

The UML class diagram illustrates the structure of a medical system. It features several classes and their interrelationships:

- Patient**: Attributes include `id`, `name`, `age`, `gender`, `dateOfBirth`, `address`, `phone`, `email`, `insurance`, `lastVisit`, `currentDoctor`, `currentAppointment`, `currentMedication`, `currentAllergy`, `currentVitalSigns`, `currentLabResults`, `currentPrescription`, `currentImmunization`, `currentMentalHealth`, `currentSubstanceUse`, `currentSocialHistory`, `currentFamilyHistory`, `currentGenetics`, `currentInfectiousDisease`, `currentNeurologicalDisorder`, `currentCardiovascularDisorder`, `currentRespiratoryDisorder`, `currentGastrointestinalDisorder`, `currentUrologicalDisorder`, `currentEndocrineDisorder`, `currentMusculoskeletalDisorder`, `currentDermatologicalDisorder`, `currentOphthalmologicalDisorder`, `currentOtorhinolaryngologicalDisorder`, `currentImmunologicalDisorder`, `currentHematologicalDisorder`, `currentOncologicalDisorder`, `currentPsychiatricDisorder`, `currentNeurologicalDisorder`, `currentCardiovascularDisorder`, `currentRespiratoryDisorder`, `currentGastrointestinalDisorder`, `currentUrologicalDisorder`, `currentEndocrineDisorder`, `currentMusculoskeletalDisorder`, `currentDermatologicalDisorder`, `currentOphthalmologicalDisorder`, `currentOtorhinolaryngologicalDisorder`, `currentImmunologicalDisorder`, `currentHematologicalDisorder`, `currentOncologicalDisorder`, `currentPsychiatricDisorder`.
- Doctor**: Attributes include `id`, `name`, `age`, `gender`, `dateOfBirth`, `address`, `phone`, `email`, `insurance`, `lastVisit`, `currentDoctor`, `currentAppointment`, `currentMedication`, `currentAllergy`, `currentVitalSigns`, `currentLabResults`, `currentPrescription`, `currentImmunization`, `currentMentalHealth`, `currentSubstanceUse`, `currentSocialHistory`, `currentFamilyHistory`, `currentGenetics`, `currentInfectiousDisease`, `currentNeurologicalDisorder`, `currentCardiovascularDisorder`, `currentRespiratoryDisorder`, `currentGastrointestinalDisorder`, `currentUrologicalDisorder`, `currentEndocrineDisorder`, `currentMusculoskeletalDisorder`, `currentDermatologicalDisorder`, `currentOphthalmologicalDisorder`, `currentOtorhinolaryngologicalDisorder`, `currentImmunologicalDisorder`, `currentHematologicalDisorder`, `currentOncologicalDisorder`, `currentPsychiatricDisorder`.
- Appointment**: Attributes include `id`, `patientId`, `doctorId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- Medication**: Attributes include `id`, `name`, `dosage`, `frequency`, `route`, `duration`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- Allergy**: Attributes include `id`, `name`, `severity`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- VitalSigns**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- LabResults**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- Prescription**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- Immunization**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- MentalHealth**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- SubstanceUse**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- SocialHistory**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- FamilyHistory**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- Genetics**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- InfectiousDisease**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- NeurologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- CardiovascularDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- RespiratoryDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- GastrointestinalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- UrologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- EndocrineDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- MusculoskeletalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- DermatologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- OphthalmologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- OtorhinolaryngologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- ImmunologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- HematologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- OncologicalDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.
- PsychiatricDisorder**: Attributes include `id`, `patientId`, `date`, `time`, `location`, `status`, `notes`, `prescription`, `medication`, `allergy`, `vitalSigns`, `labResults`.

The diagram shows various associations and inheritance relationships between these classes, representing the complex data model of a medical system.

