

# 青海肺鼠疫 Qinghai pneumonic plague

# 鼠疫在青海省的分布 The Distribution of Plague in Qinghai

## 基本信息 Basic Information

肺鼠疫或肺部鼠疫是毒性最强、最罕见的一种鼠疫。肺鼠疫通常是由鼠疫杆菌经呼吸道传播到肺部所致。  
Pneumonic plague or lung-based plague is the most virulent and least common form of plague. Typically, the pneumonic form is caused by spread to the lungs from advanced tubercular plague.

## 传染源 Infection Source

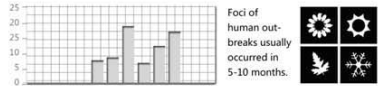
传染源主要是喜马拉雅旱獭，传播媒介主要是跳蚤。  
The plague source of infection is mainly Marmota himalayana Hodgson. The plague source of infection is mainly Marmota himalayana Hodgson.



## 病死率 Case Fatality Rate



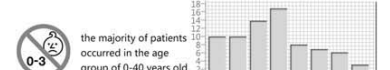
## 时间分布 Time Manifestation



## 职业分布 Occupation Distribution

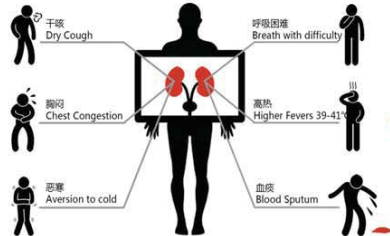
牧业户占比较大，其次是儿童、学生、农民、村医。  
The herdsmen accounted for a larger proportion (52%), followed by the children, students, farmers, village doctors.

## 年龄分布 Age Distribution



发病年龄最小4个月，最大73岁，0-73岁各年龄组均有发生，多数患者发生在0-40岁年龄组。从民族构成上看，全部为藏族（80%）和汉族（20%），从职业分布看，牧民占比最大（52%），其余依次为儿童、学生、农民、村医。

## 临床表现 Clinical Manifestation



## 确诊依据及治疗方法 Diagnosing and Treatment

经验证，可实地使用快速检测试剂，迅速筛查患者是否有鼠疫耶尔森菌抗原。应收集样本并送往实验室进行鼠疫检测。  
Rapid dipstick tests have been validated for field use to quickly screen for Y. pestis antigen in patients. Specimens should be collected and forwarded to laboratories for plague testing.

将染病患者单独隔离，与其接触者就地隔离。  
Isolating the Infectious patients and their contacts.

医护人员有严密的自身防护措施。  
Medical staff should be protected on the safe side.

呼吸困难的循环衰竭者应予以吸氧，纠正休克。  
Use Oxygen machine to prevent patients shocking.

急性期绝对卧床，并足量补液。  
The patient should lying in bed and infusion enough on the acute phase.

## 传播途径 The Spread of Pneumonic Plague



## 面临的问题 facing The problems

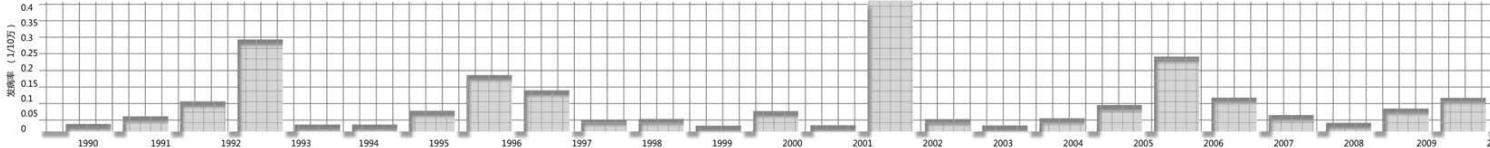
患者多为牧民，地处偏远的高原牧区，距城市较远，运输不便。  
The local traffic is inconvenient, far away from cities and towns.

高原牧区医疗设施不健全，无法采取快速有效的急救隔离措施。  
There is not complete equipment for patients' isolate and give first aid on the Highland pastoral areas.

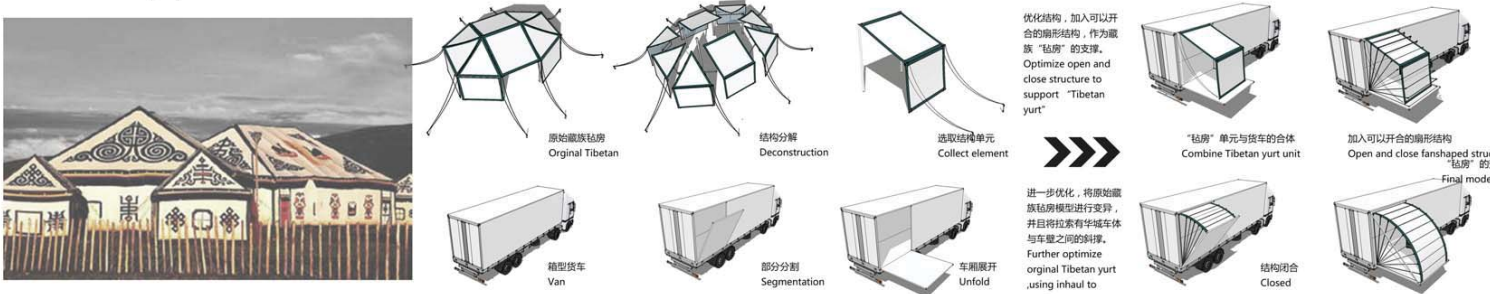
藏族牧民多为家族聚居式生活，若有一人感染，会迅速传染。  
Tibetan herdsmen belongs to multi-ethnic communal for family life, if one infection, it will spread quickly.

潜伏期3-5天，发病急，若抢救不及时，2-3天死亡。  
The incubation period usually continuous 3-5 days. Untreated pneumonic plague has a very high case-fatality.

高原地区太阳能资源是我国最为丰富的地区。青藏高原被誉为“离太阳最近的地方”，这里年日照时间超过3000小时。  
Solar energy is the most abundant in plateau area in China. Qinghai Tibet Plateau is known as "the place closest to the sun".



## 概念生成 Concept process



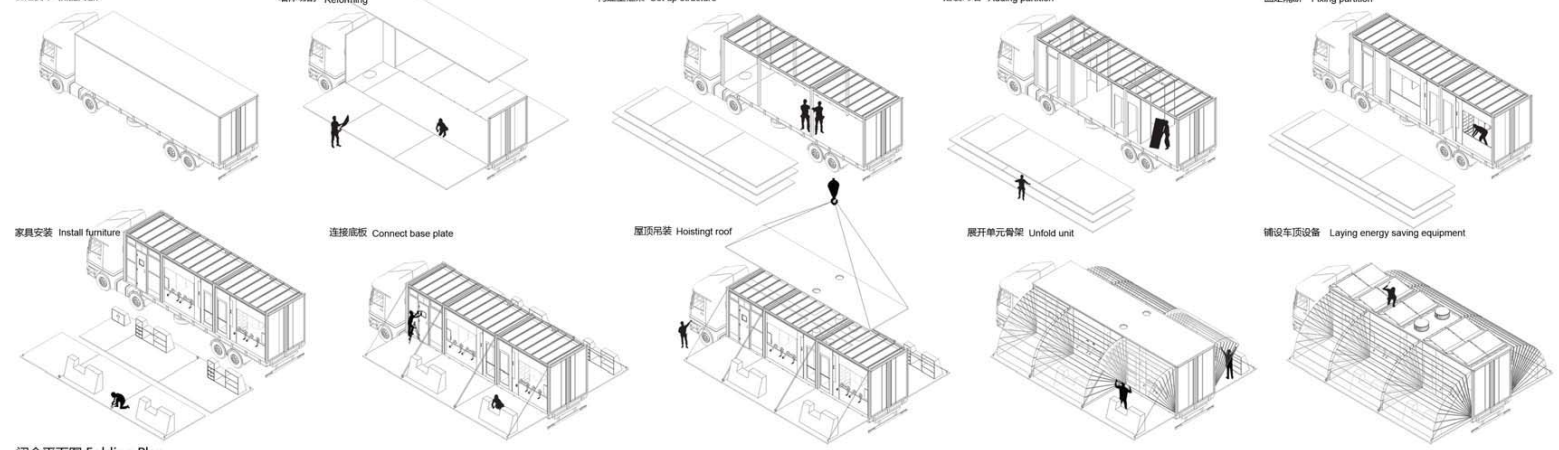
# 肺鼠疫隔离单元设计 Unit of Pneumonic plague isolation design 1



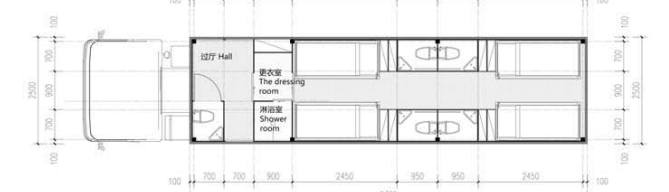
# 肺鼠疫隔离单元设计 Unit of Pneumonic plague isolation design 2



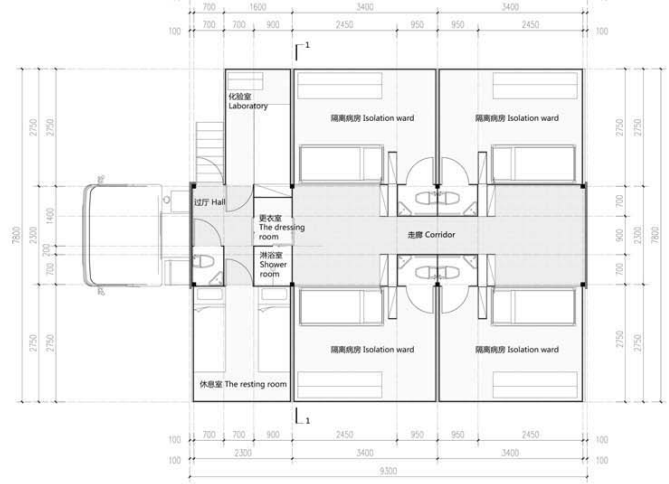
## 改装流程 Conversion process



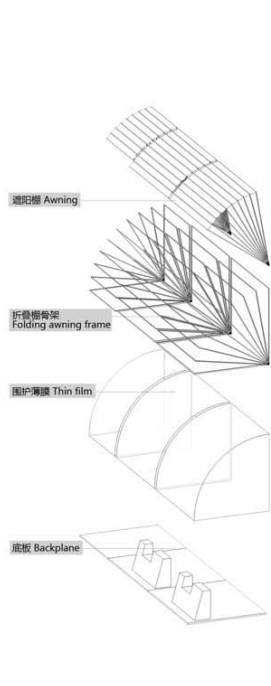
## 闭合平面图 Folding Plan



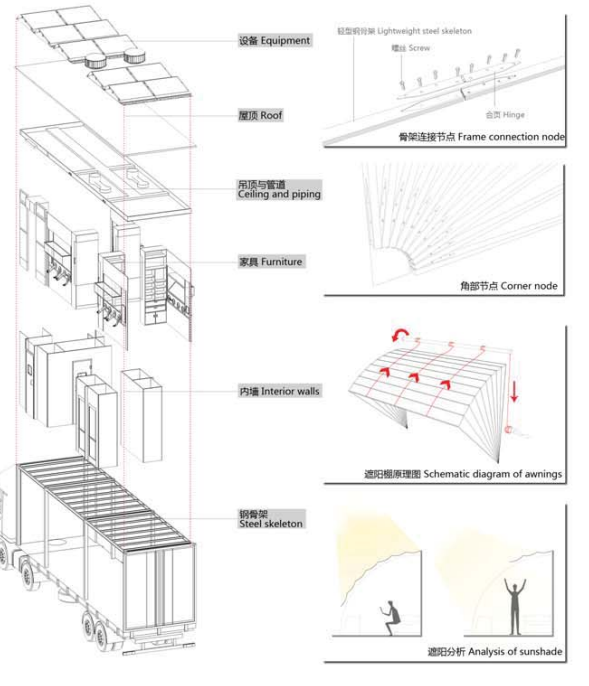
## 展开平面图 Unfolding Plan



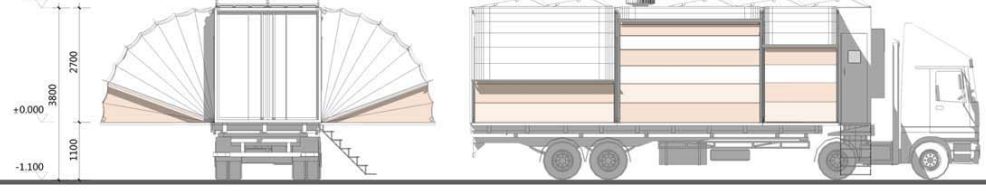
## 结构展开图 Structure expansion diagram



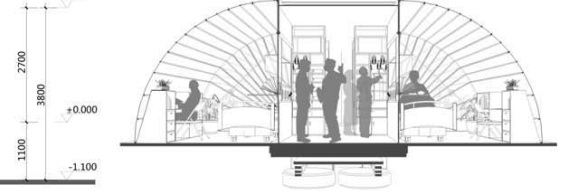
## 折叠棚分析 Folding tent analysis



## 立面图 Elevations



## 1-1剖透视图 Sectional perspective



# 肺鼠疫隔离单元设计 Unit of Pneumonic plague isolation design 3

འོ་མོ་ག་བ་མེ་ལ་ལ།

ཕྱི་བཟང་རྒྱ་གཞི་གྲོ།  
མ་ཏུ་གསུང་བུ་གཉིས་ཀྱི།  
འབྲེལ་ཚམས་གཙོ་ལོ་འཇམ་ལོ་ལོ་ལོ།

救助流程 Relief Process

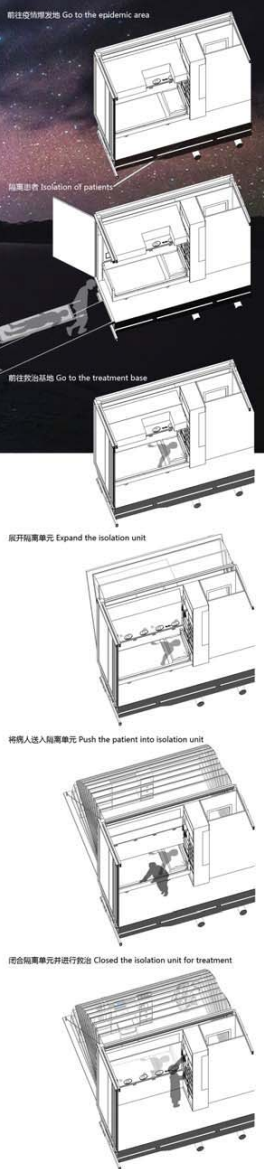
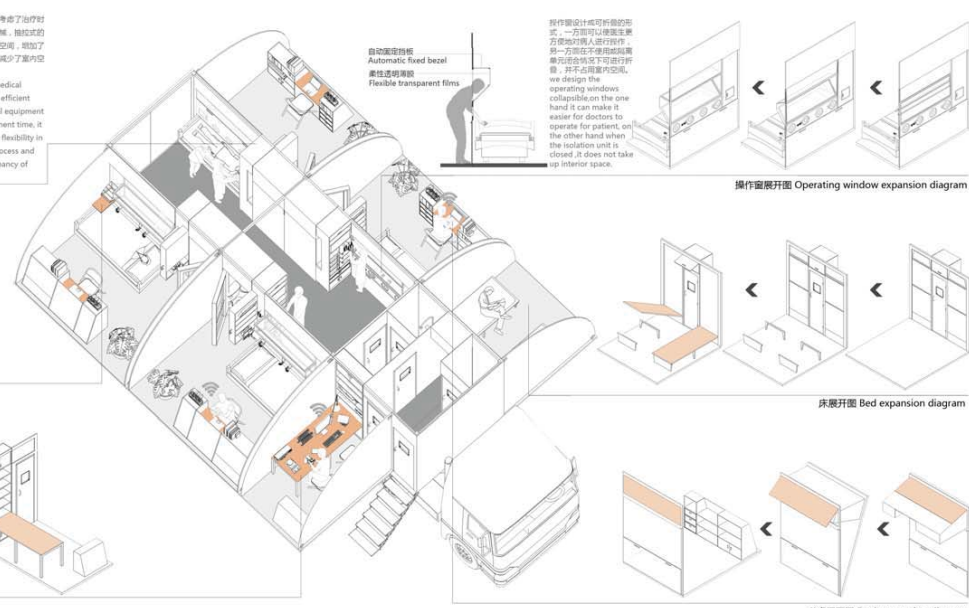
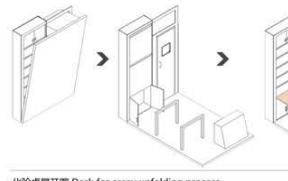
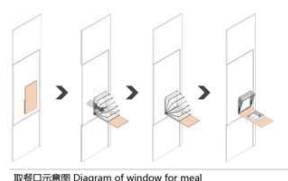
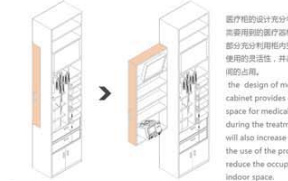
前往疫情爆发地 Go to the epidemic area

隔离患者 Isolation of patients

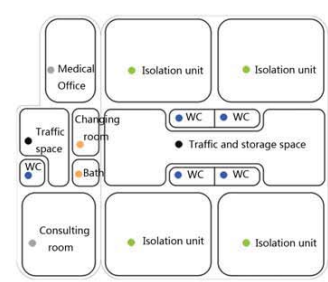
前往救治基地 Go to the treatment base



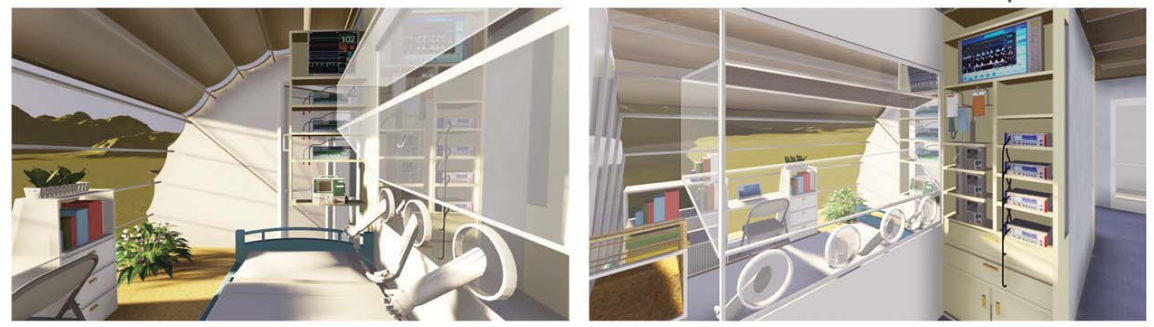
## 室内轴侧与细部 Interior shaft side and detail diagrams



## 功能分析 Functional Analysis



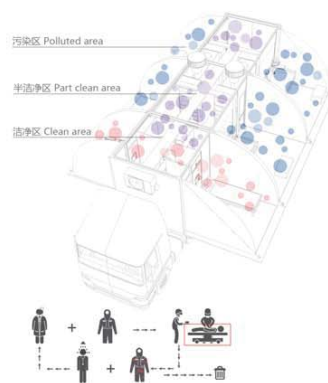
## 室内透视 Interior Perspective



## 洁污分区分析 Clean sewage partition analysis

病人隔离采用全封闭式隔离方式，避免在外操作，最大限度减少感染的风险。在洁污分区和诊疗区中均设置了缓冲带，供医生消毒更衣。

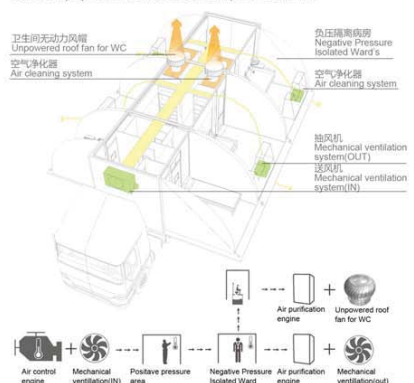
Patient isolation use the closed isolation Doctors are in external operations that can minimize infection possible. We set up buffer zone between activities and treatment areas to decontaminate and clean clothes.



## 通风分析 Ventilation Analysis

室内新风主要通过外部送风系统将室外空气输入，将有害气体通过负压隔离单元排出，并定期消毒。新鲜空气在室内主要通过医生的诊室和病人的病房，在调整温度后，通过外部排风系统排出。卫生间空气则由负压排风系统排出，并定期消毒。新鲜空气在室内主要通过医生的诊室和病人的病房，在调整温度后，通过外部排风系统排出。卫生间空气则由负压排风系统排出，并定期消毒。

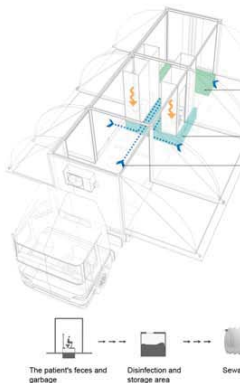
Fresh air indoor is mainly drawn into the doctors' and patients' rooms after adjusting the temperature by external fan exhaust in divided in two ways, the ward unit air will be exhausted through the cabinet below the exhaust fan and air purifiers and the air from the toilet room will use no power roof exhaust hood separate ventilation ways will make the fresh air fully stay in the room, and to avoid the effects of dirty air from the indoor toilet.



## 污物处理分析 Dirt processing analysis

污物处理分为两个方面，病人产生的固体废物直接进入零下低温储存，并由专业人员定期取出集中处理；医疗废物和病人生活垃圾则收集到垃圾回收箱内，并定期消毒。

Sewage treatment is divided into two areas, the toilet waste from the patients will be discharged directly into disposal container under the car, and removed periodically by professionals for centralized treatment; disposal of medical's waste is to be collected to the garbage collection box on the rear of the van, and be cleaned periodically also.



## 太阳能利用分析 Utilization of solar energy

青海地区太阳能资源丰富，日照时间长，单位面积接收太阳能可达690.8-753.6千焦耳，是位居中国第二位的省份。因此在车顶铺设了可自动调节角度的太阳能光伏板，以提供车内照明及医疗设备用电。车顶还配备了蓄电池，以应对恶劣天气。

Qinghai province's solar radiation intensity is very strong, long daytime of sunlight, and the total amount of radiation per square centimeter is up to 690.8 - 753.6 kJ which is ranked second within China. Therefore, we lay some photovoltaic panels on the roof which can automatically adjust the angle of the solar to provide electricity for interior lighting and medical equipment. The car is also equipped with backup generators to respond to emergency situations.

