




# Database Design Proposal for Lake Ridge Community Hospital (LRCH)

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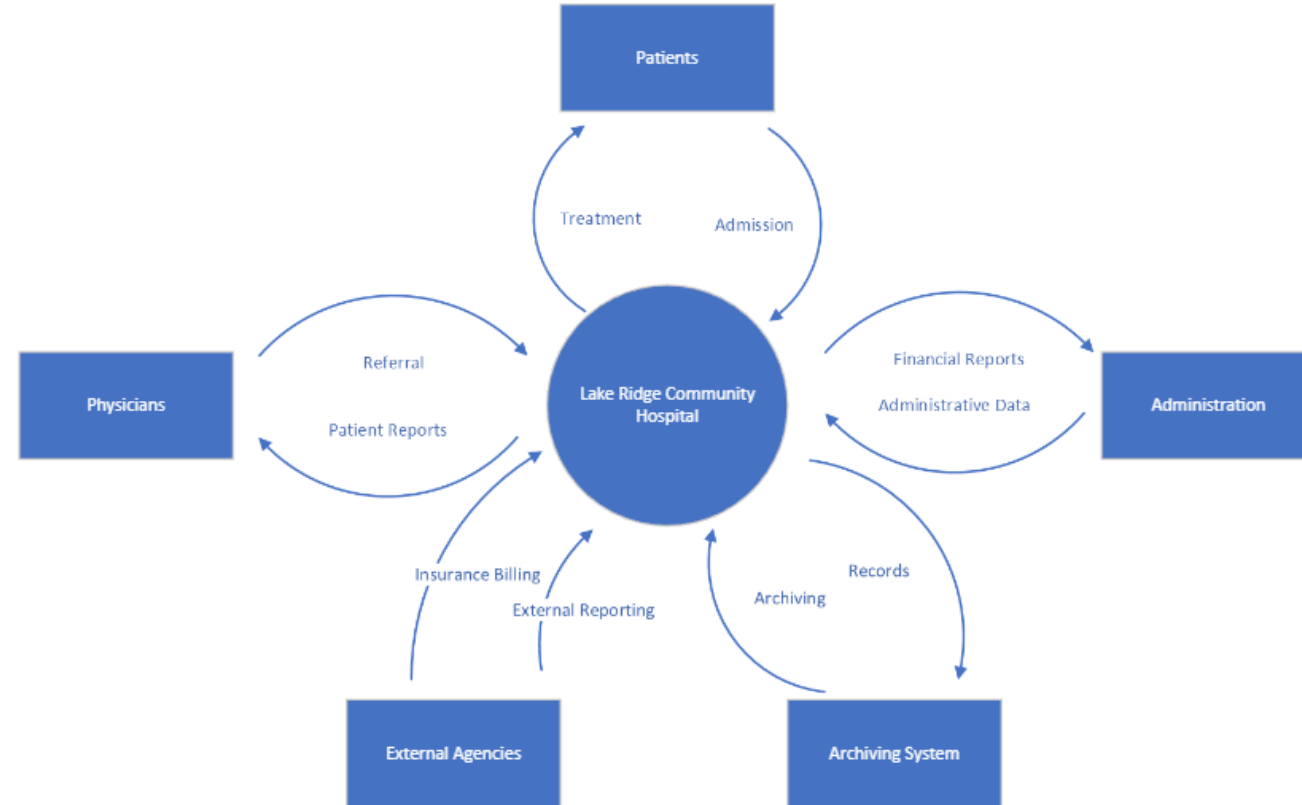
# Introduction

- Brief overview of Lake Ridge Community Hospital (LRCH)
  - Challenges with the current information system
  - Importance of transforming the information system
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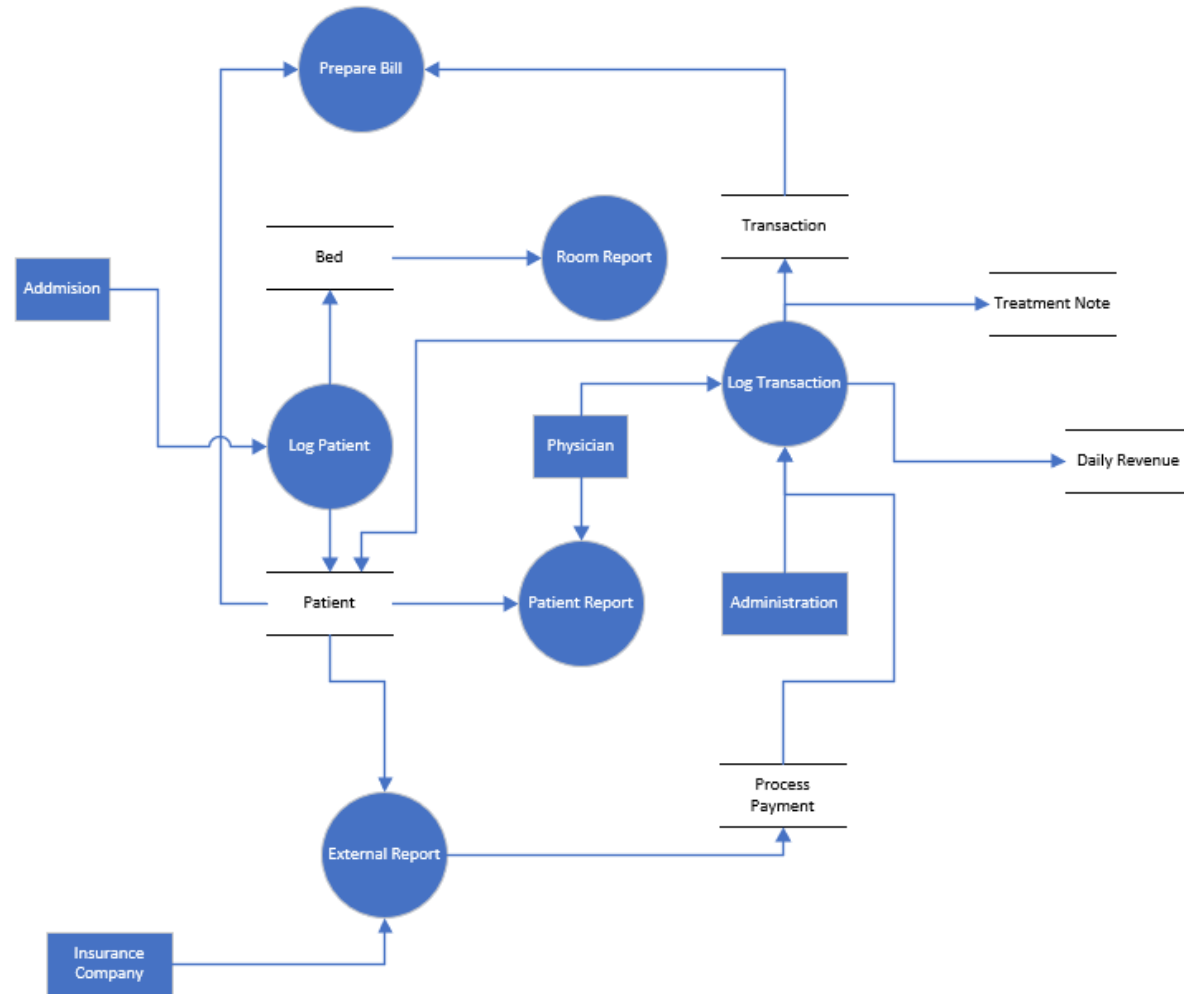
# Mission

- LRCH's initiative: openness, transparency, and ongoing improvement
- Goal: reliable and adaptable information system
- Promotion of effective communication

# Data Flow Contextual Diagram



# Data Flow Diagram Level 1

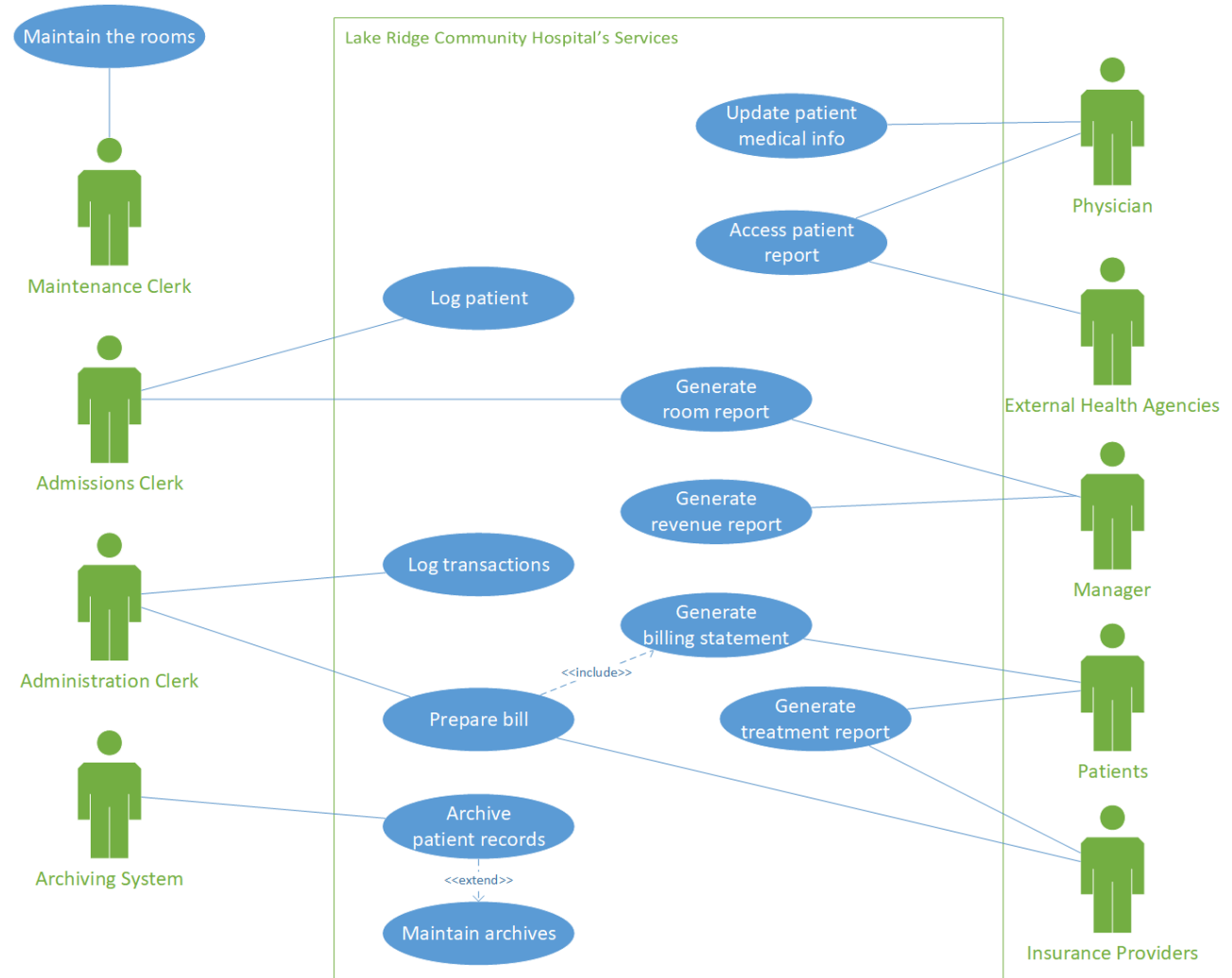




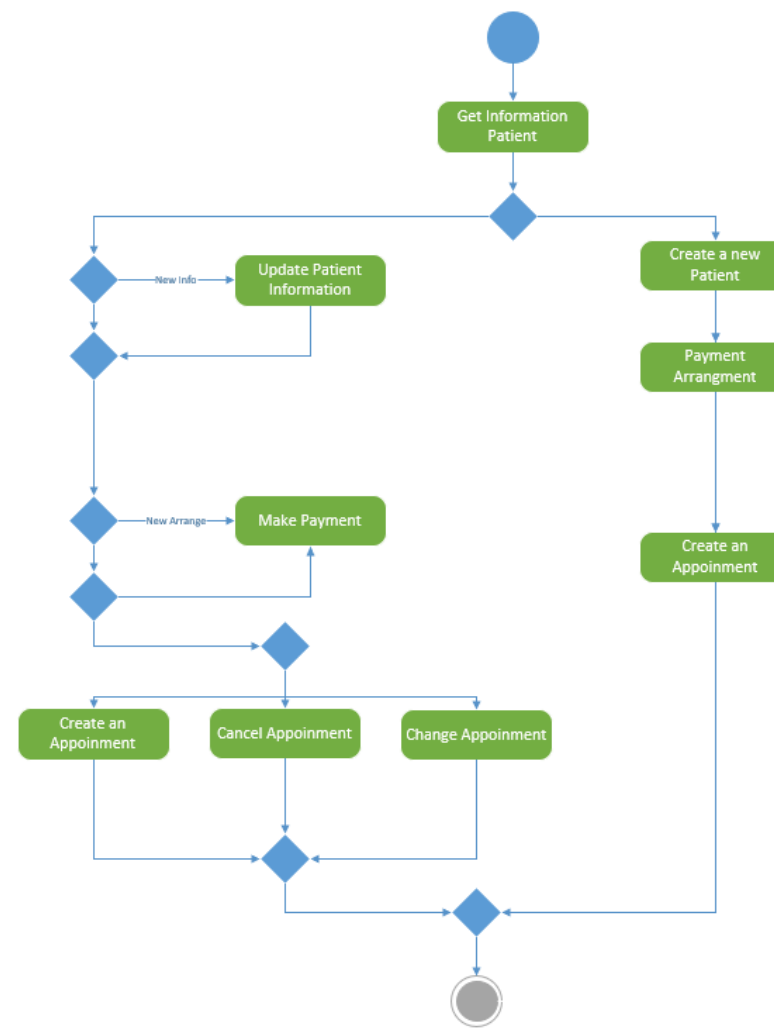
# Functional Requirements

- Enable admissions clerks to look up patient records using distinctive patient numbers, names, or phone numbers, also display relevant patient data in the search results.
- Shall permit Admissions Clerks to update patient information, including location and financial status, when a patient is being readmitted and Updating data shall be saved and reflected in the patient's record.
- Automatically archive and remove patient records from the active database if a patient is not readmitted within a specific length of time.
- The system must support billing processes, including generating billing statements for patients, and interacting with insurance providers.
- It should manage cost center data for financial tracking.
- It should maintain archived records and ensure their accessibility as needed for compliance and historical reference.
- It should generate treatment reports for patients.
- It must enable interactions with external health systems agencies for reporting.

# Use Case Diagram



# General Activity Flow





# Non-Functional Requirements

Usability: Intuitive and user-friendly user interfaces for accessing and updating patient information are required, which reduces the requirement for in-depth training.

Data precision: Updates and archiving of patient data must be error-free to guarantee data accuracy and traceability.

Performance: Low reaction times for the search and update operations are required to guarantee effective patient data management.

Efficiency of Data Archiving: For patients who are not readmitted within three years, the archiving procedure must be automated and effective.

The audit trails: To provide accountability and traceability, the system must keep a record of all modifications made to patient data.

Scalability: The system must be scalable to handle an increase in the quantity of patient records and admissions.

Data backups: Regular data backups and a recovery system must be in place to protect against data loss.

Compliance: It must comply with industry standards and healthcare regulations, including data retention policies.

Security: The system must comply with strict data security and privacy regulations to protect patient information.

Reliability and Availability: The system should be reliable and available 24/7 to support critical healthcare operations.

# 3NF Normalized Relational Schema

ApptNo	PatientNo	PhysicianNo	ApptDate
Table Appointment			

BedLocation	RoomNo	Extension
Table Bed		

CostCenterNo	Name
Table Cost Center	

CostItemNo	Description	CostCenterNo	Charge
Table Cost Item			

FinCode	InsurProvider
Table Financial Status	

PatientNo	FirstName	MiddleName	LastName	FinCode	AddressLine1	AddressLine2	City	Province
Table Patient								

AdmissionDate	PatientNo	PhysicianNo	BedLocation	DischargeDate
Table Patient Admission				

PhysicianNo	FirstName	LastName	Telephone	Specialty
Table Physician				

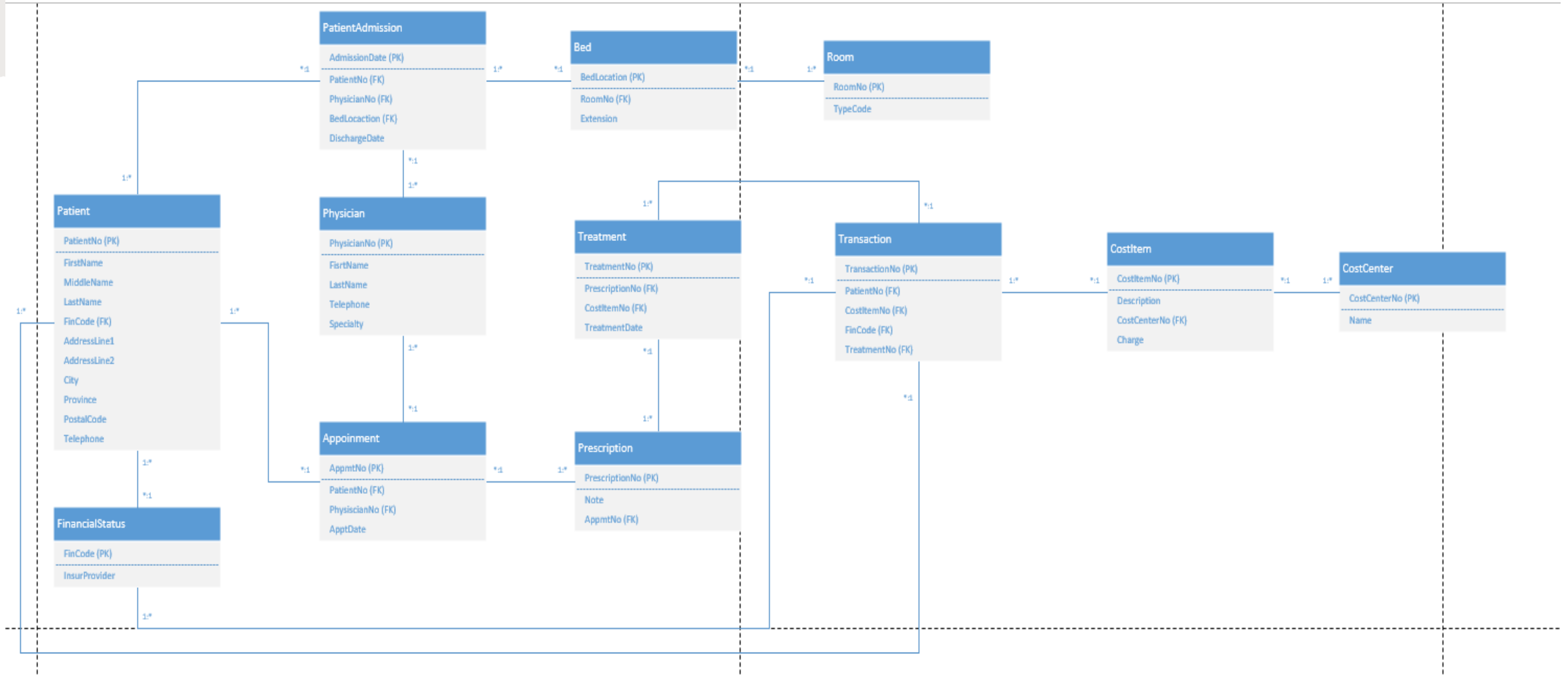
PrescriptionNo	Note	ApptNo
Table Prescription		

RoomNo	TypeCode
Table Room	

TransactionNo	PatientNo	CostItemNo	Date	FinCode	TreatmentNo
Table Transaction					

TreatmentNo	PrescriptionNo	CostItemNo	TreatmentDate
Table Treatment			

# Entity Relationship Diagram





# Conclusion

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- Recap of proposed solutions and strategies
  - Future benefits for Lake Ridge Community Hospital
  - Acknowledgment of stakeholders and collaboration



Q&A