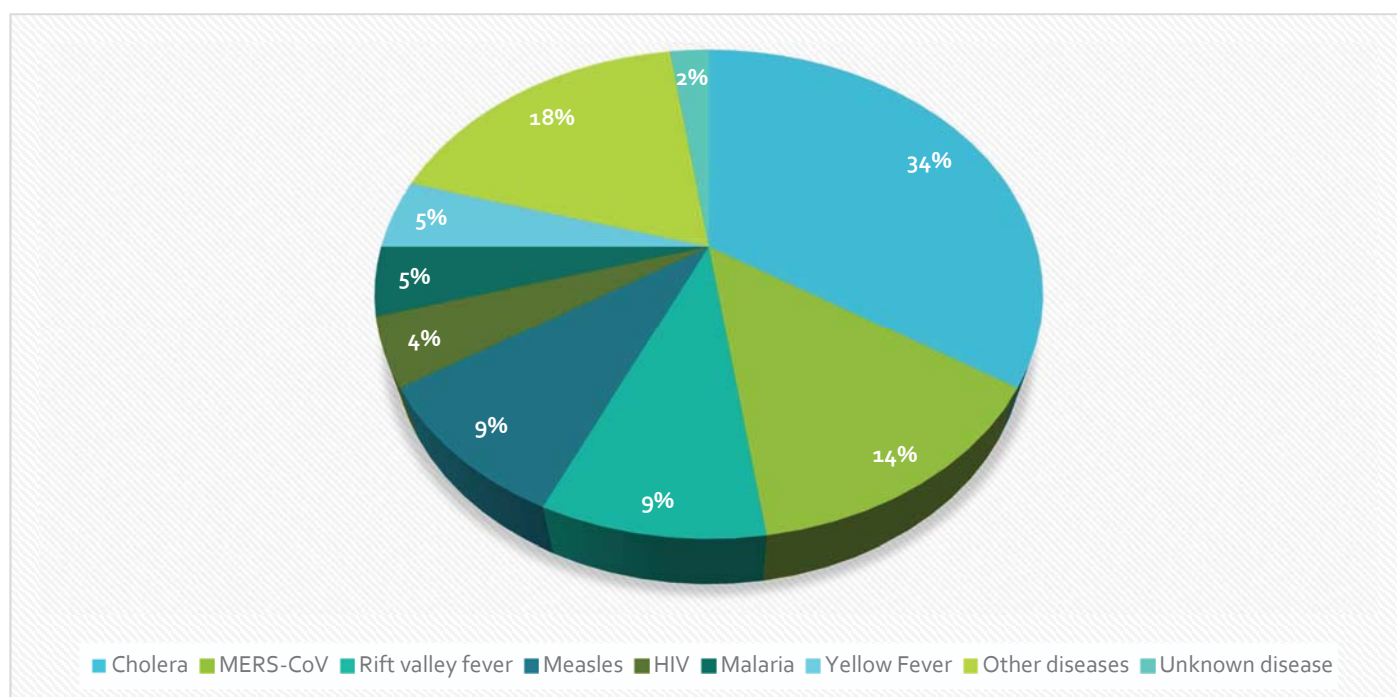


Figure 2 - Signals detected by disease, October-December 2016

All those diseases have short incubation periods, between a few hours to a maximum of two weeks. Evidence on the length journeys through the Mediterranean Migration Routes, has shown that most people travel for several months [23]. This pattern suggests that it was very unlikely for migrants to reach end/transit destinations in Europe symptomatic for those diseases, even though they may have been exposed to them during the journey.

4.2. Description of the respondents to the evaluation survey

Eighteen people answered the online evaluation survey (Response Rate 56%). Of those, 6 were from Slovenia, 5 from Malta, 4 from Croatia, and one respectively from Italy, Greece and Portugal.

Only 6 (33%) had responded to the information needs survey (see chapter 2.2). Thirteen respondents (72%) reported receiving the dispatch weekly, two reported receiving all the dispatches at the same time after the pilot. Three people, from Malta, Slovenia and Greece, reported not having received the dispatch at all and therefore did not complete the evaluation survey.

In contrast with the information needs questionnaire that included 18 respondents (23%) from Italy and Greece (i.e. point of entry Southern European Union countries directly receiving migrants from Mediterranean migratory routes), only one respondent (6%) from Italy completed the evaluation survey. All other respondents were from countries receiving only relocated migrants from other EU countries.

Of the 15 respondents who reported having received the dispatches, eight (53%) reported having received more than 5 issues, six (40%) between 3 and 5 issues, and one did not answer. Six recipients (40%) reported working in a migrant reception/detention centre or hotspot during the pilot implementation of the CARE dispatch.

Of the 10 respondents who provided information on their qualifications, nine reported being medical doctors. None reported being nurses. Eight respondents (53%) reported conducting clinical medical consultations for newly arrived migrants. Of those, two conducted them daily, two twice a week, and the remaining indicated a variable or more rare frequency. Ten people also provided information on their experience in migrant health. Four people reported less than one year experience, two people 1-2 years of experience, one 3-5 years and three more than 5 years of experience.

Even though the numerosity between the two investigations is very different, compared with the respondents of the information needs questionnaire respondents to the evaluation seem to be proportionally more experienced and more frequently qualified as medical doctors.

4.3. Level of satisfaction of users

Thirteen respondents provided feedback on their level of satisfaction with the CARE Travel Medicine Information dispatch service (Figure 3, Figure 4).

As shown in Figure 3, most users were **very/extremely satisfied** with the CARE dispatch service in terms providing **updated** information (7/13; 54%), **targeted** to their information needs (9/13, 69%).

During the pilot implementation did you find the “CARE travel medicine dispatch service”

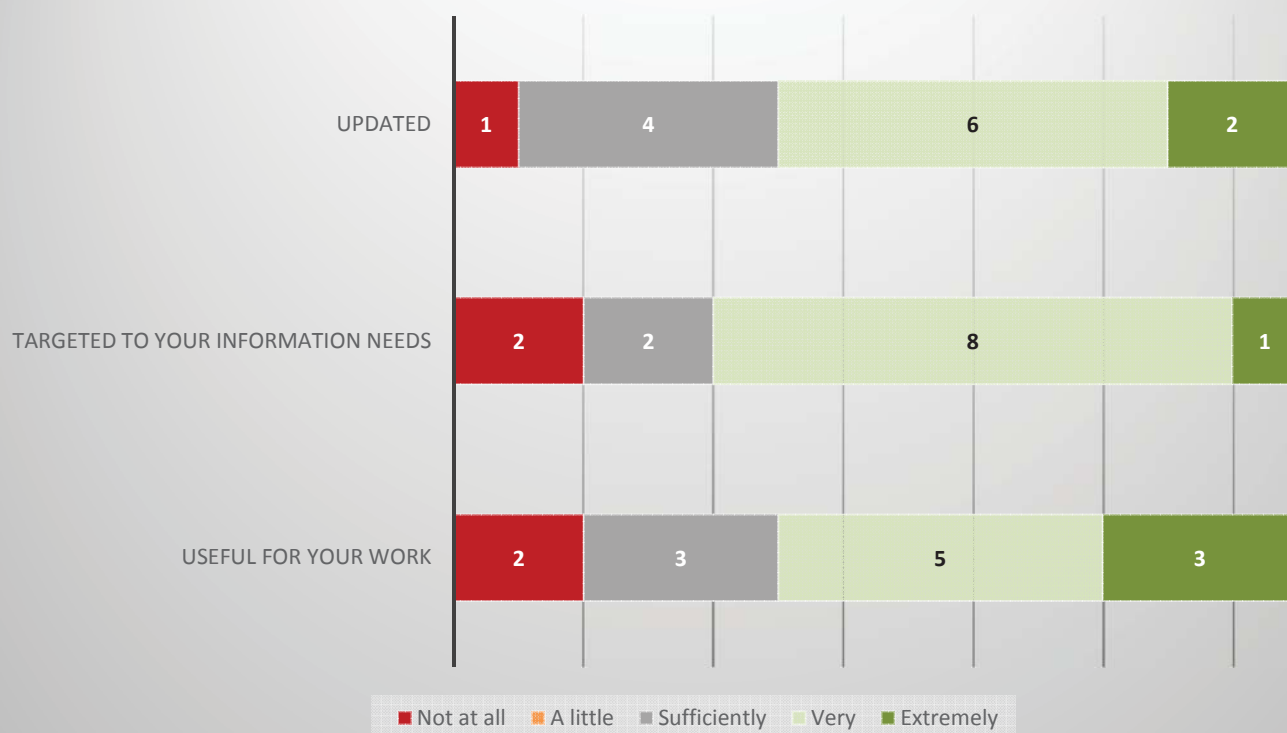


Figure 3 – Level of satisfaction of users with the CARE travel medicine dispatch service (n=13)

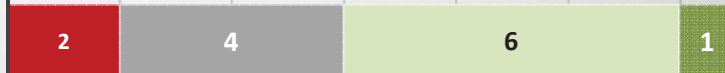
Most respondents also found the dispatch service **very/extremely useful** for their work (8/13, 62%). Two respondents did not agree, one respondent explained the answer as follows: “Vast majority of migrants have spent more than a few weeks on the migration route before arrival in Croatia, most diseases reported in dispatch have much shorter incubation period.”

Seven respondents (54%) also found that the information provided in the CARE Travel Medicine Information dispatch service was **very/extremely useful in supporting them in conducting more targeted health assessments**. Coherently with what was reported above, two respondents did not agree that the information provided supported them (Figure 4). They motivated their answers as follow: “not relevant to GP in reception centre in Croatia”.

The information received was rated as very/extremely relevant by 7 users (54%) and of very/extremely high quality by 9 users (69%).

During the pilot implementation of the “CARE travel medicine dispatch service” how did you find

THE SUPPORT THE INFORMATION GAVE YOU IN CONDUCTING MORE TARGETED HEALTH ASSESSMENTS



THE RELEVANCE OF THE INFORMATION RECEIVED



THE QUALITY OF INFORMATION RECEIVED



■ Not at all ■ A little ■ Sufficiently ■ Very ■ Extremely

Figure 4 – Results of evaluation questions exploring usefulness, relevance and quality of the information provided through the CARE travel medicine dispatch service (n=13).

4.4. Overall added value

Of 14 respondents who provided input on the overall added value of the Information Service Model, 12 (86%) indicated that they thought that the “CARE travel medicine dispatch service” can provide information to frontline healthcare workers, which can be used in guiding healthcare provision to migrants / refugees. In line with the results of the rest of the survey, two respondents disagreed motivating their response respectively as due to lack of perceived utility and to information redundancy.

In terms of improvement, two respondents commented that they would improve nothing/liked the format and two respondents suggested the following:

- “Put more emphasis epidemic prone disease or public health threats, the usual endemic infectious diseases should be known to doctors involved in travel medicine or communicable diseases.”
- “Improving the layout to allow for easier identification of crucial informations (ie. color codes, icons...)”

Two respondents commented that they would have appreciated receiving the dispatches weekly. Given the way the dispatch was sent to national focal points who then forwarded them, we considered this suggestion to be directed to the secondary distribution rather than the primary production of the dispatch.

5. Concluding remarks

The WP5 ISS-Italy team of the CARE project produced a model of Travel Medicine Information Service for frontline HCWs. The initiative was successful in producing regular weekly dispatches during the entire pilot period.

The diseases/conditions picked up by the Travel Medicine dispatch service typically have short incubation periods between a few hours to a maximum of two weeks. This confirms that it is very unlikely for migrants to reach end/transit destinations in Europe exhibiting symptoms of acute disease, even though they may have been exposed on route. This was a reassuring message in particular for clinicians and other HCW with limited experience in migrant health. At the same time, the dispatch provided situation-awareness about countries on Mediterranean migration routes. This can support healthcare workers in reconstructing their patient's migratory journey, prior diseases (anamnesis) and *en route* living conditions faced (e.g. some transit countries due to conflict/insecurity and/or ongoing outbreaks face a severe disruption of their health systems).

We targeted the Information Service based on the initial information needs assessment. This led us to target a wide range of HCW with limited experience (<1 year) in migrant health. Unfortunately, due to a high personnel turnover, only a minority of the people responding to the evaluation questionnaire had participated in the initial information needs assessment. The people who answered the evaluation were possibly more experienced in migrant health and more frequently qualified as medical doctors. This may have led to an under-estimation of the usefulness of the dispatch for less experienced personnel.

Although the results of the evaluation conducted confirm that the outputs of this activity were generally well received with good levels of satisfaction, two users recurrently returned negative assessments. This was explained as due to the low relevance of the type of information provided by this service. Both respondents came from a country not receiving migrants directly from the migration routes, but rather following relocation from other European countries. This was not the context for which this Information Service Model was designed. As the vast majority (93%) of the people that completed the evaluation were from countries receiving only relocated migrants, we may have underestimated the added value of the CARE Information Service Model for Southern European Countries receiving migrants directly coming through Mediterranean migratory routes.

The changing migration flows across the Balkan region, concomitant to the implementation of the CARE project, can explain this changing scenario. The closure of the Balkan migratory route, with consequent closure of functioning migrant centres in many countries part of the CARE project, can also partly explain why just over half of our respondents were directly involved in conducting medical consultations. Among those, only a minority were performing them on a daily basis.

Notwithstanding the limitations of this evaluation, we can state that the CARE project model of Travel Medicine Information service was a proof of concept that Event Based Surveillance can be successfully implemented in the context of migrant health. Most users were very/extremely satisfied with the CARE dispatch service in terms providing updated information, targeted to their information needs. The information received was rated as very/extremely relevant by 54% of users and of very/extremely high quality by 69%. Most users also assessed that the dispatch service was very/extremely useful for their work and in supporting them in conducting more targeted health assessments.

In conclusion, this evaluation confirmed that the "CARE Travel Medicine Information service" met its objective of providing information to frontline HCWs, which can be used in guiding healthcare provision to migrants / refugees.

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Appendixes

Appendix 1: CARE Information Needs questionnaire



INFORMATION NEEDS OF HEALTH CARE WORKERS

Health care workers data and contact

The WP5 of the CARE project is designing a dispatch-based information service to provide front-line health care workers working with newly arrived migrant populations with information on infectious disease epidemiology in the most frequent countries of origin, on infectious diseases of particular interest and on currently developing outbreaks in the countries along the main migration routes to the EU.

The information service will be piloted from October to December 2016 and then be evaluated to assess its usefulness and possible future implementation.

As a potential target user of this dispatch service we ask you to fill in this very short survey to help us better target the content of the dispatches to the information needs of front-line health care workers.

Thank you very much for compiling this short survey by August 30th 2016

Kind regards

WP5 CARE Team

1. Country

2. Name and Surname

3. Role

- ☐ MD paediatrician
- ☐ MD dermatologist
- ☐ MD infectious disease
- ☐ MD general practice
- ☐ MD adult psychologist
- ☐ MD child neuropsychologist
- ☐ Nurses
- ☐ Other

4. Are you able to read and use technical documents in English

- ☐ Yes
- ☐ No

5. Will you be working between September - December 2016 in a migrant reception/detention/hotspot centre?

- ☐ Yes
- ☐ No

6. How long have you been working with migrants?

- ☐ Less than one year
- ☐ 1 - 2 years
- ☐ 3 - 5 years
- ☐ More than 5 years

7. Please specify approximate start and end dates of your work with migrants:

| | GG | | MM | | AAAA |
|-------|----------------------|---|----------------------|---|----------------------|
| Start | <input type="text"/> | / | <input type="text"/> | / | <input type="text"/> |
| End | <input type="text"/> | / | <input type="text"/> | / | <input type="text"/> |

8. Considering your most recent period of work with migrants, please indicate the three most frequent countries of origin of your assisted population:

- ☐ Afghanistan
- ☐ Pakistan
- ☐ Syria
- ☐ Morocco
- ☐ Nigeria
- ☐ Erithrea
- ☐ Sudan
- ☐ Other: please specify country/ies separated by ";

9. Do you conduct clinical medical consultations for newly arrived migrants?

- ☐ Yes
☐ No

10. How often?

- ☐ Daily
☐ Twice a week
☐ Once a week
☐ Other

If other....Please specify



CARE
Common Approach for Refugees
and other migrants' health

INFORMATION NEEDS OF HEALTH CARE WORKERS

INFECTIOUS DISEASES

11. Please indicate on which **infectious disease topics** you would be interested in being updated:

- | | | |
|--|--|---|
| <input type="checkbox"/> Alkhuravirus | <input type="checkbox"/> Meningitis | <input type="checkbox"/> Haemophilus influenzae |
| <input type="checkbox"/> Anthrax | <input type="checkbox"/> Monkeypox | <input type="checkbox"/> Hepatitis C |
| <input type="checkbox"/> Arenavirus | <input type="checkbox"/> Mumps | <input type="checkbox"/> Hepatitis D |
| <input type="checkbox"/> Avianflu | <input type="checkbox"/> NipahVirus | <input type="checkbox"/> Hepatitis E |
| <input type="checkbox"/> Brucellosis | <input type="checkbox"/> Pertussis | <input type="checkbox"/> HIV |
| <input type="checkbox"/> Campylobacter Infection | <input type="checkbox"/> Plague | <input type="checkbox"/> Human herpes virus |
| <input type="checkbox"/> Chagas disease | <input type="checkbox"/> Poliomyelitis | <input type="checkbox"/> Influenza |
| <input type="checkbox"/> Chikungunya | <input type="checkbox"/> QFever | <input type="checkbox"/> Other influenza-like Illness (incl. Respiratory Syncytial Virus, Adenovirus, Rhinoviruses) |
| <input type="checkbox"/> Cholera Infection | <input type="checkbox"/> Rabies | <input type="checkbox"/> Intestinal parasitic diseases |
| <input type="checkbox"/> Congo-Crimean hemorrhagic fever | <input type="checkbox"/> Rift Valley Fever | <input type="checkbox"/> Invasive meningococcal disease |
| <input type="checkbox"/> Coronavirus Infection | <input type="checkbox"/> Rotavirus | <input type="checkbox"/> Leprosy |
| <input type="checkbox"/> Cowpox | <input type="checkbox"/> Rubella | <input type="checkbox"/> Leptospirosis |
| <input type="checkbox"/> DengueFever | <input type="checkbox"/> Smallpox | |

| | | |
|---|---|---|
| <input type="checkbox"/> Diphtheria | <input type="checkbox"/> Tetanus | <input type="checkbox"/> Lymphogranuloma Venereum infection |
| <input type="checkbox"/> Ebola Hemorrhagic Fever | <input type="checkbox"/> Tick-borne Encephalitis | <input type="checkbox"/> Listeriosis |
| <input type="checkbox"/> Equine encephalitis | <input type="checkbox"/> Tuberculosis | <input type="checkbox"/> Lymphatic filariasis |
| <input type="checkbox"/> Glanders | <input type="checkbox"/> Tularemia | <input type="checkbox"/> Norovirus |
| <input type="checkbox"/> Hanta Fever | <input type="checkbox"/> West Nile Disease | <input type="checkbox"/> Papilloma virus |
| <input type="checkbox"/> Hendra Virus | <input type="checkbox"/> Yellow Fever | <input type="checkbox"/> Salmonellosis |
| <input type="checkbox"/> Hepatitis A | <input type="checkbox"/> Botulism | <input type="checkbox"/> Scabies |
| <input type="checkbox"/> Hepatitis B | <input type="checkbox"/> Carbapenem-resistant <i>Klebsiella pneumoniae</i> | <input type="checkbox"/> <i>Schistosoma mansoni</i> |
| <input type="checkbox"/> Hand Foot and Mouth Disease | <input type="checkbox"/> Infections with <i>Pseudomonas aeruginosa</i> showing antimicrobial resistance | <input type="checkbox"/> Severe acute respiratory syndrome (SARS) |
| <input type="checkbox"/> Hemolytic Uremic Syndrome | <input type="checkbox"/> Chicken pox | <input type="checkbox"/> Shigellosis |
| <input type="checkbox"/> Japanese Encephalitis | <input type="checkbox"/> Chlamydia | <input type="checkbox"/> Skin parasitic diseases in general |
| <input type="checkbox"/> Kyasanur Forest Disease | <input type="checkbox"/> Cryptosporidiosis | <input type="checkbox"/> Syphilis |
| <input type="checkbox"/> Lassa Fever | <input type="checkbox"/> Dysentery/bloody diarrhoea | <input type="checkbox"/> Toxoplasmosis |
| <input type="checkbox"/> Legionellosis | <input type="checkbox"/> <i>Escherichia coli</i> infections (incl. EHEC, STEC, VTEC) | <input type="checkbox"/> Trichinosis |
| <input type="checkbox"/> Leishmaniasis | <input type="checkbox"/> Food poisoning, unspecified | <input type="checkbox"/> Trypanosomiasis |
| <input type="checkbox"/> Malaria | <input type="checkbox"/> Gastroenteritis (incl. Norovirus, rotavirus, adenovirus, 'diarrhoea and vomiting') | <input type="checkbox"/> Typhoid fever |
| <input type="checkbox"/> Marburg Hemorrhagic Fever | <input type="checkbox"/> Giardiasis | <input type="checkbox"/> Upper Respiratory Tract infections |
| <input type="checkbox"/> Measles | <input type="checkbox"/> Gonorrhoea | <input type="checkbox"/> Yersiniosis |
| <input type="checkbox"/> Other...specify | | |
| <div style="border: 1px solid black; height: 20px; width: 420px; margin-top: 5px;"></div> | | |

Appendix 2: Appendix to the travel medicine dispatch



The project "717317/CARE" has received funding from the European Union's Health Programme (2014-2020)

Appendix to the travel medicine dispatch

Migrants arriving to the EU are **generally in good health**. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage. For this reason, it is important for **front line health-care workers assessing the health of newly arrived migrants in point of entry Southern European Union countries**, to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients.

This **Appendix complements the CARE travel medicine dispatch**, and focuses on diseases and countries of interest identified through an online survey targeting front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

All sources cited in this Appendix are official sources.

Immunization coverage in countries of origin of migrants in the EU/EEA arriving through Mediterranean Migration Routes

Global data on immunization coverage is retrievable at the following WHO website (http://www.who.int/immunization/monitoring_surveillance/data/en/).

This website provides:

1. [Official country reported coverage estimates](#);
2. [WHO/UNICEF Estimates of National Immunization Coverage](#) (WUENIC).

Most frequently reported countries of origin of newly arrived migrants*

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries (link to pdf document)

| | |
|-------------|--|
| Syria | Syrian Arab Republic: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Afghanistan | Afghanistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Pakistan | Pakistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Nigeria | Nigeria: WHO and UNICEF estimates of immunization coverage: 2015 revision |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia, September 2016.



The project "717317/CARE" has received funding from the European Union's Health Programme (2014-2020)

Endemic/Epidemic diseases of interest to front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

Global updates on the epidemiology and clinical management of communicable diseases by country, for travel medicine purposes, are published by:

1. The World Health Organization (WHO): [International travel and health](#)
2. The US Centres for Disease Control and Prevention (CDC): [Yellow Book](#)

The European Centre for Disease Control and Prevention (ECDC) published in 2015 a Technical Document "[Infectious diseases of specific relevance to newly arrived migrants in the EU/EEA](#)" targeting front line health-care workers assessing the health of newly arrived migrants.

Furthermore the European Commission and the International Organization of Migrants (IOM) published in 2015 the Handbook "[Health assessment of refugees and migrants in the EU/EEA](#)" for frontline health professionals involved in the migration health assessment process.

| Diseases of interest * | Link to available updates by disease/ disease group (source, year) | Link to disease distribution maps (source, year) |
|----------------------------|---|--|
| Tuberculosis | Tuberculosis (CDC, current) ; Vaccine-preventable diseases and vaccines, including updates on Tuberculosis (WHO, 2015) | Tuberculosis, estimated new cases (WHO, 2010) ; Proportion of multidrug-resistant tuberculosis (MDR TB) among new tuberculosis cases (CDC, 2012) |
| Scabies | Scabies (CDC, current) | |
| Malaria | Malaria (WHO 2015) ; Malaria (CDC, current) ; Yellow Fever & Malaria Information, by Country (CDC, current) ; | Malaria (WHO, 2010) ; Malaria-endemic countries in the eastern hemisphere (CDC, current) |
| Meningitis | Vaccine-preventable diseases and vaccines, including updates on Meningococcal Disease (WHO, 2015) ; Meningococcal Disease (CDC, current) ; | Meningococcal meningitis, countries/areas at high risk (WHO, 2014) |
| Gastro-intestinal diseases | Cholera (CDC, current) ; Taeniasis (CDC, current) ; Strongyloidiasis (CDC, current) ; Helminths, Soil-Transmitted (CDC, current) ; Pinworm (Enterobiasis, Oxyuriasis, Threadworm) (CDC, current) ; Amebiasis (CDC, current) ; Giardiasis (CDC, current) ; Brucellosis (CDC, current) ; Echinococcosis (CDC, current) ; E.coli (CDC, current) ; Salmonellosis, Nontyphoidal (CDC, current) ; Shigellosis (CDC, current) ; Vaccine-preventable diseases and vaccines, including updates on Cholera, Rotavirus, Typhoid fever (WHO, 2015) ; Travelers' Diarrhoea (CDC, current) ; other pathogen fact sheets available(CDC Yellow book) | Cholera , areas reporting outbreaks (WHO, 2010-2014) |
| Hepatitis C | Hepatitis C (WHO, 2016) ; Hepatitis C virus infection (CDC, current) | Global epidemiology of hepatitis C virus infection (CDC, 2013) |
| Poliomyelitis | Poliomyelitis (Source CDC, current) ; Vaccine-preventable diseases and vaccines—including updates on Poliomyelitis (WHO, 2015) | Polio (WHO, 2015) |
| Influenza | Vaccine-preventable diseases and vaccines—including updates on Influenza (WHO, 2015) | Distribution of H5N1 avian influenza (CDC, current) |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.

Appendix 3: CARE Travel Medicine Dispatches

Travel medicine dispatch: Mediterranean migration routes

Confidential - contains non-official/unvalidated information

Migrants arriving to the EU are generally in good health. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage. For this reason, it is important for front line health-care workers assessing the health of newly arrived migrants in point of entry Southern European Union countries, to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients.

This dispatch, part of the CARE project, is a travel medicine service targeting epidemic prone diseases in countries part of recognized Mediterranean migration routes and is intended for those front line health-care workers.

The dispatch is compiled weekly using digital detection technologies from a number of different internet sources (including institutional official websites as well as non-official sources, e.g. online news articles and blogs). For each information in the dispatch, the official/non official nature of the source is stated. **This dispatch can therefore contain non-verified information and is only to be used as an information tool to support health-care workers in performing clinical health evaluations under the general medical principle of precaution.**

This dispatch is complemented by an appendix on diseases and countries of interest identified through an online survey targeting front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

For any further details on the methodology and the nature of the information included, please contact us at careproject@iss.it

CARE WP5 Dispatch Team

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Central Mediterranean Route_____1

East Africa and Eastern Mediterranean Routes_____2

West Africa and Western Mediterranean Routes_____3

This Dispatch is compiled by the following researchers of the National Center for Epidemiology, Surveillance and Health Promotion (CNESPS) of the Italian Institute of Health (ISS): Flavia Riccardo, Martina Del Manso and Maria Grazia Caporali. The CARE WP5 activities are led by Silvia Declich (CNESPS-ISS).

Contact: careproject@iss.it

29 September 2016 (WHO): Niger (Tahoua region) - Rift Valley Fever (RVF): ongoing outbreak, from 2 August to 22 September 2016, 64 human cases including 23 deaths reported. 13 human specimens tested positive for RVF.

Source official (WHO) On 30 August 2016, WHO received reports about unexplained deaths among humans, along with death and abortion in livestock in the North Western parts of Niger, and the areas bordering Mali. From 2 August to 22 September 2016, 64 human cases including 23 deaths have been reported in Tchintabaraden health district in Tahoua region. The area is mainly populated by nomadic stockbreeders. Most of the cases are male (62.5%), and work as farmers or animal breeders. In the affected area, an epizootic outbreak is also reported among livestock during the same time duration, including deaths and abortions among cattle and small ruminants. As of 16 September 2016, 6 of the 13 human specimens tested at Institute Pasteur (IP), Dakar were positive for Rift Valley Fever (RVF). Among the 6 animal specimens tested, 3 were positive for RVF. Sequencing and further laboratory testing is ongoing. Genetic sequence data is required to confirm or refute the endogenous origin of the outbreak.

Relief Web, 30 Sep 2016 21:54 CEST, <http://www.who.int/csr/don/29-september-2016-rift-valley-fever-niger/en/>

27 September 2016: South Sudan - Cholera: ongoing outbreak, from January 2016 2143 cases and 31 deaths

Source unofficial/unvalidated At least 31 people have been killed since January from cholera outbreak in South Sudan representing a case fatality rate of 1.44 per cent, the UN children's fund (UNICEF) said on Tuesday. UNICEF said in its latest report that a total of 2,143 cholera cases have been reported during the same period. "The case fatality rate, currently at 1.44 per cent, remains substantially lower than last year, reflecting significant improvements in case management and timely referral," UNICEF said. The current outbreak has been attributed to use of untreated water from the River Nile and water tankers, lack of household chlorination of drinking water, eating food from roadside food vendors or makeshift markets and open defecation/poor latrine use. In Juba, cases spread rapidly following the eruption of fighting in July and access to clean water and safe food has become increasingly difficult as a result of rising costs due to continued devaluation of the South Sudanese Pound. According to UNICEF, there has been an upsurge in the number of cholera cases reported in Mingkaman, though no new deaths have been reported. UNICEF continues to support the cholera response in all affected states. Malnutrition remains a key concern, in particular in Northern Bahr el Ghazal, where the nutrition situation is now catastrophic.

User defined, 03 Oct 2016 17:23 CEST, <http://www.globaltimes.cn/content/1008693.shtml>

30 September 2016 (WHO report): Democratic Republic of Congo (DRC) - Yellow Fever: ongoing outbreak, from 1 Jan to 27 Sept 2016 2345 suspected human cases (76 laboratory confirmed) and 16 deaths.

Source official (WHO) From 1 January to 27 September 2016: - 2810 notified cases reported from all 26 provinces; - 76 confirmed cases have been identified from 2345 suspected cases that have been laboratory tested, with 16 deaths (CFR: 21%); - Of the 76 confirmed cases, reported from eight provinces, 57 acquired infection in Angola, 13 are autochthonous and six are cases of sylvatic transmission (not related to the outbreak). - The 13 autochthonous cases related to the current outbreak were reported from 10 Health Zones in three provinces: Kinshasa (six cases), Kongo Central (two cases) and Kwango (five cases). The most affected age group among men is 25 to 29 years of age (0.53 per 100 000) and 35 to 39 years of age among women (0.16 per 100 000).

User defined, 03 Oct 2016 17:04 CEST, <http://apps.who.int/iris/bitstream/10665/250254/1/yellowfeversitrep30Sep16-eng.pdf?ua=1>

30 September 2016 (WHO report): Angola - Yellow Fever: ongoing outbreak, from 5 Dec 2015 to 22 Sept 2016 4143 suspected human cases (884 laboratory confirmed) and 373 deaths.

Official Source (WHO) From 5 December 2015 to 22 September 2016: - 4143 suspected cases, with 373 deaths (case fatality rate, CFR: 9.0%); - 884 cases have been laboratory confirmed, with 121 deaths (CFR: 13.7%). Since the start of the outbreak, suspected cases have been reported from all 18 provinces; confirmed cases have been reported from 80 districts in 16 provinces. Autochthonous transmission has been reported from 45 districts in 12 provinces. Luanda and Huambo provinces have reported the highest number of total cases. As of 22 September, 2092 (50% of all reported cases) cases including 488 confirmed cases have been reported in Luanda and 646 (16% of all reported cases) cases including 128 confirmed cases have been reported in Huambo.

User defined, 03 Oct 2016 16:59 CEST, <http://apps.who.int/iris/bitstream/10665/250254/1/yellowfeversitrep30Sep16-eng.pdf?ua=1>

28 September 2016: Nigeria - Polio: Nigeria reclassified as a country affected by endemic transmission of wild poliovirus type 1 (WPV1)

Source official: Global Polio Eradication Initiative (GPEI) Nigeria has been reclassified as a country affected by endemic transmission of wild poliovirus type 1 (WPV1). Nigeria had been removed from the list of endemic countries in September 2015, following a year of no reported/detected WPV1 cases in the country. However, the recent cases of WPV1 detected from Borno are closely linked to cases from Borno in 2011, indicating this strain has been circulating undetected since that time. This indicates that Nigeria has always been affected by endemic circulation of WPV1 and, hence, it is added again to the list of endemic countries, alongside Pakistan and Afghanistan.

User defined, 03 Oct 2016 17:09 CEST, <http://polioeradication.org/polio-today/polio-now/this-week/>

Travel medicine dispatch: Mediterranean migration routes

Confidential - contains non-official/unvalidated information

Migrants arriving to the EU are generally in good health. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

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CARE WP5 Dispatch Team

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East Africa and Eastern Mediterranean Routes_____1

Newly arrived migrants to EU (ex Mediterranean sea)_____2

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Contact: careproject@iss.it

Migrant Routes: Mediterranean 2016



7 October 2016 - Yemen (Sana'a) - Cholera: ongoing outbreak, 8 human confirmed cases.

OFFICIAL SOURCE - Sana'a, 7 October 2016— Yemen's Ministry of Public Health and Population has officially announced the occurrence of 8 cholera cases among population in one of the areas of Sana'a city. The stool samples of these cases were tested positive for *Vibrio cholerae*. The cases were admitted to Al-Sabeen Hospital in Sana'a in the first week of October and are currently receiving treatment for acute dehydration in an isolated section of the hospital. A team from surveillance programme of the Ministry was dispatched with a WHO-supported rapid response team to Al-Nasr neighbourhood of the Sho'ob district, where the patients (mainly children) were living, to investigate the source of cholera cases, test the water sources in the area and raise awareness about cholera among the community. Visits were also paid to the nearby schools and health centres to conduct an active case finding for suspected cases in the area. To support the management of these cases by the Ministry of Public Health and Population facilities, WHO has provided sufficient quantities of intravenous fluids and oral rehydration salts to the hospital. Furthermore, WHO is working with the Ministry to support enhancing active surveillance, improve case management, establish a joint operations room for coordination of response measures and information sharing, and establish a task force to enhance the coordination response between health partners. While response, investigation and preventive measures are ongoing, a joint Health/WASH Cholera Task Force, comprising WHO, UNICEF, Health and WASH partners has been established to coordinate the daily work and provide support to the Ministry and the concerned authorities on an integrated cholera response plan. The response plan requires urgent funding for establishment of a cholera treatment centre in inaccessible areas, diarrhoeal disease kit distribution, training, strengthening surveillance system, environmental interventions and community awareness. "The current situation is yet another alarming indicator of the escalating humanitarian conflict-related crisis in Yemen and should alert the international community to support Yemen public health system and provide health partners with the necessary resources to contain the current transmission and prevent further spread of *Vibrio cholerae* to other high-risk areas in the country," said Dr Ahmed Shadoul, the WHO Representative in Yemen. The scarcity of clean, safe drinking-water has exacerbated the already deteriorating health situation in Yemen, causing a significant increase in acute watery diarrhoea cases, especially among internally displaced persons, now exceeding more than 3 million people across the country.

who-emro, 10 Oct 2016 09:02 CEST, <http://www.emro.who.int/media/news/the-ministry-of-health-announces-cholera-cases-in-yemen.html>

Newly arrived migrants to EU (ex Mediterranean sea)

6 October 2016 - Italy - Malaria and Scabies: 2 suspected cases of Malaria and 450 cases of Scabies (article in Italian)

(Profughi: stupri, malaria, scabbia e il cadavere di una donna incinta a bordo. Saranno destinati anche all'Abruzzo)

NON-OFFICIAL SOURCE - The MSF boat "Dignity" arrived yesterday in the harbour of Reggio Calabria with 417 migrants. According to the MSF ship and medical staff, 250 cases of scabies were reported. In the Vibo Valentia harbour, the SOS Mediterranee ship "Aquarius" brought 725 migrants, saved last Monday offshore from Libya. Two cases of malaria and 450 cases of scabies were reported.

Original text: Saranno, complessivamente, 1.672, secondo le previsioni, i migranti che approderanno in questi giorni in Calabria a bordo di tre diverse imbarcazioni. I migranti sono il risultato delle operazioni di salvataggio effettuate negli ultimi giorni nel Canale di Sicilia.

Libero News, 06 Oct 2016 15:35 CEST, <http://www.ecoaltomolise.net/profughi-stupri-malaria-scabbia-e-il-cadavere-di-una-donna-incinta-a-bordo-saranno-destinati-anche-allabruzzo/>



Appendix to the travel medicine dispatch

Migrants arriving to the EU are **generally in good health**. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

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This website provides:

1. [Official country reported coverage estimates](#);
2. [WHO/UNICEF Estimates of National Immunization Coverage](#) (WUENIC).

Most frequently reported countries of origin of newly arrived migrants*

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries (link to pdf document)

| | |
|-------------|--|
| Syria | Syrian Arab Republic: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Afghanistan | Afghanistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Pakistan | Pakistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Nigeria | Nigeria: WHO and UNICEF estimates of immunization coverage: 2015 revision |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia, September 2016.



Appendix to the travel medicine dispatch

Endemic/Epidemic diseases of interest to front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

Global updates on the epidemiology and clinical management of communicable diseases by country, for travel medicine purposes, are published by:

1. The World Health Organization (WHO): [International travel and health](#)
2. The US Centres for Disease Control and Prevention (CDC): [Yellow Book](#)

The European Centre for Disease Control and Prevention (ECDC) published in 2015 a Technical Document "[Infectious diseases of specific relevance to newly arrived migrants in the EU/EEA](#)" targeting front line health-care workers assessing the health of newly arrived migrants.

| Diseases of interest * | Link to available updates by disease/ disease group (source, year) | Link to disease distribution maps (source, year) |
|----------------------------|--|---|
| Tuberculosis | Tuberculosis (CDC, current) ; Vaccine-preventable diseases and vaccines, including updates on Tuberculosis (WHO, 2015) | Tuberculosis, estimated new cases (WHO, 2010) ; Proportion of multidrug-resistant tuberculosis (MDR TB) among new |
| Scabies | Scabies (CDC, current) | |
| Malaria | Malaria (WHO 2015) ; Malaria (CDC, current) ; Yellow Fever & Malaria Information, by Country (CDC, current) ; | Malaria (WHO, 2010) ; Malaria-endemic countries in the eastern hemisphere (CDC, current) |
| Meningitis | Vaccine-preventable diseases and vaccines, including updates on Meningococcal Disease (WHO, 2015) ; Meningococcal Disease (CDC, current) ; | Meningococcal meningitis, countries/areas at high risk (WHO, 2014) |
| Gastro-intestinal diseases | Cholera (CDC, current) ; Taeniasis (CDC, current) ; Strongyloidiasis (CDC, current) ; Helminths, Soil-Transmitted (CDC, current) ; Pinworm (Enterobiasis, Oxyuriasis, Threadworm) (CDC, current) ; Amebiasis (CDC, current) ; Giardiasis (CDC, current) ; Brucellosis (CDC, current) ; Echinococcosis (CDC, current) ; E.coli (CDC, current) ; Salmonellosis, Nontyphoidal (CDC, current) ; Shigellosis (CDC, current) ; Vaccine-preventable diseases and vaccines, including updates on Cholera, Rotavirus, Typhoid fever (WHO, 2015) ; Travelers' Diarrhoea (CDC, current) ; | Cholera , areas reporting outbreaks (WHO, 2010-2014) |
| Hepatitis C | Hepatitis C (WHO, 2016) ; Hepatitis C virus infection (CDC, current) | Global epidemiology of hepatitis C virus infection (CDC, 2013) |
| Poliomyelitis | Poliomyelitis (Source CDC, current) ; Vaccine-preventable diseases and vaccines—including updates on Poliomyelitis (WHO, 2015) | Polio (WHO, 2015) |
| Influenza | Vaccine-preventable diseases and vaccines—including updates on Influenza (WHO, 2015) | Distribution of H5N1 avian influenza (CDC, current) |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.

The project "717317/CARE" has received funding from the European Union's Health Programme (2014-2020).

Travel medicine dispatch: Mediterranean migration routes

Confidential - contains non-official/unvalidated information

Migrants arriving to the EU are generally in good health. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage. For this reason, it is important for front line health-care workers assessing the health of newly arrived migrants in point of entry Southern European Union countries, to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients.

This dispatch, part of the CARE project, is a travel medicine service targeting epidemic prone diseases in countries part of recognized Mediterranean migration routes and is intended for those front line health-care workers.

The dispatch is compiled weekly using digital detection technologies from a number of different internet sources (including institutional official websites as well as non-official sources, e.g. online news articles and blogs). For each information in the dispatch, the official/non official nature of the source is stated. **This dispatch can therefore contain non-verified information and is only to be used as an information tool to support health-care workers in performing clinical health evaluations under the general medical principle of precaution.**

This dispatch is complemented by an appendix on diseases and countries of interest identified through an online survey targeting front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

For any further details on the methodology and the nature of the information included, please contact us at careproject@iss.it

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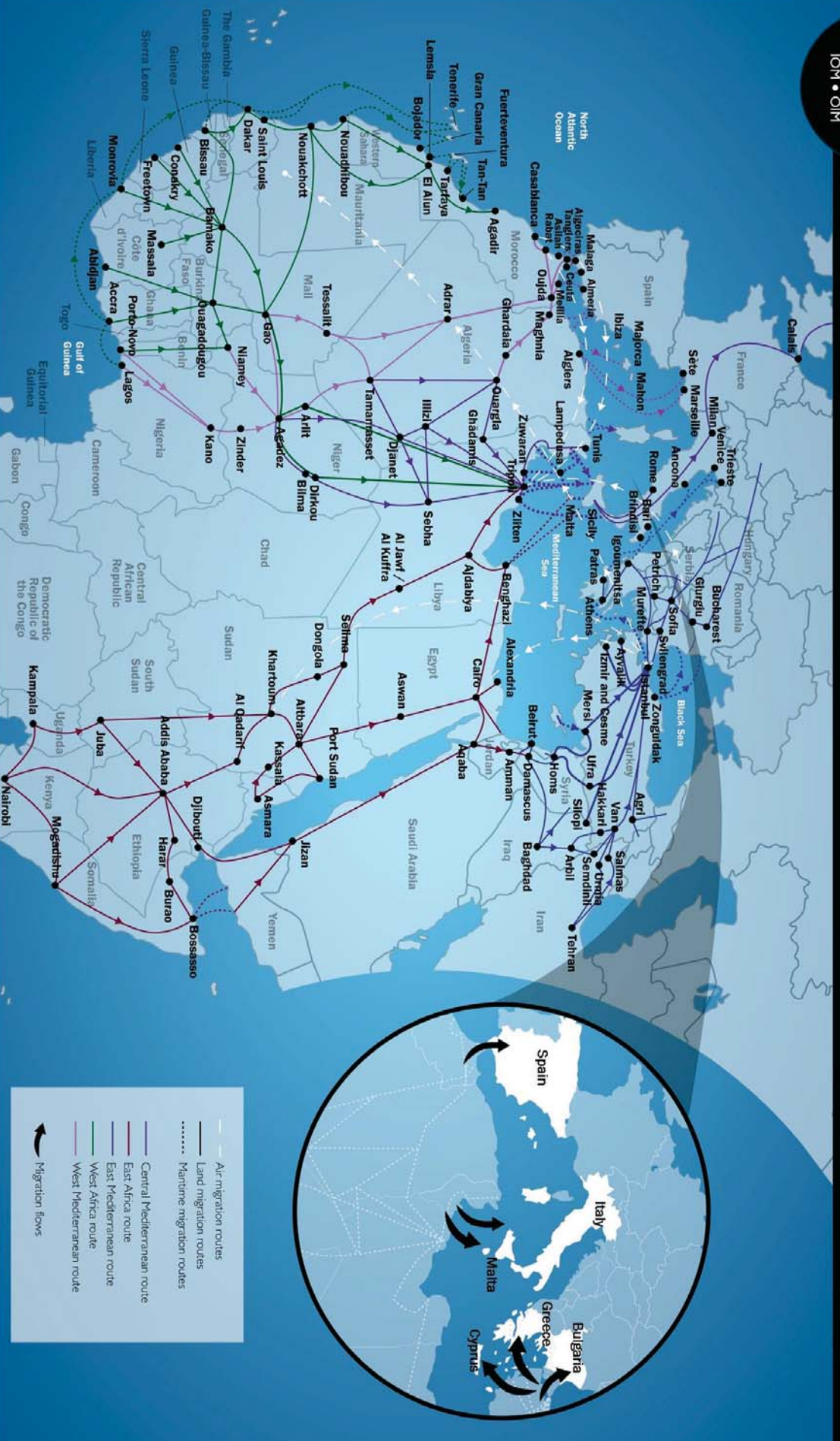
This Dispatch is produced by the following researchers of the National Center for Epidemiology, Surveillance and Health Promotion (CNESPS) of the Italian Institute of Health (ISS): Flavia Riccardo, Martina Del Manso and Maria Grazia Caporali. The CARE WP5 activities are led by Silvia Declich (CNESPS-ISS).

Contact: careproject@iss.it

The dispatch is compiled by monitoring the Medical Information System (MedISys) (<http://medisys.newsbrief.eu/medisys/homeedition/it/home.html>) managed by the European Commission Joint Research Centre (JRC).



Migrant Routes: Mediterranean 2016



International Organization for Migration (IOM) - Preparedness and Response Division (PRD) and Media and Communications Division (MCD)
Names and boundaries indicated on map do not imply official endorsement or acceptance by IOM. 27/4/16

Migration.iom.int

16 October 2016: Niger (Tahoua region) - Rift Valley Fever (RVF): ongoing outbreak, from 2 August to 10 October 2016, 90 human cases including 28 deaths reported.

NON-OFFICIAL SOURCE: In an update on the Rift Valley fever (RVF) outbreak in western Niger, the World Health Organization (WHO) puts the case tally at 90, including 28 deaths, according to a Thomson Reuters Foundation report. The outbreak started in August in the Tahoua region. The fear from UN health officials is that the viral disease may spread in West Africa. "Herders migrating with infected livestock pose the biggest risk of the epidemic crossing borders," Oumarou Maidadji, medical coordinator for The Alliance for International Medical Action (ALIMA), told the Thomson Reuters Foundation by phone. Nomadic stockbreeders from Niger and neighboring countries have just participated in the Cure Salée festival, a major annual mass gathering event from 23 to 25 September. During this festival, herds are brought to graze on the salty pastures ahead of the dry season. Around 2 million cattle and even more small ruminants were expected to be part of the event. Rift Valley Fever is mosquito-borne virus that is endemic in parts of Africa including South Africa. It primarily infects animals like sheep, cattle and goats and it can have an economic impact on a community due to the loss of livestock. Humans get infected through contact with infected animal blood or organs. Butchering and slaughtering of animals is a primary cause of transmission to humans. Certain occupations are at a higher risk of getting Rift Valley Fever like farmers, herders and veterinarians. It can also be transmitted to humans through mosquito bites and the bites of blood-sucking flies. Most cases of Rift Valley Fever are mild and symptoms include fever, headaches and muscle pain. However, a small percentage of people can get serious disease which includes retinitis, encephalitis and a hemorrhagic fever. Fatalities happen in less than 1 percent of those infected.

User defined, 17 Oct 2016 13:01 CEST, <http://outbreaknewstoday.com/niger-rift-valley-fever-update-90-cases-28-deaths-93413/>

East Africa and Eastern Mediterranean Routes

11 October 2016 - South Sudan (Abyei) - Measles: ongoing outbreak, 17 confirmed cases

OFFICIAL SOURCE: A number of measles cases have been reported in Abyei, with at least 17 cases confirmed as of 4 October. In response to the high number of cases, a campaign is planned for 8 October, targeting 19,815 children. UNICEF will be providing support for vaccine logistics and transportation, as well as social mobilization.

User defined, 17 Oct 2016 12:35 CEST, <http://reliefweb.int/report/south-sudan/unicef-south-sudan-humanitarian-situation-report-95-22-september-6-october-2016>

10 October 2016 - Yemen (San'a) - Cholera: ongoing outbreak, 11 human confirmed cases

OFFICIAL SOURCE: The Ministry of Public Health and Population in Yemen has announced the occurrence of cholera cases in the capital city of Sana'a, Yemen. As of 8 October 2016, a total of 11 cases of cholera were laboratory-confirmed. The stool samples were tested positive for *Vibrio cholerae* at the Central Public Health Laboratory in Sana'a. No deaths have been reported so far. Most of the cases were reported from Sana'a. The cases appear to be spreading to the northern coastal areas, Aden in particular. Acute watery diarrhoeal diseases are endemic in Yemen. It is the second most common cause of death, especially among infants and school children. WHO, is coordinating with the Ministry of Public Health and Population and partners on the ground to undertake necessary public health measures to stop the transmission of *Vibrio cholerae* and prevent its spread to other areas. WHO is also supporting the Ministry to enhance surveillance, improve case management and raise community awareness in high-risk areas.

User defined, 17 Oct 2016 12:17 CEST, <http://www.emro.who.int/surveillance-forecasting-response/outbreaks/cholera-cases-in-yemen.html>

11 October 2016: South Sudan - Cholera: ongoing outbreak, from January 2016 2450 cases and 37 deaths

OFFICIAL SOURCE: As of 3 October, a total of 2,450 cholera cases have been reported, with 37 deaths confirmed. Outbreaks have been confirmed in two new areas, however areas of active transmission are restricted to Juba, Mingkaman and Fangak.

User defined, 17 Oct 2016 12:32 CEST, <http://reliefweb.int/report/south-sudan/unicef-south-sudan-humanitarian-situation-report-95-22-september-6-october-2016>

15 October 2016 - Saudi Arabia - MERS-CoV: 1 new confirmed case

NON-OFFICIAL SOURCE: Via the KSA MOH Command and Control Center: MOH: '1 New Confirmed Corona Cases Recorded'. A 73-year-old Saudi man in Hofuf is a primary case with direct camel contact. He is in stable condition. No deaths or recoveries are reported. Saudi Arabia seems to have settled into a kind of default situation with MERS: a sporadic case affecting an elderly Saudi man with camel contact. This makes me wonder if cases were appearing before 2012 when the disease was recognized. They may have been mostly asymptomatic, or misdiagnosed, and could not have resulted in big nosocomial outbreaks. Something happened at about the time of the Jordanian hospital outbreak in 2011 that made

a coronavirus unusually dangerous. Can anyone suggest relevant studies of the early years of MERS?

blog_crofsblogs, 15 Oct 2016 17:17 CEST, <http://crofsblogs.typepad.com/h5n1/2016/10/saudi-arabia-one-new-mers-case-as-of-noon-october-15.html>

Newly arrived migrants to EU (ex Mediterranean sea)

16 October 2016 - Italy - Meningitis: 1 confirmed case (Article in italian)

NON-OFFICIAL SOURCE: Meningitis is a disease that affects children and adults and scares because if not caught in time or in severe grip can lead to fulminant death. The news of this two-years-old girl who tested positive for meningitis is of few hours ago. Just yesterday, the ASL has given rise to all procedures to enable all citizens and to all migrants who have come in contact with the child to follow all the preventive measures required by the case. The little girl arrived a week ago along with another hundred people to Augusta. Initially it was taken to a reception center in Viterbo and after the first necessary checks was transferred to hospital. At first she was diagnosed with a flu and carried out the necessary investigations, doctors discovered that it was meningitis. At the time the girl is in quarantine and the conditions seem to be still critical. So it was implemented all the security measures for areas of the ASL of Genoa, La Spezia and Savona, where others migrated arrived last week.

milanosanita.it, 17 Oct 2016 12:47 CEST, <http://www.milanosanita.it/notizie/caso-meningite-bimba-2-anni-migrante-viterbo/>



Appendix to the travel medicine dispatch

Migrants arriving to the EU are **generally in good health**. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes.

Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage. For this reason, it is important for **front line health-care workers assessing the health of newly arrived migrants in point of entry Southern European Union countries**, to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients.

This **Appendix complements the CARE travel medicine dispatch**, and focuses on diseases and countries of interest identified through an online survey targeting front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

All sources cited in this Appendix are official sources.

Immunization coverage in countries of origin of migrants in the EU/EEA arriving through Mediterranean Migration Routes

Global data on immunization coverage is retrievable at the following WHO website (http://www.who.int/immunization/monitoring_surveillance/data/en/).

This website provides:

1. [Official country reported coverage estimates](#);
2. [WHO/UNICEF Estimates of National Immunization Coverage](#) (WUENIC).

Most frequently reported countries of origin of newly arrived migrants*

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries (link to pdf document)

| | |
|-------------|--|
| Syria | Syrian Arab Republic: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Afghanistan | Afghanistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Pakistan | Pakistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Nigeria | Nigeria: WHO and UNICEF estimates of immunization coverage: 2015 revision |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia, September 2016.



Appendix to the travel medicine dispatch

Endemic/Epidemic diseases of interest to front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

Global updates on the epidemiology and clinical management of communicable diseases by country, for travel medicine purposes, are published by:

1. The World Health Organization (WHO): [International travel and health](#)
2. The US Centres for Disease Control and Prevention (CDC): [Yellow Book](#)

The European Centre for Disease Control and Prevention (ECDC) published in 2015 a Technical Document "[Infectious diseases of specific relevance to newly arrived migrants in the EU/EEA](#)" targeting front line health-care workers assessing the health of newly arrived migrants. Furthermore the International Organization of Migrants (IOM) published in 2015 an [handbook](#) to provide a checklist of infectious diseases to be considered among migrant populations and it serves as a reminder for frontline healthcare workers of the risks of infectious diseases for newly-arrived migrants.

| Diseases of interest * | Link to available updates by disease/ disease group (source, year) | Link to disease distribution maps (source, year) |
|----------------------------|--|--|
| Tuberculosis | Tuberculosis (CDC, current) ; Vaccine-preventable diseases and vaccines, including updates on Tuberculosis (WHO, 2015) | Tuberculosis, estimated new cases (WHO, 2010) ; Proportion of multidrug-resistant tuberculosis (MDR TB) among new tuberculosis cases (CDC, 2012) |
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| Hepatitis C | Hepatitis C (WHO, 2016) ; Hepatitis C virus infection (CDC, current) | Global epidemiology of hepatitis C virus |
| Poliomyelitis | Poliomyelitis (Source CDC, current) ; Vaccine-preventable diseases and vaccines—including updates on Poliomyelitis (WHO, 2015) | Polio (WHO, 2015) |
| Influenza | Vaccine-preventable diseases and vaccines—including updates on Influenza (WHO, 2015) | Distribution of H5N1 avian influenza (CDC, current) |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.

Travel medicine dispatch: Mediterranean migration routes

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CARE WP5 Dispatch Team

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This Dispatch is produced by the following researchers of the National Center for Epidemiology, Surveillance and Health Promotion (CNESPS) of the Italian Institute of Health (ISS): Flavia Riccardo, Martina Del Manso and Maria Grazia Caporali. The CARE WP5 activities are led by Silvia Declich (CNESPS-ISS).

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Migrant Routes: Mediterranean 2016



**20 October 2016: Niger (Tahoua region) -
Rift Valley Fever (RVF): ongoing outbreak,
as of 18 October 2016, 132 human cases
including 31 deaths reported (Report in French)**
(OCHA Bulletin humanitaire Niger Septembre - octobre 2016)

OFFICIAL SOURCE: Rift valley fever has affected 132 people (57 women and 66 men) and caused 31 deaths in the Tahoua region (Niger), as of October 18, according to health officials. Tchintabaraden Tassara and are the most affected health districts by this epidemic declared September 20 by the Government of Niger. Additional material of interest: ECDC Rapid Risk Assessment "Outbreak of Rift Valley fever in Niger. Risk for the European Union" (October 2016) <http://ecdc.europa.eu/en/publications/Publications/rift-valley-fever-virus-niger-risk-assessment.pdf>

Original text: OFFICIAL SOURCE: La Fièvre de la Vallée du Rift (FVR) a touché 132 personnes (57 femmes et 66 hommes) et causé 31 décès dans la région de Tahoua, au 18 octobre, selon les autorités sanitaires du Niger. Tchintabaraden et Tassara sont les deux districts sanitaires les plus touchés par cette épidémie déclarée le 20 septembre par le Gouvernement du Niger.

Relief Web, 20 Oct 2016 19:38 CEST, http://reliefweb.int/sites/reliefweb.int/files/resources/NER_Bulletin_Humanitaire_20161020.pdf

20 October 2016: South Sudan - Guinea worm (re-emergence): 55 suspected cases since the beginning of the year.

OFFICIAL SOURCE: In a disappointing set-back following extensive efforts to eradicate Guinea worm disease in South Sudan, 15 suspected cases were reported in September and October in KajoKeji (1), Jur river (1), Tambura (1) Tonj South (6), Yirol West (4) and Wau (2), bringing to 55 the number of suspected cases reported this year. South Sudan has made significant progress towards eliminating the disease in recent years, reducing cases from over 20,000 in 2006 to 70 in 2014 and just six in 2015. Efforts to eliminate Guinea worm have included filtering drinking water, treating drinking water with Abate chemical, isolating patients with the disease, health education and provision of safe drinking water. Incentives are also offered for those infected to come forward through a cash-reward programme that gives 5,000 South Sudanese Pounds to any individual who reports a case of Guinea worm at a health facility. Guinea worm disease is caused by drinking water containing water fleas (Cyclops species) that have ingested *Dracunculus* larvae. Once ingested, the Guinea worm burrows through the flesh to the surface and can be an extremely painful and debilitating disease. South Sudan is one of the four remaining countries affected by Guinea worm, together with Chad, Ethiopia and Mali.

User defined, 24 Oct 2016 12:05 CEST, <https://newsdesk.emm4u.eu/ND1/workspace.html?t=1477298088213>

20 October 2016: South Sudan - Measles: ongoing outbreaks (13 confirmed nationwide in 2016), 1,782 suspected measles cases and at least 19 deaths reported since the beginning of the year. Reactive measles campaigns ongoing.

OFFICIAL SOURCE: A new outbreak of measles was confirmed in Gogrial West in Warrap in late September, bringing the number of outbreaks confirmed this year across the country to 13. Since the beginning of 2016, a total of 1,782 suspected measles cases including at least 19 deaths have been reported countrywide. Most of the suspected cases reported have been in Unity, which accounts for 652, followed by Warrap with 269 and Northern Bahr el Ghazal with 243. Suspected cases were also highest in Unity in 2015. The 13 outbreaks have been confirmed in: Juba in Central Equatoria; Twic and Gogrial West in Warrap; Mayom in Unity; Aweil West, North and Centre in Northern Bahr el Ghazal; Malakal in Upper Nile; Yirol West and West in Lakes; and in the disputed Abyei Area. Health partners are undertaking both prevention and response activities in an attempt to stem the outbreaks. A reactive measles campaign in the Abyei Area began on 10 October has reached over 21,500 children and plans are underway for a similar response in Gogrial West. A similar campaign was conducted from January to April in response to the outbreaks in Warrap, Unity, Northern Bahr el Ghazal, Central Equatoria, Upper Nile, Lakes and Western Bahr el Ghazal, reaching about 369,000 children aged 6 months to 15 years. However, routine vaccination coverage remains low, including due to insecurity, destruction and looting of health facilities, which often results in damage to cold chain facilities that are vital for the storage of vaccinations.

User defined, 24 Oct 2016 11:58 CEST, http://reliefweb.int/sites/reliefweb.int/files/resources/1601020_OCHA_SouthSudan_humanitarian_bulletin16.pdf

20 October 2016: South Sudan - Cholera: ongoing outbreak, eight counties affected countrywide, as of 16 October 2539 cases and 38 deaths.

OFFICIAL SOURCE: The 2016 cholera outbreak is now affecting eight counties countrywide, with 2,539 cases and 38 deaths (Case Fatality Rate (CFR) 1.5 per cent) reported as of 16 October, as compared to 1,818 cases and 47 deaths (CFR 2.58 per cent) reported by the same time last year. The latest areas to confirm cases are Leer Town and Rubkona in Unity. Other areas with confirmed cholera cases include Juba and Terekeka in Central Equatoria, Pageri in Eastern Equatoria, Duk and Fangak in Jonglei, and Awerial in Lakes. Juba remains worst affected, accounting for 1,911 of the reported cholera cases and 14 deaths. Awerial has reported 328 cases and 3 deaths, Fangak 167 cases and 4 deaths, Duk 77 cases and 8 deaths, Pageri 29 cases and 1 death, Terekeka 22 cases and 8 deaths, Rubkona 3 cases and Leer 2 cases. Partners are concerned about the risk of further spread of the disease in Fangak due to severe floods which have affected 30,000 people, and in Leer and surrounding areas due to ongoing insecurity which continues to displace people and restrict the presence of aid workers in the area.

User defined, 17 Oct 2016 12:32 CEST, http://reliefweb.int/sites/reliefweb.int/files/resources/1601020_OCHA_SouthSudan_humanitarian_bulletin16.pdf

23 October 2016 - Yemen - Cholera: ongoing outbreak, 644 suspected cases including 3 deaths reported (31 cases laboratory-confirmed).

OFFICIAL SOURCE: 23 October 2016 – The Ministry of Public Health and Population in Yemen has confirmed additional cases of cholera and cholera-related deaths in the country. As of today, a total of 644 suspected cases of cholera, including 3 deaths, have been reported. 31 cases have been laboratory-confirmed so far. Among the deaths, 2 occurred in Sanaa and 1 death occurred in Aden governorate. Acute watery diarrhoeal diseases are endemic in Yemen. It is the second most common cause of death, especially among infants and school children. As a result of the ongoing conflict, two third of Yemenis do not have access to clean water and sanitation services are limited, especially in cities, further increasing the risk of catching cholera. WHO is working in coordination with the Ministry of Public Health and Population and partners on the ground to run a joint health/WASH taskforce to coordinate the daily response. WHO is also supporting the Ministry to take necessary public health measures to stop transmission and prevent the spread of cholera to other areas, enhance surveillance, improve case management and raise community awareness in high-risk areas.

User defined, 17 Oct 2016 12:17 CEST, <http://www.emro.who.int/surveillance-forecasting-response/surveillance-news/cholera-update-in-yemen-23-october-2016.html>

23 October 2016 - Saudi Arabia - MERS-CoV: 6 new cases, including one death, reported in the past week.

NON-OFFICIAL SOURCE: With the onset of winter, fresh incidents of the Middle East Respiratory Syndrome coronavirus (MERS-CoV) are being recorded in some parts of the Kingdom, according to figures released by the Ministry of Health on Friday. During the past seven days, six new cases of MERS, including one death, were reported in the Kingdom. The death was of a 73-year-old Saudi man in Hofuf who was ailing for some time in hospital, while the other five cases were those of a 53-year-old Saudi man from Abha, a 72-year-old man from Riyadh, an expatriate, 47, from Buraidah, a 73-year-old Saudi man, and an expatriate woman from Hofuf. According to doctors, the patients in Riyadh and Abha are in critical condition getting treatment in the intensive care unit.

User defined, 24 Oct 2016 12:47 CEST, <http://www.arabnews.com/node/1001411/saudi-arabia>

21 October 2016 - Angola and Democratic Republic of Congo (DRC)- Yellow Fever- ongoing outbreaks: in Angola as of 13 October 4306 suspected cases and 376 deaths (884 cases laboratory confirmed), in DRC as of 19 October 2970 suspected cases (77 cases laboratory confirmed).

OFFICIAL SOURCE: Angola - Forty-five probable cases were reported in the last four weeks. - From 5 December 2015 to 13 October 2016: - 4306 suspected cases, with 376 deaths (case fatality rate, CFR: 8.8%); - 884 cases have been laboratory confirmed, with 121 deaths (CFR: 13.7%). - Since the start of the outbreak, suspected cases have been reported from all 18 provinces; confirmed cases have been reported from 80 districts in 16 provinces (Table 2). Autochthonous transmission has been reported from 45 districts in 12 provinces. Democratic Republic of the Congo - From 1 January to 19 October 2016: - 2970 notified cases reported from all 26 provinces; - 77 confirmed cases have been identified from 2800 suspected cases that have been laboratory tested, with 16 deaths (CFR: 21%); - Of the 77 confirmed cases, reported from eight provinces (Fig. 4), 57 acquired infection in Angola, 13 are autochthonous, and seven are cases of sylvatic transmission (not related to the outbreak). - Sixteen probable cases remain under investigation (four in Kinshasa, eight in Kwango and one case each in Bas Uele, Kwilu, Lualaba and Sud Ubangi provinces).

User defined, 24 Oct 2016 13:06 CEST, <http://apps.who.int/iris/bitstream/10665/250593/1/yellowfeversitrept21Oct16-eng.pdf?ua=1>

22 October 2016 - Italy (ex Mediterranean Sea) - Scabies, head lice: 814 migrants land in Reggio Calabria, reportedly the only communicable diseases detected are some cases of head lice and scabies (article in Italian).

(814 migranti a Reggio Calabria:
pidocchi, scabbia, ferite di arma da fuoco)

NON-OFFICIAL SOURCE: There is a gunshot- wounded person among the 814 migrants who landed this morning in the port of Reggio Calabria on board the ship Bourbon Argos Doctors Without Borders. The group consists of 814 immigrants, 716 men, 81 women and 17 minors. Among the women, ten were pregnant. Three of those were at the 8th month of pregnancy and were transferred to hospital for controls. Five migrants suffered leg fractures. Some cases of head lice and scabies were detected. The countries of origin were Senegal, Nigeria, Guinea, Congo, and Syria.

Original text: FONTE NON UFFICIALE: C'è un ferito per un colpo da arma da fuoco tra gli 814 migranti sbarcati questa mattina nel porto di Reggio Calabria a bordo della nave Bourbon Argos di Medici Senza Frontiere. Il gruppo è composto da 814 migranti, 716 uomini, 81 donne e 17 minori. Dieci delle donne sono incinte e tre, che sono all'ottavo mese, sono state trasferite in ospedale per controlli. Cinque migranti, inoltre, presentano fratture alle gambe. Le nazioni di provenienza sono Senegal, Nigeria, Guinea, Congo e Siria. Sono stati rilevati alcuni casi di pediculosi e scabbia.

Quotidiano di Imola, 22 Oct 2016 12:44 CEST, <http://www.imolaoggi.it/2016/10/22/814-migranti-a-reggio-calabria-pidocchi-scabbia-ferite-di-arma-da-fuoco/>



Appendix to the travel medicine dispatch

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Most frequently reported countries of origin of newly arrived migrants*

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries (link to pdf document)

| | |
|-------------|--|
| Syria | Syrian Arab Republic: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Afghanistan | Afghanistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Pakistan | Pakistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Nigeria | Nigeria: WHO and UNICEF estimates of immunization coverage: 2015 revision |

* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia, September 2016.



Appendix to the travel medicine dispatch

Endemic/Epidemic diseases of interest to front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

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| Malaria | Malaria (WHO 2015) ; Malaria (CDC, current) ; Yellow Fever & Malaria Information, by Country (CDC, current) ; | Malaria (WHO, 2010) ; Malaria-endemic countries in the eastern hemisphere (CDC, current) |
| Meningitis | Vaccine-preventable diseases and vaccines, including updates on Meningococcal Disease (WHO, 2015) ; Meningococcal Disease (CDC, current) ; | Meningococcal meningitis, countries/areas at high risk (WHO, 2014) |
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| Hepatitis C | Hepatitis C (WHO, 2016) ; Hepatitis C virus infection (CDC, current) | Global epidemiology of hepatitis C virus |
| Poliomyelitis | Poliomyelitis (Source CDC, current) ; Vaccine-preventable diseases and vaccines—including updates on Poliomyelitis (WHO, 2015) | Polio (WHO, 2015) |
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* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.

Travel medicine dispatch: Mediterranean migration routes

Confidential - contains non-official/unvalidated information

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For any further details on the methodology and the nature of the information included, please contact us at careproject@iss.it

CARE WP5 Dispatch Team

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East Africa and Eastern Mediterranean Routes_____1

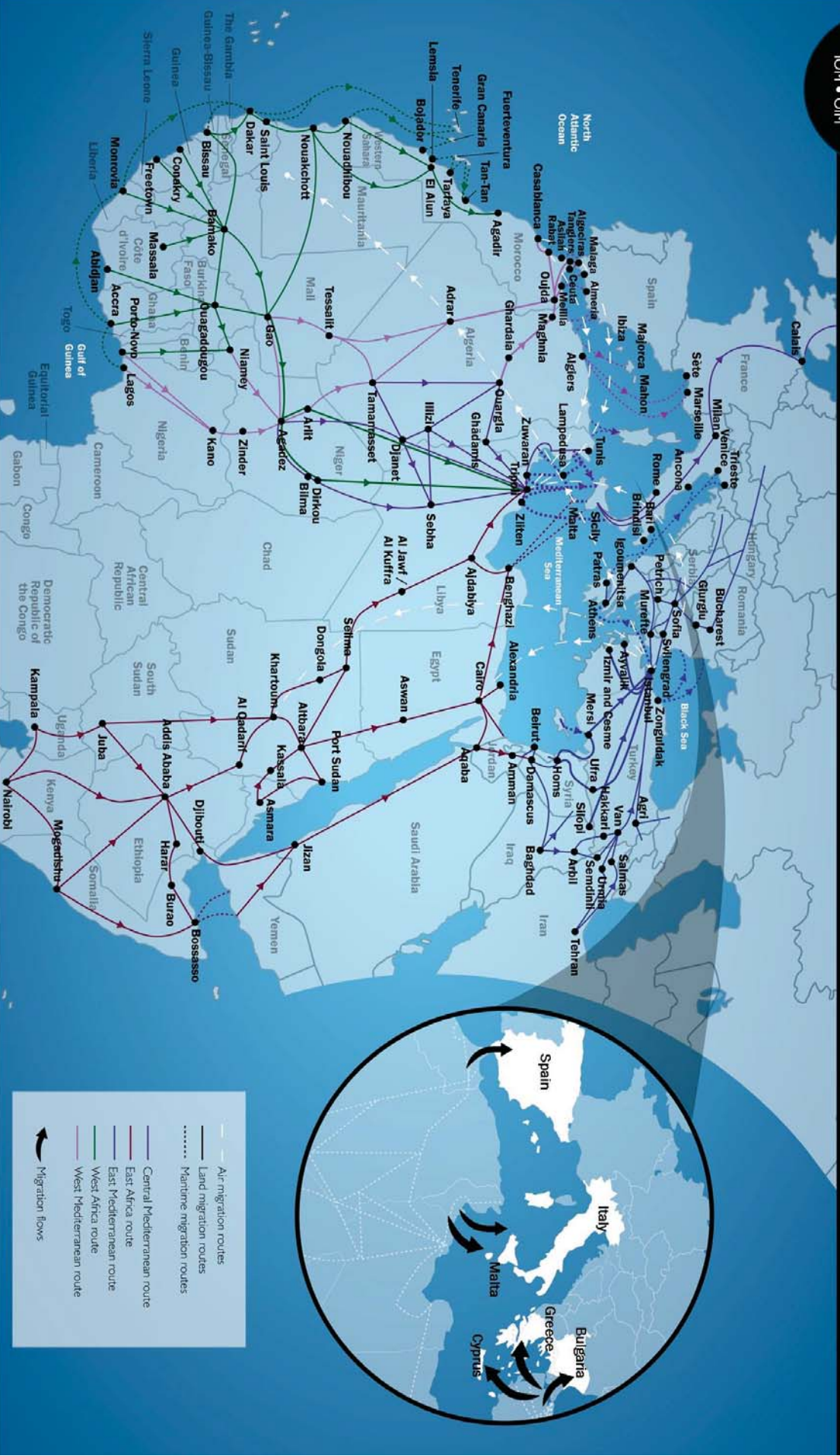
West Africa and Western Mediterranean Routes_____2

This Dispatch is produced by the following researchers of the National Center for Epidemiology, Surveillance and Health Promotion (CNESPS) of the Italian Institute of Health (ISS): Flavia Riccardo, Martina Del Manso and Maria Grazia Caporali. The CARE WP5 activities are led by Silvia Declich (CNESPS-ISS).

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Migrant Routes: Mediterranean 2016



28 October 2016 - Somalia (Jubbaland) - Measles: ongoing outbreak, more than 280 cases since end of September 2016

NON-OFFICIAL SOURCE: On 14 October 2016, media report an outbreak of measles in Jubbaland. The measles unit in the Kismayo General Hospital, which is supported by Physicians Across Continents (PAC), has received more than 280 patients since the measles outbreak began at the end of September 2016. The patients are from areas under the control of Al-Shabab, where vaccination programmes have not been conducted for more than six years.

User defined, 31 Oct 2016 15:11 CET, <http://ecdc.europa.eu/en/publications/Publications/communicable-disease-threats-report-29-oct-2016.pdf>

28 October 2016 - Uganda (Amuru) - Cholera: ongoing outbreak, 2 new cases (death)

NON-OCCIFICAL SOURCE: Amuru — At least two people have died of cholera in Amuru District with cases registered rising to 40 patients since the outbreak of the epidemic last month, according to statistics from the district health officials. The in-charge of Bibia Health Centre III in Atiak Sub-county, Ms Susan Aromorach, said the latest case registered was on October 22 where four people were admitted to the facility. Ms Aromorach said among the four patients who had been admitted, two were children and they have since been discharged while one person is still admitted in the isolation ward.

All Africa, 31 Oct 2016 06:16 CET, <http://allafrica.com/stories/201610280002.html>

30 October 2016: Saudi Arabia - MERS- COV: 2 newly confirmed cases including 1 death, reported in the past week

OFFICIAL SOURCE: Updates with daily date and graph are published on the website of the Saudi Ministry of Health. An update reporting detailed case data and advice as of October 10th 2016 was also published by WHO on October 31th on <http://www.who.int/csr/don/31-october-2016-mers-saudi-arabia/en/>

User defined, 31 Oct 2016 14:01 CET, <http://www.moh.gov.sa/en/CCC/PressReleases/Pages/default.aspx>

27 October 2016 - Democratic Republic of Congo (DRC - Territory Kabongo) - Cholera: 6 suspected cholera cases, including one death

(République Démocratique du Congo : Haut-Lomami, Haut-Katanga et Lualaba, Note d'informations humanitaires du 27 octobre 2016)

OFFICIAL SOURCE: After a lull of more than seven years, the Kitenge health zone (Territory Kabongo) reported suspected cases of cholera. Between 03 and 16 October 2016, this health zone recorded six suspected cases of cholera including one death. According to local authorities, cholera has spread to this area in the context of commercial transactions between the residents of the city of Kitenge and those Malemba Nkulu Territory, where the cholera outbreak was declared, over 7 months ago. If a cholera epidemic were to be confirmed, the fight to control it risks being complicated because residents are not accustomed to cholera.

Original text: OFFICIAL SOURCE: Après une accalmie de plus de sept ans, la zone de santé de Kitenge rapporte des cas suspects de choléra. L'épidémie de choléra continue à s'étendre et contaminer les nouvelles zones qui étaient stables depuis plus de sept ans. D'après la Division provinciale de la santé du Haut-Lomami, la zone de santé de Kitenge, Territoire de Kabongo, vient d'enregistrer ses premiers cas suspects de choléra. Entre les 03 et 16 octobre 2016, cette zone de santé en a enregistré six dont un décès. Selon les autorités du territoire, le choléra s'est propagé à cette zone dans le cadre des transactions commerciales effectuées entre les habitants de la cité de Kitenge et ceux du Territoire de Malemba Nkulu, où l'épidémie de choléra a été déclarée, il y a plus de 7 mois. Si une épidémie de choléra venait à être confirmée, la lutte pour l'éradiquer risquerait d'être compliquée. En effet, les habitants de Kitenge n'étant pas habitués au choléra, il leur sera difficile d'observer les règles d'hygiène. D'après les experts, plus de la moitié des 16 zones de santé se trouvant dans la Province du Haut-Lomami sont des zones à risque d'épidémie de choléra. Elles sont situées en bordure de lacs, de rivières et du Fleuve Congo.

User defined, 31 Oct 2016 13:28 CET, <http://reliefweb.int/report/democratic-republic-congo/r-publique-d-mocratique-du-congo-haut-lomami-haut-katanga-et-7>

28 October 2016 - Angola and Democratic Republic of Congo (DRC)- Yellow Fever- ongoing outbreaks: in Angola as of 20 October 4347 suspected cases and 377 deaths (884 cases laboratory confirmed), in DRC as of 26 October 2987 suspected cases (78 cases laboratory confirmed).

OFFICIAL SOURCE: Angola - Two new probable cases without a history of yellow fever vaccination were reported from Kwanza Sul province in the last week. Of the forty-five probable cases that were reported in the four weeks to 13 October: 31 have been discarded, two are undergoing further testing and 12 await classification by the committee. From 5 December 2015 to 20 October 2016: 4347 suspected cases, with 377 deaths (case fatality rate, CFR: 8.7%) and 884 cases have been laboratory confirmed, with 121 deaths (CFR: 13.7%). Democratic Republic of the Congo - From 1 January to 26 October 2016: 2987 notified cases reported from all 26 provinces and 78 confirmed cases have been identified from 2800 suspected cases that have been laboratory tested, with 16 deaths (CFR: 21%); Of the 78 confirmed cases, reported from eight provinces, 57 acquired infection in Angola, 13

are autochthonous, and eight are cases of sylvatic transmission (not related to the outbreak). One new confirmed, sylvatic case was reported from Bominenge Health Zone in Sud Ubangui province. This was one of the sixteen probable cases that were reported under investigation last week. This new sylvatic case reportedly had symptom onset on 17 August. Fourteen probable cases remain under investigation (three in Kinshasa, eight in Kwango and one case each in Bas Uele, Kwilu, and Lualaba provinces). In addition to the case in Sud Ubangui that was under investigation and is now classified as a new sylvatic case, one case in Kinshasa was ruled out due to previous yellow fever vaccination history.

User defined, 31 Oct 2016 13:45 CET, <http://apps.who.int/iris/bitstream/10665/250661/1/yellowfeversitrep28Oct16-eng.pdf?ua=1>



Appendix to the travel medicine dispatch

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CARE WP5 Dispatch Team

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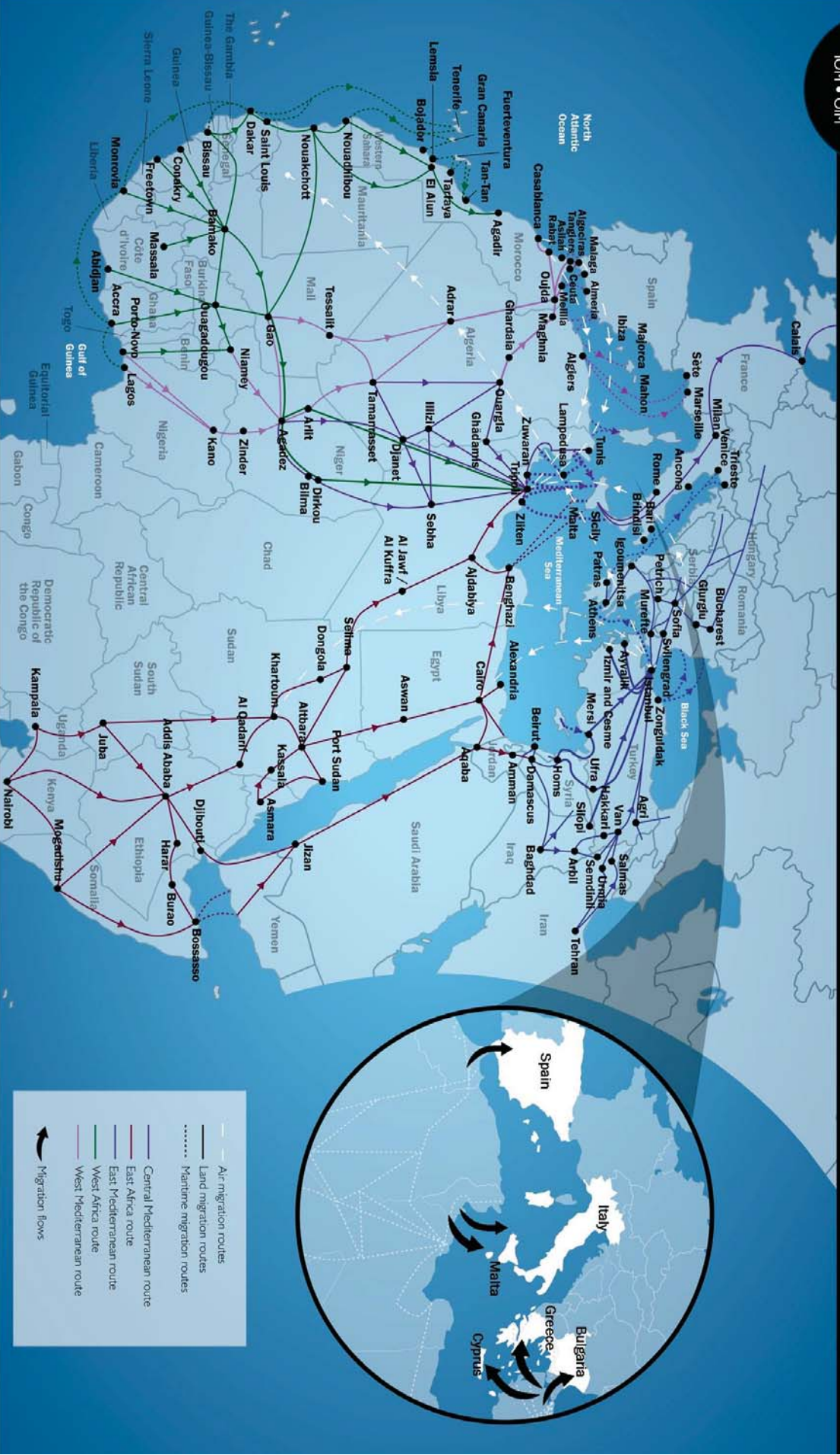
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Migrant Routes: Mediterranean 2016



1 November 2016 - Yemen (11 governorates) - Cholera: ongoing outbreak, 71 cases confirmed and over 2000 suspected

OFFICIAL SOURCE: On 6 October 2016, Yemen's Ministry of Public Health and Population (MoPHP) confirmed a cholera outbreak in Sana'a City and Al Bayda Governorate. Since then, the numbers of confirmed and suspected cholera cases have continued to increase, sparking concerns of a significant outbreak. As of 1 November, 71 cases had been confirmed by laboratory testing in eleven governorates, including Amanat Al Asimah (Sana'a city), Aden, Amran, Al Hudaydah, Al Bayda, Dhamar, Lahj, Ibb, Hajjah, Sana'a, and Taizz. Eight deaths had been confirmed in Aden, Amran, and Ibb. Some 2,070 suspected cases are pending laboratory testing. Given the dramatic breakdown of the health care system and its infrastructure throughout Yemen, as a result of 19 months of intensified violence and import restrictions and the consequential collapsing economy, the outbreak poses a significant threat to men, women, and children who are already weakened by the depletion of their protection safety nets, livelihood, and ability to access social services.

User defined, 07 Nov 2016 12:31 CET, <http://reliefweb.int/sites/reliefweb.int/files/resources/OCHA%20Cholera%20Situation%20Report%202-%20For%20Publication%20.pdf>

5 November 2016 - Multistate (Eastern and Western Mediterranean Routes) - Cholera: updates on ongoing outbreaks in Uganda, Ghana, Central African Republic, Democratic Republic of Congo, Niger, Cameroon, Somalia and Burundi

NON OFFICIAL AND OFFICIAL SOURCES: Source European Centre for Disease Prevention and Control (ECDC): - Uganda: According to media reports, 40 cases and two deaths due to cholera occurred in Amuru, Uganda, in October. - Ghana: Since late October and as of 2 November, the Ministry of Health of Ghana, confirmed 157 cholera cases in the Central regional capital, Cape Coast. - Central African Republic: According to the weekly regional update, the number of cases dropped sharply in the past week. However, suspected cases of cholera are still being reported. - Democratic Republic of Congo: Since the beginning of 2016 and as of week 40, there have been 22 558 cases. Of these cases, 546 were reported in week 40. - Niger: After rumours of a gastroenteritis outbreak received on 20 October, an investigation was conducted in the Niger health district of Dosso, where 23 people were affected. There were six community deaths and three deaths in health facilities, which represents an intra-hospital mortality of 17% and an overall mortality of 39%. *Vibrio cholerae* O1, serotype Ogawa, was isolated from the samples collected. - Cameroon: As of week 41, 17 suspected cholera cases were reported, compared with 61 during the same period in 2015. Cases were reported in six out of ten regions (Centre, East, Far North, Littoral, North and South). So far, no cases have been laboratory confirmed. - Somalia: The number of reported cases of AWD/cholera in the first half of 2016 alone was 140 per cent higher than in all of 2015. - Burundi: According to media reports, Kinogono is the community which is most affected by the cholera epidemic that is sweeping through Minago area in Rumonge province. The epidemic broke out on 9 October and has affected 13 people in total so far. Patients are treated at a cholera treatment centre. Two patients are still hospitalised while 11 have already been discharged.

User defined, 07 Nov 2016 12:18 CET, http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1597

6 November 2016 - South Sudan - Malaria: nearly 1.9 million cases reported nationally, an increase of more than 80,000 compared with the same period in 2015.

OFFICIAL SOURCE: Reported malaria cases in 2016 have surpassed the number recorded at the same time last year. As of 23 October, nearly 1.9 million cases had been reported across South Sudan, an increase of more than 80,000 compared to 1.82 million cases reported during the same period in 2015. Following spikes in reported malaria cases in multiple locations, the malaria incidence at IDP sites is within expected levels and has either normalized or is gradually returning to normal in 26 (33 per cent) affected counties. This follows a series of interventions by health organisations, including improving access to treatment through mobile clinics, distribution of insecticide-treated mosquito nets, indoor residual spraying and larviciding. Partners are also providing malaria diagnostics and medicines and have increased both the number of treatment points and opening hours at primary healthcare centres. Radio programmes promoting the use of mosquito nets to reduce malaria transmission are also being aired. All counties reported an upsurge in malaria across the country in 2016, with Northern Bahr El Ghazal and Upper Nile reporting more than twice the number of cases when compared to 2015. The number of malaria cases is expected to decline with the onset of the dry season in the coming weeks. Read more: WHO South Sudan Weekly Disease Surveillance Bulletin -- <http://bit.ly/2fip4A2>

Xinhuanet (English), 07 Nov 2016 04:51 CET, http://reliefweb.int/sites/reliefweb.int/files/resources/1601106_OCHA_SouthSudan_humanitarian_bulletin17.pdf

5 November 2016 - Nigeria - HIV and other sexually transmitted infections: spread in an Internally Displaced Persons (IDP) camp in the Northeast

NON OFFICIAL SOURCE: The Human Rights Watch (HRW) has released a report concerning the spread of Human Immuno-deficiency Virus (HIV) within an Internally Displaced Persons (IDP) camp in the Northeast. Part of the report read: "A medical health worker in one of the camps, which has 10, 000 residents said the number of people requiring treatment for HIV and other sexually transmitted infections has risen sharply, from about 200 cases when the camp clinic was established in 2014 to more than 500, in July 2016." Reportedly IDP populations may have suffered abuse from authorities in charge. According to the article, quoting a statement by presidential spokesperson, Garba Shehu, "President Buhari has instructed the Inspector General of Police and the state governors of the affected states to immediately commence investigations into the issue. Their findings will determine the next course of action for the government and define an appropriate response". See also HRW press release: <https://www.hrw.org/news/2016/10/31/nigeria-officials-abusing-displaced-women-girls>

Online Nigeria, 05 Nov 2016 22:32 CET, <http://news2.onlinenigeria.com/news/general/554240-panic-in-northeast-as-hiv-ravages-internally-displaced-persons-camps.html>

2 November 2016 - Cameroon - Measles: ongoing outbreaks in 6 health districts (report in French) (Cameroun: Relevé épidémiologique Mensuel REM N°5, octobre 2016)

OFFICIAL SOURCE: The latest WHO monthly epidemiological report highlighted a measles outbreak in the health district (DS) of Mora (Far North Region bordering Nigeria). This brings to 6 the number of health districts which recorded a measles epidemic in 2016 (Lagdo rural Ngaoundere Tignère, Mbonge, Kolofata and Mora). The Mora DS borders the Kolofata DS which had recorded an outbreak mainly among refugee populations.

Original text: Faits saillants : Epidémie de Rougeole dans le DS de Mora ; Epidémiologie de la méningite au Cameroun entre 2011 et 2016 ; Poursuite de la riposte aux cas de PVS de Borno au Nigéria ; L'OMS mobilise 2 tonnes de médicaments et consommables pour l'assistance aux victimes du déraillement du train à....

Relief Web, 02 Nov 2016 21:58 CET, <http://reliefweb.int/report/cameroon/cameroun-relev-pid-miologique-mensuel-rem-n-5-octobre-2016>



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| Diseases of interest * | Link to available updates by disease/ disease group (source, year) | Link to disease distribution maps (source, year) |
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Travel medicine dispatch: Mediterranean migration routes

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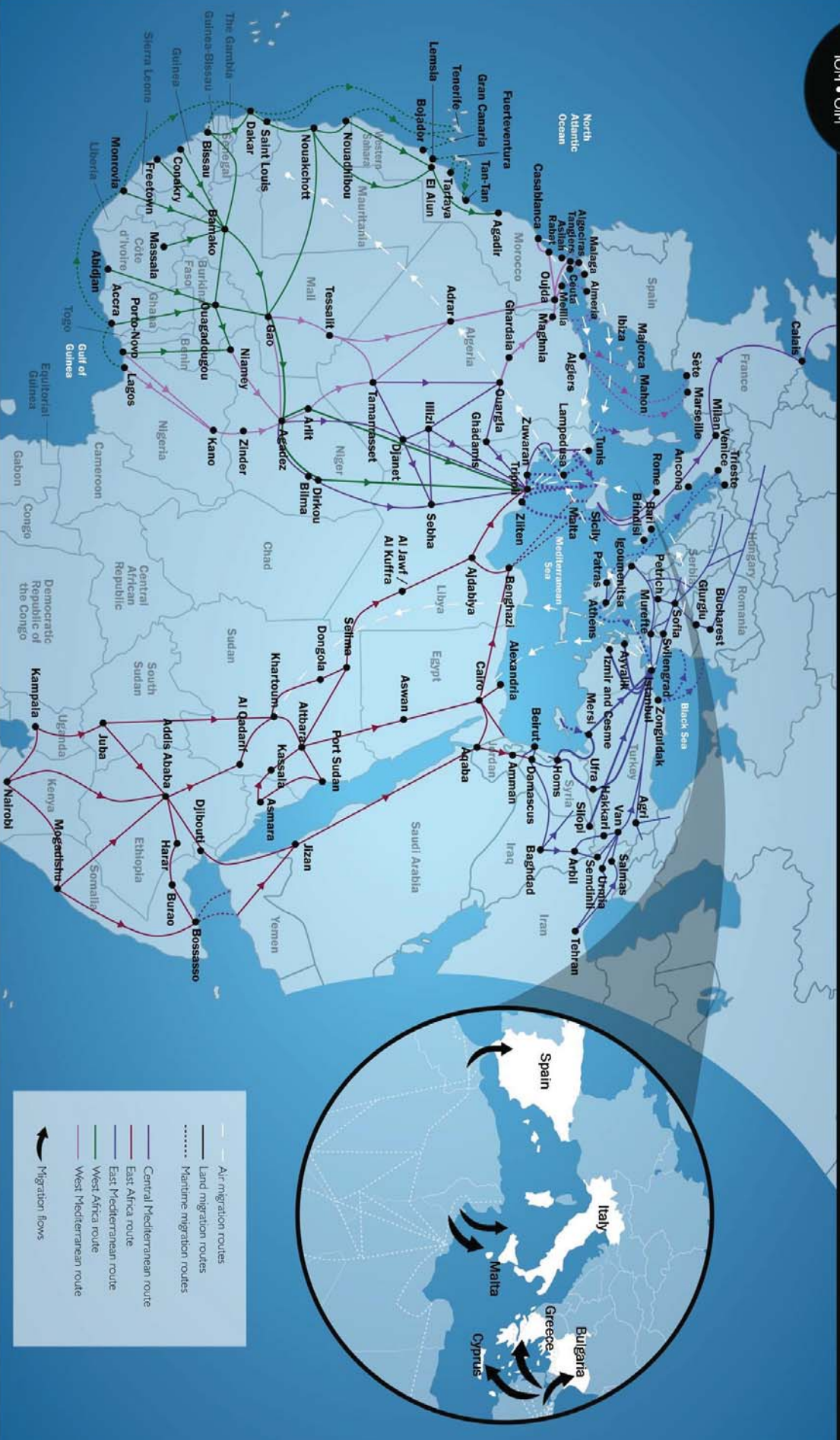
East Africa and Eastern Mediterranean Routes_____1

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Migrant Routes: Mediterranean 2016



13 November 2016 - Yemen (11 governorates) Cholera: ongoing outbreak 86 cases confirmed over 4100 suspected cases (article in arabic)

NON-OFFICIAL SOURCE: Sanaa - ASHA: the World Health Organization declared that the number of cases of cholera confirmed laboratory in Yemen arrived to 86. The organization clarified in a statement published on page site, "Wyss Bok" today that suspected cases of the disease, which had been recorded so that today reached....

Masrawy News, 14 Nov 2016 08:49 CET, http://www.masrawy.com/News/News_PublicAffairs/details/2016/11/14/985818/-%D8%A7%D9%84%D8%B5%D8%AD%D8%A9-%D8%A7%D9%84%D8%B9%D8%A7%D9%84%D9%85%D9%8A%D8%A9-86-%D8%AD%D8%A7%D9%84%D8%A9-%D8%A5%D8%B5%D8%A7%D8%A8%D8%A9-%D9%85%D8%A4%D9%83%D8%AF%D8%A9-%D8%A8%D8%A7%D9%84%D9%83%D9%88%D9%84%D9%8A%D8%B1%D8%A7-%D9%81%D9%8A-%D8%A7%D9%84%D9%8A%D9%85%D9%86

11 November 2016 - Uganda (Gulu) - Cholera: ongoing outbreak 213 cases, 2 deaths

NON-OFFICIAL SOURCE: Gulu — A total of 213 cholera cases have successfully been managed within the various refugee settlement camps hosting South Sudanese refugees in Northern Uganda, a report by The United Nations Children's Fund (Unicef), has revealed. The UN agency also reported that since the outbreak of the epidemic following the influx of South Sudanese refugees fleeing violence in Africa's youngest nation, only two deaths were registered in Amuru District. According to Dr Rabbin Drabe, the programme specialist at Unicef, 46 of the cases were reported in Amuru District and 106 in Adjumani District.

All Africa, 11 Nov 2016 06:59 CET, <http://allafrica.com/stories/201611110021.html>

14 November 2016- Saudi Arabia - Corona Virus (MERS-COV): update 13 cases, 4 deaths

OFFICIAL SOURCE: The Centre for Health Protection (CHP) of the Department of Health is today (November 14) closely monitoring 13 additional cases of Middle East Respiratory Syndrome (MERS), including four deaths, in the Kingdom of Saudi Arabia (KSA) reported to the World Health Organization (WHO), and again urged the public to pay special attention to safety during travel, taking due consideration of health risks in the places they visit. According to the WHO, among the 11 male and two female patients aged 33 to 73 (median age 55), seven had underlying illnesses. Investigations revealed that one case was a household contact of a confirmed MERS case, one had contact with camels and their raw meat, and two had contact with camels and consumed their raw milk. Another case transported one of the above patients to a hospital where MERS subsequently occurred with three other cases involved in this hospital outbreak. The remaining five patients' sources of infection are still under investigation. To date, 1 826 cases have been reported to the WHO, including at least 649 deaths. Of note, 1 610 were confirmed in 10 Middle East countries, with 1 467 in the KSA, 79 in the United Arabs Emirates, 28 in Jordan, 16 in Qatar, seven in Oman, six in Iran, four in Kuwait, and one each in Lebanon, Yemen and Bahrain. "Travellers to the Middle East should avoid going to farms, barns or markets with camels, avoid contact with sick persons and animals, especially camels, birds or poultry, and avoid unnecessary visits to healthcare facilities. We strongly advise travel agents organising tours to the Middle East to abstain from arranging camel rides and activities involving direct contact with camels, which are known risk factors for acquiring MERS Coronavirus," a spokesman for the CHP said.

"We will maintain close communication with the WHO and relevant health authorities," the spokesman added. Travellers to affected areas should maintain vigilance, adopt appropriate health precautions and take heed of personal, food and environmental hygiene. The public may visit the following pages for more information and health advice: the MERS pages of the CHP and the Travel Health Service, MERS statistics in affected areas, the CHP's Facebook Page and YouTube Channel, and the WHO's latest news. Tour leaders and tour guides operating overseas tours are advised to refer to the CHP's health advice on MERS.

gov-hk-zh, 14 Nov 2016 05:22 CET, <http://www.info.gov.hk/gia/general/201611/14/P2016111400354.htm>



Appendix to the travel medicine dispatch

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Most frequently reported countries of origin of newly arrived migrants*

WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) country summaries (link to pdf document)

| | |
|-------------|--|
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| Pakistan | Pakistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
| Nigeria | Nigeria: WHO and UNICEF estimates of immunization coverage: 2015 revision |

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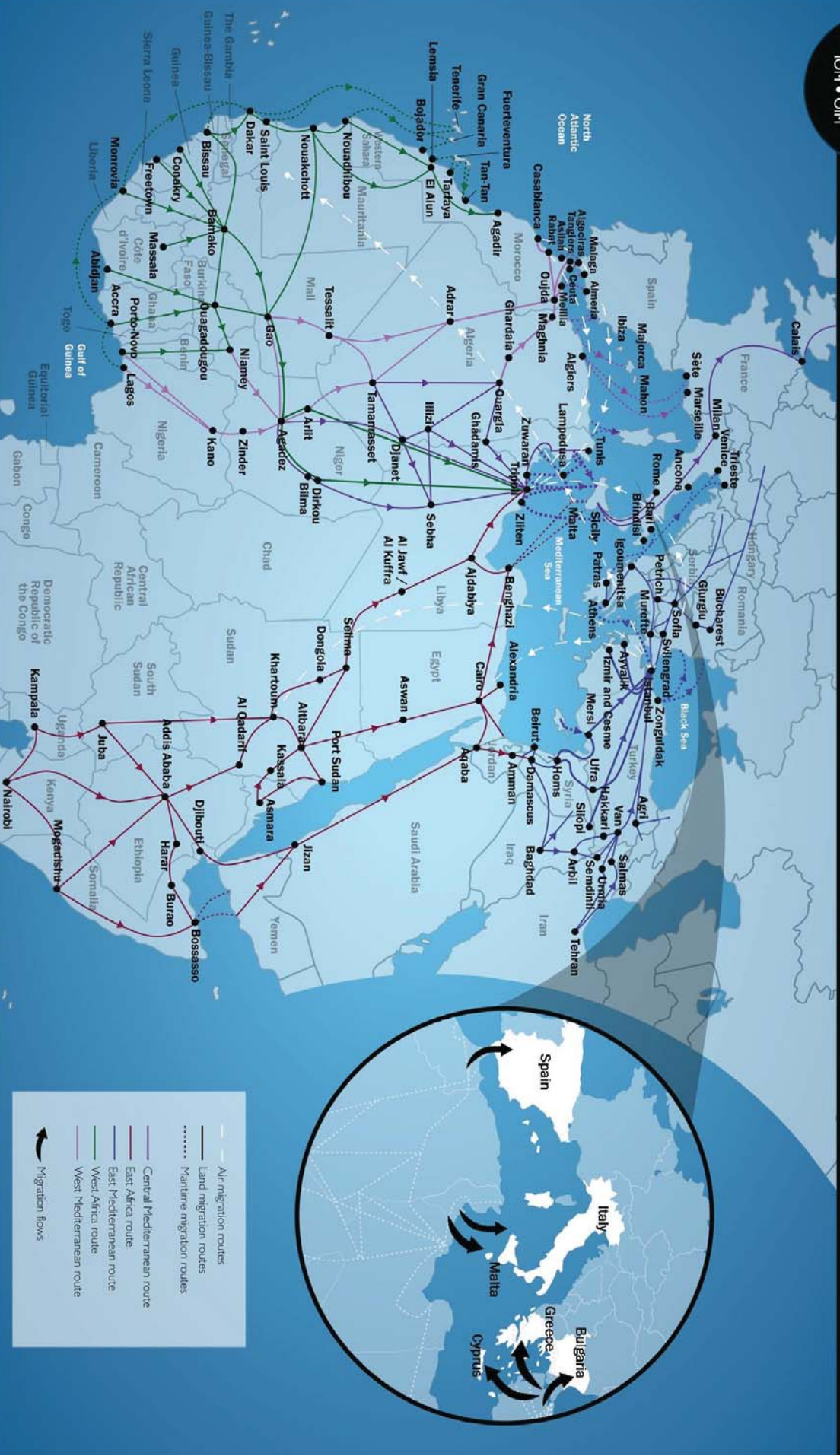
| | |
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| East Africa and Eastern Mediterranean Routes | 3 |
| West Africa and Western Mediterranean Routes | 4 |

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Migrant Routes: Mediterranean 2016



21 November 2016 - South Sudan - Cholera: ongoing outbreak 3145 cases and 44 deaths reported

OFFICIAL SOURCE: The cholera outbreak, which began in South Sudan in June 2016, has now surpassed the 3,100 case mark, with 3,145 cases and 44 deaths reported by 17 November. Communities along the River Nile are worst affected and account for 91 per cent of reported cholera cases. A total of 2,874 cases and all 44 deaths from the outbreak have been reported from eight counties straddling the River Nile: Awerial, Duk, Fangak, Juba, Leer, Pageri, Pigi and Terekeka. Rubkona is the only county affected by the outbreak that is not along the Nile. Juba has the highest number of cases (1,990 - 63 per cent of the total), while Terekeka, has the highest case fatality rate (CFR). While the overall CFR for the outbreak is 1.4 per cent, in Terekeka it is 36.4 per cent. The second highest CFR (8.7 per cent) is in Duk in Jonglei. New cases continue to be reported in the Bentiu Protection of Civilians (PoC) site, with 24 cases recorded in Rubkona county in the week up to 17 November. Cases have been reported mostly among infants and new arrivals from Leer, Mayendit, Koch, Panyijiar and Guit who missed the oral cholera vaccination campaign at the PoC in 2015. More than 90 per cent of the reported cholera cases in Bentiu PoC were not vaccinated. Health organizations are supporting the Ministry of Health to respond to the outbreak and investigate and treat suspected cases. Twenty-three oral rehydration points have been established across the country. Cholera prevention messages are being passed through house-to-house visits, community meetings and school sessions. Since the beginning of the outbreak, more than 155,000 households have received commodities, including soap, water purification tablets and sachets as well as oral rehydration salts, and more than 1.4 million people have been reached with cholera messages in all the affected areas. A mass vaccination campaign was conducted in October in Gurei, Juba. However, ongoing fighting and fresh displacement remain an impediment to the implementation of sustained and comprehensive cholera investigation and response activities in Leer and Mayendit counties.

User defined, 21 Nov 2016 11:46 CET, http://reliefweb.int/sites/reliefweb.int/files/resources/1601121_OCHA_SouthSudan_humanitarian_bulletin18.pdf

17 November 2016 - Niger - Rift Valley Fever: ongoing outbreak 230 confirmed cases and 32 deaths

NON-OFFICIAL SOURCE: At least 32 people have died since late August in an epidemic of Rift Valley fever in the western Niger region of Tahoua, the country's health ministry said Thursday. A ministry statement read on national radio said 230 people had been infected with the fever-causing viral disease that mainly affects animals but also humans, "unfortunately including 32 deaths". The mortality rate had fallen from 50 percent three months ago to 14 percent due to a government information campaign urging people to bury animal carcasses and handle contaminated animals with care and avoid drinking raw milk. Symptoms include fever, headaches and stomach pain in people, while in livestock, common symptoms are fever and bleeding.

User defined, 21 Nov 2016 12:56 CET, <http://punchng.com/rift-valley-fever-kills-32-niger/>

17 November 2016 - Yemen (11 governorates) - Cholera: ongoing outbreak 90 confirmed cases and 8 deaths

OFFICIAL SOURCE: As of 17 November 2016, 90 cases have been confirmed by laboratory testing in 29 districts from 11 governorates, out of the total 434 samples tested. An additional 4,825 suspected cases are reported from 64 districts in Al Bayda, Al Hudaydah, Al Dhale'e, Hajjah, Lahj, Taiz, Ibb and Amanat Al Asimah. Cumulatively, 8 cholera confirmed deaths have been reported from Aden, Amran, Hajjah, Ibb and Sana'a, and 62 deaths associated with acute watery were reported in Aden, Al Bayda, Al Dhale'e, Al Hudaydah, Amanat Al Asimah, Hajjah, Ibb, Sana'a and Taizz. The cholera case fatality rate (CFR) as of 17 November is 1.5 %.

Relief Web, 21 Nov 2016 11:33 CET, <http://reliefweb.int/report/yemen/yemen-cholera-outbreak-weekly-awdcholera-situation-report-10-17-november-2016>

21 November 2016 - Uganda (Kagadi) - Unknown Disease: 3 death and 9 cases admitted to the hospital with diarrhea, abdominal pain, fever, headache, general body weakness and vomiting

NON-OFFICIAL SOURCE: The 6 people who had been admitted at the isolation unit in Kagadi Hospital have been discharged as investigations into the strange disease continue. The strange disease left 3 other people dead after the family of 12 slaughtered and ate a pig that had died from an unknown illness. The disease presents symptoms of diarrhea, abdominal pain, fever, headache, general body weakness and vomiting.

User defined, 21 Nov 2016 12:46 CET, <http://croozefm.com/kagadi-probe-into-strange-disease-continues-6-discharged/>

15 November 2016 - Nigeria (Abuja Refugee Camp) - Diarrhoea: outbreak kills 10 children

NON-OFFICIAL SOURCE: Abuja and Maiduguri — Ten children have been confirmed dead in a diarrhoea outbreak at an Internally Displaced Persons (IDP) camp at Wasa in Abuja. The Executive Secretary of the Federal Capital Territory (FCT) Primary Healthcare Development Board, Dr. Rilwanu Mohammed confirmed the development to The Guardian. He said the outbreak in Wasa IDP camp may have been caused by a contaminated stream where the children and other displaced persons drank from. According to him: "They have been drinking from the stream. There are two boreholes in the camp, but because they have to pay a token of N20 for maintenance to fetch from there they avoided the place. The water from the stream where the children went had been contaminated by animals which drink from there." "The water source has been purified with chlorine gas," he stated. In a similar development, the authorities have raised concerns about the number of children in the North East who have not been immunised against polio. Officials confirmed that many of the children were in different IDPs camps in Abuja.

All Africa, 15 Nov 2016 14:12 CET, <http://allafrica.com/stories/201611150764.html>



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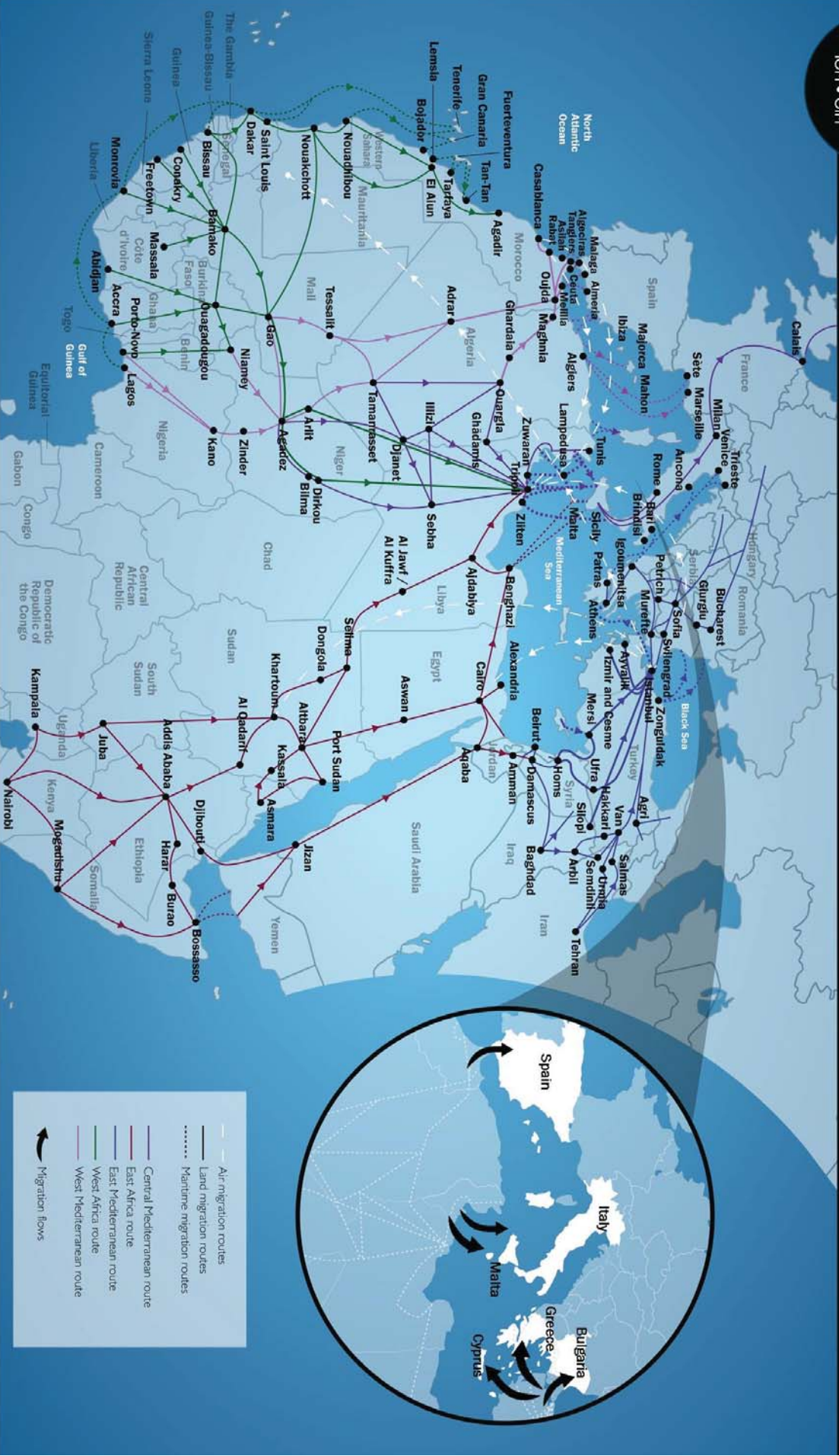
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Migrant Routes: Mediterranean 2016



25 November 2016 - South Sudan (Wau) - Measles : 6 cases confirmed, no death are reported.

NON OFFICIAL SOURCE: WAU, 25 November 2016 [Gurtong]-According to the Organisations' field office head in Wau, Shafeeq -ur Rehman, the six cases were confirmed within this week after an official test carried out on the suspected cases within the UNMISS camps site. The official said among the six cases, no death case has been report, adding that the reported six cases have been completely well diagnosed. UNICEF said the six confirmed cases are from the UNMISS protection site mostly children under 15 years of age. - See more at: <http://www.gurtong.net/ECM/Editorial/tabid/124/ID/20069/Default.aspx#sthash.z4A2fioS.dpuf>

User defined, 28 Nov 2016 09:35 CET, <http://www.gurtong.net/ECM/Editorial/tabid/124/ID/20069/Default.aspx>

27 November 2016 - Saudi Arabia: 1 new MERS case, 2 recoveries, no deaths are reported

NON OFFICIAL SOURCE: Via the KSA MOH Command and Control Center: MOH: '1 New Confirmed Corona Cases Recorded' . A 56-year-old Saudi man in Hafrelbatin is in stable condition. Two other Saudi men have recovered: a 94-year-old in Buraidah and a 45-year-old in Alafraj.

blog_crofsblogs, 27 Nov 2016 16:25 CET, <http://crofsblogs.typepad.com/h5n1/2016/11/saudi-arabia-one-new-mers-case-two-recoveries-as-of-noon-november-27.html>



Appendix to the travel medicine dispatch

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| Afghanistan | Afghanistan: WHO and UNICEF estimates of immunization coverage: 2015 revision |
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* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia, September 2016.



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| Poliomyelitis | Poliomyelitis (Source CDC, current) ; Vaccine-preventable diseases and vaccines—including updates on Poliomyelitis (WHO, 2015) | Polio (WHO, 2015) |
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* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.



Travel medicine dispatch: Mediterranean migration routes

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CARE WP5 Dispatch Team

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East Africa and Eastern Mediterranean Routes_____1

West Africa and Western Mediterranean Routes_____2

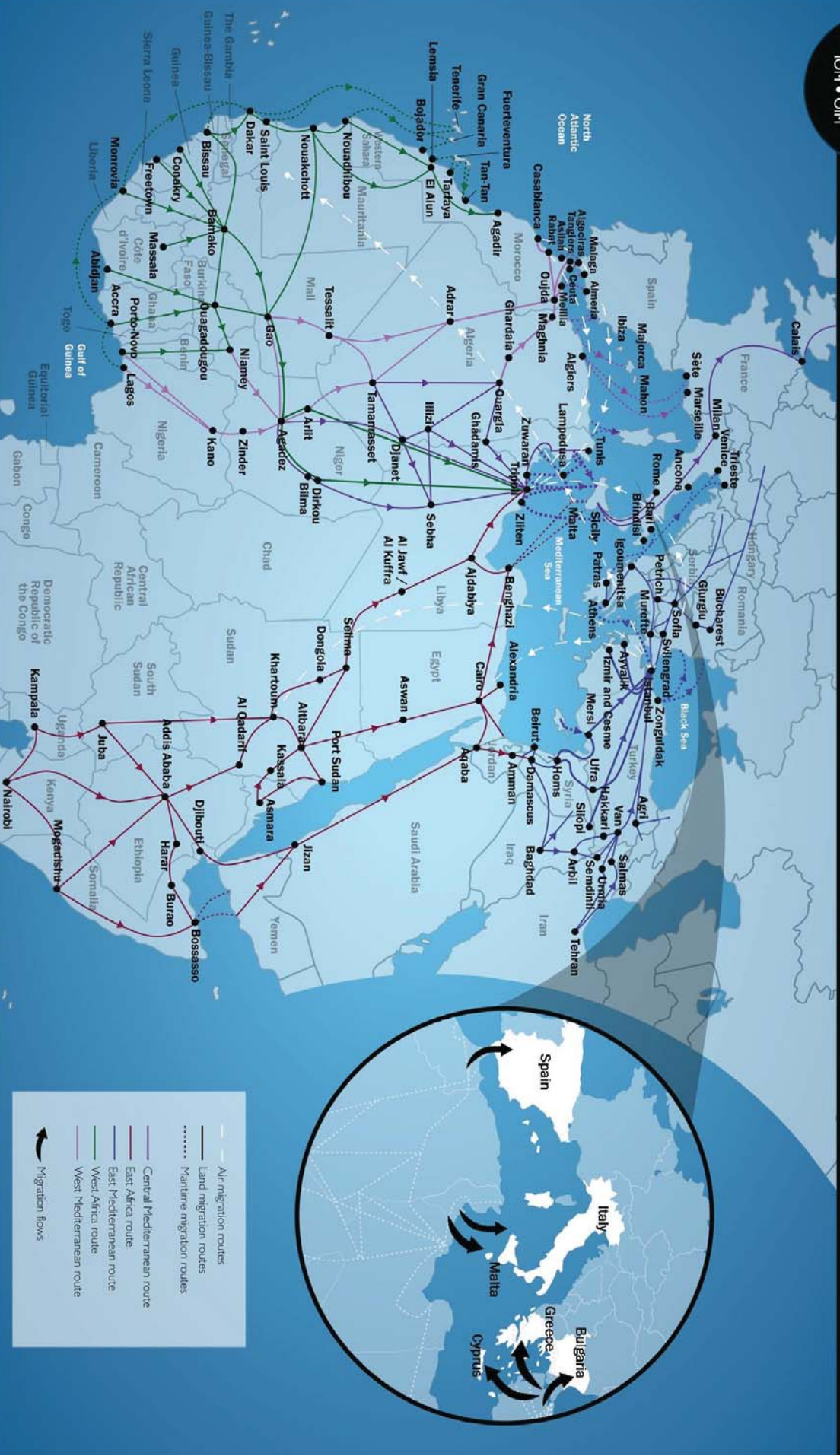
Newly arrived migrants to EU (ex Mediterranean sea)_____4

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Migrant Routes: Mediterranean 2016



28 November 2016 - Saudi Arabia: Middle East Respiratory Syndrome coronavirus (MERS-CoV) - Ongoing outbreak, between 3 and 10 November 2016 six additional cases and two deaths reported.

OFFICIAL SOURCE: Between 3 and 10 November 2016 the National IHR Focal Point of Saudi Arabia reported six (6) additional cases of Middle East Respiratory Syndrome (MERS). Two (2) deaths among previously reported MERS cases were also reported. Contact tracing of household and healthcare contacts is ongoing for these cases. The National IHR Focal Point for the Kingdom of Saudi Arabia also notified WHO of the death of 2 previously reported MERS-CoV cases. See case numbers 1 and 11 in DON published on 11 November 2016. Globally, since September 2012, WHO has been notified of 1832 laboratory-confirmed cases of infection with MERS-CoV including at least 651 related deaths have been reported to WHO.

User defined, 05 Dec 2016 12:15 CET, <http://www.who.int/csr/don/28-november-2016-mers-saudi-arabia/en/>

30 November 2016 - Liberia (Monrovia): 15 people affected by undiagnosed skin disease

NON OFFICIAL SOURCE: Monrovia — Green Planet Discoveries has alarmed with serious concern over an outbreak of rash skin disease spreading in West Point and other parts of Monrovia. "As we see it, the occurrence of this situation is occasioned by unhealthy environmental concerns," the group said. According to the group, about 15 persons were discovered with the rash in West Point and some parts of Brewerville. Green Planet Discoveries has therefore called on all those affected by the disease to seek urgent medical attention or avoid touching or playing with affected areas of the body. They've also advised affected persons to clean affected bodily areas with warm water and soap and if available, apply hand sanitizer to the affected area. "We also call on other individuals not yet affected to watch out for signs and symptoms of such disease, occurring with elevated yellowish area and red base on the skin, being quite painful to touch. "It is also important that we clean our surrounding and relentlessly wash our hands every 45 seconds or one minute," the group urged. They called on the Ministry of Health and the World Health Organization, other non-governmental organizations working in the children and health sectors and parents to quickly look into the situation before it goes viral. The Ministry of Health is yet to comment on the disease.

User defined, 05 Dec 2016 12:09 CET, <http://allafrica.com/stories/201611300772.html>

29 November 2016 - Burkina Faso (Ouagadougou) - Dengue Fever: Ongoing outbreak, as of November 12th 2016, 1061 probable cases reported (article in French) (Epidémie de fièvre dengue au Burkina Faso)

NON OFFICIAL SOURCE: Health authorities of Burkina Faso have reported an outbreak of dengue fever that has developed since the beginning of August in the capital Ouagadougou with more than a thousand cases. As of 12 November 2016, a total of 1061 probable cases (positive to the rapid test for dengue) were identified.

Original text: Les autorités sanitaires du Burkina Faso ont rapporté une épidémie de fièvre dengue qui sévit depuis début août dans la capitale Ouagadougou et qui a fait plus d'un millier de malades. Jusqu'au 12 novembre 2016, au total 1061 cas probables (positifs au test de diagnostic rapide de la dengue) ont été recensés. Ces dernières décennies, la transmission de la dengue a fortement augmenté dans les pays tropicaux et subtropicaux. Les moustiques qui transmettent cette maladie virale piquent surtout le jour (activité maximale à l'aube et quelques heures avant le coucher du soleil) et se reproduisent dans les villes et les régions périurbaines, en particulier pendant et juste après la saison des pluies. Les manifestations cliniques sont une fièvre élevée, des maux de tête, des douleurs musculaires et articulaires et une éruption cutanée (rash). Le malade guérit généralement spontanément après 10 jours. Plus rarement l'infection peut être plus grave et entraîner des saignements. En cas de fièvre, il faut toujours aussi penser au paludisme (malaria) qui est également transmis par des moustiques au Burkina Faso (y compris dans les villes) et consulter un centre médical en urgence pour exclure cette maladie qui nécessite un traitement immédiat. (Source: OMS Bulletin d'information sur les flambées épidémiques 18.11.2016)

User defined, 05 Dec 2016 11:58 CET, <http://www.safetravel.ch/safetravel2/servlet/ch.ofac.wv.wv203j.pages.Wv203ActualitesCtrl?action=showActu&refActu=002378>

4 December 2016 - Nigeria (Borno State) - HIV: 512 new cases of HIV infections have been recorded in Internally Displaced Persons (IDPs) camps in Borno State

NON OFFICIAL SOURCE: Malam Barkindo Saidu, the Executive Secretary, Borno Agency for the Control of HIV/AIDS (BOSACA), says 512 new cases of HIV infections have been recorded in Internally Displaced Persons (IDPs) camps in the state.

All Africa, 04 Dec 2016 22:31 CET, <http://allafrica.com/stories/201612040264.html>

Newly arrived migrants to EU (ex Mediterranean sea)

30 November 2016 - Italy (ex Mediterranean Sea) - Several cases of scabies among 300 migrants arrived in Sicily (Pozzallo) (Article in Italian)

(In 300 a Pozzallo, anche 100 minori e due feriti. Casi di scabbia)

NON OFFICIAL SOURCE: 300 migrants have disembarked this morning at the port of Pozzallo, in Sicily. These include more than a hundred children. Two migrants were wounded, one suffered a firearm wound before departure from Libya, one an injury. Both were admitted in hospital. Several cases of scabies were detected.

Original text: FONTE NON UFFICIALE - POZZALLO . Terminato lo sbarco dei 300 migranti arrivati stamani nel porto di Pozzallo, a bordo della nave 'Aquarius' dell'organizzazione non governativa 'S.O.S Mediterraneo'. Vi sono più di cento minori e due feriti. Uno da arma da fuoco, prima della partenza dalla Libia, l'altro per un trauma. Entrambi ricoverati nell'ospedale di Modica. Diversi anche i casi di scabbia: più di cento. Al lavoro la Polizia per individuare i presunti scafisti e ricostruire il ferimento del migrante colpito da arma da fuoco.

Giornale di Sicilia, 30 Nov 2016 17:02 CET, http://ragusa.gds.it/2016/11/30/in-300-a-pozzallo-anche-100-minori-e-due-feriti-casi-di-scabbia_597117/



Appendix to the travel medicine dispatch

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Central Mediterranean Route.....**1**

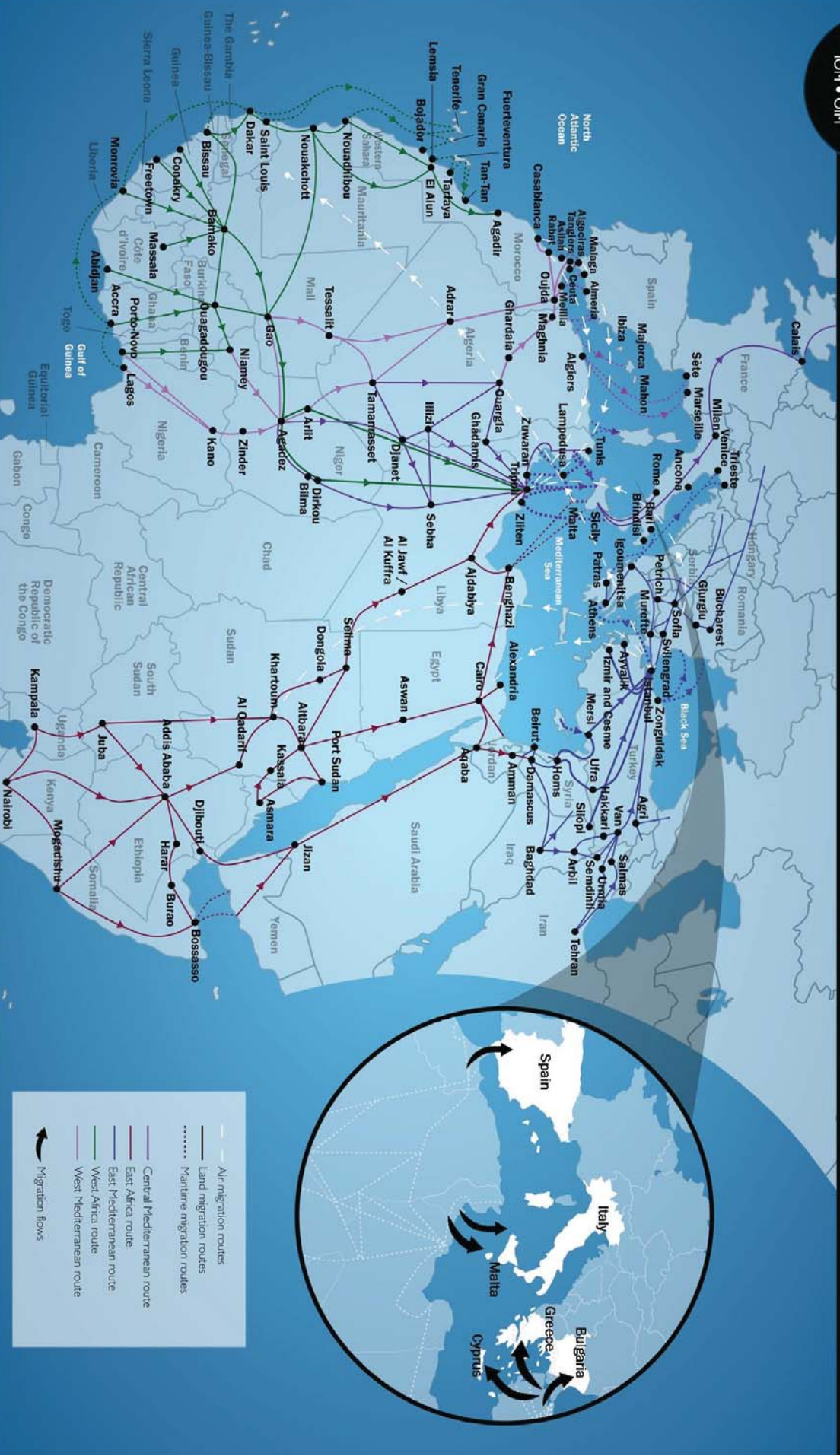
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Migrant Routes: Mediterranean 2016



8 December 2016 - Cameroun, Congo Basin and South Guinean Gulf Basin: Cholera - Update Situation upon week 46 of 2016

OFFICIAL SOURCE: Alert in Cameroun: 27 suspected cases notified from the Prison of Kribi. Samples were tested negative although issues in sampling were registered (lack of Cary-Blair and delays in transport – 4 days). No definitive conclusion can then be drawn upon these analyses. Congo Basin: Significant incidence notified from Kongo Central (Gombe Matadi), and from the provinces of Taganyika (Kabalo, Kalemie, Nyemba), South Kivu (Fizi, Kimbi Lilenge) and Haut Katanga (Kilwa). South Guinean Gulf Basin: Absence of ongoing transmission in Benin and in Lagos or Oyo (South Nigeria). High reduction of the transmission in Ghana in Cape Coast Metropolis (0 case as of Dec 1st) - Cumulative cases: 591 and 0 deaths. One (1) case was notified in Lower Denkyira district, Western region. Sixty percent [22/37] of various food samples obtained from 12 vendors in Cape Coast Metropolis isolated *Vibrio cholera* (Cape Coast Teaching Hospital laboratory). Meat and green leaves were the most commonly affected foods.

User defined, 12 Dec 2016 11:04 CET, <http://reliefweb.int/report/central-african-republic/cholera-western-and-central-africa-update-situation-upon-week-46>

East Africa and Eastern Mediterranean Routes

11 December 2016 - Saudi Arabia: Middle East Respiratory Syndrome Coronavirus (MERS-CoV) - Ongoing outbreak between 6 to 11 December 2016 nine additional cases and five deaths reported

OFFICIAL SOURCE: Saudi Arabia's Ministry of Health (MOH) reported nine new MERS-CoV cases in the past week.

User defined, 12 Dec 2016 10:29 CET, <http://www.moh.gov.sa/en/CCC/PressReleases/Pages/default.aspx>

8 December 2016 - Oman: Middle East Respiratory Syndrome Coronavirus (MERS-CoV) one case reported (Article in French)

OFFICIAL SOURCE: On 29 November 2016, the National IHR Focal Point of Oman reported one (1) additional case of Middle East Respiratory Syndrome Coronavirus (MERS-CoV). A 67-year-old male from Dakhliya Governorate developed symptoms on 18 November 2016, and was admitted to hospital on 20 November. The patient who has comorbidities, tested positive for MERS-CoV on 29 November. He has a history of exposure to animals (camels, goats and cows) in the 14 days prior to the onset of symptoms. The patient is in stable condition and was discharged from hospital. Contact tracing of household contacts is ongoing for the case. Investigation of camels is also ongoing.

User defined, 12 Dec 2016 10:34 CET, <http://www.who.int/csr/don/8-december-2016-mers-oman/en/>

11 December 2016 - Libya (Tripoli): Polio vaccination - the second phase of the vaccination campaign against polio

NON-OFFICIAL SOURCE: Health Libya: The second phase of the vaccination campaign against polio was launched Saturday in the municipality of Abu Slim in Tripoli and center, targeting children in preschoolers. The municipal council of Abu Slim, in a statement posted on the official Facebook page, said that the campaign, which was launched at the health care center Khaled ibn al-Walid, was attended by the Mayor municipality of Abu Slim, Abdelrahman al-Hamedi, and City Council member in charge of Health, Naziha al-Zargani, and the Minister of the Government of national unity Health, Omar Bashir, as well as officials and health workers and the municipality of Abu Slim in Tripoli. According to the statement, the Minister of Health and City Council members visited an orphanage center "Abu Hraida" to provide vaccinations to children. The ceremony was marked by the award honoring the first generation of medical staff that played a significant role in the health sector until the age of retirement.

User defined, 12 Dec 2016 10:40 CET, <http://www.afriquejet.com/sante/1575-vaccination-contre-la-polio-en-libye.html>

9 December 2016 - Yemen (22 governorates) - Cholera: ongoing outbreak 78 cases and 11 deaths

NON-OFFICIAL SOURCE: The al Houthi-Saleh Ministry of Health acknowledged the cholera outbreak in Yemen. The Director of Disease Control in Sana'a announced that there were 78 cases of cholera and 11 deaths throughout 15 of Yemen's 22 governorates. Al Houthi-Saleh forces have prevented foreign humanitarian aid convoys from entering their territory.

User defined, 12 Dec 2016 11:18 CET, <http://www.criticalthreats.org/gulf-aden-security-review/gulf-aden-security-review-december-9-2016>



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* Source: CARE information Needs Survey among front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia: diseases of interest to 30% or more of respondents, September 2016.



Travel medicine dispatch: Mediterranean migration routes

Confidential - contains non-official/unvalidated information

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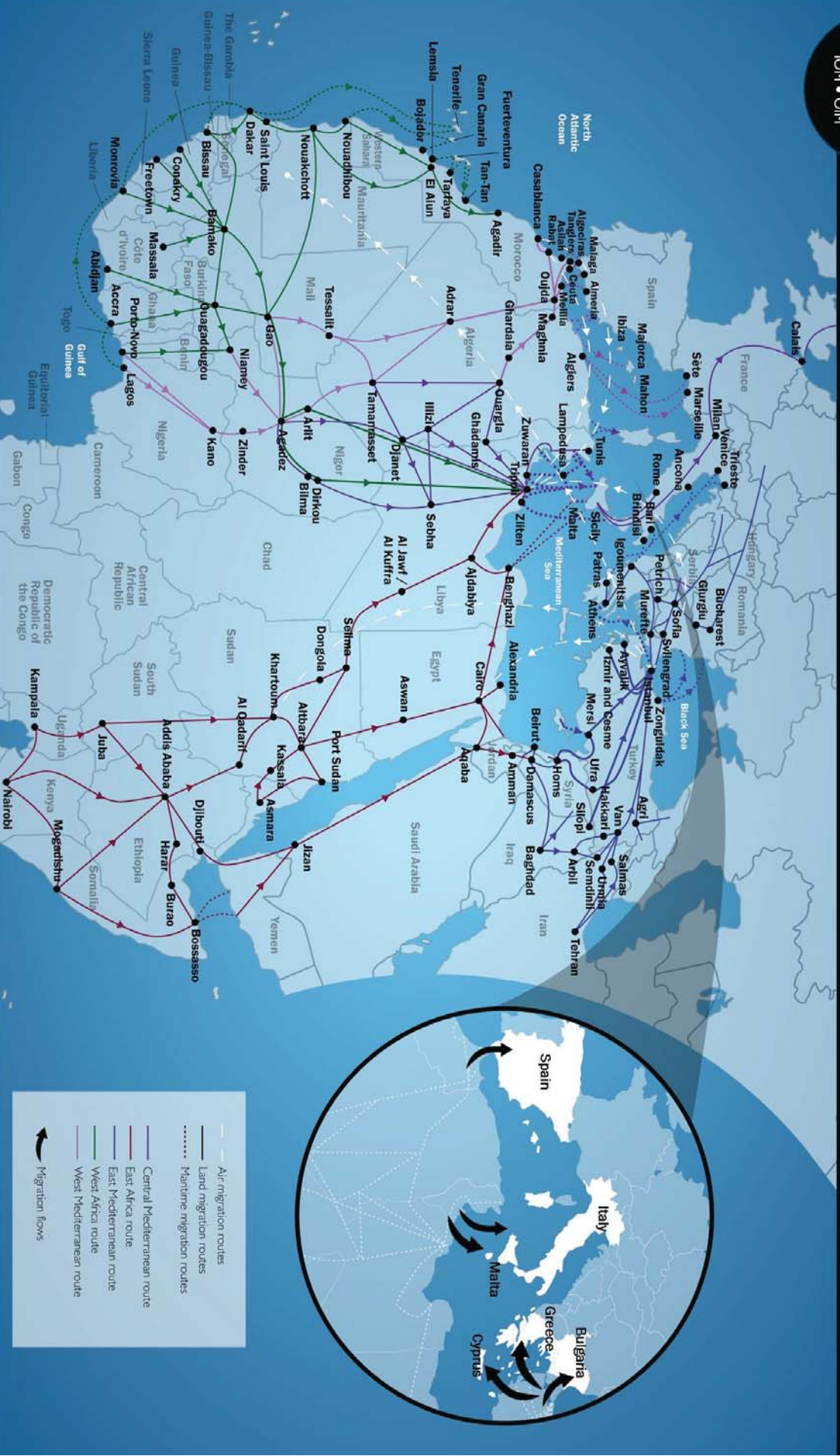
East Africa and Eastern Mediterranean Routes_____1

This Dispatch is produced by the following researchers of the National Center for Epidemiology, Surveillance and Health Promotion (CNESPS) of the Italian Institute of Health (ISS): Flavia Riccardo, Martina Del Manso and Maria Grazia Caporali. The CARE WP5 activities are led by Silvia Declich (CNESPS-ISS).

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Migrant Routes: Mediterranean 2016



13 December 2016 - Yemen - Cholera: ongoing outbreak 10148 suspected cases and 94 deaths

OFFICIAL SOURCE: The Ministry of Public Health and Population in Yemen has reported new cases of cholera in Yemen. Since the last update on 6 December, 1173 new suspected cases of acute watery diarrhoea/ cholera and 3 additional deaths have been reported. As of 13 December, a cumulative total of 10 148 suspected cases of cholera, including 92 associated deaths have been reported across all affected governorates, with a case-fatality rate of 1%. The number of laboratory-confirmed cases of *Vibrio cholerae* 01 has risen to 156. The affected areas include 135 districts in the governorates of Abyan, Aden, Al-Bayda'a, Al-Dhale'a, Al Hudaydah, Al Jawf, Amran, Dhamar, Hajjah, Ibb, Lahij, Raymah, Sana'a, Ta'izz as well as Sana'a City. However, over 65% of the reported cases were from Aden, Al-Bayda, Al Hudaydah and Ta'izz. About 70% of the reported deaths occurred in the governorates of Aden, Al Bayda'a, Al Hudaydah, Ibb and Ta'izz. The cholera taskforce led by WHO, in partnership with the Ministry, UNICEF, OCHA and other partner organizations, continues to strengthen cholera response activities at the national and governorate levels. The prevention and intervention efforts taken so far have been effective in reducing the number of cases in some governorates, while new cases continue to be reported in others. The taskforce continues to support the 26 cholera treatment centres and the 2 national health emergency control rooms in Aden and Sana'a. Rapid response teams have been deployed in the affected areas for effective and timely epidemiological investigation and response. WHO has strengthened the capacity of local health workers through training on case management, infection control, water source chlorination and solid waste disposal and drainage network management. Essential supplies such as rapid diagnostic test kits, IV fluids, oral rehydration solutions and water chlorination tablets have been provided in affected communities. WHO has also supported social mobilization and health education campaign among citizens to raise their awareness on prevention of cholera and other diarrhoeal diseases. Acute watery diarrhoeal diseases are endemic in Yemen, however the ongoing conflict has stretched the capacity of the national health systems. More than 7.6 million people, and more than 3 million internally displaced persons currently live in areas affected by the outbreak.

User defined, 19 Dec 2016 09:29 CET, <http://www.emro.who.int/surveillance-forecasting-response/outbreaks/cholera-update-yemen.html>

16 December 2016 - Somalia: International Organization for Migration (IOM) responds to measles outbreak in Kismayo, Somalia

OFFICIAL SOURCE: This week IOM, with support from the Government of Japan, launched a mass public health campaign to contain an ongoing measles outbreak in Kismayo, Somalia. Through TV and radio, IOM, the Somali government and health partners are disseminating a series of public messages about measles.

Relief Web, 16 Dec 2016 14:00 CET, <http://reliefweb.int/report/somalia/iom-responds-measles-outbreak-kismayo-somalia>

18 December 2016 - Iraq: House to House Campaign to Vaccinate Children in Conflict Affected Areas in Iraq against Polio, Measles and Rubella

OFFICIAL SOURCE: The Federal Ministry of Health in coordination with the Kurdistan Region Ministry of Health and with the support of UNICEF and the World Health Organization (WHO), today launched a 12-day campaign to immunize Iraq's children against polio and measles.

Relief Web, 18 Dec 2016 19:51 CET, <http://reliefweb.int/report/iraq/house-house-campaign-vaccinate-children-conflict-affected-areas-iraq-against-polio>

18 December 2016 - Saudi Arabia: No new MERS cases, one recovery, two deaths

NON OFFICIAL SOURCE: MOH: 'No New Corona Cases Recorded . A 49-year-old expatriate man in Jeddah has recovered. Two Saudis have died: a 72-year-old man in Taif and a 64-year-old woman in Buraidah.

blog_crofsblogs, 18 Dec 2016 16:33 CET, <http://crofsblogs.typepad.com/h5n1/2016/12/saudi-arabia-no-new-mers-cases-one-recovery-two-deaths-as-of-noon-december-18.html>



Appendix to the travel medicine dispatch

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Most frequently reported countries of origin of newly arrived migrants*

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| | |
|-------------|--|
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Travel medicine dispatch: Mediterranean migration routes

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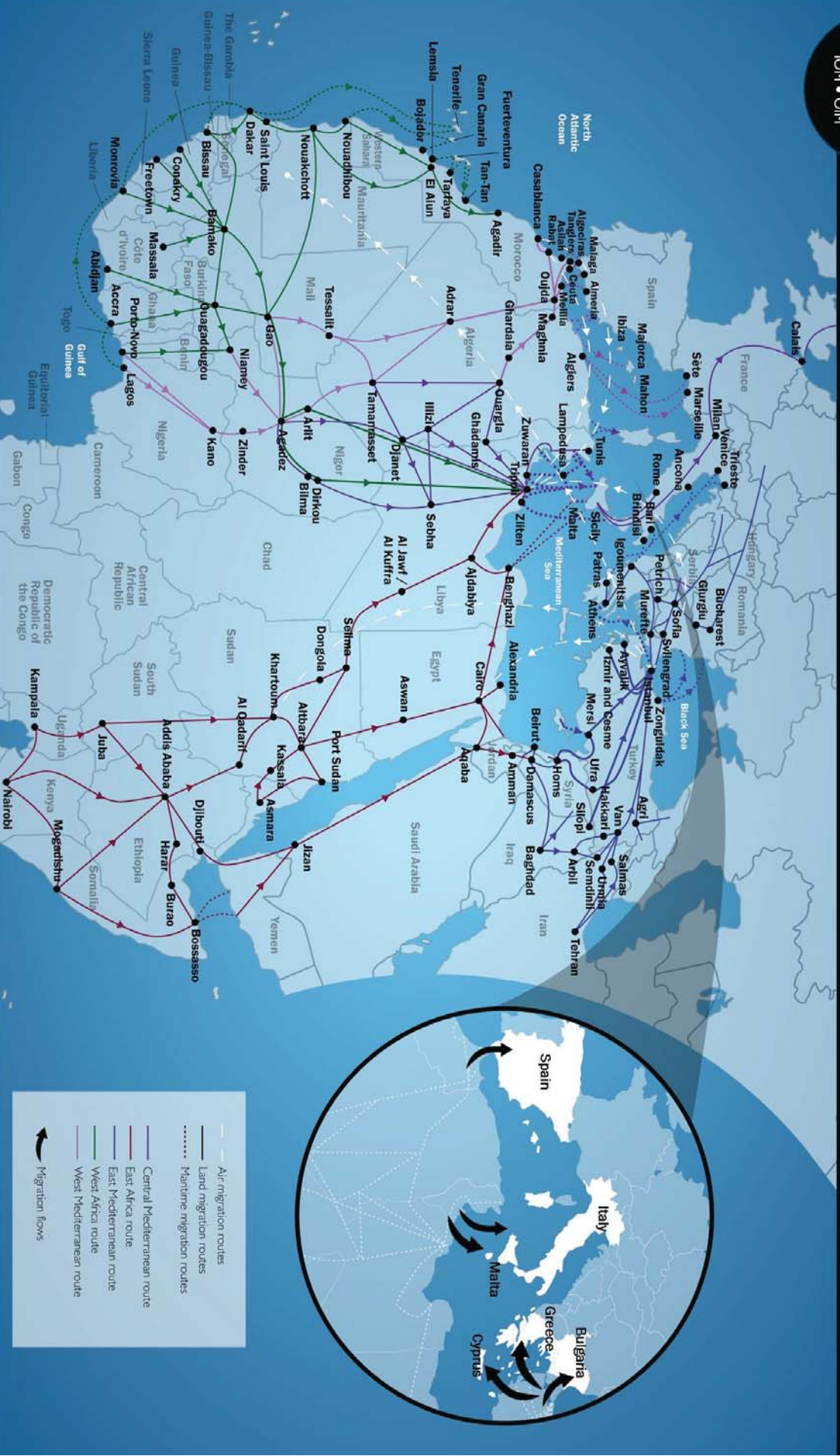
Newly arrived migrants to EU (ex Mediterranean sea)____3

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Migrant Routes: Mediterranean 2016



21 December 2016 - South Sudan (Wau, Western Bahr el Ghazal) - Measles: ongoing outbreak 40 new suspected measles cases reported

OFFICIAL SOURCE: A measles outbreak has been confirmed in Wau, Western Bahr el Ghazal, bringing the number of outbreaks country-wide in 2016 (13) to more than twice the number in 2015 (5). The outbreak has been attributed mainly to population displacement, including the high influx of people to the displacement sites in Wau town. According to health partners, 40 new suspected measles cases were reported between 5 and 11 December in Wau, Gogrial West in Warrap, and Aweil South in Northern Bahr el Ghazal. Children between the ages of 5 and 14 remain most affected. Response activities are ongoing to stem the spread of the new outbreak in Wau. Nearly 18,000 children between 6 months and 15 years were vaccinated in the protected area and collective centres in town during a vaccination campaign from 25 to 28 November. A similar vaccination exercise was also conducted outside the displacement sites in Wau targeting more than 10,000 children. Humanitarian organizations have increased measles surveillance and are implementing sensitization programmes to educate about the signs, symptoms and dangers of the disease in affected areas. Health awareness sessions are ongoing in health facilities to support detection of suspected measles cases and ensure proper case management. However, the risk of further measles outbreaks remains high as conflict, displacement and lack of access have frustrated efforts to ensure vaccination coverage country-wide due to the disruption of routine immunization. Only 11 out of South Sudan's 79 counties have the requisite minimum 80 per cent measles vaccination coverage and 26 have less than 20 per cent coverage. An estimated 648,000 children under age 5 are at risk of contracting measles across the country. Since the beginning of 2016, more than 1,900 measles cases have been reported across South Sudan, including at least 20 deaths.

User defined, 27 Dec 2016 11:26 CET, <http://reliefweb.int/sites/reliefweb.int/files/resources/ss.pdf>

27 December 2016 - Yemen - Cholera: ongoing outbreak 11061 suspected cases and 93 deaths (article in Arabic)

NON OFFICIAL SOURCE: The health sector is described by the representative of the World Health Organization in Yemen as a patient facing the danger of collapse, in the event of war continuation and of stopped international support. This would put the lives of millions of Yemenis at risk. [...] 2016, saw a major setback in the health sector in Yemen, with epidemics, cholera in the forefront, with victims in different regions. [...] On 6 October last year, a cholera epidemic was officially announced in the district of the capital Sanaa. In just two months it spread to 15 provinces, claiming the lives of dozens of Yemenis. [...] As of 20 December "was recorded 11 thousand and 61 suspected case of cholera, including 93 deaths, while the number of laboratory-confirmed cases rose to 156 cases in 15 provinces."

alarabonline, 27 Dec 2016 10:00 CET, <http://www.alarab.co.uk/?id=98074>

26 December 2016 - Tanzania (Dodoma) - Cholera: ongoing outbreak, at least seven deaths

NON OFFICIAL SOURCE: At least seven people have died of cholera in central Tanzania's region of Dodoma due to a cholera outbreak, authorities said Sunday. Authorities in the region have, therefore, on Sunday banned selling of food stuff by the roadsides and other open places during the festive season, citing a possible escalation of the epidemic. James

Kiologwe, Dodoma Regional chief physician warned residents, saying that at least 329 people contracted the disease in the latest outbreak. He warned that if no strict measures were taken the entire region would be affected. "I urge the public to be more careful during the festive season, avoid eating carelessly on the streets and maintain hygiene since the disease is likely to spread further if we don't comply with health standards," the official said. He cited Mpwapwa as leading other districts in the Dodoma Region with 208 cholera cases, followed by Kongwa (95), Chamwino (18) and Dodoma (8). The district also led in deaths with three cases as both Kongwa and Dodoma districts witnessed two deaths each. Following the new outbreak of the disease, Christine Mndeme, Dodoma District Commissioner said she had initiated a campaign against the disease aimed at eradicating it in the district. She called on ward and village health officers to spread awareness and education on the disease, urging them to quickly report any cases realized within their areas of jurisdiction. In October last year, the Ministry of Health and Social Welfare notified the World Health Organization of new cholera outbreaks in 13 regions in the country, during which 68 people died.

Xinhuanet (English), 25 Dec 2016 20:17 CET, http://news.xinhuanet.com/english/2016-12/26/c_135931694.htm

22 December 2016: Multicountry EU (ex Somalia, Eritrea, Ethiopia) - MDR Tuberculosis: international cluster among asylum seekers

A cluster involving seven cases of multidrug-resistant tuberculosis (MDR TB) in asylum seekers has been detected in Switzerland between February and August 2016. Based on whole genome sequencing results, the strains belong to a single cluster. The same genetic information with the same drug resistance profile was detected in nine additional MDR TB cases in Austria, Germany and Sweden. The seven cases of MDR TB were diagnosed in Switzerland among 15–19 year-olds from Somalia (5), Eritrea (1) and Ethiopia (1). The men had sought asylum at different points in time between December 2015 and June 2016. One of the patients was diagnosed four months after contact with one of the other cases. So far, no other epidemiological link has been identified. Based on whole genome sequencing (WGS) analysis, the seven strains are genetically highly related and are likely part of a single molecular cluster. In addition, as of 19 December, Germany reported six cases with the same genetic clone in asylum seekers from Somalia. Two cases of MDR TB with the same resistance profile were detected in Austria. One of which showed the same drug susceptibility pattern as the cases detected in Switzerland; for the second, drug susceptibility testing is currently on-going. The same pattern was identified in Sweden in a patient from Somalia. The available information from the cluster in Switzerland suggests a possible recent transmission. It is likely that the patients were infected either in their country of origin or in a place along their migration route to the country of destination. The small number of cases detected so far suggests a limited risk that this outbreak could spread wider. However, more cases may occur in association with this cluster. It will be important to perform epidemiological investigations, including contact tracing, source case investigation, and investigation of possible epidemiological links. Early case finding of active TB and drug susceptibility ensures identification and treatment of active TB cases and allows preventive treatment or monitoring for those diagnosed with latent tuberculosis infection. Although TB in a foreign-born population does not have a significant influence on TB in the native population in the EU/EEA, there is a risk of transmission for both migrants and the native population. ECDC is working with all EU/EEA Member States on identification of cases with an MDR TB strain showing the same genetic pattern. CDTR update (23 December 2016): As of 19 December 2016, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Hungary, Greece, Italy, Latvia, Luxembourg, Malta, Poland, Portugal and Romania are not reporting cases with corresponding MIRU-VNTR 24 loci and/or DST profile belonging to this cluster (<http://ecdc.europa.eu/en/publications/Publications/Communicable-disease-threats-report-24-dec-2016.pdf>).

User defined, 27 Dec 2016 12:20 CET, http://ecdc.europa.eu/en/press/news/layouts/forms/News_DispForm.aspx?ID=1529&List=8db7286c-fe2d-476c-9133-18ff4cb1b568&Source=http%3A%2F%2Fecdc.europa.eu%2Fen%2Fpages%2Fhome%2Easpx



Appendix to the travel medicine dispatch

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Appendix 4: Evaluation questionnaire



The project "717317/CARE" has received funding from the European Union's Health Programme (2014-2020)

Evaluation of the CARE TRAVEL MEDICINE DISPATCH

Migrants arriving to the EU are **generally in good health**. This is due to several factors, such as good pre-travel health status and the fact that most infectious diseases have much shorter incubation periods than the time required to journey across the recognized Mediterranean migration routes. Notwithstanding, travelling conditions might make some migrants more vulnerable to health threats, due to exposures before arriving to the EU combined with low vaccination coverage. For this reason, it is important for **front line health-care workers assessing the health of newly arrived migrants in point of entry Southern European Union countries**, to be aware of the epidemiology of disease and vaccination rates in countries of origin and transit of their patients.

This is why the CARE project piloted a "**travel medicine dispatch: Mediterranean migration routes**", a travel medicine service targeting epidemic prone diseases in countries part of recognized Mediterranean migration routes. The dispatch was intended for front line health-care workers.

The dispatch was **issued weekly between October and December 2016** and was compiled using digital detection technologies from a number of different internet sources (including institutional official websites as well as non-official sources, e.g. online news articles and blogs).

The dispatch was complemented by an **appendix** on diseases and countries of interest identified through an online survey targeting front line health-care workers assessing the health of newly arrived migrants in Italy, Greece, Malta, Croatia and Slovenia.

This was an experimental model of an information service. As recipients of this dispatch, now that the pilot is over, we kindly ask you to evaluate its usefulness by answering a few questions. We would also welcome from you comments and suggestions in order for us to improve the product.

Thank you very much for compiling this short survey by March 10th 2017

Kind regards

CARE Project WP5 - ISS Italy Team

* 1. Name and Surname

* 2. Country

* 3. Did you complete the CARE project online questionnaire "INFORMATION NEEDS OF HEALTH CARE WORKERS" (August-October 2016)?

☐ Yes

☐ No

* 4. Did you receive the Care Project Dispatch between October and December 2016?



Evaluation of the CARE TRAVEL MEDICINE DISPATCH

5. How many issues of the CARE project travel medicine dispatch did you receive?

- ☐ 1-2
- ☐ 3-5
- ☐ >5

6. Did you work between September - December 2016 in a migrant reception/detention/hotspot centre?

7. Role

- ☐ MD paediatrician
- ☐ MD dermatologist
- ☐ MD infectious disease
- ☐ MD general practice
- ☐ MD adult psychologist
- ☐ MD child neuropsychologist
- ☐ Nurses
- ☐ Other, please specify

8. How long have you been working with migrants?

- ☐ Less than one year
- ☐ 1 - 2 years
- ☐ 3 - 5 years
- ☐ More than 5 years

9. Do you conduct clinical medical consultations for newly arrived migrants?

10. How often?

- ☐ Daily
- ☐ Twice a week
- ☐ Once a week
- ☐ Other

If other....Please specify

11. Do you think the “CARE travel medicine dispatch service” can provide information to frontline healthcare workers, which can be used in guiding healthcare provision to migrants / refugees?

- ☐ Yes
- ☐ No, specify

12. During the pilot implementation of the “CARE travel medicine dispatch service” to what extent did you find the information received:

| | Not at all | A little | Sufficiently | Very | Extremely |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Useful for your work | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Targeted to your information needs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Updated | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

13. If an answer is “*Not at all*” to any please specify why

14. During the pilot implementation of the “CARE travel medicine dispatch service” to what extent did you find the information received:

| | Not at all | A little | Sufficiently | Very | Extremely |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The quality of information received | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The relevance of the information received | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The support the information gave you in conducting more targeted health assessments | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

15. If an answer is “*Not at all*” to any please specify why

16. Based on your experience receiving the “CARE travel medicine dispatch service”, what would you suggest to **improve** this information service model on endemic and currently epidemic diseases in the migrant’s countries of origin and transit ?

17. Do you have any final comments you would like to share with us?



CARE
Common Approach for Refugees
and other migrants' health

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Evaluation of the CARE TRAVEL MEDICINE DISPATCH

Thank you very much