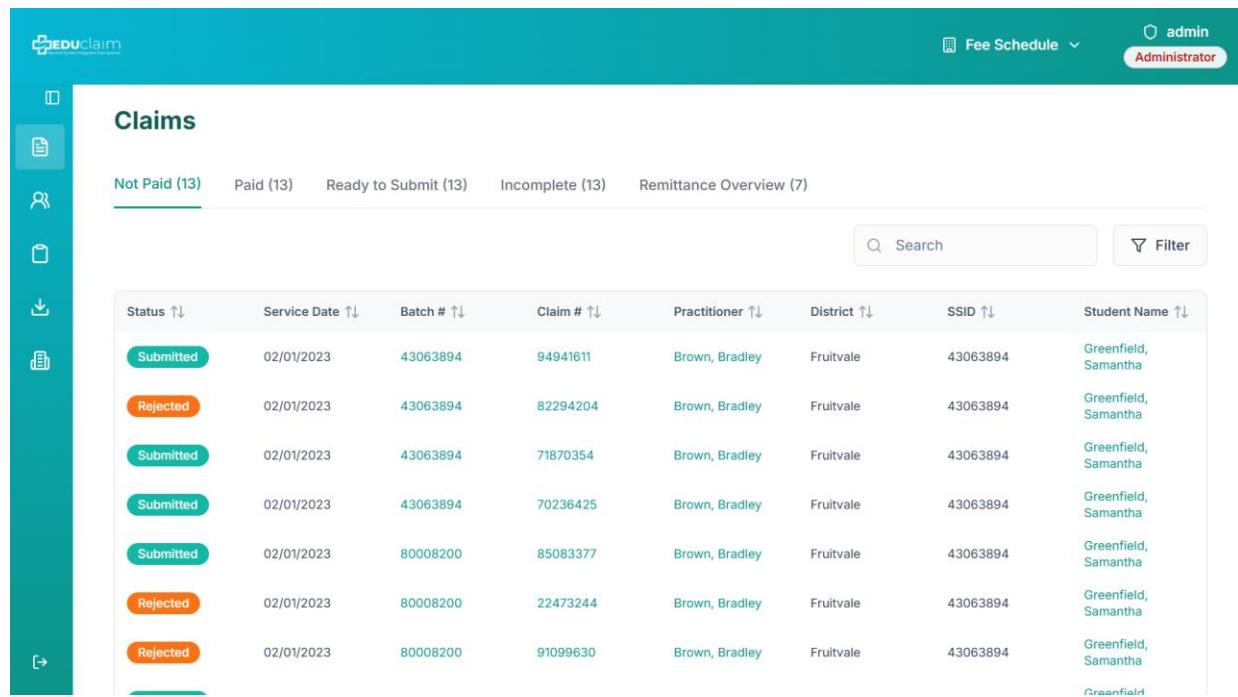


Claims Management Module - Technical Documentation



The screenshot shows the EDUclaim Claims Management Module. At the top, there's a navigation bar with the EDUclaim logo, a 'Fee Schedule' dropdown, and an 'admin' account section. Below the header, a sidebar on the left contains icons for file management (New, Open, Save, Print, Copy, Paste, Find, Refresh, Help). The main area is titled 'Claims' and displays a table of claim records. The table has columns: Status, Service Date, Batch #, Claim #, Practitioner, District, SSID, and Student Name. The 'Status' column uses color-coded buttons: green for 'Submitted' and orange for 'Rejected'. The 'Student Name' column shows 'Greenfield, Samantha' repeated seven times. The table includes a search bar and a 'Filter' button.

Status ↑↓	Service Date ↑↓	Batch # ↑↓	Claim # ↑↓	Practitioner ↑↓	District ↑↓	SSID ↑↓	Student Name ↑↓
Submitted	02/01/2023	43063894	94941611	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Rejected	02/01/2023	43063894	82294204	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Submitted	02/01/2023	43063894	71870354	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Submitted	02/01/2023	43063894	70236425	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Submitted	02/01/2023	80008200	85083377	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Rejected	02/01/2023	80008200	22473244	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha
Rejected	02/01/2023	80008200	91099630	Brown, Bradley	Fruitvale	43063894	Greenfield, Samantha

<https://admin-view-nine.vercel.app/claims>

1. Overview

The Claims Management Module is a comprehensive healthcare billing system designed for educational service providers who need to submit insurance claims for student-related therapeutic services. The system manages the entire claim lifecycle from creation through payment, with specialized support for Medi-Cal and other insurance payers.

Core Purpose

This module enables educational organizations to efficiently process, track, and manage insurance claims for special education services including speech therapy, occupational therapy, physical therapy, and psychological services provided to students.

Key Components

- **Claims Dashboard**: Centralized view of all claims with tabbed navigation
- **Claim Detail Management**: Individual claim processing and tracking
- **Batch Processing**: Bulk claim submission and approval workflows
- **Status Tracking**: Real-time claim status monitoring with audit trails
- **Financial Reporting**: Claims aging and payment tracking capabilities

2. Functional Requirements

- ### 2.1 Claims Viewing and Navigation
 - **Multi-Tab Interface**: Claims are organized into status-based tabs:
 - Not Paid
 - Paid
 - Ready to Submit
 - Incomplete
 - Remittance Overview
 - **Search Functionality**: Global search across claim numbers, student names, practitioners, and other key fields
 - **Advanced Filtering**: Filter by claim status, date ranges, practitioners, and districts
 - **Sortable Columns**: All table columns support ascending/descending sort
 - ### 2.2 Claim Status Management
 - **Status Transitions**: Claims progress through defined states:
 - INCOMPLETE → NEEDS APPROVAL → APPROVED → SUBMITTED → PAID/REJECTED
 - **Batch Operations**: Select multiple claims for bulk approval and submission
 - **Individual Claim Actions**: Edit, review, approve, or reject individual claims
 - **Status History**: Complete audit trail of claim status changes with timestamps and user actions
 - ### 2.3 Claim Submission Workflow
 - **Approval Process**: Multi-step approval workflow with supervisor oversight
 - **Submission Confirmation**: Dedicated confirmation page before final submission
 - **Batch Submission**: Group approved claims into batches for efficient processing
 - **Post-Submission Tracking**: Monitor submitted claims through payer processing
 - ### 2.4 Data Display and Reporting
 - **Comprehensive Tables**: Display key claim information including:
 - Claim numbers and batch numbers
 - Service dates and billed amounts
 - Practitioner and student information
 - District and SSID tracking
 - **Responsive Design**: Mobile-friendly interface with horizontal scrolling for large datasets
 - **Export Capabilities**: Claims data can be exported for external reporting
-
- ## 3. Business Rules
 - ### 3.1 Claim Status Rules
 - **Sequential Processing**: Claims must follow the defined status progression

- **Approval Authority**: Only authorized supervisors can approve claims for submission
- **Rejection Handling**: Rejected claims require manual review and correction before resubmission
- **Batch Integrity**: All claims in a batch must be approved before submission

3.2 Data Validation Rules

- **Required Fields**: All claims must have complete service information:
 - Service date and location
 - Practitioner NPI and rendering provider information
 - Student SSID and insurance information
 - Billing codes and quantities
- **Insurance Verification**: Medi-Cal eligibility and benefits must be verified
- **Consent Requirements**: Both parental consent to treat and consent to bill must be documented

3.3 Billing Rules

- **Service Code Compliance**: All services must use approved billing codes (e.g., H2027 for behavioral intervention)
- **Quantity Validation**: Service quantities must match actual services provided
- **Frequency Limits**: Services must comply with insurance frequency limitations
- **Documentation Requirements**: All claims must have supporting service documentation

3.4 Workflow Rules

- **Practitioner Assignment**: Claims can only be submitted by authorized practitioners
- **District Validation**: Claims must be associated with valid school districts
- **Batch Processing**: Claims are processed in batches with unique batch numbers
- **Resubmission Logic**: Rejected claims require status reset before reprocessing

4. Data Requirements

4.1 Claim Core Data

```
```typescript
interface ClaimData {
 claimNumber: string; // Unique claim identifier
 batchNumber: string; // Batch grouping identifier
 status: ClaimStatus; // Current claim status
 serviceDate: string; // Date service was provided
 billedAmount: string; // Amount billed to insurance
 paidAmount?: string; // Amount paid by insurance (if applicable)
 finalizedDate?: string; // Date claim was finalized
}
```

```

```
`## 4.2 Service Information
```typescript
interface ServiceInfo {
 serviceCode: string; // Billing code (e.g., H2027)
 serviceDescription: string; // Service description
 quantity: string; // Number of units provided
 quantityType: string; // Unit type (e.g., "UN - Unit")
 location: string; // Service location (e.g., "03 - School")
 frequencyType: string; // Service frequency
}

```
`## 4.3 Provider Information
```typescript
interface ProviderInfo {
 renderingProvider: string; // Provider name
 renderingProviderNPI: string; // Provider NPI number
 referringProvider: string; // Referring provider name
 referringProviderNPI: string; // Referring provider NPI
 district: string; // School district
}

```
`## 4.4 Student Information
```typescript
interface StudentInfo {
 ssid: string; // Student State ID
 studentName: string; // Student full name
 dob: string; // Date of birth
 insuranceType: string; // Insurance type (e.g., "Primary")
 insuranceCarrier: string; // Insurance carrier (e.g., "Medi-cal")
 medicaidEligible: boolean; // Medicaid eligibility status
 carelonId: string; // Carelon ID for processing
 parentalConsentToTreat: boolean;
 parentalConsentToBill: boolean;
}

```
`## 4.5 Audit Trail Data
```typescript
interface ClaimActivity {
 date: string; // Activity date
 status: string; // Status at time of activity
 action: string; // Action taken
 comment: string; // Additional comments
 userId?: string; // User who performed action
}
```
```

```

# 5. Key Features

```
5.1 Dashboard Interface
- **Tabbed Navigation**: Intuitive tab-based organization of claims by status
- **Real-time Counts**: Dynamic claim counts displayed in tab headers
- **Search and Filter**: Advanced search capabilities with multi-criteria filtering
- **Responsive Tables**: Mobile-optimized data tables with horizontal scrolling

5.2 Claim Processing Features
- **Bulk Operations**:
 - Select multiple claims using checkboxes
 - Bulk approval workflow for efficient processing
 - Batch submission to insurance payers
- **Status Tracking**:
 - Visual status badges with color coding
 - Comprehensive status history and audit trails
 - Automated status transitions based on business rules

5.3 Data Management
- **Sorting and Filtering**:
 - Multi-column sorting with visual indicators
 - Advanced filtering by status, date, practitioner, district
 - Persistent filter states across sessions
- **Search Capabilities**:
 - Global search across all claim fields
 - Quick filtering by claim number, student name, practitioner
 - Real-time search results with highlighting

5.4 Workflow Management
- **Approval Workflow**:
 - Multi-step approval process with supervisor oversight
 - Submission confirmation with detailed claim review
 - Rejection handling with reason codes and comments
- **Batch Processing**:
 - Automated batch number generation
 - Batch-level tracking and reporting
 - Efficient submission to multiple payers

5.5 Integration Features
- **Cross-Module Navigation**:
 - Links to practitioner management (`/manage-users/[id]`)
 - Links to student management (`/manage-students/[id]`)
 - Integration with service logging and scheduling
- **Data Persistence**:
 - Local storage for temporary workflow data
 - Session state management for multi-step processes
 - Automatic data recovery for interrupted workflows

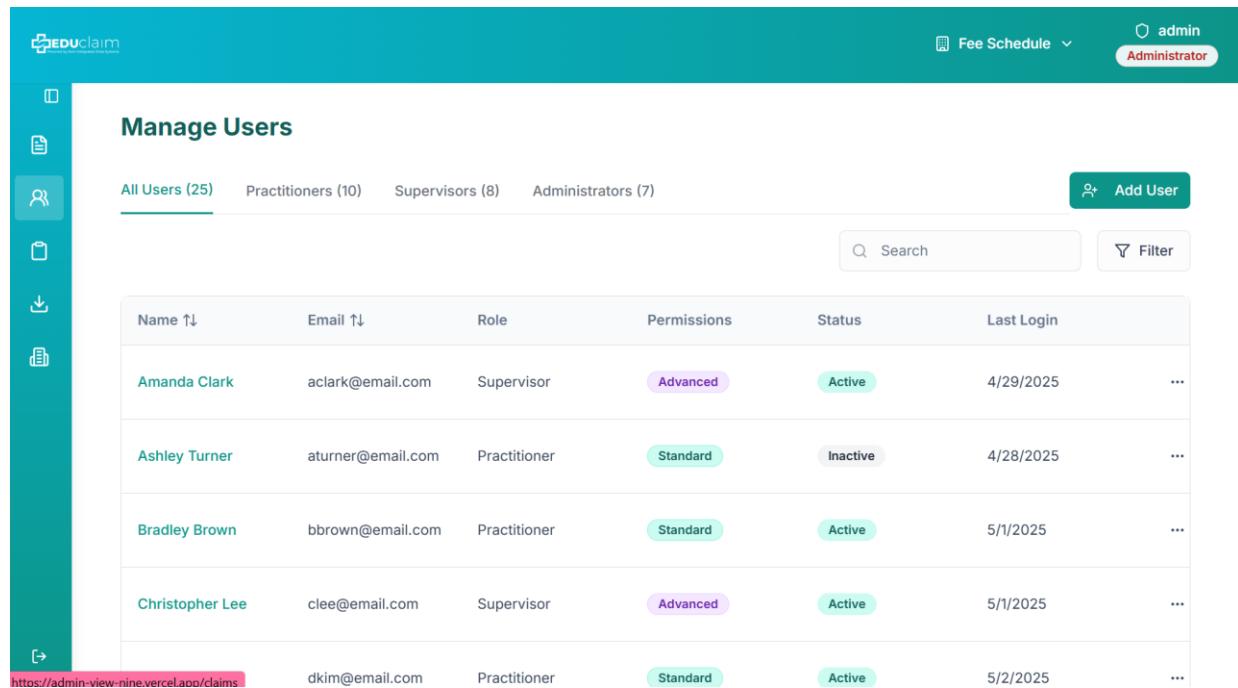
5.6 Reporting and Analytics
- **Claims Aging**: Track claim processing times and identify bottlenecks
- **Financial Impact**: Monitor claim values, approval rates, and payment status
```

- **Performance Metrics**: Track practitioner performance and processing efficiency
- **Volume Analysis**: Analyze claim volumes by service type and time period

### ### 5.7 User Experience Features

- **Loading States**: Proper loading indicators for asynchronous operations
- **Error Handling**: Comprehensive error messages and recovery options
- **Success Feedback**: Clear confirmation messages for completed actions
- **Accessibility**: Screen reader support and keyboard navigation
- **Mobile Optimization**: Responsive design for tablet and mobile devices

## # User Management Module - Technical Documentation



The screenshot shows the 'Manage Users' page of the EDUclaim platform. The top navigation bar includes the EDUclaim logo, a 'Fee Schedule' dropdown, and an 'admin' account section. On the left, there's a vertical sidebar with icons for home, users, claims, reports, and help. The main content area has a title 'Manage Users' and a subtitle 'All Users (25)'. It features tabs for 'Practitioners (10)', 'Supervisors (8)', and 'Administrators (7)'. Below these are search and filter fields. A table lists user details: Name, Email, Role, Permissions, Status, and Last Login. Each row includes a '...' button for more options. The table rows are as follows:

Name ↑↓	Email ↑↓	Role	Permissions	Status	Last Login	...
Amanda Clark	aclark@email.com	Supervisor	Advanced	Active	4/29/2025	...
Ashley Turner	aturner@email.com	Practitioner	Standard	Inactive	4/28/2025	...
Bradley Brown	bbrown@email.com	Practitioner	Standard	Active	5/1/2025	...
Christopher Lee	clee@email.com	Supervisor	Advanced	Active	5/1/2025	...
	dkim@email.com	Practitioner	Standard	Active	5/2/2025	...

At the bottom left, a URL 'https://admin-view-nine.vercel.app/claims' is visible.

**<https://admin-view-nine.vercel.app/manage-users>**

### ## 1. Overview

The User Management Module is a comprehensive system designed to manage all user accounts within the EDUClaim platform. This module handles the complete lifecycle of user management including creation, modification, role assignment, permission management, and user administration across different organizational roles within educational service delivery.

### ### Module Purpose

- Centralized user account management for educational service providers
- Role-based access control implementation
- Professional qualification and service authorization tracking

- Caseload management for practitioners
  - Multi-district user organization and administration
- #### Target Users
- \*\*System Administrators\*\*: Full platform administration
  - \*\*District Administrators\*\*: District-level user management
  - \*\*Supervisors\*\*: Team and practitioner oversight
  - \*\*Billing Administrators\*\*: Billing and claims management
  - \*\*Practitioners\*\*: Service delivery professionals
  - \*\*Support Staff\*\*: Student registration and data entry
- 
- ## 2. Functional Requirements
- ### 2.1 User Account Management
- #### 2.1.1 User Creation
- \*\*Create New User Account\*\*: Add users with complete profile information
  - \*\*Role Assignment\*\*: Assign appropriate roles based on organizational needs
  - \*\*Permission Configuration\*\*: Set role-based permissions automatically
  - \*\*District Assignment\*\*: Associate users with specific school districts
  - \*\*Supervisor Assignment\*\*: Assign supervisors to practitioners and support staff
- #### 2.1.2 User Profile Management
- \*\*Personal Information\*\*: Manage contact details, addresses, and professional information
  - \*\*Professional Credentials\*\*: Track NPI numbers, license numbers, and certifications
  - \*\*Qualification Management\*\*: Add and maintain professional qualifications
  - \*\*Service Authorization\*\*: Define authorized services each practitioner can provide
  - \*\*Employment Details\*\*: Track hire dates, departments, and employment status
- #### 2.1.3 User Status Management
- \*\*Account Activation/Deactivation\*\*: Enable or disable user accounts
  - \*\*Status Tracking\*\*: Monitor active, inactive, and suspended accounts
  - \*\*Last Login Tracking\*\*: Record user activity and engagement
- ### 2.2 Role-Based Access Control
- #### 2.2.1 Role Management
- \*\*Practitioner Role\*\*: Direct service delivery to students
  - \*\*Supervisor Role\*\*: Oversight of practitioners and service quality
  - \*\*Administrator Roles\*\*: Various levels of administrative access
  - \*\*Support Roles\*\*: Student registration and billing support
  - \*\*System Roles\*\*: Technical and platform administration
- #### 2.2.2 Permission Sets

- **Standard Permissions**: Basic service delivery and student management
- **Advanced Permissions**: Supervision, reporting, and service management
- **Full Permissions**: Complete system administration and user management

### ## 2.3 User Discovery and Management

#### #### 2.3.1 User Listing and Filtering

- **Comprehensive User Directory**: View all users across the platform
- **Role-Based Filtering**: Filter users by practitioner, supervisor, or administrator roles
- **Search Functionality**: Find users by name, email, or role
- **Sorting Capabilities**: Sort by name, email, role, status, and last login

#### #### 2.3.2 User Actions

- **View User Details**: Access complete user profiles and information
- **Edit User Information**: Modify user details and professional information
- **Manage Permissions**: Adjust user access levels and permissions
- **Account Status Management**: Activate or deactivate user accounts

### ## 2.4 Professional Management

#### #### 2.4.1 Qualification Tracking

- **Professional Certifications**: Track degrees, certifications, and specializations
- **Qualification Levels**: Manage different levels of professional qualifications
- **Expiration Tracking**: Monitor qualification renewal dates and requirements
- **Compliance Monitoring**: Ensure practitioners maintain required qualifications

#### #### 2.4.2 Service Authorization

- **Authorized Services**: Define which services each practitioner can provide
- **Billing Codes**: Associate practitioners with specific billing codes
- **Service Restrictions**: Implement limitations based on qualifications
- **Compliance Verification**: Ensure service delivery matches qualifications

### ## 2.5 Caseload Management

#### #### 2.5.1 Student Assignment

- **Caseload Viewing**: Display all students assigned to a practitioner
- **IEP Tracking**: Monitor Individual Education Program dates and reviews
- **Service Planning**: Track service delivery schedules and requirements
- **Progress Monitoring**: View student progress and service outcomes

#### #### 2.5.2 Workload Distribution

- **Caseload Analysis**: Monitor practitioner workloads and capacity

- **Assignment Optimization**: Ensure equitable distribution of student cases
- **Supervisor Oversight**: Enable supervisors to monitor team caseloads
- **Reporting**: Generate caseload reports for administrative review

---

## ## 3. Business Rules

### ### 3.1 User Account Rules

#### #### 3.1.1 Account Creation Rules

- **Unique Email Requirement**: Each user must have a unique email address
- **Required Information**: First name, last name, email, role, and district are mandatory
- **Role-Based Validation**: Practitioners require NPI and supervisor assignment
- **District Association**: All users must be associated with at least one district
- **Permission Inheritance**: Permissions are automatically assigned based on role selection

#### #### 3.1.2 Account Status Rules

- **Default Status**: New accounts are created as "Active" by default
- **Deactivation Impact**: Inactive accounts cannot access the system
- **Supervisor Dependency**: Practitioners cannot be active without an assigned supervisor
- **Qualification Requirements**: Certain roles require specific qualifications to remain active

### ### 3.2 Role and Permission Rules

#### #### 3.2.1 Role Hierarchy

- **System Administrator**: Highest level with all permissions
- **District Administrator**: District-level management and reporting
- **Supervisor**: Team oversight and practitioner management
- **Practitioner**: Direct service delivery within qualification limits
- **Support Staff**: Limited access for specific administrative functions

#### #### 3.2.2 Permission Inheritance

- **Role-Based Permissions**: Permissions automatically assigned based on role
- **Minimum Requirements**: Each role has minimum required permissions
- **Escalation Rules**: Higher roles inherit permissions from lower roles
- **Custom Permissions**: Administrators can modify permissions within role constraints

### ### 3.3 Professional Qualification Rules

#### #### 3.3.1 Qualification Requirements

- **Practitioner Qualifications**: Must have valid professional credentials

- **Service Authorization**: Can only provide services matching qualifications
- **Supervision Requirements**: Certain qualifications require supervisor oversight
- **Continuing Education**: Ongoing qualification maintenance requirements

#### #### 3.3.2 Compliance Rules

- **Credential Verification**: All professional credentials must be verified
- **Expiration Monitoring**: System tracks qualification expiration dates
- **Service Restrictions**: Expired qualifications restrict service delivery
- **Reporting Requirements**: Regular compliance reporting to administrators

#### ## 3.4 Caseload Management Rules

##### #### 3.4.1 Assignment Rules

- **Qualification Matching**: Students assigned based on practitioner qualifications
- **Capacity Limits**: Maximum caseload sizes based on role and district policies
- **Geographic Considerations**: Assignment considers location and travel requirements
- **IEP Requirements**: Assignments must meet IEP service specifications

##### #### 3.4.2 Supervision Rules

- **Supervisor Oversight**: All practitioners must have assigned supervisors
- **Reporting Requirements**: Regular progress reporting to supervisors
- **Quality Assurance**: Supervisor review of service delivery quality
- **Escalation Procedures**: Defined processes for addressing service issues

---

### ## 4. Data Requirements

#### ## 4.1 User Profile Data

```
4.1.1 Personal Information
```typescript
interface UserPersonalInfo {
  id: number;
  firstName: string;
  lastName: string;
  email: string;
  phone?: string;
  address?: string;
  npi?: string; // National Provider Identifier
  licenseNumber?: string;
  hireDate: Date;
  status: 'Active' | 'Inactive' | 'Suspended';
}
```

```
    lastLogin?: Date;
}

```
4.1.2 Professional Information
```typescript
interface UserProfessionalInfo {
    userId: number;
    role: 'Practitioner' | 'Supervisor' | 'Administrator' | 'Support';
    department: string;
    supervisorId?: number;
    district: string;
    userType: 'Embedded' | 'Affiliated';
    permissions: 'Standard' | 'Advanced' | 'Full';
}
```

```

## ## 4.2 Qualification Data

```
```
#### 4.2.1 Professional Qualifications
```typescript
interface UserQualification {
 id: number;
 userId: number;
 name: string;
 level: string;
 dateObtained: Date;
 expirationDate?: Date;
 isActive: boolean;
 verificationStatus: 'Verified' | 'Pending' | 'Expired';
}
```

```

```
```
4.2.2 Authorized Services
```typescript
interface AuthorizedService {
    id: number;
    userId: number;
    serviceName: string;
    serviceCode: string;
    isBillable: boolean;
    qualificationRequired: string;
    isActive: boolean;
}
```

```

## ## 4.3 Caseload Data

```
```
#### 4.3.1 Student Assignments
```typescript
interface CaseloadAssignment {
 id: number;
 practitionerId: number;
 studentId: number;
}
```

```

```
    studentName: string;
    grade: string;
    iepDate: Date;
    nextReviewDate: Date;
    status: 'Active' | 'Review Due' | 'Inactive';
    servicesRequired: string[];
}
```

```

#### #### 4.4 System Metadata

##### #### 4.4.1 Audit Trail

```
```typescript
interface UserAuditLog {
    id: number;
    userId: number;
    action: string;
    timestamp: Date;
    performedBy: number;
    details: string;
    ipAddress: string;
}
```

```

---

### # 5. Key Features

#### ## 5.1 Comprehensive User Directory

##### ### 5.1.1 Multi-View User Management

- **Tabbed Interface**: Organized views for All Users, Practitioners, Supervisors, and Administrators
- **Dynamic Filtering**: Real-time filtering based on user roles and status
- **Search Capabilities**: Advanced search across multiple user attributes
- **Sorting Options**: Multiple sorting criteria for user organization

##### ### 5.1.2 User Count Display

- **Role-Based Counts**: Display user counts for each role category
- **Real-Time Updates**: Dynamic count updates as filters are applied
- **Status Indicators**: Visual indicators for active/inactive users
- **Permission Badges**: Color-coded permission level indicators

#### ## 5.2 Advanced User Creation Workflow

##### ### 5.2.1 Multi-Step User Creation

- **Role Selection**: Comprehensive role selection with permission preview
- **District Assignment**: Mandatory district association for all users
- **Professional Information**: Detailed professional credential collection

- **Qualification Management**: Integrated qualification and service authorization setup
- #### 5.2.2 Intelligent Form Handling
- **Dynamic Field Display**: Role-specific form fields based on user type
  - **Validation Rules**: Real-time validation with clear error messaging
  - **Permission Preview**: Live preview of permissions based on role selection
  - **Supervisor Assignment**: Automatic supervisor assignment based on district and role

### ## 5.3 Detailed User Profiles

- #### 5.3.1 Comprehensive Profile Views
- **Tabbed Information**: Organized tabs for About, Qualifications, and Caseload
  - **Personal Information**: Complete contact and professional details
  - **Professional Credentials**: Detailed qualification and service authorization display
  - **Current Caseload**: Real-time caseload information with student details

#### 5.3.2 Interactive Profile Management

- **In-Line Actions**: Direct actions from profile views
- **Quick Edit Capabilities**: Fast editing of key user information
- **Status Management**: Easy activation/deactivation of accounts
- **Permission Modification**: Streamlined permission level adjustments

### ## 5.4 Role-Based Access Control

- #### 5.4.1 Granular Permission System
- **Three-Tier Permissions**: Standard, Advanced, and Full permission levels
  - **Role-Specific Capabilities**: Customized feature access based on user roles
  - **Dynamic Permission Display**: Visual permission indicators throughout the interface
  - **Inheritance Rules**: Automatic permission assignment based on role hierarchy

#### 5.4.2 Security and Compliance

- **Audit Trail**: Complete logging of all user management actions
- **Session Management**: Secure session handling with activity tracking
- **Compliance Monitoring**: Automated compliance checking for professional requirements
- **Data Protection**: Comprehensive data protection and privacy controls

### ## 5.5 Professional Qualification Management

- #### 5.5.1 Credential Tracking
- **Qualification Database**: Comprehensive tracking of all professional qualifications
  - **Expiration Monitoring**: Automated tracking of qualification expiration dates

- \*\*Compliance Reporting\*\*: Regular reports on qualification status and compliance
- \*\*Renewal Reminders\*\*: Automated reminders for qualification renewals

#### ### 5.5.2 Service Authorization

- \*\*Service Mapping\*\*: Direct mapping of qualifications to authorized services
- \*\*Billing Code Integration\*\*: Automatic billing code assignment based on services
- \*\*Compliance Verification\*\*: Ongoing verification of service delivery authorization
- \*\*Quality Assurance\*\*: Integrated quality assurance for service delivery

### ### 5.6 Caseload Management Integration

#### ### 5.6.1 Student Assignment Tracking

- \*\*Real-Time Caseload\*\*: Live display of current student assignments
- \*\*IEP Integration\*\*: Direct integration with IEP dates and requirements
- \*\*Service Planning\*\*: Comprehensive service planning and scheduling
- \*\*Progress Monitoring\*\*: Integrated progress tracking and reporting

#### ### 5.6.2 Workload Management

- \*\*Capacity Planning\*\*: Intelligent workload distribution based on qualifications
- \*\*Geographic Optimization\*\*: Location-based assignment optimization
- \*\*Supervisor Oversight\*\*: Comprehensive supervisor monitoring of team caseloads
- \*\*Performance Analytics\*\*: Advanced analytics for caseload performance

## # Student Management Module - Technical Documentation

| Last Name  | First Name | SSID     | Local ID | District  | School    | Birthdate  | Contact...   | Status   | Modified... |     |
|------------|------------|----------|----------|-----------|-----------|------------|--------------|----------|-------------|-----|
| Conroy     | Angelica   | 36601642 | 75820000 | Fruitvale | Fruitvale | 10/25/1999 | 558-850-9231 | Active   | 5/1/2025    | ... |
| Deckow     | Jody       | 01258369 | 21537095 | Fruitvale | Fruitvale | 10/25/1999 | 860-952-4302 | Inactive | 5/1/2025    | ... |
| Greenfield | Samantha   | 43063894 | 11539764 | Fruitvale | Fruitvale | 10/25/1999 | 456-715-3852 | Active   | 5/1/2025    | ... |
| Gulgowski  | Zachary    | 41009025 | 33841572 | Fruitvale | Fruitvale | 10/25/1999 | 654-290-5697 | Active   | 5/1/2025    | ... |
| Hartmann   | Jackie     | 54916084 | 18067794 | Fruitvale | Fruitvale | 10/25/1999 | 279-940-2099 | Active   | 5/1/2025    | ... |

<https://admin-view-nine.vercel.app/manage-students>

## ## 1. Overview

The Student Management Module is a comprehensive system designed to manage student information, educational services, and related administrative tasks within an educational district management platform. This module serves as the central hub for all student-related operations, providing functionality for student registration, service scheduling, progress tracking, and comprehensive reporting.

The module integrates with various educational systems and supports multiple user roles including administrators, practitioners, and supervisors, each with specific access levels and functionality tailored to their responsibilities.

### ### Architecture

- \*\*Frontend\*\*: React-based Next.js application with TypeScript
- \*\*UI Framework\*\*: Tailwind CSS with custom UI components
- \*\*State Management\*\*: React hooks and local state management
- \*\*Routing\*\*: Next.js App Router with dynamic routing
- \*\*Data Flow\*\*: Mock data implementation with structured API integration points

## ## 2. Functional Requirements

### ### 2.1 Student Registration and Management

- \*\*Individual Student Registration\*\*: Manual entry of student information through guided forms
- \*\*Bulk Student Import\*\*: CSV/Excel file upload for multiple student registration
- \*\*Student Search and Discovery\*\*: Advanced search functionality across multiple student attributes
- \*\*Student Profile Management\*\*: Comprehensive student information viewing and editing
- \*\*Student Status Management\*\*: Active/Inactive status tracking with audit trails

### ### 2.2 Student Information Management

- \*\*Demographic Data\*\*: Name, birthdate, address, contact information
- \*\*Educational Data\*\*: District, school, grade level, local ID, SSID
- \*\*Medical Information\*\*: Primary disability, practitioner assignments, parental consent tracking
- \*\*Billing Information\*\*: Insurance details, Medi-Cal eligibility, policy information
- \*\*Administrative Notes\*\*: Comments, special instructions, and case notes

### ### 2.3 Service Management

- \*\*Service Scheduling\*\*: Individual and group service appointment scheduling
- \*\*Service Logging\*\*: Documentation of provided services with detailed notes

- **Service Tracking**: Status monitoring (Upcoming, Incomplete, Completed, Cancelled)
- **Service History**: Complete historical record of all services provided
- **Calendar Integration**: Practitioner calendar views with appointment management

#### ## 2.4 Supervision and Oversight

- **Practitioner Supervision**: Supervisor access to practitioner activities and student services
- **Service Approval Workflow**: Multi-level approval process for service documentation
- **Performance Monitoring**: Tracking of service delivery and completion rates
- **Compliance Reporting**: Ensuring adherence to educational and medical regulations

#### ## 2.5 Data Import and Export

- **File Upload Support**: Excel (.xls, .xlsx) and CSV file formats
- **Data Validation**: Comprehensive validation of imported student data
- **Error Handling**: Detailed error reporting for data import issues
- **Export Functionality**: Student data export for reporting and analysis

### # 3. Business Rules

#### ## 3.1 Student Registration Rules

- **Required Fields**: First Name, Last Name, Birthdate, SSID, and District are mandatory
- **SSID Uniqueness**: Each student must have a unique State Student ID (SSID)
- **Local ID Management**: Local IDs must be unique within each district
- **Age Validation**: Students must be within appropriate age ranges for special education services

#### ## 3.2 Service Delivery Rules

- **Practitioner Assignment**: Students must be assigned to qualified practitioners
- **Service Authorization**: All services must have proper authorization before delivery
- **Documentation Requirements**: All services must be documented within specified timeframes
- **Billing Compliance**: Services must comply with insurance and Medi-Cal billing requirements

#### ## 3.3 Access Control Rules

- **Role-Based Access**: Different user roles have specific access permissions
- **Student Data Privacy**: Access to student information is restricted based on user role and assignment
- **Audit Trail**: All modifications to student data are logged with user identification
- **Data Retention**: Student records are maintained according to regulatory requirements

```
3.4 Scheduling Rules
- **Service Timing**: Services must be scheduled within appropriate time windows
- **Practitioner Availability**: Appointments can only be scheduled during practitioner available hours
- **Student Availability**: Multiple services cannot be scheduled simultaneously for the same student
- **Cancellation Policy**: Services can be cancelled with appropriate notice and documentation
```

```
3.5 Data Quality Rules
- **Contact Information**: Valid phone numbers and addresses must be maintained
- **Insurance Verification**: Insurance information must be current and verified
- **Consent Management**: Parental consent must be documented and current
- **Medical Information**: All medical and disability information must be properly classified
```

## # 4. Data Requirements

### ### 4.1 Student Core Data

```
```typescript
interface StudentCore {
    id: number
    ssid: string           // State Student ID (required)
    localId: string         // District-specific ID
    firstName: string        // Required
    lastName: string         // Required
    preferredName?: string
    birthdate: string        // Required (MM/DD/YYYY)
    status: 'Active' | 'Inactive'
    modifiedDate: string
}
```

```

### ### 4.2 Demographic Information

```
```typescript
interface Demographics {
    gender?: string
    grade: string
    district: string        // Required
    school: string
    address: string
    city: string
    state: string
    zipCode: string
    primaryContact: string
    contactNumber: string
    transportationTeam?: string
}
```

```

```
 ### 4.3 Medical and Educational Data
    ```typescript
interface MedicalEducational {
    practitioner: string
    primaryDisability: string
    parentalConsentOnFile: boolean
    parentalConsentInBill: boolean
    parentalConsentToTreat: {
        consented: boolean
        date: string
    }
    comments?: string
}
```

 ### 4.4 Billing Information
    ```typescript
interface BillingInfo {
    type: string
    insuranceCarrier: string
    groupNumber: string
    policyNumber: string
    effectiveDate: string
    mediCalEligible: 'Yes' | 'No'
    mediCalBenefitsId?: string
    copayId?: string
}
```

 ### 4.5 Service Data
    ```typescript
interface ServiceRecord {
    id: number
    studentId: number
    serviceDate: string
    serviceTime: string
    duration: string
    serviceType: string
    serviceDelivery: 'Individual' | 'Group'
    location: string
    status: 'UPCOMING' | 'INCOMPLETE' | 'COMPLETED' | 'CANCELLED'
    completedDate?: string
    caseNotes?: string
    appointmentNotes?: string
}
```

 ### 4.6 Upload History
    ```typescript
interface UploadHistory {
    id: number
    fileName: string
    uploadDate: string
    uploadedBy: string
}
```

```
    recordsProcessed: number
    recordsSuccessful: number
    recordsFailed: number
    status: 'Completed' | 'Failed' | 'Processing'
    errorDetails?: string[]
}

```
5. Key Features

5.1 Multi-Modal Student Registration
- **Individual Registration**: Step-by-step form-based student addition with validation
- **Bulk Registration**: File upload system supporting Excel and CSV formats
- **Search Integration**: Pre-population of student data from external search results
- **Progressive Disclosure**: Basic information collection followed by detailed information gathering

5.2 Advanced Search and Filtering
- **Multi-Attribute Search**: Search across name, SSID, Local ID, district, school, and contact information
- **Real-Time Filtering**: Dynamic filtering of student lists based on search criteria
- **Tabbed Organization**: Separate views for All Students, Active, Inactive, and Upload History
- **Sortable Columns**: Click-to-sort functionality on all major data columns

5.3 Comprehensive Service Management
- **Dual Service Types**: Support for both individual and group services
- **Calendar Integration**: Visual calendar interface for service scheduling
- **Status Tracking**: Real-time status updates for all scheduled services
- **Historical Records**: Complete service history with detailed notes and outcomes

5.4 Role-Based Access Control
- **Administrator Access**: Full system access with user management capabilities
- **Practitioner Access**: Service delivery and student management within assigned caseload
- **Supervisor Access**: Oversight capabilities with approval workflows and performance monitoring
- **Audit Logging**: Complete audit trail for all user actions and data modifications

5.5 Data Import and Validation
- **File Format Support**: Excel (.xls, .xlsx) and CSV file processing
- **Data Validation**: Comprehensive validation of required fields and data formats
- **Error Reporting**: Detailed error messages for data import issues
```

- **Progress Tracking**: Real-time upload progress with success/failure reporting

**## 5.6 Reporting and Analytics**

- **Student Demographics**: Comprehensive demographic reporting
- **Service Delivery**: Performance metrics and completion rates
- **Compliance Tracking**: Regulatory compliance monitoring and reporting
- **Export Capabilities**: Data export functionality for external analysis

**## 5.7 Integration Points**

- **Claims Management**: Integration with billing and claims processing systems
- **User Management**: Role-based access control integration
- **Calendar Systems**: Scheduling integration with practitioner calendars
- **Reporting Systems**: Data export for external reporting and analytics tools

**## 5.8 User Experience Features**

- **Responsive Design**: Full mobile and tablet compatibility
- **Accessibility**: WCAG compliance for users with disabilities
- **Progressive Web App**: Offline capability for essential functions
- **Performance Optimization**: Fast loading and smooth navigation

**## Technical Implementation Notes**

**### File Structure**

```

```
app/manage-students/
├── page.tsx          # Main student management dashboard
├── add/page.tsx       # Individual student registration
├── bulk-add/page.tsx # Bulk student import
├── search/page.tsx   # Student search interface
└── [id]/page.tsx     # Individual student profile

app/student-services/
├── page.tsx          # Service management dashboard
├── all-services/page.tsx # All services overview
├── schedule-service/page.tsx # Service scheduling
├── log-service/page.tsx   # Service logging
├── my-calendar/page.tsx  # Practitioner calendar
└── supervisor-logs/page.tsx # Supervisor oversight
```

```

**### Data Flow**

1. **Student Registration**: Form validation → Data processing → Database storage → Confirmation
2. **Service Scheduling**: Calendar selection → Student assignment → Practitioner notification → Confirmation
3. **Service Logging**: Service delivery → Documentation → Supervisor review → Approval
4. **Data Import**: File upload → Validation → Processing → Error reporting → Success notification

### ### Security Considerations

- All student data is encrypted at rest and in transit
- Role-based access control prevents unauthorized data access
- Audit logging tracks all user actions for compliance
- Data retention policies ensure regulatory compliance
- Integration with district authentication systems

## # Service Management Module - Technical Documentation

| Student              | Service Date | Status     | Service                            | Service Type     | Service Deliv... | Completed D... |
|----------------------|--------------|------------|------------------------------------|------------------|------------------|----------------|
| Greenfield, Samantha | 4/10/2025    | INCOMPLETE | Licensed Speech & Lang Pathologist | Group treatm...  | Group            | ...            |
| Greenfield, Samantha | 5/15/2025    | UPCOMING   | Licensed Speech & Lang Pathologist | Group treatm...  | Group            | ...            |
| Greenfield, Samantha | 5/10/2025    | UPCOMING   | Licensed Speech & Lang Pathologist | Individual co... | Individual       | ...            |
| Greenfield, Samantha | 3/30/2025    | COMPLETED  | Licensed Speech & Lang Pathologist | Group treatm...  | Group            | 4/5/2025       |

<https://admin-view-nine.vercel.app/student-services/all-services>

### ## 1. Overview

The Service Management Module is a comprehensive system designed to handle student service scheduling, delivery, and tracking within the EDUClaim platform. This module serves as the central hub for managing therapeutic and educational services provided to students with special needs, ensuring proper documentation, billing compliance, and service quality oversight.

The module supports multiple user types including practitioners, supervisors, and administrators, each with role-specific access to functionality. It provides a complete workflow from service scheduling through delivery, documentation, and supervisor approval.

### ### Primary Purpose

- Manage student service appointments and scheduling
- Track service delivery and completion status
- Provide documentation tools for case notes and service logs
- Enable supervisor oversight and approval workflows

- Support both individual and group service delivery models
- Maintain comprehensive service history and reporting

## # 2. Functional Requirements

### ## 2.1 Service Scheduling

- **Schedule Individual Services**: Practitioners can schedule one-on-one appointments with students
- **Schedule Group Services**: Support for group therapy sessions with multiple students
- **Calendar Management**: Visual calendar interface for viewing and managing appointments
- **Time Slot Management**: Available time slot selection with conflict prevention
- **Service Type Selection**: Choose from various service types (Speech Therapy, Health Behavior Intervention, etc.)
- **Location Assignment**: Specify service delivery location (School, Home, Clinic, Community)
- **Duration Configuration**: Set appointment duration (15, 30, 45, 60, 90 minutes)

### ## 2.2 Service Delivery Management

- **Service Status Tracking**: Track services through lifecycle (Upcoming → In Progress → Completed/Cancelled)
- **Real-time Status Updates**: Automatic status calculation based on completion criteria
- **Service Modifications**: Ability to modify scheduled appointments
- **Cancellation Management**: Mark services as cancelled with proper documentation
- **End Time Recording**: Track actual service completion times

### ## 2.3 Documentation and Logging

- **Case Notes**: Comprehensive case note entry for each service session
- **Service Logs**: Detailed logging of service delivery activities
- **Appointment Notes**: Pre-service notes and preparation information
- **Historical Records**: Maintain complete service history for each student
- **Supervision Documentation**: Special logging for supervisor oversight

### ## 2.4 Service Viewing and Reporting

- **All Services View**: Comprehensive list of all services with filtering and sorting
- **Service Details**: Detailed view of individual service records
- **Search and Filter**: Advanced search capabilities across all service data
- **Status-based Filtering**: Filter services by completion status
- **Student-specific Views**: View all services for a specific student

### ## 2.5 Supervisor Oversight

- **Supervision Logs**: Specialized interface for supervisor review and approval
- **Approval Workflow**: Multi-step approval process for supervised services

- \*\*Practitioner Caseload Review\*\*: Overview of practitioner assignments and performance
- \*\*Student Assignment Management\*\*: View and manage student-practitioner assignments

## ## 3. Business Rules

### ### 3.1 Service Status Determination

- \*\*Upcoming\*\*: Services scheduled for future dates
- \*\*Incomplete\*\*: Services that have occurred but lack required documentation (case notes AND end time)
- \*\*Complete\*\*: Services with both case notes and actual end time recorded
- \*\*Cancelled\*\*: Services that were scheduled but did not occur

### ### 3.2 Service Completion Criteria

- A service is only considered "Complete" when BOTH conditions are met:
  - Case notes have been entered and saved
  - Actual end time has been recorded
- Missing either requirement results in "Incomplete" status

### ### 3.3 Role-Based Access Control

- \*\*Practitioners\*\*: Can schedule, modify, and document their own services
- \*\*Supervisors\*\*: Can view and approve services for their assigned practitioners
- \*\*Administrators\*\*: Full access to all service management functions

### ### 3.4 Service Scheduling Rules

- Services cannot be scheduled for past dates
- Time slots must not conflict with existing appointments
- Service duration must be specified before scheduling
- Student assignment is mandatory for all services

### ### 3.5 Documentation Requirements

- Case notes are required for all completed services
- Service type and location must be specified
- Actual service duration must be recorded
- Supervisor approval required for supervised practitioners

### ### 3.6 Group Service Management

- Group services require group name assignment
- Individual student status tracking within group sessions
- Separate documentation for each student in group services
- Group service completion requires all students to be documented

## ## 4. Data Requirements

### ### 4.1 Service Entity

```
```typescript
interface Service {
  id: number;
  studentId: string;
  practitionerId: string;
```

```

    serviceDate: string;
    serviceTime: string;
    endTime?: string;
    duration: string;
    serviceType: string;
    location: string;
    status: 'upcoming' | 'incomplete' | 'complete' | 'cancelled';
    caseNotes?: string;
    appointmentNotes?: string;
    isGroupService: boolean;
    groupName?: string;
    createdAt: Date;
    updatedAt: Date;
}
```
```typescript
interface Student {
    ssid: string;
    firstName: string;
    lastName: string;
    dateOfBirth: string;
    district: string;
    school: string;
    primaryDisability: string;
    statusIndicator: string;
}
```
``` 
# ## 4.3 Service Types
- Health behavior intervention
- Licensed Speech & Language Pathologist
- Occupational Therapy
- Physical Therapy
- Individual counseling
- Group therapy
- Assessment and evaluation
- Crisis intervention
- Family consultation

# ## 4.4 Service Locations
- 01 - Home
- 02 - Community
- 03 - School
- 04 - Clinic
- 05 - Hospital
- 06 - Other

# ## 4.5 Group Service Data
```
```typescript
interface GroupService {
    groupName: string;
    students: [

```

```

    ssid: string;
    name: string;
    status: 'NOT STARTED' | 'COMPLETED';
} [];
serviceType: string;
duration: string;
} ..
```
5. Key Features

5.1 Interactive Calendar Interface
- **Visual Calendar View**: Monthly calendar display with appointment indicators
- **Color-coded Status**: Different colors for service statuses (Green: Complete, Yellow: Incomplete, Red: Cancelled, Teal: Upcoming)
- **Click-to-View Details**: Direct access to service details from calendar
- **Navigation Controls**: Month-by-month navigation with appointment density indicators

5.2 Comprehensive Service Management
- **All Services Dashboard**: Sortable and filterable view of all services
- **Advanced Search**: Full-text search across all service fields
- **Status-based Sorting**: Priority-based sorting (Incomplete → Upcoming → Complete → Cancelled)
- **Service Details Modal**: Detailed view with full service information and editing capabilities

5.3 Flexible Scheduling System
- **Multi-tab Interface**: Separate tabs for individual and group scheduling
- **Visual Time Selection**: Interactive time slot selection with availability indication
- **Student Assignment**: Dropdown selection from assigned student caseload
- **Service Configuration**: Comprehensive service type and location selection

5.4 Documentation Tools
- **Rich Text Entry**: Comprehensive case note and appointment note fields
- **Auto-save Functionality**: Automatic saving of documentation in progress
- **Historical Context**: Access to past service history for reference
- **Validation Rules**: Required field validation for service completion

5.5 Supervisor Oversight Tools
- **Practitioner Caseload View**: Overview of all practitioners and their student assignments
- **Bulk Approval Interface**: Select multiple services for batch approval

```

- **Approval Workflow**: Multi-step approval process with comments and date tracking
- **Performance Monitoring**: Track service completion rates and documentation quality

#### ## 5.6 Service Modification System

- **Appointment Editing**: Modify scheduled appointments with full field editing
- **Status Management**: Change service status with proper workflow validation
- **Cancellation Process**: Structured cancellation with reason tracking
- **Reschedule Functionality**: Move appointments to different dates/times

#### ## 5.7 Mobile-Responsive Design

- **Adaptive Layout**: Responsive design for tablet and mobile access
- **Touch-friendly Interface**: Optimized for touchscreen interactions
- **Offline Capability**: Service documentation available in limited connectivity scenarios

#### ## 5.8 Integration Capabilities

- **Student Management Integration**: Direct links to student records and management
- **Claims Management Integration**: Service data feeds into billing and claims processing
- **Reporting Integration**: Service data available for comprehensive reporting and analytics
- **User Management Integration**: Role-based access control tied to user management system

#### ## 5.9 Quality Assurance Features

- **Completion Validation**: Automatic validation of service completion requirements
- **Missing Documentation Alerts**: Proactive identification of incomplete services
- **Supervisor Review Queue**: Organized queue for supervisor review and approval
- **Audit Trail**: Complete history of service modifications and approvals

**# Caseload Management Module - Technical Documentation**

| SSID     | Last Name  | First Name | Practitioner  | District  | Birthdate  | Gender | Status |
|----------|------------|------------|---------------|-----------|------------|--------|--------|
| 43063894 | Greenfield | Samantha   | Bradley Brown | Fruitvale | 10/25/1999 | Female | Active |
| 89200548 | Hermann    | Linda      | Luis Hayes    | Fruitvale | 10/25/1999 | Female | Active |
| 54916084 | Hartmann   | Jackie     | Luis Hayes    | Fruitvale | 10/25/1999 | Female | Active |
| 31647458 | Mann       | Silvia     | Luis Hayes    | Fruitvale | 10/25/1999 | Female | Active |
| 41009025 | Gulgowski  | Zachary    | Bradley Brown | Fruitvale | 10/25/1999 | Male   | Active |

<https://admin-view-nine.vercel.app/caseload>

## ## 1. Overview

The Caseload Management Module is a comprehensive system designed to manage student-practitioner assignments, group formations, and service scheduling within the EduClaim platform. This module serves as the central hub for practitioners to view, organize, and manage their assigned students while facilitating group therapy sessions and service coordination.

### ### 1.1 Module Purpose

The caseload management system enables:

- \*\*Student Assignment Management\*\*: Track and manage students assigned to specific practitioners
- \*\*Group Formation\*\*: Create and manage therapy groups for efficient service delivery
- \*\*Service Integration\*\*: Seamless integration with service scheduling and documentation
- \*\*Workload Distribution\*\*: Monitor and balance practitioner caseloads across districts
- \*\*Administrative Oversight\*\*: Provide supervisors and administrators visibility into caseload distribution

### ### 1.2 System Architecture

- \*\*Frontend Framework\*\*: Next.js 14 with App Router
- \*\*UI Components\*\*: Shadcn/UI component library with Tailwind CSS
- \*\*State Management\*\*: React hooks for local state management
- \*\*Data Flow\*\*: Client-side filtering with prepared API integration points
- \*\*Navigation\*\*: Tab-based interface with deep linking support

---

## ## 2. Functional Requirements

### ### 2.1 Caseload Display and Management

#### #### 2.1.1 Student Caseload View

- \*\*Tabular Display\*\*: Comprehensive table showing all assigned students with key demographics
- \*\*Search Functionality\*\*: Real-time search across student names, SSID, and practitioner assignments
- \*\*Filtering System\*\*: Advanced filtering by district, status, and practitioner
- \*\*Multi-Selection\*\*: Bulk selection of students for group operations
- \*\*Status Tracking\*\*: Visual indicators for active/inactive student status

#### #### 2.1.2 Student Information Display

- \*\*Core Demographics\*\*: SSID, first name, last name, birthdate, gender
- \*\*Assignment Data\*\*: Practitioner assignments and district associations
- \*\*Status Management\*\*: Active/inactive status tracking with visual badges
- \*\*Action Menu\*\*: Contextual actions for individual student management

#### #### 2.1.3 Caseload Navigation

- \*\*Direct Student Access\*\*: Clickable student names linking to detailed profiles
- \*\*Service Scheduling\*\*: Direct access to service scheduling from caseload view
- \*\*Student Management\*\*: Integration with student management system
- \*\*Action Workflows\*\*: Streamlined workflows for common caseload operations

## ## 2.2 Group Management System

### ### 2.2.1 Group Creation and Organization

- \*\*Group Formation\*\*: Create named groups from selected students
- \*\*Multi-Source Selection\*\*: Add students from current caseload or available database
- \*\*Group Visualization\*\*: Collapsible group cards with student membership details
- \*\*Bulk Operations\*\*: Efficient group creation with multiple student selection

### ### 2.2.2 Group Display and Management

- \*\*Expandable Groups\*\*: Collapsible group interface for organized viewing
- \*\*Student Membership\*\*: Clear display of group participants with student details
- \*\*Group Actions\*\*: Edit, modify, and dissolve groups as needed
- \*\*Service Integration\*\*: Direct group service scheduling capabilities

## ## 2.3 Student Addition and Management

```
2.3.1 Caseload Addition Workflow
- **Database Integration**: Search and add students from EduClaim database
- **District Filtering**: Filter available students by district association
- **Duplicate Prevention**: Prevent duplicate student assignments
- **Confirmation Process**: Confirmation dialogs for student additions

2.3.2 Caseload Maintenance
- **Student Removal**: Remove students from caseload with proper documentation
- **Status Updates**: Update student status within caseload context
- **Assignment Tracking**: Monitor and update practitioner assignments
- **Audit Trail**: Track all caseload modifications with timestamps

2.4 Service Integration

2.4.1 Service Scheduling Integration
- **Direct Scheduling**: Schedule services directly from caseload interface
- **Student Selection**: Pre-populate service forms with selected students
- **Group Scheduling**: Schedule group services with multiple participants
- **Calendar Integration**: Integration with practitioner calendar system

2.4.2 Service Management
- **Service History**: Access to student service history from caseload
- **Upcoming Services**: Display upcoming scheduled services
- **Service Status**: Track service completion and documentation status
- **Billing Integration**: Connection to claims and billing systems

3. Business Rules

3.1 Student Assignment Rules

3.1.1 Practitioner Assignment Rules
- **Single Primary Assignment**: Each student has one primary practitioner assignment
- **District Association**: Students can only be assigned to practitioners within their district
- **Qualification Matching**: Practitioner qualifications must match student service requirements
- **Workload Limits**: Maximum caseload sizes enforced per practitioner role
- **Supervisor Approval**: Supervisor approval required for caseload modifications

3.1.2 Student Eligibility Rules
- **Active Status Requirement**: Only active students can be assigned to caseloads
- **IEP Requirements**: Students must have current IEP documentation
```

- **Service Authorization**: Valid service authorizations required for assignment
- **Consent Requirements**: Parental consent must be documented before assignment
- **Age Restrictions**: Age-appropriate practitioner assignments based on specialization

### ## 3.2 Group Formation Rules

#### #### 3.2.1 Group Composition Rules

- **Minimum Size**: Groups must contain at least 2 students
- **Maximum Size**: Group size limits based on service type and regulations
- **Age Grouping**: Students must be within appropriate age ranges for group services
- **Compatibility Assessment**: Students must be compatible for group therapy sessions
- **Service Alignment**: All group members must require similar service types

#### #### 3.2.2 Group Management Rules

- **Practitioner Assignment**: Groups must be assigned to qualified practitioners
- **Service Scheduling**: Group services must be scheduled for all participants
- **Documentation Requirements**: Individual documentation required for each group member
- **Attendance Tracking**: Individual attendance tracking within group sessions
- **Progress Monitoring**: Individual progress monitoring despite group delivery

### ## 3.3 Access Control Rules

#### #### 3.3.1 Role-Based Access

- **Practitioner Access**: Practitioners can only view and manage their assigned caseloads
- **Supervisor Access**: Supervisors can view and manage all practitioner caseloads in their district
- **Administrator Access**: Administrators have full access to all caseloads system-wide
- **Read-Only Access**: Some roles have view-only access to caseload information
- **Audit Access**: All caseload modifications are logged for audit purposes

#### #### 3.3.2 Data Privacy Rules

- **Student Privacy**: Student information access limited to assigned practitioners
- **HIPAA Compliance**: All caseload data handling must comply with HIPAA regulations
- **Consent Verification**: Access to student data requires verified consent

- \*\*Data Retention\*\*: Caseload data retained according to regulatory requirements
- \*\*Secure Access\*\*: All caseload access must be through secure, authenticated sessions

#### ### 3.4 Service Coordination Rules

##### #### 3.4.1 Scheduling Rules

- \*\*Practitioner Availability\*\*: Services can only be scheduled during practitioner available hours
- \*\*Student Availability\*\*: Multiple services cannot be scheduled simultaneously for same student
- \*\*Location Requirements\*\*: Service locations must be appropriate for student and service type
- \*\*Duration Standards\*\*: Service duration must meet regulatory and IEP requirements
- \*\*Cancellation Policies\*\*: Service cancellations must follow established procedures

##### #### 3.4.2 Documentation Rules

- \*\*Service Documentation\*\*: All scheduled services must be documented upon completion
- \*\*Progress Notes\*\*: Progress notes required for all service sessions
- \*\*Billing Documentation\*\*: Service documentation must support billing requirements
- \*\*Supervisor Review\*\*: Supervisor review required for certain service types
- \*\*Quality Assurance\*\*: Regular quality assurance reviews of service documentation

---

## # 4. Data Requirements

### ## 4.1 Caseload Student Data

```
4.1.1 Core Student Information
```typescript
interface CaseloadStudent {
    id: number;
    ssid: string; // State Student ID (unique identifier)
    firstName: string; // Required
    lastName: string; // Required
    birthdate: string; // Format: MM/DD/YYYY
    gender: 'Male' | 'Female' | 'Other';
    status: 'Active' | 'Inactive';
    district: string; // School district association
    practitioner: string; // Assigned practitioner name
    practitionerId: number; // Practitioner ID reference
    assignmentDate: string; // Date of practitioner assignment
    lastModified: string; // Last modification timestamp
}
```

```

```

4.1.2 Extended Student Information
```typescript
interface ExtendedStudentInfo {
    studentId: number;
    school: string; // Current school assignment
    grade: string; // Current grade level
    primaryDisability: string; // Primary disability classification
    iepDate: string; // Current IEP date
    nextReviewDate: string; // Next IEP review date
    servicesRequired: string[]; // Required services array
    parentalConsent: boolean; // Parental consent status
    transportationNeeds: string; // Transportation requirements
    emergencyContact: string; // Emergency contact information
}
```

4.2 Group Management Data

4.2.1 Group Structure
```typescript
interface CaseloadGroup {
    id: number;
    name: string; // Group name (required)
    description?: string; // Optional group description
    createdDate: string; // Group creation date
    createdBy: number; // Creator user ID
    practitionerId: number; // Assigned practitioner
    status: 'Active' | 'Inactive' | 'Completed';
    serviceType: string; // Primary service type for group
    meetingFrequency: string; // Meeting frequency (e.g., "2x/week")
    duration: string; // Session duration (e.g., "45 minutes")
    location: string; // Meeting location
}
```

4.2.2 Group Membership
```typescript
interface GroupMembership {
    id: number;
    groupId: number; // Reference to group
    studentId: number; // Reference to student
    ssid: string; // Student SSID
    studentName: string; // Student display name
    district: string; // Student district
    joinDate: string; // Date added to group
    status: 'Active' | 'Inactive'; // Membership status
    exitDate?: string; // Date removed from group (if applicable)
    exitReason?: string; // Reason for removal (if applicable)
}
```

4.3 Service Integration Data

4.3.1 Service Scheduling

```

```
```typescript
interface CaseloadService {
    id: number;
    studentId: number;
    groupId?: number;           // Optional group ID for group services
    serviceDate: string;        // Scheduled service date
    serviceTime: string;        // Scheduled service time
    duration: string;           // Service duration
    serviceType: string;         // Type of service
    location: string;           // Service location
    practitionerId: number;     // Assigned practitioner
    status: 'Scheduled' | 'Completed' | 'Cancelled' | 'No Show';
    notes?: string;              // Service notes
}
```

```

#### #### 4.3.2 Service History

```
```typescript
interface ServiceHistory {
    id: number;
    studentId: number;
    serviceId: number;
    completedDate: string;
    actualDuration: string;
    serviceNotes: string;
    progressNotes: string;
    outcomes: string;
    nextSteps: string;
    practitionerId: number;
    supervisorReview: boolean;
    billingStatus: 'Pending' | 'Approved' | 'Submitted' | 'Paid';
}
```

```

### ## 4.4 Search and Filter Data

#### #### 4.4.1 Search Criteria

```
```typescript
interface SearchCriteria {
    searchTerm: string;          // Free text search
    district?: string;            // District filter
    practitioner?: string;        // Practitioner filter
    status?: 'Active' | 'Inactive' | 'All';
    grade?: string;               // Grade level filter
    serviceType?: string;          // Service type filter
    lastServiceDate?: string;      // Last service date filter
}
```

```

#### #### 4.4.2 Filter Options

```
```typescript
interface FilterOptions {
    districts: string[];          // Available districts
    practitioners: string[];       // Available practitioners
}
```

```

```
 statuses: string[]; // Available statuses
 grades: string[]; // Available grades
 serviceTypes: string[]; // Available service types
 sortOptions: {
 field: string;
 direction: 'asc' | 'desc';
 };
}
```
---
```

5. Key Features

5.1 Comprehensive Caseload Interface

5.1.1 Tabbed Navigation System

- **Dual-Tab Interface**: Separate tabs for individual caseload and group management
- **Deep Linking**: URL-based tab state management for bookmarking and sharing
- **State Persistence**: Tab state maintained across page refreshes
- **Keyboard Navigation**: Full keyboard accessibility for tab switching
- **Mobile Responsive**: Optimized tab layout for mobile devices

5.1.2 Advanced Table Management

- **Sortable Columns**: Click-to-sort functionality for all major columns
- **Multi-Select Interface**: Checkbox-based selection for bulk operations
- **Select All Functionality**: Efficient selection of all visible students
- **Responsive Design**: Table adapts to different screen sizes
- **Action Menus**: Contextual dropdown menus for individual student actions

5.2 Intelligent Search and Filtering

5.2.1 Real-Time Search

- **Multi-Field Search**: Search across student names, SSID, and practitioner assignments
- **Instant Results**: Real-time filtering as user types
- **Search Highlighting**: Visual highlighting of matching search terms
- **Search History**: Recently used search terms for quick access
- **Clear Search**: One-click search clearing with reset functionality

5.2.2 Advanced Filtering System

- **District Filtering**: Filter students by school district association
- **Status Filtering**: Filter by active/inactive status
- **Practitioner Filtering**: Filter by assigned practitioner
- **Combined Filters**: Multiple filters can be applied simultaneously
- **Filter Persistence**: Filter state maintained during session

5.3 Dynamic Group Management

5.3.1 Interactive Group Creation

- **Modal Dialog Interface**: Intuitive popup dialog for group creation
- **Group Name Validation**: Real-time validation of group names
- **Student Selection**: Multi-source student selection from caseload and database
- **Visual Selection**: Checkbox-based selection with visual feedback
- **Pre-Population**: Selected students automatically added to new groups

5.3.2 Group Visualization and Management

- **Collapsible Group Cards**: Expandable group interfaces with student details
- **Group Status Indicators**: Visual indicators for group status and activity
- **Student Membership Display**: Clear display of group participants
- **Group Actions**: Edit, modify, and dissolve groups with confirmation
- **Service Integration**: Direct group service scheduling from group interface

5.4 Seamless Service Integration

5.4.1 Service Scheduling Integration

- **Direct Scheduling**: Schedule services directly from caseload interface
- **Student Pre-Population**: Selected students automatically populate service forms
- **Group Service Scheduling**: Schedule group services with multiple participants
- **Calendar Integration**: Real-time integration with practitioner calendars
- **Service History**: Access to complete service history from caseload view

5.4.2 Student Database Integration

- **Database Search**: Search and add students from comprehensive database
- **District Filtering**: Filter available students by district association
- **Duplicate Prevention**: Automatic detection and prevention of duplicate assignments
- **Confirmation Workflows**: Multi-step confirmation for student additions
- **Audit Logging**: Complete audit trail of all caseload modifications

5.5 User Experience Enhancements

5.5.1 Responsive Design

- **Mobile-First Approach**: Optimized for mobile devices and tablets
- **Adaptive Layout**: Layout adjusts to screen size and orientation
- **Touch-Friendly Interface**: Large touch targets and gesture support
- **Consistent Navigation**: Uniform navigation patterns across all interfaces
- **Accessibility Compliance**: Full WCAG 2.1 AA compliance

5.5.2 Performance Optimizations

- **Client-Side Filtering**: Fast filtering without server round-trips
- **Lazy Loading**: Efficient loading of large datasets
- **Caching Strategy**: Intelligent caching of frequently accessed data
- **Optimistic Updates**: Immediate UI updates with background synchronization
- **Error Handling**: Comprehensive error handling with user-friendly messages

5.6 Notification and Feedback System

5.6.1 Success Notifications

- **Toast Notifications**: Non-intrusive success messages for completed actions
- **Action Confirmation**: Visual confirmation of successful operations
- **Dismissible Alerts**: User-controlled dismissal of notification messages
- **Progress Indicators**: Visual progress indicators for long-running operations
- **Status Updates**: Real-time status updates for ongoing operations

5.6.2 Error Handling and Recovery

- **Graceful Error Handling**: User-friendly error messages with recovery options
- **Retry Mechanisms**: Automatic retry for transient failures
- **Offline Support**: Basic offline functionality with sync when reconnected
- **Data Validation**: Client-side validation with immediate feedback
- **Help Integration**: Contextual help and documentation links

7. Integration Points

7.1 Student Management System

- **Student Database**: Integration with comprehensive student database
- **Student Profiles**: Direct links to detailed student profiles
- **Demographic Data**: Real-time access to student demographic information
- **Status Updates**: Bi-directional status synchronization
- **Search Integration**: Unified search across student management system

7.2 Service Management System

- **Service Scheduling**: Direct integration with service scheduling interface
- **Service History**: Access to complete service history and documentation
- **Calendar Integration**: Real-time calendar synchronization
- **Progress Tracking**: Integration with progress monitoring systems
- **Billing Integration**: Connection to billing and claims systems

7.3 User Management System

- **Practitioner Profiles**: Integration with practitioner management system
- **Supervisor Oversight**: Supervisor access to team caseloads
- **Permission Management**: Role-based permission enforcement

- **Audit Integration**: User action logging and audit trail
- **Notification System**: User notification and alert system

7.4 Reporting and Analytics

- **Caseload Reports**: Generate comprehensive caseload reports
- **Performance Metrics**: Track caseload management performance
- **Compliance Reporting**: Generate compliance and audit reports
- **Data Export**: Export caseload data for external analysis
- **Dashboard Integration**: Integration with administrative dashboards

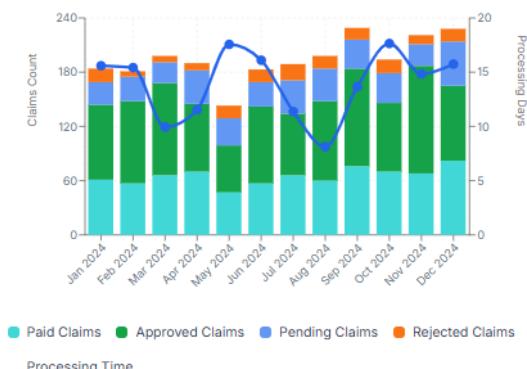
Reporting and Analytics Module - Technical Documentation

Claims Analytics Overview

Complete analysis of claims processing performance, trends, and operational efficiency. Use the time range selector above to filter data for different periods.

Claims Processing Performance Over Time

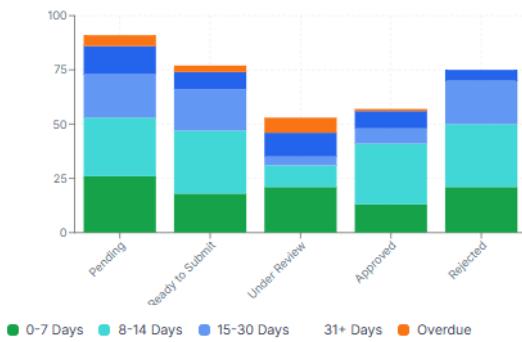
Bars show claims volume by status each month. Blue line shows how many days claims take to process.



1558 Total Claims **90%** Avg Completion Rate **14** Avg Processing Days **20** Claims/Day

Claims Aging Analysis

How long claims have been in each status - Green is good, Red needs attention

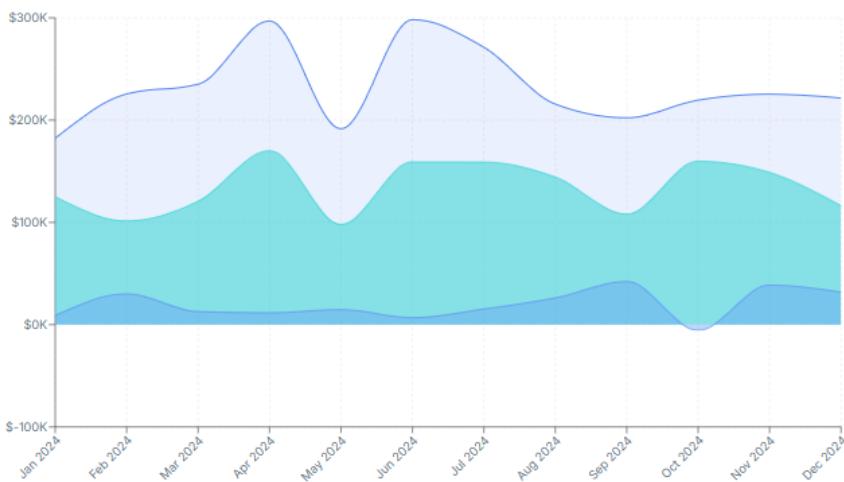


353 Total Claims **28.0%** Recent (0-7 days) **45** Aged (31+ days) **4.5%** Overdue Rate

Claims by Status

Claims Financial Impact Analysis

Shows total claim value (light), actual payments received (dark), and pending amounts (medium) over time.



\$2.8M

Total Claim Value

\$1.4M

Revenue Realized

\$0.2M

Value at Risk

52.0%

Realization Rate

Financial Insights

Revenue Performance

\$2,181

Average Claim Value

Financial Risk

\$287K

Lost Revenue (Rejections)

Latest Month Breakdown

\$222K
Total Claims

\$176K
Approved

\$116K
Paid

\$32K
Pending

<https://admin-view-nine.vercel.app/dashboard>

1. Overview

The Reporting and Analytics Module is a comprehensive data visualization and reporting system designed for the KIDS Dashboard application. This module provides real-time analytics, standardized reports, and custom report building capabilities to support data-driven decision making for special education service providers.

Core Purpose

The module enables educational organizations to monitor performance metrics, track financial impact, analyze operational efficiency, and generate compliance reports for special education services including speech therapy, occupational therapy, physical therapy, and psychological services.

Key Components

- **Dashboard Analytics**: Real-time visualization of key performance indicators
- **Canned Reports**: Pre-built standardized reports for common use cases
- **Report Builder**: Custom report creation tool with flexible filtering and data selection
- **User Activity Tracking**: Comprehensive audit trail and user history reporting
- **Qualifications Management**: Certification tracking and expiration monitoring
- **Financial Impact Analysis**: Revenue tracking and claims processing performance metrics

2. Functional Requirements

2.1 Dashboard Analytics

- **Multi-Chart Visualization**: Integrated dashboard with multiple chart types including area charts, bar charts, and line charts
- **Time Range Selection**: Support for multiple time periods (30 days, 3 months, 6 months, 1 year, all time)
- **Real-time Data Updates**: Dynamic data refresh capabilities with live performance metrics
- **Interactive Charts**: Hover tooltips, clickable elements, and drill-down capabilities
- **Responsive Design**: Mobile-friendly charts that adapt to different screen sizes

2.2 Claims Processing Analytics

- **Volume Tracking**: Monthly claims volume trends with breakdown by service type
- **Processing Performance**: Average processing times, completion rates, and velocity metrics
- **Status Distribution**: Visual representation of claims across different processing stages
- **Bottleneck Identification**: Analysis of processing delays and efficiency metrics
- **Comparative Analysis**: Year-over-year and month-over-month performance comparisons

2.3 Financial Impact Reporting

- **Revenue Analysis**: Total claim values, approved amounts, and payment tracking
- **Revenue Realization**: Percentage of approved claims that result in actual payments
- **Financial Risk Assessment**: Identification of pending and at-risk claim values
- **Average Claim Value**: Statistical analysis of claim amounts and trends
- **Loss Analysis**: Tracking of rejected claims and associated financial impact

2.4 Practitioner Performance Analytics

- **Individual Performance Metrics**: Claims completed, approval rates, and processing speed per practitioner
- **Quality Scoring**: Performance quality assessments and comparative rankings
- **Workload Analysis**: Service distribution and capacity utilization tracking
- **Benchmarking**: Performance comparison against team averages and best practices
- **Productivity Tracking**: Services provided and revenue generated per practitioner

2.5 Claims Aging Analysis

- **Time-based Categorization**: Claims grouped by processing duration (0-7, 8-14, 15-30, 31+ days)
- **Overdue Identification**: Highlighting of claims that exceed processing deadlines
- **Status-based Aging**: Aging analysis segmented by current claim status
- **Priority Management**: Visual indicators for claims requiring immediate attention
- **Trend Analysis**: Historical aging patterns and improvement tracking

2.6 User Activity Reporting

- **Audit Trail**: Complete log of user actions with timestamps and descriptions
- **User Type Tracking**: Activity segmentation by user role (Administrator, Practitioner, Supervisor)
- **System Interaction Monitoring**: Detailed tracking of user system interactions
- **Security Monitoring**: Access logs and permission-based activity tracking
- **Export Capabilities**: CSV export functionality for external analysis

2.7 Qualifications Management Reporting

- **Certification Tracking**: Comprehensive database of practitioner qualifications and certifications
- **Expiration Monitoring**: Automated tracking of certification expiration dates
- **Compliance Reporting**: Status badges and alerts for expired or expiring qualifications
- **Multi-state Support**: Qualification tracking across different states and jurisdictions
- **Renewal Alerts**: Proactive notifications for upcoming certification renewals

2.8 Custom Report Builder

- **Report Type Selection**: Support for Claims, Services, Practitioners, Students, Qualifications, and Billing reports
- **Field Selection**: Granular control over which data fields to include in reports
- **Filter Capabilities**: Advanced filtering by date ranges, user types, statuses, and custom criteria
- **Template Management**: Save and reuse report templates for consistent reporting

- **Export Options**: Multiple export formats including PDF, Excel, and CSV

3. Business Rules

3.1 Data Access and Security

- **Role-based Access**: Different analytics views based on user roles (Administrator, Supervisor, Practitioner)
- **Data Isolation**: Users can only access data relevant to their organizational scope and permissions
- **Audit Compliance**: All report generation and data access activities are logged for compliance
- **FERPA Compliance**: Student data protection and privacy requirements are enforced

3.2 Report Generation Rules

- **Real-time Data**: Analytics dashboards display current data with minimal latency
- **Historical Data Retention**: Minimum 24 months of historical data for trend analysis
- **Report Scheduling**: Automated report generation and distribution capabilities
- **Data Validation**: All reports include data validation checks and error handling

3.3 Financial Reporting Rules

- **Currency Standards**: All financial data displayed in USD with appropriate formatting
- **Rounding Conventions**: Consistent rounding to nearest cent for financial calculations
- **Revenue Recognition**: Revenue tracking based on actual payment receipt, not claim approval
- **Tax Compliance**: Support for various tax reporting requirements and jurisdictions

3.4 Performance Metrics Rules

- **Calculation Standards**: Standardized formulas for performance metrics across all reports
- **Time Zone Handling**: All timestamps normalized to organization's local time zone
- **Business Days**: Processing time calculations exclude weekends and holidays
- **Threshold Definitions**: Clear definitions for performance thresholds and alerts

3.5 Qualifications Compliance Rules

- **Certification Validity**: Only current, valid certifications are considered for service authorization
- **Renewal Requirements**: Automatic flagging of certifications requiring renewal within 60 days
- **Multi-state Recognition**: Support for practitioners licensed in multiple states

- **Qualification Hierarchies**: Recognition of different qualification levels and specializations

```
## 4. Data Requirements
```

```
### 4.1 Claims Data Structure
```

```
```typescript
interface ClaimsProcessingData {
 month: string;
 totalClaims: number;
 pendingClaims: number;
 approvedClaims: number;
 rejectedClaims: number;
 readyToSubmitClaims: number;
 paidClaims: number;
 avgProcessingTime: number;
 completionRate: number;
 processingVelocity: number;
}
```

```

```
### 4.2 Financial Data Structure
```

```
```typescript
interface FinancialImpactData {
 month: string;
 totalClaimValue: number;
 approvedValue: number;
 rejectedValue: number;
 pendingValue: number;
 paidValue: number;
 revenueRealized: number;
 averageClaimValue: number;
}
```

```

```
### 4.3 Practitioner Performance Data
```

```
```typescript
interface PractitionerPerformanceData {
 practitionerId: string;
 name: string;
 claimsCompleted: number;
 approvalRate: number;
 avgProcessingSpeed: number;
 qualityScore: number;
 totalValue: number;
 servicesProvided: number;
}
```

```

```
### 4.4 Claims Aging Data
```

```
```typescript
interface ClaimsAgingData {
```

```

 status: string;
 days0to7: number;
 days8to14: number;
 days15to30: number;
 days31plus: number;
 overdue: number;
 total: number;
}

```
#### 4.5 User Activity Data
```
typescript
interface UserActivityData {
 id: number;
 user: string;
 userType: "Administrator" | "Practitioner" | "Supervisor";
 eventTime: string;
 eventDescription: string;
}
```

```
4.6 Qualifications Data
```
typescript
interface QualificationsData {
    id: number;
    practitioner: string;
    email: string;
    npi: string;
    state: string;
    qualificationType: string;
    qualificationCode: string;
    expirationDate: string;
    status: "Active" | "Expiring Soon" | "Expired";
    daysToExpiration: number;
    district: string;
}
```
```
#### 4.7 Data Integration Requirements
- **Database Connectivity**: Integration with primary application database for real-time data access
- **Data Synchronization**: Regular sync processes to ensure data consistency across modules
- **API Integration**: RESTful API endpoints for external data sources and third-party integrations
- **Data Validation**: Comprehensive data validation and cleansing processes
- **Backup and Recovery**: Automated backup processes for analytical data and report templates
---
```

5. Key Features

5.1 Interactive Dashboard Analytics

- **Multi-Panel Layout**: Tabbed interface supporting Overview, Analytics, and Performance sections
- **Dynamic Chart Rendering**: Real-time chart updates with smooth animations and transitions
- **Drill-down Capabilities**: Click-through functionality to detailed views and underlying data
- **Custom Time Range Selection**: Flexible time period selection with preset options
- **Cross-chart Filtering**: Interactive filtering that affects multiple chart components simultaneously

5.2 Advanced Financial Analytics

- **Revenue Trend Analysis**: Multi-layered area charts showing total claim value, approved amounts, and payments
- **Financial Risk Assessment**: Visual indicators for pending and at-risk revenue
- **Average Claim Value Tracking**: Statistical analysis of claim amounts with trend identification
- **Revenue Realization Rates**: Percentage tracking of approved claims that result in actual payments
- **Loss Analysis**: Comprehensive tracking of rejected claims and associated financial impact

5.3 Claims Processing Intelligence

- **Volume Trend Analysis**: Monthly claims volume with service type breakdown
- **Processing Performance Metrics**: Average processing times, completion rates, and velocity tracking
- **Bottleneck Identification**: Visual identification of processing delays and efficiency issues
- **Status Distribution Analysis**: Real-time view of claims across all processing stages
- **Seasonal Pattern Recognition**: Identification of recurring patterns and seasonal variations

5.4 Practitioner Performance Management

- **Individual Performance Dashboards**: Comprehensive view of each practitioner's performance metrics
- **Comparative Analysis**: Side-by-side performance comparison across team members
- **Quality Scoring System**: Multi-factor quality assessment with weighted scoring
- **Productivity Tracking**: Services provided, revenue generated, and efficiency metrics
- **Performance Benchmarking**: Comparison against team averages and industry standards

5.5 Claims Aging and Risk Management

- **Time-based Categorization**: Visual representation of claims by processing duration
- **Overdue Alert System**: Automated identification of claims exceeding processing deadlines

- **Priority Management Tools**: Visual indicators and sorting for claims requiring immediate attention
- **Aging Trend Analysis**: Historical aging patterns and improvement tracking
- **Risk Mitigation Insights**: Recommendations for reducing processing delays

5.6 Comprehensive User Activity Monitoring

- **Real-time Activity Tracking**: Live monitoring of user system interactions
- **Audit Trail Reporting**: Complete chronological log of all user actions
- **Security Monitoring**: Access logs and permission-based activity tracking
- **User Behavior Analysis**: Patterns and trends in user system usage
- **Export and Archival**: Complete export capabilities for compliance and archival purposes

5.7 Qualifications and Compliance Management

- **Certification Database**: Comprehensive tracking of practitioner qualifications and certifications
- **Expiration Alert System**: Automated notifications for certifications requiring renewal
- **Multi-state Qualification Support**: Tracking of certifications across different jurisdictions
- **Compliance Status Reporting**: Visual status indicators and comprehensive compliance reports
- **Renewal Workflow Management**: Integrated workflow for certification renewal processes

5.8 Custom Report Builder

- **Drag-and-Drop Interface**: Intuitive report building with visual field selection
- **Advanced Filtering Engine**: Complex filtering capabilities with multiple criteria support
- **Template Management System**: Save, edit, and reuse report templates
- **Scheduled Report Generation**: Automated report generation and distribution
- **Multi-format Export**: PDF, Excel, CSV, and other format support

5.9 Data Visualization Excellence

- **Responsive Chart Design**: Mobile-friendly charts that adapt to different screen sizes
- **Accessibility Compliance**: WCAG-compliant charts with screen reader support
- **Interactive Elements**: Hover tooltips, clickable legends, and zoom capabilities
- **Color-coded Insights**: Intuitive color schemes for quick data interpretation
- **Animation and Transitions**: Smooth animations for enhanced user experience

5.10 Integration and Extensibility

- **Cross-module Integration**: Seamless integration with Claims, User Management, and Student Services modules
- **API-first Architecture**: RESTful APIs for external integrations and third-party tools
- **Export Capabilities**: Multiple export formats for integration with external analytics tools
- **Real-time Data Sync**: Live data synchronization across all reporting components
- **Scalable Architecture**: Designed to handle growing data volumes and user bases

6. Technical Implementation

6.1 Chart Components

- **ClaimsProcessingPerformanceChart**: Multi-series line chart for processing metrics
- **FinancialImpactChart**: Area chart for financial trend analysis
- **ClaimsAgingChart**: Stacked bar chart for aging analysis
- **PractitionerPerformanceChart**: Scatter plot for performance comparison
- **TimeRangeSelector**: Interactive time period selection component

6.2 Data Management

- **Data Validation**: Input validation and error handling for all data operations
- **Caching Strategy**: Efficient data caching for improved performance
- **Real-time Updates**: WebSocket or polling-based real-time data updates

6.3 Report Generation

- **PDF Generation**: Server-side PDF generation for formal reports
- **Excel Export**: Structured Excel export with formatting and charts
- **CSV Export**: Raw data export for external analysis
- **Report Templates**: Reusable report templates with customization options
- **Scheduled Reports**: Automated report generation and email distribution

7. User Interface Features

7.1 Navigation and Layout

- **Tabbed Interface**: Clean tabbed navigation for different report sections
- **Sidebar Integration**: Seamless integration with main application sidebar
- **Breadcrumb Navigation**: Clear navigation path for deep-nested reports
- **Quick Access**: Direct links to frequently used reports and dashboards
- **Search Functionality**: Global search across all reports and data

7.2 Interactive Elements

- **Hover Tooltips**: Detailed information on chart hover
- **Click-through Navigation**: Direct navigation to detailed views
- **Filter Controls**: Interactive filters for real-time data manipulation
- **Sort and Search**: Table sorting and search capabilities
- **Zoom and Pan**: Chart zoom and pan functionality for detailed analysis

7.3 User Experience

- **Loading States**: Informative loading indicators for data retrieval
- **Error Messages**: Clear error messages with recovery suggestions
- **Success Feedback**: Confirmation messages for completed actions
- **Help Documentation**: Integrated help system and tooltips
- **Accessibility**: Full keyboard navigation and screen reader support

8. File Structure

```

```
app/reports/
├── page.tsx # Main reports dashboard
└── user-history/
 └── page.tsx # User activity reports
├── qualifications/
 └── page.tsx # Qualifications tracking
└── report-builder/
 └── page.tsx # Custom report builder
```

```
components/dashboard/
├── AdminDashboardTabs.tsx # Main dashboard container
├── TimeRangeSelector.tsx # Time period selection
├── ClaimsProcessingPerformanceChart.tsx
├── FinancialImpactChart.tsx
├── ClaimsAgingChart.tsx
├── ClaimsVolumeTrendsChart.tsx
└── PractitionerPerformanceChart.tsx
```

```
lib/
├── types/
 └── dashboard.ts # TypeScript interfaces
└── data/
 └── mock-claims-data.ts # Mock data generators
```
```

9. Compliance and Security

9.1 Data Protection

- **FERPA Compliance**: Student data protection and privacy requirements
- **HIPAA Considerations**: Healthcare data protection for medical services

- **Data Encryption**: Encryption at rest and in transit for all sensitive data
- **Access Controls**: Role-based access control with audit logging

9.2 Audit and Compliance

- **Audit Trail**: Complete logging of all user actions and data access
- **Compliance Reporting**: Automated compliance reports for regulatory requirements
- **Data Retention**: Configurable data retention policies
- **Backup and Recovery**: Automated backup and disaster recovery procedures

Configuration Management Module - Technical Documentation

The screenshot displays the 'Manage Organization' section of the KIDS Dashboard. The main content area is titled 'Organization Information' and contains the following data:

| | | | |
|-------------------|---------------------------|----------------|---------------------------|
| Organization Name | Fee Schedule Organization | ORP Name | Carelon Behavioral Health |
| ORP NPI Number | 1234567890 | Payer Type | Fee Schedule |
| Status | Active | Effective Date | 2024-01-01 |
| Contact Email | admin@carelon.com | | |

<https://admin-view-nine.vercel.app/manage-organizations>

1. Overview

The Configuration Management Module is a comprehensive system administration tool designed for the KIDS Dashboard application. This module provides centralized management of system configurations, organizational settings, and business rules that govern the operation of the special education services platform.

Core Purpose

The module enables system administrators and authorized users to configure and maintain critical system parameters including practitioner qualifications, billing codes, permission structures, and organization-specific settings. It serves as the foundation for compliance, billing accuracy, and operational efficiency across the entire platform.

Key Components

- **System Configurations**: Global settings for qualifications, billing codes, and permissions
 - **Organization Management**: Multi-organization support with organization-specific configurations
 - **Permission Management**: Role-based access control and authorization matrix
 - **Billing Code Management**: Comprehensive healthcare billing code administration
 - **Qualification Management**: Practitioner certification and licensing tracking
 - **File Management**: Integration file management for claims and member data
 - **Payer Configuration**: Insurance payer and reimbursement settings
-

2. Functional Requirements

2.1 Global Configuration Management

- **Centralized Settings**: Single source of truth for system-wide configurations
- **Tabbed Interface**: Organized navigation between different configuration categories
- **Configuration Validation**: Real-time validation of configuration changes
- **Version Control**: Track changes and maintain configuration history
- **Import/Export**: Bulk configuration management through file operations

2.2 Qualification Management

- **Practitioner Credentials**: Comprehensive database of professional qualifications
- **Licensing Types**: Support for licenses, credentials, and certificates
- **Status Management**: Active/Archived status tracking for qualifications
- **Multi-State Support**: Qualification tracking across different jurisdictions
- **Modal Creation**: Streamlined interface for adding new qualifications
- **Bulk Operations**: Mass qualification updates and management

2.3 Billing Code Administration

- **Healthcare Codes**: Complete management of billing and procedure codes
- **Rate Management**: Billing rates and unit definitions for each code
- **Type Classification**: Treatment, assessment, and other service categories
- **Practitioner Eligibility**: Mapping of qualified practitioners to billing codes
- **Status Tracking**: Active/Archived status for billing codes
- **Search and Filter**: Advanced search capabilities across all billing codes

2.4 Permission Types Configuration

- **Role-Based Access**: Hierarchical permission structure for different user types
- **Permission Matrix**: Visual representation of role-based permissions
- **Expandable Categories**: Organized permission grouping by functional area
- **System Security**: Read-only protection for standard system permissions
- **Audit Trail**: Complete logging of permission changes and access

2.5 Organization-Specific Configurations

- **Multi-Organization Support**: Separate configurations for different organizational types
- **Fee Schedule Organizations**: Specialized configuration for fee-based services
- **LEA-BOP Organizations**: Specialized configuration for educational service providers
- **Payer Integration**: Organization-specific payer and billing configurations
- **Service Type Management**: Customized service offerings per organization
- **File Management**: Specialized file handling for different payer types

2.6 File Management and Integration

- **SPI File Management**: Service Provider Interface file handling
- **Member Batch Processing**: Bulk member data management
- **Upload/Download Operations**: Secure file transfer capabilities
- **File Status Tracking**: Real-time status monitoring for processed files
- **Integration Workflows**: Automated workflows for file processing

3. Business Rules

3.1 Configuration Hierarchy

- **System Level**: Global configurations that apply to all organizations
- **Organization Level**: Organization-specific overrides and customizations
- **User Level**: Individual user preferences and settings
- **Inheritance Rules**: Lower-level configurations inherit from higher levels unless overridden

3.2 Qualification Validation Rules

- **Unique Codes**: Qualification codes must be unique within the system
- **Status Consistency**: Active qualifications must have valid descriptions and requirements
- **Practitioner Mapping**: Qualifications must be mapped to appropriate practitioner types
- **Expiration Tracking**: Time-based qualification validity and renewal requirements

3.3 Billing Code Compliance

- **Healthcare Standards**: All billing codes must comply with healthcare billing standards
- **Rate Validation**: Billing rates must be within acceptable ranges for each code type
- **Practitioner Eligibility**: Only qualified practitioners can use specific billing codes
- **Insurance Compatibility**: Billing codes must be compatible with associated insurance payers

3.4 Permission Security Rules

- **Principle of Least Privilege**: Users receive minimum necessary permissions
- **Role Hierarchy**: Higher-level roles inherit permissions from lower levels
- **System Protection**: Core system permissions cannot be modified by users
- **Audit Requirements**: All permission changes must be logged and auditable

3.5 Organization Configuration Rules

- **Data Isolation**: Organizations cannot access each other's configurations
- **Payer Compatibility**: Organization configurations must match payer requirements
- **Service Alignment**: Service types must align with organization's service delivery model
- **File Format Compliance**: File formats must match payer specifications

4. Data Requirements

4.1 Qualification Data Structure

```
```typescript
interface QualificationData {
 id: number;
 type: "License" | "Credential" | "Certificate";
 code: string;
 description: string;
 status: "Active" | "Archived";
 effectiveDate?: string;
 expirationDate?: string;
 requirements?: string[];
 jurisdiction?: string;
}
```

```

4.2 Billing Code Data Structure

```
```typescript
interface BillingCodeData {
 id: number;
 code: string;
 type: "Treatment" | "Assessment" | "Consultation";
}
```

```

```

        description: string;
        unit: string;
        rate: string;
        eligiblePractitioners: string;
        status: "Active" | "Archived";
        effectiveDate?: string;
        payerSpecific?: boolean;
    }
```
```
### 4.3 Permission Data Structure
```typescript
interface PermissionData {
 id: string;
 title: string;
 icon: string;
 expanded: boolean;
 permissions: {
 id: string;
 name: string;
 practitioner: boolean;
 supervisor: boolean;
 districtAdmin: boolean;
 systemAdmin: boolean;
 }[];
}
```
```
4.4 Organization Data Structure
```typescript
interface OrganizationData {
    id: string;
    organizationName: string;
    orgpName: string;
    orgpNpiNumber: string;
    payerType: "Fee Schedule" | "LEA-BOP";
    status: "Active" | "Inactive";
    effectiveDate: string;
    contactEmail: string;
    configurations: {
        qualifications: QualificationData[];
        billingCodes: BillingCodeData[];
        serviceTypes: ServiceTypeData[];
    };
}
```
```
### 4.5 Service Type Data Structure
```typescript
interface ServiceTypeData {
 id: number;
 code: string;
 type: string;
 description: string;
}

```

```

 eligiblePractitioners: string;
 status: "Active" | "Archived";
 organizationSpecific: boolean;
}

```
#### 4.6 File Management Data Structure
```typescript
interface FileManagementData {
 id: number;
 fileName: string;
 date: string;
 status: "Submitted" | "Processed" | "Received" | "Error";
 type: "sent" | "received";
 fileType: "SPI" | "Member Batch";
 organizationType: "Fee Schedule" | "LEA-BOP";
}
```

---


## 5. Key Features

### 5.1 Multi-Organization Architecture
- **Organization Type Support**: Separate configurations for Fee Schedule and LEA-BOP organizations
- **Dynamic Configuration Loading**: Real-time switching between organization configurations
- **Isolated Data Management**: Complete data separation between organizations
- **Shared Resource Management**: Common configurations shared across appropriate organizations
- **Organization Badge Display**: Visual indication of current organization context

### 5.2 Advanced Qualification Management
- **Comprehensive Credential Database**: Support for licenses, credentials, and certificates
- **Modal-Based Creation**: Intuitive interface for adding new qualifications
- **Type-Specific Validation**: Validation rules based on qualification type
- **Status Lifecycle Management**: Complete lifecycle from creation to archival
- **Bulk Import/Export**: Mass qualification management capabilities
- **Real-time Validation**: Immediate feedback on qualification data entry

### 5.3 Sophisticated Billing Code System
- **Healthcare Code Compliance**: Support for standard healthcare billing codes
- **Rate Management**: Flexible billing rate structures with unit definitions

```

- **Practitioner Eligibility Matrix**: Complex mapping of practitioners to billing codes
- **Type-based Classification**: Organized categorization of billing codes
- **Search and Filter Engine**: Advanced search capabilities across all fields
- **Organization-Specific Codes**: Separate billing code sets for different organizations

5.4 Permission Management System

- **Role-Based Access Control**: Hierarchical permission structure
- **Visual Permission Matrix**: Intuitive checkbox-based permission display
- **Expandable Categories**: Organized permission grouping by functional area
- **Read-Only Protection**: System-critical permissions protected from modification
- **Audit Trail Integration**: Complete logging of permission changes

5.5 File Management and Integration

- **SPI File Processing**: Service Provider Interface file handling for claims
- **Member Batch Management**: Bulk member data processing capabilities
- **Upload/Download Operations**: Secure file transfer with progress tracking
- **File Status Monitoring**: Real-time tracking of file processing status
- **Organization-Specific Workflows**: Tailored file processing for different payers

5.6 Dynamic Configuration Interface

- **Tabbed Navigation**: Clean organization of configuration sections
- **Context-Aware Interface**: Dynamic interface based on selected organization
- **Real-time Updates**: Immediate reflection of configuration changes
- **Bulk Operations**: Mass configuration updates and management
- **Configuration Templates**: Pre-built configuration templates for common setups

5.7 Service Type Management

- **Organization-Specific Services**: Different service types for different organizations
- **Eligibility Mapping**: Practitioner eligibility for each service type
- **Status Management**: Active/Archived status tracking for service types
- **Code-Based Organization**: Structured service type coding system
- **Integration with Billing**: Seamless integration with billing code management

5.8 Advanced Search and Filtering

- **Multi-Field Search**: Search across codes, descriptions, and types
- **Real-time Filtering**: Dynamic filtering with immediate results
- **Status-Based Filtering**: Filter by active/archived status
- **Type-Based Filtering**: Filter by qualification or billing code types

- **Organization-Specific Search**: Search within organization context

5.9 Data Import and Export

- **Bulk Configuration Import**: Mass import of configuration data
- **Template-Based Export**: Structured export formats for external systems
- **Validation on Import**: Comprehensive validation during import process
- **Error Reporting**: Detailed error reporting for import failures
- **Preview Functionality**: Preview changes before committing imports

5.10 Audit and Compliance

- **Complete Audit Trail**: Logging of all configuration changes
- **User Attribution**: Track which users made specific changes
- **Change History**: Historical view of configuration modifications
- **Compliance Reporting**: Generate compliance reports for regulations
- **Data Integrity Checks**: Automated validation of configuration consistency

6. Technical Implementation

6.1 Configuration Components

- **ConfigurationLayout**: Main layout component with tabbed navigation
- **QualificationModal**: Modal component for adding/editing qualifications
- **BillingCodeTable**: Advanced table component with search and filtering
- **PermissionMatrix**: Interactive permission management interface
- **FileUploader**: Drag-and-drop file upload component with progress tracking

6.2 Data Management

- **Organization Context**: React context for organization-specific data
- **Configuration Store**: Centralized state management for configurations
- **Validation Engine**: Comprehensive validation for all configuration data
- **Change Detection**: Real-time detection of configuration changes
- **Persistence Layer**: Auto-save functionality for configuration changes

6.3 File Processing

- **Upload Handler**: Secure file upload with validation
- **Progress Tracking**: Real-time upload and processing progress
- **Error Handling**: Comprehensive error handling for file operations
- **Status Monitoring**: Real-time status updates for file processing
- **Integration APIs**: RESTful APIs for external system integration

7. User Interface Features

```
### 7.1 Navigation and Layout
- **Tabbed Interface**: Clean tabbed navigation for different configuration sections
- **Breadcrumb Navigation**: Clear navigation path for deep configuration sections
- **Organization Switcher**: Easy switching between organization configurations
- **Responsive Design**: Mobile-friendly interface for all screen sizes
- **Quick Access**: Direct links to frequently used configuration sections
```

7.2 Interactive Elements

- **Modal Dialogs**: Streamlined interfaces for adding/editing configurations
 - **Dropdown Menus**: Context-sensitive action menus for configuration items
 - **Checkbox Matrices**: Visual permission management interfaces
 - **Toggle Switches**: Easy status switching for configuration items
 - **Drag-and-Drop**: Intuitive file upload interfaces

7.3 Data Display

- **Advanced Tables**: Sortable, filterable tables for configuration data
 - **Status Badges**: Visual indicators for configuration status
 - **Progress Indicators**: Real-time progress tracking for operations
 - **Search Highlights**: Visual highlighting of search results
 - **Expandable Sections**: Collapsible sections for complex configurations

7.4 User Experience

- ****Loading States****: Informative loading indicators for all operations
 - ****Success Messages****: Clear confirmation for completed actions
 - ****Error Handling****: User-friendly error messages with recovery suggestions
 - ****Validation Feedback****: Real-time validation feedback during data entry
 - ****Help Documentation****: Contextual help and tooltips

— — —

8. File Structure

- - -

```
app/configurations/
  └── layout.tsx          # Configuration navigation layout
  └── page.tsx            # Main configuration redirect
  └── billing-codes/
    └── page.tsx          # Billing codes management
  └── qualifications/
    └── page.tsx          # Qualifications management
  └── permission-types/
    └── page.tsx          # Permission types management
```

app/manage-organizations/

```
    page.tsx          # Main organization management
```

```

    └── payer-config/
        └── page.tsx                      # Payer configuration redirect
    └── billing-codes/
        └── page.tsx                      # Organization billing codes
    └── qualifications/
        └── page.tsx                      # Organization qualifications
    └── permission-types/
        └── page.tsx                      # Organization permissions
    └── carelon/
        └── page.tsx                      # Carelon-specific configurations
    └── medi-cal/
        └── page.tsx                      # Medi-Cal-specific configurations
    └── settings/
        └── page.tsx                      # Organization settings
```

9. Business Logic Implementation

9.1 Organization Type Management

- Dynamic Data Loading: Load organization-specific configurations based on selected type
- Context Switching: Seamless switching between Fee Schedule and LEA-BOP organizations
- Data Isolation: Complete separation of data between organization types
- Shared Resource Access: Common configurations accessible to appropriate organizations

9.2 Configuration Validation

- Field Validation: Real-time validation of configuration fields
- Business Rule Enforcement: Validation of business rules and constraints
- Dependency Checking: Validation of configuration dependencies
- Consistency Verification: Cross-validation of related configurations

9.3 Status Management

- Lifecycle Tracking: Complete tracking of configuration item lifecycles
- Status Transitions: Managed transitions between Active and Archived states
- Dependency Impact: Assessment of status changes on dependent configurations
- Audit Integration: Automatic audit trail for status changes

9.4 File Processing Workflows

- Upload Validation: Comprehensive validation of uploaded files
- Processing Pipelines: Automated processing workflows for different file types
- Status Tracking: Real-time monitoring of file processing status
- Error Recovery: Automated error recovery and retry mechanisms

```

---

## # 10. Integration Points

### ## 10.1 Claims Management Integration

- **Billing Code Synchronization**: Real-time synchronization with claims processing
- **Practitioner Validation**: Validation of practitioner eligibility for claims
- **Rate Application**: Automatic rate application based on billing codes
- **Organization Context**: Claims processing in organization-specific context

### ## 10.2 User Management Integration

- **Permission Enforcement**: Real-time permission checking for user actions
- **Role Assignment**: Dynamic role assignment based on configurations
- **Access Control**: Granular access control based on permission matrix
- **Audit Integration**: Comprehensive audit trail for user-related actions

### ## 10.3 Service Management Integration

- **Service Type Validation**: Validation of service types against configurations
- **Practitioner Eligibility**: Checking practitioner eligibility for services
- **Billing Integration**: Seamless integration with billing for service delivery
- **Organization Alignment**: Service delivery aligned with organization configurations

### ## 10.4 External System Integration

- **Payer System Integration**: Integration with external payer systems
- **File Exchange**: Secure file exchange with external systems
- **Data Synchronization**: Real-time synchronization with external databases
- **API Integration**: RESTful API integration for external system access

---

## # 11. Security and Compliance

### ## 11.1 Data Security

- **Encryption**: Encryption of sensitive configuration data at rest and in transit
- **Access Control**: Role-based access control for all configuration operations
- **Audit Trail**: Complete audit trail for all configuration changes
- **Data Validation**: Comprehensive validation of all user inputs

### ## 11.2 Compliance Requirements

- **Healthcare Compliance**: Compliance with healthcare data protection regulations

- **Audit Requirements**: Meeting audit requirements for configuration changes
- **Data Retention**: Appropriate data retention policies for configuration data
- **Privacy Protection**: Protection of sensitive configuration information

#### ## 11.3 System Security

- **Input Sanitization**: Comprehensive sanitization of all user inputs
- **CSRF Protection**: Protection against cross-site request forgery attacks
- **SQL Injection Prevention**: Prevention of SQL injection attacks
- **Authentication**: Strong authentication requirements for configuration access

---

### # 12. Performance Optimization

#### ## 12.1 Data Loading

- **Lazy Loading**: Lazy loading of configuration data to improve performance
- **Caching**: Intelligent caching of frequently accessed configurations
- **Pagination**: Pagination for large configuration datasets
- **Search Optimization**: Optimized search algorithms for configuration data

#### ## 12.2 User Interface Performance

- **Component Optimization**: Optimized React components for better performance
- **Virtual Scrolling**: Virtual scrolling for large configuration lists
- **Debounced Search**: Debounced search to reduce server load
- **Memoization**: Memoization of expensive calculations

#### ## 12.3 File Processing Performance

- **Batch Processing**: Efficient batch processing of configuration files
- **Progress Tracking**: Accurate progress tracking for long-running operations
- **Error Handling**: Efficient error handling to prevent system slowdowns
- **Resource Management**: Proper resource management for file operations

#### ## 13.4 Analytics and Reporting

- **Usage Analytics**: Analytics on configuration usage and patterns
- **Performance Metrics**: Metrics on configuration performance and efficiency
- **Compliance Reporting**: Enhanced compliance reporting capabilities
- **Configuration Insights**: AI-powered insights on configuration optimization

## # KIDS Dashboard - Permissions and Access Control Documentation

### ## 1. Executive Summary

The KIDS Dashboard implements a comprehensive role-based access control (RBAC) system designed to ensure appropriate access to sensitive student and organizational data while maintaining compliance with FERPA, HIPAA, and other educational data privacy regulations. The permission system uses a hierarchical structure with clear separation of duties across different user roles.

### ### Key Security Principles

- \*\*Principle of Least Privilege\*\*: Users receive only the minimum permissions necessary for their role
- \*\*Role-Based Data Isolation\*\*: Access to data is restricted based on user role and organizational scope
- \*\*Hierarchical Permission Inheritance\*\*: Higher-level roles inherit permissions from lower levels
- \*\*Audit Trail Compliance\*\*: All permission changes and data access are logged for compliance
- \*\*Multi-Organization Support\*\*: Secure data isolation between different organizations

---

## ## 2. Permission System Overview

### ### 2.1 Account Types

The system supports three primary account types with distinct permission levels:

1. \*\*👤 Practitioner\*\* - Clinical services and student management
2. \*\*👥 Supervisor\*\* - Oversight and approval workflows
3. \*\*🌐 Administrator\*\* - Full system access and management

### ### 2.2 Permission Levels

Each role operates within specific permission boundaries:

- \*\*Standard Permissions\*\*: Basic service delivery and student management
- \*\*Advanced Permissions\*\*: Supervision, reporting, and service management
- \*\*Full Permissions\*\*: Complete system administration and user management

### ### 2.3 Role Hierarchy

```

System Administrator (Highest)

↓

Super Administrator

↓

District Administrator

↓

Supervisor

↓

Practitioner (Lowest)

↓

Support Roles (Student Registration, Billing Support)

```

---

### ## 3. Practitioner Permissions

#### ### 3.1 Account Description

- \*\*Role\*\*: Direct service provider
- \*\*Primary Function\*\*: "Clinical services and student management"
- \*\*Permission Level\*\*: Standard
- \*\*Access Scope\*\*: Own caseload only

#### ### 3.2 Navigation Access

##### #### \*\*Available Modules\*\*

- \*\*Log Service\*\* - Document services provided to students
- \*\*Caseload\*\* - View and manage assigned students
  - View caseload
  - Groups (if assigned)
  - Manage (limited to own assignments)
- \*\*Student Services\*\* - Schedule and manage service delivery
  - My calendar
  - All services
  - Log service
  - Schedule service
- \*\*Reports\*\* - Generate reports within their scope
  - Canned reports (limited)
  - Report builder (limited)

##### #### \*\*Restricted Modules\*\*

- Claims Management (all functions)
- Manage Users (all functions)
- Manage Students (all functions)
- Manage Organizations (all functions)
- System Configuration

#### ### 3.3 Core Permissions

```typescript

```
interface PractitionerPermissions {  
    serviceDelivery: {  
        scheduleServices: true;  
        logServices: true;  
        documentServices: true;  
        viewOwnServices: true;  
    };  
  
    studentManagement: {  
        viewAssignedStudents: true;  
        updateStudentProgress: true;  
        addServiceNotes: true;  
        viewStudentHistory: true;  
    };  
  
    caseloadManagement: {  
        viewOwnCaseload: true;  
    };  
}
```

```
        manageAssignedGroups: true;
        updateCaseloadNotes: true;
    };

    reporting: {
        generateOwnReports: true;
        viewOwnPerformance: true;
        exportOwnData: true;
    };
}
```


 ### 3.4 Data Access Restrictions
 - **Student Data**: Can only view students in their assigned caseload
 - **Service Data**: Can only see services they have provided or are scheduled to provide
 - **Claims Data**: No access to claims or billing information
 - **User Data**: Can only view their own profile information
 - **Reports**: Limited to their own performance and assigned students
```

```
3.5 System Limitations
- Cannot approve services (must be approved by supervisor)
- Cannot access other practitioners' caseloads
- Cannot modify system configurations
- Cannot create or manage user accounts
- Cannot access financial or billing data
```

---

## ## 4. Supervisor Permissions

```
4.1 Account Description
- **Role**: Team oversight and practitioner management
- **Primary Function**: "Oversight and approval workflows"
- **Permission Level**: Advanced
- **Access Scope**: District team and assigned practitioners
```

## ### 4.2 Navigation Access

```
Available Modules
- **Log Service** - Document and review services
- **Caseload** - View all practitioner caseloads in their district
 - View (all assigned practitioners)
 - Groups (all district groups)
 - Manage (team oversight)
- **Student Services** - Oversee service delivery
 - My calendar
 - All services (team oversight)
 - Log service
 - Schedule service
 - **Supervisor Logs** (exclusive feature)
- **Assigned Practitioners** - Manage assigned practitioners
- **Reports** - Generate comprehensive reports
 - Canned reports (enhanced access)
 - Report builder (advanced features)
```

```

X **Restricted Modules**
- Claims Management (all functions)
- Manage Users (creation/modification)
- Manage Students (system-wide management)
- Manage Organizations (all functions)

4.3 Core Permissions
```typescript
interface SupervisorPermissions extends PractitionerPermissions {
    supervision: {
        approveServices: true;
        reviewDocumentation: true;
        monitorPractitioners: true;
        accessTeamCaseloads: true;
    };

    serviceManagement: {
        approveIncompleteServices: true;
        reviewServiceQuality: true;
        manageTeamSchedules: true;
        overseeGroupServices: true;
    };

    reporting: {
        generateTeamReports: true;
        viewPractitionerPerformance: true;
        accessDistrictAnalytics: true;
        exportTeamData: true;
    };

    practitionerManagement: {
        viewAssignedPractitioners: true;
        reviewPractitionerWork: true;
        provideFeedback: true;
        monitorCompliance: true;
    };
}
```

4.4 Enhanced Access Features
- **Dashboard**: Supervisor-specific dashboard with team overview
- **Services Pending Approval**: Dedicated section for reviewing incomplete services
- **Team Performance**: Access to practitioner performance metrics
- **Supervisor Logs**: Specialized logging for supervision activities
- **Cross-Caseload Visibility**: Can view all assigned practitioners' students

4.5 Data Access Scope
- **Student Data**: Can view all students assigned to their practitioners
- **Service Data**: Can see all services provided by their team
- **Practitioner Data**: Can view profiles and performance of assigned practitioners

```

- **Reports**: Can generate district-level reports and analytics
- **Approval Workflows**: Can approve services and documentation

- ## 4.6 Supervision Responsibilities**
- Review and approve practitioner documentation
  - Monitor service delivery quality
  - Provide oversight for compliance requirements
  - Manage team schedules and assignments
  - Generate performance and compliance reports

---

## ## 5. Administrator Permissions

### ## 5.1 Account Description

- **Role**: System administration and management
- **Primary Function**: "Full system access and management"
- **Permission Level**: Full
- **Access Scope**: System-wide access

### ## 5.2 Navigation Access

#### ## Available Modules

- **Claims** - Complete claims management
  - Not paid
  - Paid
  - Ready to submit
  - Incomplete
- **Manage Users** - Full user administration
  - All users
  - Practitioners
  - Supervisors
  - Administrators
- **Manage Students** - Student registration and management
  - Search
  - Add (individual and bulk)
- **Reports** - System-wide reporting and analytics
  - Canned reports (full access)
  - Report builder (all features)
- **Manage Organizations** - Organization configuration
  - Payer Type Info
  - Qualifications
  - Billing Codes
  - Permission Types
  - Carelon/Medi-Cal configuration

### ## 5.3 Core Permissions

```
```typescript
interface AdministratorPermissions extends SupervisorPermissions {
  claimsManagement: {
    viewAllClaims: true;
    submitClaims: true;
    processPayments: true;
    manageBatches: true;
    viewFinancialAnalytics: true;
  }
}
```

```

    };

    userManagement: {
      createUsers: true;
      modifyUsers: true;
      deleteUsers: true;
      assignRoles: true;
      managePermissions: true;
    };

    systemAdministration: {
      configureSystem: true;
      manageBillingCodes: true;
      manageQualifications: true;
      configureOrganizations: true;
      managePermissionTypes: true;
    };

    dataManagement: {
      accessAllData: true;
      exportSystemData: true;
      manageDataRetention: true;
      overseeCompliance: true;
    };
};

```

```

#### ### 5.4 Administrative Functions

##### #### 5.4.1 Claims Management

- \*\*View Claims\*\*: District Admin level access to all claims
- \*\*Submit Claims\*\*: Process and submit claims to payers
- \*\*Financial Analytics\*\*: Revenue tracking and financial reporting
- \*\*Batch Processing\*\*: Bulk claim operations and management
- \*\*Payment Processing\*\*: Track and manage claim payments

##### #### 5.4.2 User Management

- \*\*User Creation\*\*: Add new users with complete role assignment
- \*\*Permission Management\*\*: Modify user permissions and access levels
- \*\*Account Management\*\*: Activate, deactivate, and suspend accounts
- \*\*Role Assignment\*\*: Assign roles, supervisors, and districts
- \*\*Profile Management\*\*: Complete user profile administration

##### #### 5.4.3 System Configuration

- \*\*License Types\*\*: View and edit professional qualifications
- \*\*Service Types\*\*: Configure available service offerings
- \*\*Billing Codes\*\*: Healthcare billing code management
- \*\*Permission Types\*\*: Configure role-based permissions
- \*\*Organization Setup\*\*: Multi-organization configuration

##### #### 5.4.4 Student Management

- \*\*Student Registration\*\*: Individual and bulk student registration
- \*\*Data Management\*\*: Complete student information management
- \*\*Search Functions\*\*: Advanced student search capabilities

- **Upload Management**: File upload and data import functions
  - ## 5.5 Data Access Scope
  - **System-Wide Access**: Can view and manage all data across organizations
  - **Cross-Organization**: Can access multiple organization configurations
  - **Financial Data**: Full access to billing, claims, and financial information
  - **User Data**: Complete access to all user profiles and information
  - **Compliance Data**: Access to audit logs and compliance reports
- 

## ## 6. Permission Matrix

### ## 6.1 Feature Access Matrix

| <b>Feature Category</b>     | <b>Practitioner</b> | <b>Supervisor</b> | <b>Administrator</b> |
|-----------------------------|---------------------|-------------------|----------------------|
| <b>Claims Management</b>    |                     |                   |                      |
| - View Claims               | X                   | X                 | ✓                    |
| - Submit Claims             | X                   | X                 | ✓                    |
| - Financial Analytics       | X                   | X                 |                      |
| <b>User Management</b>      |                     |                   |                      |
| - View Users                | Own Profile         | Team Only         | All Users            |
| - Create Users              | X                   | X                 | ✓                    |
| - Modify Users              | Own Profile         | X                 | ✓                    |
| - Delete Users              | X                   | X                 | ✓                    |
| <b>Student Management</b>   |                     |                   |                      |
| - View Students             | Own Caseload        | Team Caseloads    | All Students         |
| - Add Students              | X                   | X                 | ✓                    |
| - Modify Students           | Assigned Only       | Team Students     | All Students         |
| <b>Service Management</b>   |                     |                   |                      |
| - Schedule Services         | ✓                   | ✓                 | ✓                    |
| - Log Services              | ✓                   | ✓                 | ✓                    |
| - Approve Services          | X                   | ✓                 | ✓                    |
| - View All Services         | Own Only            | Team Only         | System-Wide          |
| <b>System Configuration</b> |                     |                   |                      |
| - View License Types        | X                   | X                 | ✓                    |
| - Edit License Types        | X                   | X                 | ✓                    |
| - View Billing Codes        | X                   | X                 | ✓                    |
| - Edit Billing Codes        | X                   | X                 | ✓                    |
| - Manage Permissions        | X                   | X                 | ✓                    |

### ## 6.2 Data Access Scope Matrix

| <b>Data Type</b>    | <b>Practitioner</b> | <b>Supervisor</b> | <b>Administrator</b> |
|---------------------|---------------------|-------------------|----------------------|
| <b>Student Data</b> | Own Caseload        | Team Caseloads    | All Students         |

```

Service Data	Own Services	Team Services	All Services
Claims Data	None	None	All Claims
User Data	Own Profile	Team Profiles	All Users
Financial Data	None	None	All Financial
System Config	None	None	All Configuration
Reports	Own Performance	Team Performance	System-Wide

7. Specialized Role Permissions

7.1 Support Roles

7.1.1 Student Registration Support
```typescript
interface StudentRegistrationSupportPermissions {
    permissions: ["Student Registration", "Data Entry"];
    access: {
        studentRegistration: true;
        dataEntry: true;
        basicStudentManagement: true;
    };
    restrictions: {
        serviceDelivery: false;
        claimsAccess: false;
        userManagement: false;
    };
}
```

7.1.2 Billing Administrator
```typescript
interface BillingAdministratorPermissions {
    permissions: ["Billing", "Reports"];
    access: {
        billingManagement: true;
        claimsProcessing: true;
        financialReporting: true;
        billingCodeManagement: true;
    };
    restrictions: {
        serviceDelivery: false;
        studentRegistration: false;
        userManagement: false;
    };
}
```

7.1.3 District Administrator
```typescript
interface DistrictAdministratorPermissions {
    permissions: ["District Management", "User Management", "Reports"];
    access: {
        districtUserManagement: true;
    };
}
```

```

```

 districtReporting: true;
 districtConfiguration: true;
 districtOversight: true;
 };
 scope: "District-Level";
}
```
#### 7.2 System-Level Roles

##### 7.2.1 System Administrator
```typescript
interface SystemAdministratorPermissions {
 permissions: ["System Configuration", "User Management", "Reports"];
 access: {
 systemConfiguration: true;
 globalUserManagement: true;
 systemReports: true;
 technicalAdministration: true;
 };
 scope: "System-Wide";
}
```
#### 7.2.2 Super Administrator
```typescript
interface SuperAdministratorPermissions {
 permissions: ["System Administration", "All Permissions"];
 access: {
 allSystemFunctions: true;
 emergencyAccess: true;
 systemMaintenance: true;
 securityConfiguration: true;
 };
 scope: "Unlimited";
}
```
```

```

## ## 8. Permission Implementation Details

### ## 8.1 Navigation Control

The sidebar navigation is dynamically generated based on user role:

```

```typescript
const getVisibleNavItems = (accountType: string) => {
    switch (accountType) {
        case "administrator":
            return ["claims", "manageUsers", "manageStudents", "reports",
"manageOrganizations"];
        case "supervisor":
            return ["logService", "caseload", "studentServices",
"assignedPractitioners", "reports"];
    }
}

```

```
        case "practitioner":
            return ["logService", "caseload", "studentServices", "reports"];
        default:
            return [];
    }
};

```

```

### ## 8.2 Permission Validation

Each page and component includes permission validation:

```
```typescript
interface PermissionCheck {
    hasPermission(action: string, resource: string): boolean;
    canAccess(route: string): boolean;
    canModify(dataType: string, recordId: string): boolean;
    canView(dataType: string, scope: string): boolean;
}
```

```

### ## 8.3 Data Filtering

Data access is automatically filtered based on user permissions:

```
```typescript
interface DataFilter {
    filterStudents(allStudents: Student[]): Student[];
    filterServices(allServices: Service[]): Service[];
    filterUsers(allUsers: User[]): User[];
    filterReports(allReports: Report[]): Report[];
}
```

```

---

## # 9. Security and Compliance Features

### ## 9.1 Access Control Security

#### ### 9.1.1 Authentication

- **Multi-Factor Authentication**: Optional for administrators
- **Session Management**: Secure session handling with timeout
- **Password Policies**: Enforced password complexity requirements
- **Account Lockout**: Automatic lockout after failed attempts

#### ### 9.1.2 Authorization

- **Real-Time Permission Checking**: Permissions validated on every request
- **Route Protection**: URL-based access control
- **API Security**: Backend permission validation for all API calls
- **Component-Level Security**: UI components hidden based on permissions

### ## 9.2 Audit and Compliance

#### ### 9.2.1 Audit Logging

```
```typescript
interface AuditLog {
  id: string;
  timestamp: Date;
  userId: string;
  userRole: string;
  action: string;
  resource: string;
  resourceId: string;
  organizationId: string;
  ipAddress: string;
  sessionId: string;
  success: boolean;
  details: any;
}
```

```

#### #### 9.2.2 Compliance Features

- \*\*FERPA Compliance\*\*: Student data protection and access logging
- \*\*HIPAA Considerations\*\*: Healthcare data security measures
- \*\*Data Retention\*\*: Automated data retention policy enforcement
- \*\*Privacy Controls\*\*: Student data access restriction and consent management

### ## 9.3 Data Protection

#### #### 9.3.1 Encryption

- \*\*Data at Rest\*\*: Database encryption for sensitive information
- \*\*Data in Transit\*\*: TLS encryption for all communications
- \*\*API Security\*\*: Encrypted API communications with authentication tokens

#### #### 9.3.2 Privacy Measures

- \*\*Data Masking\*\*: Sensitive data masking for unauthorized users
- \*\*Field-Level Security\*\*: Granular access control for sensitive fields
- \*\*Consent Management\*\*: Parental consent tracking and enforcement

---

## ## 10. Permission Management Workflows

### ### 10.1 User Onboarding

1. \*\*Account Creation\*\*: Administrator creates user account
2. \*\*Role Assignment\*\*: Primary role and permission level assigned
3. \*\*District Assignment\*\*: User associated with appropriate district(s)
4. \*\*Supervisor Assignment\*\*: Practitioners assigned to supervisors
5. \*\*Permission Validation\*\*: System validates permission assignment
6. \*\*Account Activation\*\*: User account activated and credentials provided

### ### 10.2 Permission Changes

1. \*\*Change Request\*\*: Permission modification requested
2. \*\*Approval Process\*\*: Change approved by appropriate authority
3. \*\*Implementation\*\*: Permission changes applied to user account

4. \*\*Validation\*\*: System validates new permission set
  5. \*\*Notification\*\*: User notified of permission changes
  6. \*\*Audit Logging\*\*: All changes logged for compliance
- ### 10.3 Role Transitions
1. \*\*Role Change Request\*\*: User role modification requested
  2. \*\*Data Access Review\*\*: Current data access reviewed
  3. \*\*Permission Mapping\*\*: New permissions mapped to new role
  4. \*\*Transition Period\*\*: Gradual transition with overlap if needed
  5. \*\*Final Activation\*\*: New role fully activated
  6. \*\*Old Permission Revocation\*\*: Previous permissions removed
- 
- # 11. Emergency Access Procedures
- ## 11.1 Emergency Access Roles
- \*\*Emergency Administrator\*\*: Temporary elevated access for critical situations
  - \*\*System Recovery\*\*: Special access for system maintenance and recovery
  - \*\*Compliance Officer\*\*: Access for audit and compliance requirements
- ## 11.2 Emergency Procedures
1. \*\*Emergency Declaration\*\*: Formal emergency access request
  2. \*\*Authorization\*\*: Emergency access approved by designated authority
  3. \*\*Temporary Elevation\*\*: Temporary permission elevation granted
  4. \*\*Monitoring\*\*: Enhanced monitoring during emergency access period
  5. \*\*Documentation\*\*: All emergency actions documented
  6. \*\*Access Revocation\*\*: Emergency access revoked after situation resolved
- 
- # 12. Best Practices and Guidelines
- ## 12.1 Permission Assignment Guidelines
- \*\*Least Privilege\*\*: Assign minimum permissions necessary
  - \*\*Regular Review\*\*: Periodic review of user permissions
  - \*\*Role Clarity\*\*: Clear understanding of role responsibilities
  - \*\*Documentation\*\*: Maintain documentation of permission assignments
- ## 12.2 Security Best Practices
- \*\*Regular Audits\*\*: Periodic security and permission audits
  - \*\*Access Monitoring\*\*: Continuous monitoring of user access patterns
  - \*\*Incident Response\*\*: Defined procedures for security incidents
  - \*\*Training\*\*: Regular security training for all users
- ## 12.3 Compliance Maintenance
- \*\*Policy Updates\*\*: Regular updates to match regulatory changes
  - \*\*Documentation\*\*: Maintain current documentation of all procedures
  - \*\*Training Records\*\*: Keep records of security and compliance training
  - \*\*Audit Trails\*\*: Preserve complete audit trails for compliance
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## **# 13. Troubleshooting and Support**

### **## 13.1 Common Permission Issues**

- **Access Denied**: User cannot access expected features
- **Data Visibility**: User cannot see expected data
- **Function Unavailable**: Required functions not visible
- **Login Problems**: Authentication and authorization issues

### **## 13.2 Resolution Procedures**

1. **Verify Role Assignment**: Confirm user has correct role
2. **Check Permission Mapping**: Validate permissions for role
3. **Review Data Scope**: Confirm user's data access scope
4. **Clear Cache**: Clear browser and session cache
5. **Contact Administrator**: Escalate to system administrator

### **## 13.3 Support Contacts**

- **Technical Support**: For system access issues
- **Administrator**: For permission-related questions
- **Compliance Officer**: For data access and privacy concerns
- **Security Team**: For security-related incidents

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## **# 14. Conclusion**

The KIDS Dashboard permission system provides comprehensive role-based access control that ensures:

- **Appropriate Access**: Users have access to features needed for their role
- **Data Security**: Sensitive information is protected and access-controlled
- **Compliance**: All regulatory requirements are met through proper controls
- **Audit Trail**: Complete documentation of all access and changes
- **Scalability**: Permission system can grow with organizational needs

### **# Missing 10% of current application**

- LEA-BOP and Medi-Cal Integration Workflow
- Permission sets for each user type + view (admin, practitioner, and supervisor)
- Report types and report builder- which reports need to be generated?
- System Integrations: Carelon, Availity, Medi-Cal
- When a file is received- what does that process look like? (rejection, payment, resubmission, etc.)