

THE 2008 LUJO VIRUS OUTBREAK IN JHB: LESSONS LEARNT

DR CHIKA ASOMUGHA



GAUTENG
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Kuyasheshwa - "Gauteng working better"

NOTABLE OUTBREAKS IN THE PROVINCE

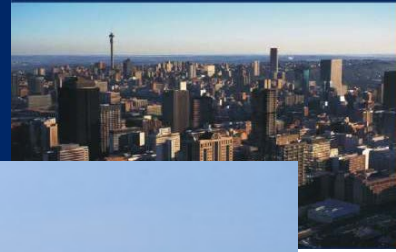


- Since the beginning of 2008, the province has been plagued with a series of outbreaks
 - Despite aggressive preventative measures, high profile surveillance systems, high immunization coverage for our vaccine preventable diseases and perennial awareness campaigns that are in place
- Most often, the index cases of these outbreaks have been imported (e.g. cholera, measles, Lassa Fever, and Lujo virus and the A(H1N1)2009)
- Yet we still boast about the ability to contain outbreaks to minimize the undesirable case fatalities arising from them

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CITY OF JOHANNESBURG



THE ARENA VIRUS OUTBREAK (LUJO VIRUS)



There were **5 confirmed cases and 4 fatalities**

- ❑ On 30 September 2008, the Public Health Directorate was informed of an imported case of Viral Haemorrhagic Fever by the National Institute of Communicable Diseases (NICD).
- ❑ This patient, a male paramedic- **aged 33** (subsequently regarded as a **second case**), had earlier accompanied a female patient, **aged 36**, a tour operator (**the first or index case**) from Zambia, into the country on 12 September 2008.
- ❑ **Landed through Lanseria IA.**
- ❑ These two cases had presented similarly with symptoms of fever, flu like symptoms, vomiting and petechial skin rashes

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MAP OF AFRICA



LANSERIA INTERNATIONAL AIRPORT



SANDTON CITY



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THE LUJO VIRUS OUTBREAK



- ❑ The index case died on 14 of September 2008, i.e. two days on arrival into the country whilst the second case (the paramedic) died on 2 October 2008
- ❑ Both were managed in Morningside Mediclinic in uptown Sandton, north of Johannesburg
- ❑ Subsequently, three other people who were in close contact with these two patients contracted this disease
- ❑ This included a nurse, **aged 34 (regarded as a third case)** from the hospital that attended to the index case. She developed similar symptoms 18 days after index case was admitted.
- ❑ She died on the 5 October 2008.

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THE LUJO ARENA VIRUS OUTBREAK



- ❑ A cleaner aged 37, (regarded as the fourth case) from the Intensive Care Unit where the index and second cases were admitted also contracted the disease.
- ❑ She also displayed exact symptoms and later died from the disease on 06 October 2008.
- ❑ The **fifth case** was a nurse who had attended to the paramedic (**the second case**).
- ❑ She took ill and was admitted on the 9 of October 2008. She recovered completely from the disease but after a prolonged stay in hospital.
- ❑ More than **300 contacts** were monitored for 21 days for possible contracting of this disease

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Typical Presenting features



- ❑ Incubation period of between 7 to 21 days
- ❑ Presentation include fever, myalgia, dysphagia, odynophagia, dizziness, red eyes, abdominal pains, nausea, vomiting, sore throat, diarrhea, pleuritic pain
- ❑ Bloody and/or darkish stools, petechia, maculo-papular rashes, purpura, internal and external haemorrhage with
- ❑ Bleeding from all anatomical orifices including the nose, gums and mouth.
- ❑ Pathophysiology could be platelet dysfunction with extreme membrane permeability

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Morningside Mediclinic, Sandton



Haemorrhagic fever killed cleaner – report



THE ENTRY AND STAFF WERE ALL GEARED UP WITH A STYVON SUITS!

The article contains several columns of text, including a sub-headline "HAEMORRHAGIC FEVER" and a byline "By [unreadable]". The text discusses the death of a cleaner at the Morningside Mediclinic building and the subsequent investigation into the cause of the death, which was identified as haemorrhagic fever. It mentions that the entry and staff were all geared up with a styvon suit.



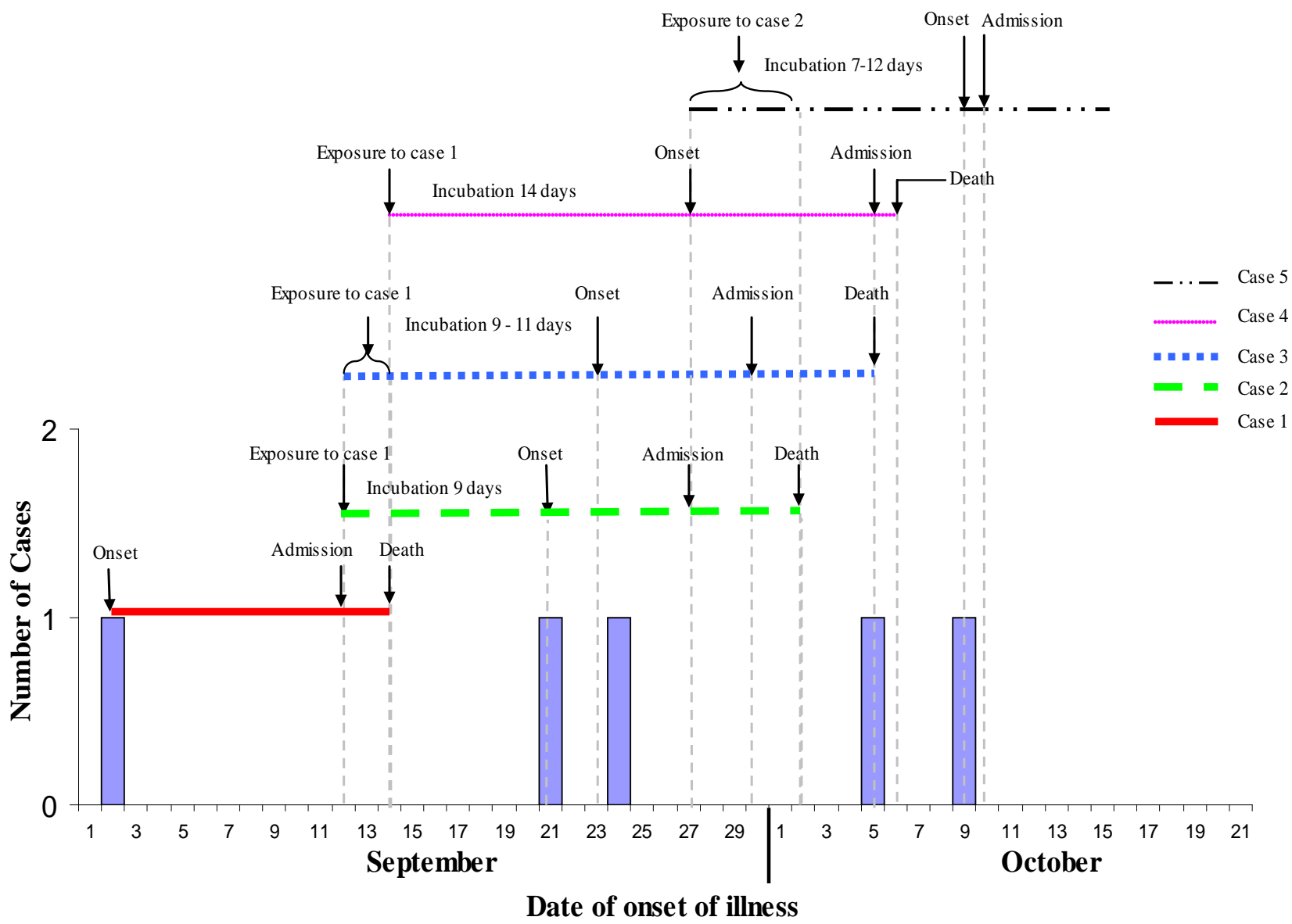
TYPICAL PRESENTATION OF PATIENT



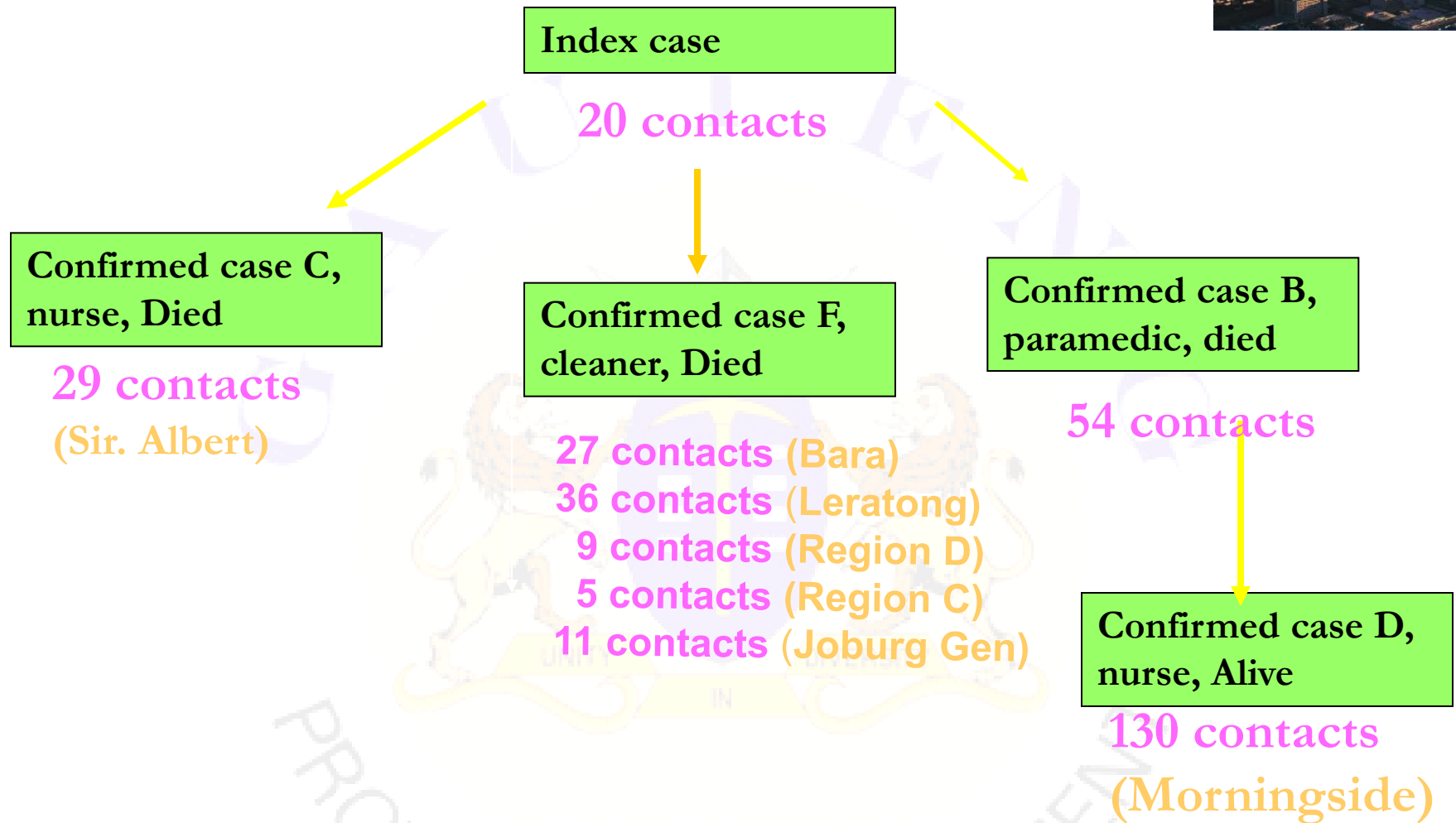
...e of the health system



Epidemic curve of cases of infection with an arenavirus, South Africa, September - October 2008



Arena virus chains of transmission



Please note: 20 persons had contact with >1 case

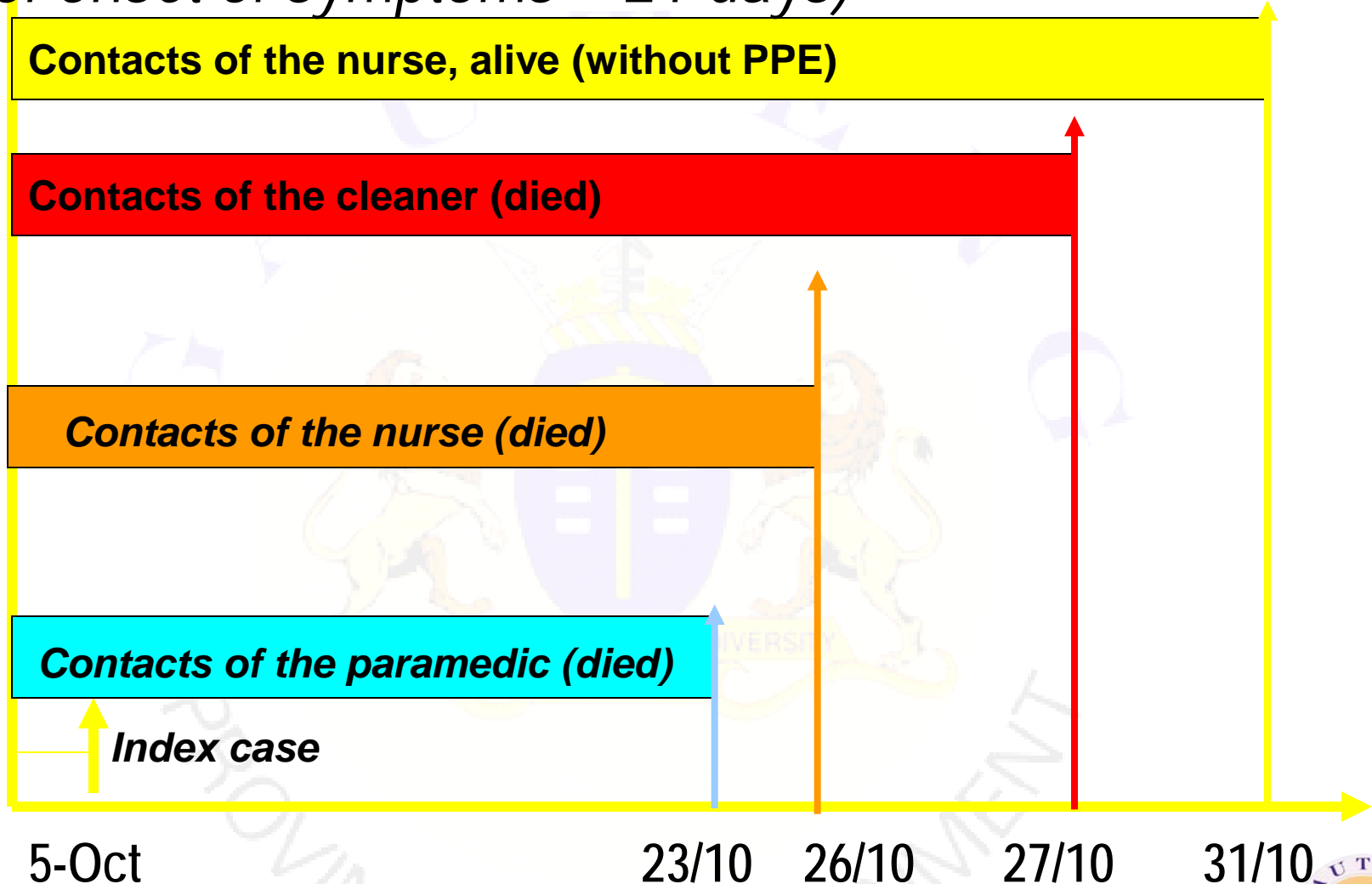
Contact definition: work together, friends, family members, health care providers
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Follow-up contacts



date of onset of symptoms + 21 days)



All contacts of the 5th case (from 10th Oct) are at low risk. Appropriate PPEs have been used by both health care workers and visitors.

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SITUATION COULD HAVE BEEN WORSE



- ❑ There could have been more contacts and cases
- ❑ And certainly more fatalities
- ❑ More health workers could have been affected
- ❑ Hospitals could have been overwhelmed
- ❑ Resources could have been stretched to limits
- ❑ Anticipated Legal battles with Aeromedical companies and Hospitals
- ❑ WHO travel restrictions to South Africa
- ❑ Loss of faith in the SA Health Care systems
- ❑ Most of us would not be here in this room today

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HOW OUTBREAK WAS CONTAINED



- ❑ Immediate activation all our Outbreak Response Teams (ORT) all over the province and over the country
- ❑ Alerts messages were sent to all practitioners with Case definition of the Lujo Virus disease
- ❑ ORT Meetings every day with daily Situation Reports to principals and other stakeholders including the Public
- ❑ All members of the ORT must attend meetings: **WHO, NICD, NHLS, EHPs, HPs** and Hospitals affected
- ❑ Support from the CDC Atlanta (through Pretoria Office)
- ❑ Also held meetings with aeromedical Companies

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HOW OUTBREAK WAS CONTAINED



- ❑ Team members were divided into **Case Management and Infection Control, Surveillance and Contact Tracing and Communication/HP**
- ❑ Tracing of all contacts : Contacts were categorized into **Low, Intermediate and High Risks contacts**
- ❑ Very high risk contacts have to be quarantined
- ❑ Cases were also categorized into **Possible, Probable and Confirmed**
- ❑ Confirmed cases had to be isolated
- ❑ We declared the outbreak **Contained** when after 21 days, the last contact being followed did not exhibit symptoms

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LESSONS LEARNT FROM THIS OUTBREAK



- ❑ South Africa, and most especially Gauteng remains vulnerable at any time to the possible importation of any formidable communicable disease
- ❑ These cases can arrive through designated official ports of entries as well as through informal borders
- ❑ And best of surveillance systems may not detect these cases
- ❑ But a committed and dedicated outbreak response team could both prevent and contain any outbreak before this blows out of proportion
- ❑ Understanding, Assistance and Collaboration with other role players (**especially the Aviation industry**) are quite essential
- ❑ Political involvement and direction also critical

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Factors That May Contribute to Next Lujo case OBK



- ❑ Patients with formidable Communicable disease who do not reveal factual presentations before they are transported into the country: Only discovered on arrival.
- ❑ Flight ambulance personnel who might miss the presenting features of the disease
- ❑ Flights (carrying with passengers) that may arrive unannounced into the country without pratique grant (Happened during the Ebola outbreak –Flight from Nig.)
- ❑ Port Health and Clinic sisters not alerted sufficiently beforehand of case

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- ❑ Patients with VHF within incubation period
- ❑ Breakdown of infection control principles/practices by ambulance personnel, clinic sisters and receiving hospitals
- ❑ Isolation facilities not sufficiently equipped
- ❑ Failure by Port Health and Clinic Staff to immediately NOTIFY these cases to Provincial CDC offices.

END OF PRESENTATION

THANKS FOR ATTENTION