Recently, covid-19 has been developing rapidly, which poses a great challenge to medical resources around the country.In order for both sides of doctors and patients to clearly understand the information, medical resource data is needed.Please give an ODL and E/R design for the medical resource database, including the following information:

①doctor: name, ID, gender, position,workday, tel,the department that doctor *works in*.

②department: name, number, director,the hospital that the department is *part of.*

③hospital: name, address,level,size,the region that hospital *belongs to*.

④region: name, code, city.

⑤patient: name, identity, gender, tel, age, disease,the department that patient *chooses*,the hospital that patient *visits* .

Please select and specify keys for your ODL design and convert your ODL design to relational database schemes.

Please draw an E/R diagram for the former database, as well.