

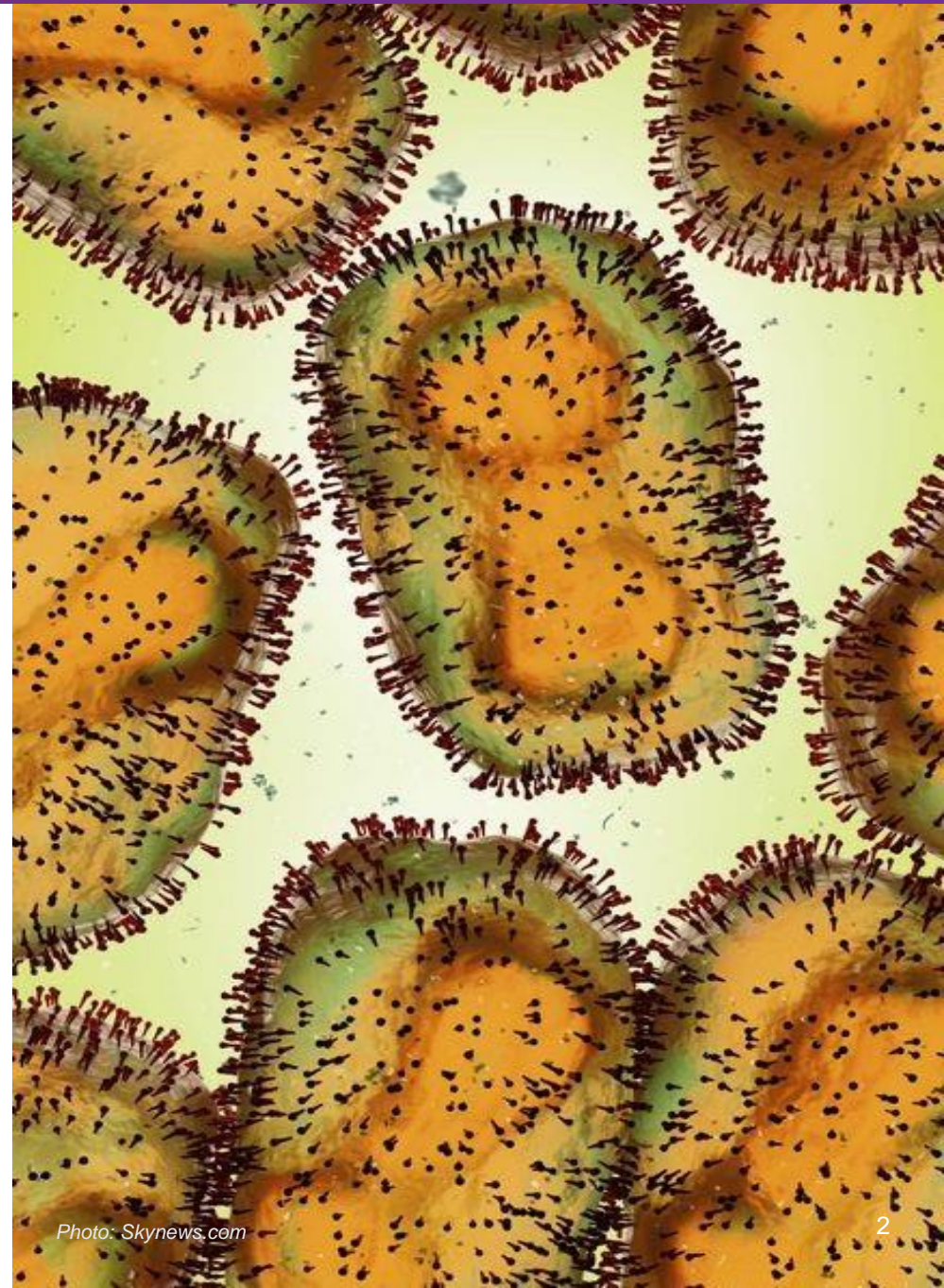
Monkeypox outbreak

UPDATE AND ADVICE FOR HEALTH WORKERS

Most of the new cases of monkeypox are reported in non-endemic countries

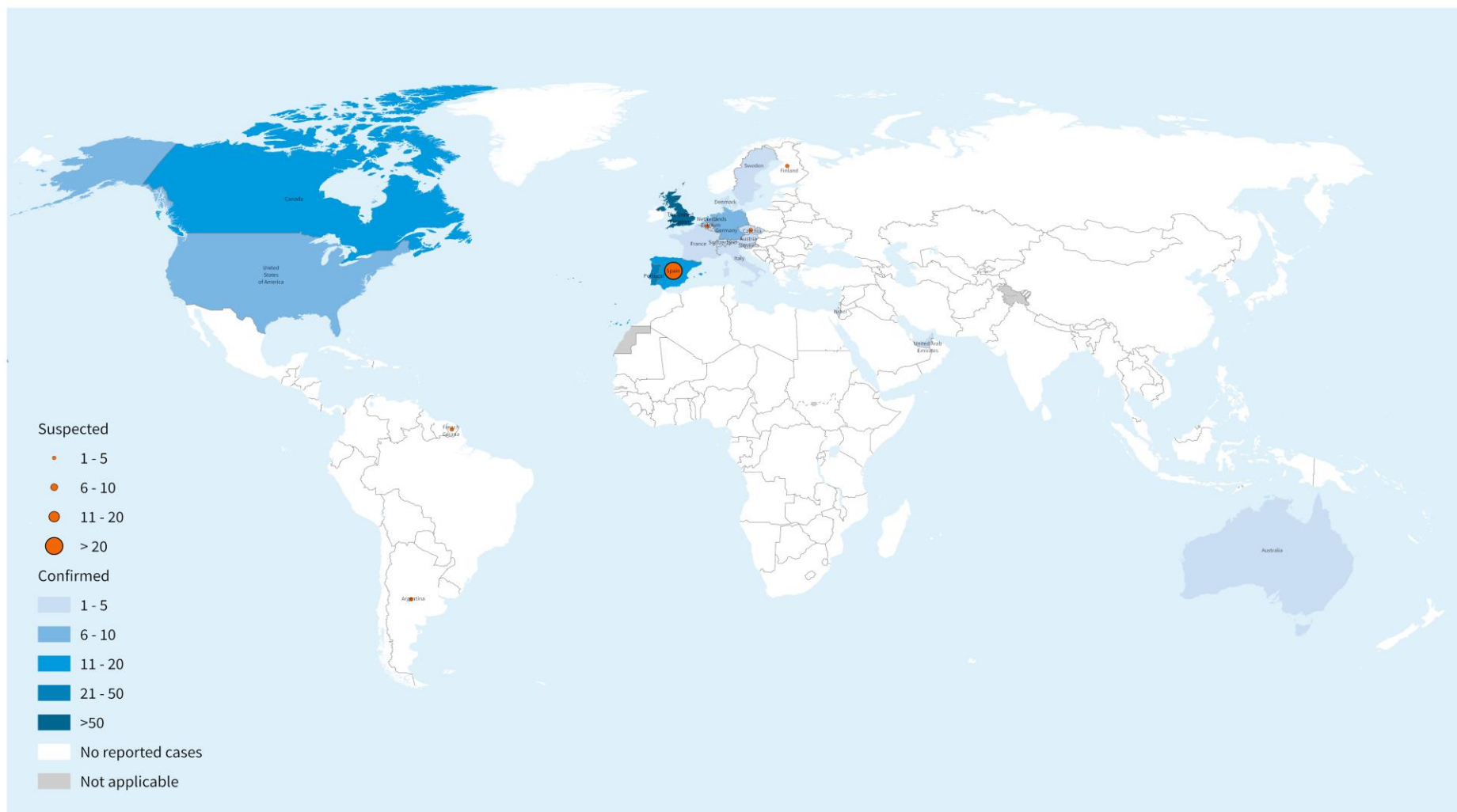
Monkeypox, a zoonotic disease, is endemic in West and Central Africa

- Since May 2022, several non-endemic countries in four WHO regions have reported monkeypox cases
- Rare cases of monkeypox in other countries are usually linked to travel to endemic countries
- However, most of the current cases do not have any history of travel to endemic countries
- Therefore, the current outbreaks are unusual and different from previous travel-related outbreaks



Confirmed and suspected cases of monkeypox in non-endemic countries

(as of 25/05/2022 17:00 CEST)



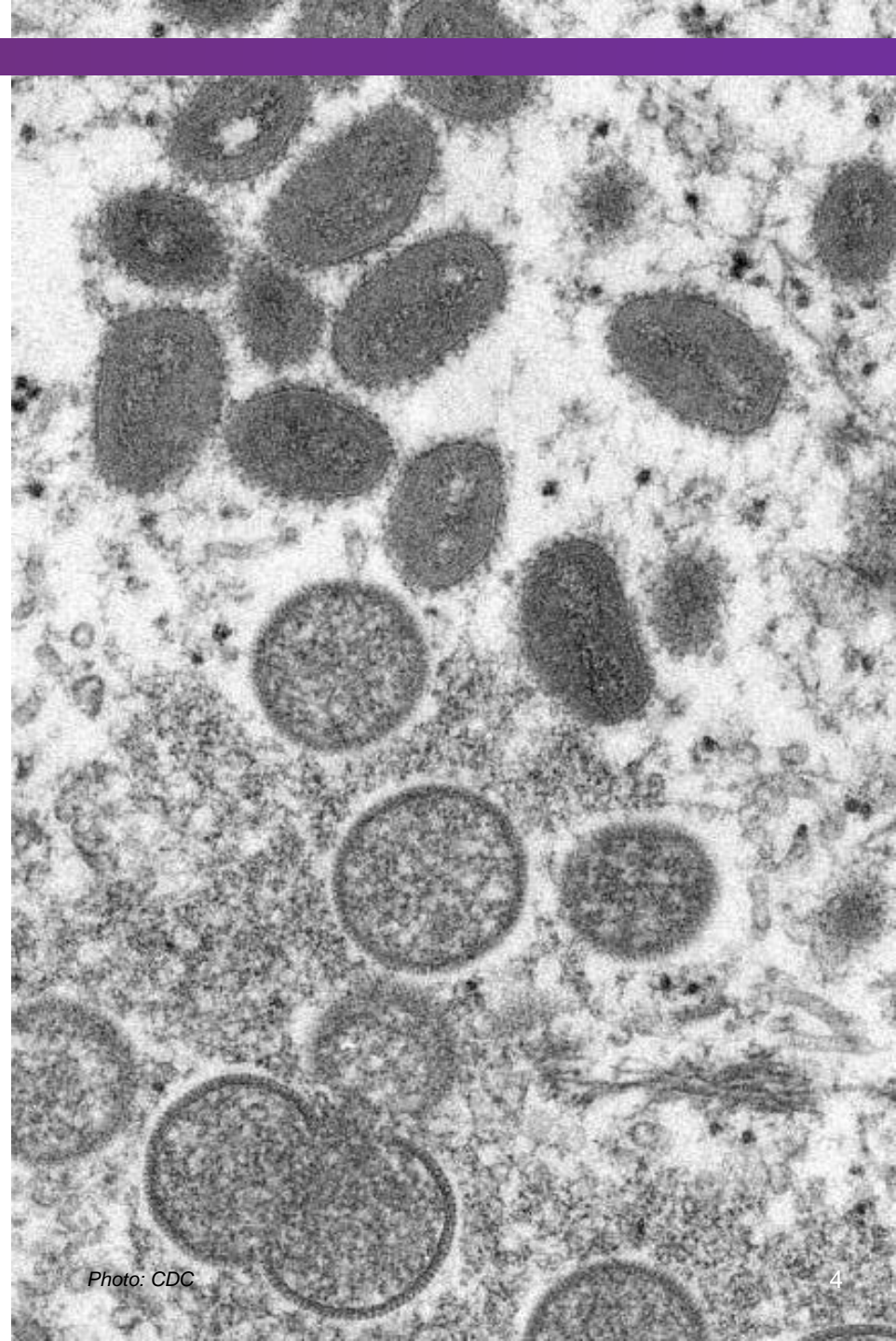
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Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
Map Date: 25 May 2022

Monkeypox is a viral zoonotic disease

Monkeypox is caused by the monkeypox virus

- It is part of the *Orthopoxvirus* genus which includes variola virus (smallpox) and cowpox virus
- There are two main strains, one more virulent and transmissible (Congo Basin clade) than the other (West African clade). The less virulent West African clade has been identified among the current cases
- The reservoir host is still unknown, although rodents are suspected to play a part in the endemic setting



Recognizing monkeypox

Signs and symptoms:

- Monkeypox is usually a self-limited disease and **typically lasts 2 to 4 weeks**
- It may be severe in children, pregnant women or persons with immune suppression due to other health conditions
- The **incubation period is usually 6 to 13 days** and can range from 5 to 21 days
- Typical symptoms include **fever, headache, muscle aches, backache, lack of energy, swollen lymph nodes** and a **skin rash or lesions**
- **Swelling of the lymph nodes** is a distinctive feature of monkeypox compared to other diseases that may initially appear similar (chickenpox, measles)
- The skin eruption begins within 1 to 3 days after fever onset. The rash often begins on the face, then spreads to other parts of the body
- The rash evolves from macules (lesions with a flat base) to papules (slightly raised firm lesions), vesicles (lesions filled with clear fluid), pustules (lesions filled with yellowish fluid), and crusts which dry up and fall off
- The case fatality ratio has been reported to around 3% in the African setting, with most deaths occurring in younger age groups



Transmission and risk of infection

Monkeypox virus is transmitted from one person to another by close contact

- **A person with monkeypox remains infectious while they have symptoms**, normally for between 2 and 4 weeks
- Monkeypox virus is transmitted from one person to another by **close contact with lesions, body fluids and contaminated materials** such as bedding, clothing or eating utensils
- **Ulcers, lesions or sores in the mouth can also be infectious, meaning the virus can spread through saliva**
- People who closely interact with someone who is infectious, including health workers, household members and sexual partners are at greater risk of infection
- Transmission can also occur via the placenta from mother to fetus (which can lead to congenital monkeypox) or during close contact during and after birth



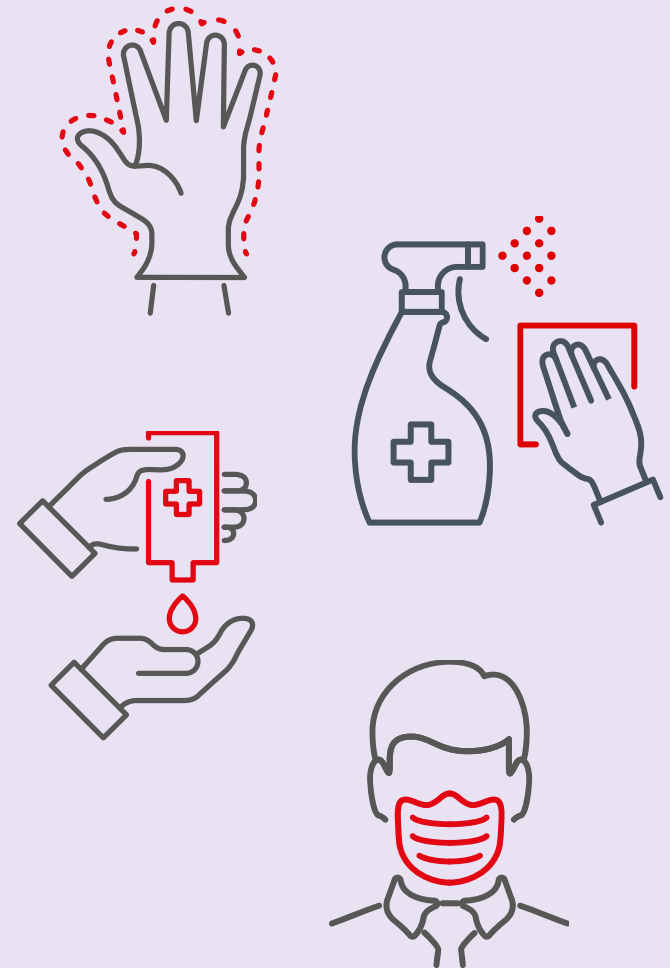
Monkeypox protective measures

Protect yourself and others

- Avoid close contact with people who have suspected or confirmed monkeypox

When caring for a person with monkeypox:

- Encourage the person to **cover any lesions with a light bandage or clothing** if possible
- **Wear a medical mask** and ask the patient to wear one also
- **Avoid skin-to-skin contact and use disposable gloves**
- **Clean hands regularly with soap and water or alcohol-based hand rub**, especially after contact with the patient or contaminated materials such as bedding, clothing or eating utensils
- **Wash clothes, towels, bedsheets and eating utensils** with warm water and detergent
- Wear a mask when handling any clothes or bedding
- **Clean and disinfect any contaminated surfaces** and dispose of contaminated waste



Managing the spread of monkeypox

Early detection, isolation and treatment of persons with monkeypox could control the spread of the disease

- Any person with suspected or confirmed monkeypox should be isolated until their lesions have crusted and the scabs have fallen off
- As soon as a suspected case is identified, contact tracing should be initiated
- Contacts should be monitored daily for the onset of symptoms for a period of 21 days
- Asymptomatic contacts should not donate blood, cells, tissue, organs, breast milk, or semen while they are under symptom surveillance
- Asymptomatic contacts can continue daily activities such as work and school (i.e., no quarantine is necessary)
- Health workers who have unprotected exposures (i.e., not wearing appropriate PPE) to patients with monkeypox or contaminated materials do not need to be excluded from work if asymptomatic, but should undergo active surveillance for symptoms, at least twice daily for 21 days following the exposure



Diagnosing a monkeypox infection

Nucleic acid amplification tests such as Polymerase chain reaction (PCR) is the preferred laboratory test

- If monkeypox is suspected, health workers should collect a lesion sample and transport it safely to a laboratory with appropriate capability
- Optimal diagnostic samples for monkeypox are from skin lesions, the roof or fluid from vesicles and pustules and dry crusts
- Lesion samples must be stored in a dry, sterile tube and kept cold



Clinical care and therapeutics

Clinical care should focus on alleviating symptoms, manage complications and prevent long-term consequences of monkeypox

Clinical care

- Skin care:
 - Wash skin lesions with soap and water or povidone-iodine solution
 - Treat secondary bacterial infections with topical or oral antibiotics as needed
- Eye care:
 - Prevent corneal scarring and visual impairment with vitamin A supplementation where needed, protective eye pads and ophthalmic antibiotics or antivirals as needed
- Mouth care:
 - Wash mouth with warm clean salted water
 - Use oral analgesic medication to minimize mucosal pain from mouth sores and encourage food and fluid intake

Therapeutics

- Tecovirimat is an antiviral approved for the treatment of monkeypox by the European Medicines Agency (EMA) in January 2022. However, It is not yet widely available
- Provide Vitamin A supplements according to standard recommendations, especially for children as it plays an important role in all stages of wound healing and eye health

Vaccines against monkeypox

In the past, vaccination against smallpox was demonstrated to be about 85% effective in preventing monkeypox

- At the present time, the original smallpox vaccines are no longer available to the general public
- Research has yielded several safer vaccines for smallpox
- In 2019, one new vaccine was approved for the prevention of smallpox and monkeypox
- Availability of this two-dose vaccine remains limited
- Member States may want to consider vaccination of close contacts as post-exposure prophylaxis or pre-exposure vaccination of laboratory personnel and health workers



Photo: CDC

WHO and Member State public health actions

- ✓ WHO and partners are working with Member States to **understand the source and characteristics of the current outbreaks** and raise awareness of monkeypox symptoms and protective measures
- ✓ WHO has developed [surveillance case definitions](#) and [new guidance for laboratory testing](#) for the current monkeypox outbreak in non-endemic countries
- ✓ **Public health investigations are ongoing**, including extensive case finding and contact tracing, laboratory investigation, clinical management and isolation provided with supportive care
- ✓ **Genomic sequencing** has been undertaken to determine the monkeypox virus clade(s) in this outbreak
- ✓ **Vaccination for monkeypox is being deployed in some countries** to manage close contacts, such as health workers. WHO is convening experts to discuss recommendations on vaccination

Additional resources



Multi-country monkeypox outbreak in non-endemic countries

<https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON385>



Key facts about Monkeypox

<https://www.who.int/news-room/fact-sheets/detail/monkeypox>



OpenWHO: Monkeypox introduction

<https://openwho.org/courses/monkeypox-introduction>

<https://openwho.org/courses/variolo-du-singe-introduction>



WHO website: Monkeypox

https://www.who.int/health-topics/monkeypox/#tab=tab_1



OpenWHO: Monkeypox epidemiology, preparedness and response

<https://openwho.org/courses/monkeypox-intermediate>

<https://openwho.org/courses/variolo-du-singe-intermediaire/>



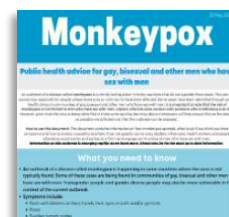
Monkeypox Q&A

<https://www.who.int/philippines/news/q-a-detail/monkeypox>



Monkeypox outbreak toolbox

<https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox>



Monkeypox: public health advice for gay, bisexual and other men who have sex with men

<https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men>



EPI•WIN

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MANAGEMENT