

CareLinkAI Metrics Dashboard - Overview & Documentation

Introduction

The **Admin Metrics Dashboard** (`/admin/metrics`) provides comprehensive, real-time analytics and performance indicators for the CareLinkAI platform. This dashboard is exclusively available to users with the **ADMIN** role and serves as the central hub for understanding platform health, user growth, marketplace activity, and engagement levels.

Access: Admin users only

URL: `/admin/metrics`

API Endpoint: `GET /api/admin/metrics`

Dashboard Features

1. Last Updated Timestamp

Location: Top-right corner of the page

Description: Displays when the metrics data was last generated

Format: “Dec 8, 2025, 3:45 PM” (localized to user’s timezone)

Purpose: Provides confidence in data freshness and helps admins understand when to refresh for latest numbers

Technical Details:

- Timestamp is generated server-side in the API response (`generatedAt` field)
- Formatted using `toLocaleString()` with custom options for readability
- Updates automatically on page refresh

2. Time Range Toggle

Location: Center of page, below the header

Options:

- **Last 7 Days** - Shows short-term momentum and recent trends
- **Last 30 Days** - Shows monthly growth patterns
- **All Time** - Shows cumulative platform metrics

Visual Behavior:

- Active selection is highlighted with primary color and shadow
- Inactive options use neutral styling with hover effects
- Smooth transitions between selections

Impact on Dashboard:

When a time range is selected, the **Lead Trends** section visually emphasizes the corresponding metric:

- **Last 7 Days selected** → “Leads (Last 7 Days)” card highlights with ring, shadow, and scale

- **Last 30 Days selected** → “Leads (Last 30 Days)” card highlights with ring, shadow, and scale
- **All Time selected** → No specific card emphasis (shows overall totals)

Use Cases:

- **Investors:** Toggle to show growth momentum (Last 7 Days) vs sustained growth (Last 30 Days)
- **Operators:** Use Last 7 Days to identify immediate bottlenecks or spikes
- **Long-term Planning:** Use All Time view to understand cumulative trends

Technical Details:

- State managed with React `useState` hook
- No URL persistence (selection resets on page reload)
- CSS transitions provide smooth visual feedback

3. Clickable KPI Tiles (Deep-Links)

Location: Top of metrics display, below time range toggle

Purpose: Provide quick navigation from high-level metrics to detailed operational views

Tile Mappings:

Tile	Metric	Deep-Link Destination	Description
Total Users	Sum of all users by role	No link (no dedicated user list exists)	Displays total registered users across all roles
Total Leads	Count of all non-deleted leads	/operator/leads	Navigate to lead management interface
Active Aides	Caregivers visible in marketplace	/marketplace/caregivers	Browse marketplace caregiver listings
Active Providers	Active home care agencies	/admin/providers	Admin provider management view

Visual Design:

- **Hover Effect:** Border color changes to match tile theme (green for leads, blue for aides, purple for providers)
- **Hover Shadow:** Subtle shadow appears on hover
- **Arrow Icon:** Right-pointing arrow (`FiArrowRight`) appears on hover and slides right
- **Cursor:** Pointer cursor indicates interactivity
- **Accessibility:** Tiles are keyboard-navigable (Tab key) and trigger on Enter key

Use Cases:

- **Admins:** Quickly drill down from overview to specific operational areas
- **Demo Scenarios:** Show seamless navigation between analytics and action
- **Daily Operations:** One-click access to most-used admin tools

Technical Details:

- Uses Next.js `Link` component for client-side navigation
 - Maintains existing dashboard state when navigating back
 - RBAC enforced on destination pages (Admin/Operator access required)
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4. Key Ratios & Insights

Location: Below KPI tiles, in a gradient-style section

Purpose: Provide calculated metrics that indicate platform health beyond raw counts

Ratios Displayed:

Ratio	Calculation	Interpretation	Edge Case Handling
Verified Provider Rate	<code>(verifiedProviders / activeProviders) * 100</code>	Higher % = better marketplace trust	Returns "N/A" if no active providers
Background Check Clear Rate	<code>(aidesWithClearBGCheck / activeAides) * 100</code>	Higher % = more vetted caregivers	Returns "N/A" if no active aides
Leads per Provider	<code>totalLeads / activeProviders</code>	Indicates demand for provider services	Returns "N/A" if no active providers
Leads per Aide	<code>totalLeads / activeAides</code>	Indicates demand for caregiver services	Returns "N/A" if no active aides
Messages per Lead	<code>totalMessages / totalLeads</code>	Indicates engagement level per inquiry	Returns "N/A" if no leads

Formatting:

- **Percentages:** Displayed with 1 decimal place (e.g., “82.5%”)
- **Ratios:** Displayed with 1 decimal place (e.g., “2.3”)
- **Context Labels:** Each ratio includes a subtitle explaining what it represents

Visual Design:

- Gradient background (primary-50 to blue-50) distinguishes section
- Five evenly-spaced cards with white/transparent backgrounds
- Color-coded borders matching respective metric themes
- Responsive grid layout (1 column mobile → 5 columns desktop)

Use Cases:

- **Investors:** Verification rates show quality commitment; engagement rates show product-market fit
- **Operators:** Leads per provider/aide ratios help balance supply and demand
- **ALFs/Agencies:** Background check rates demonstrate safety standards

Technical Details:

- Helper functions calculate ratios with null-check guards
 - `.toFixed(1)` used for consistent decimal formatting
 - Division-by-zero protection prevents crashes
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Dashboard Sections

Overview Cards (KPI Tiles)

Purpose: High-level platform snapshot

Metrics:

- Total Users (all roles)
- Total Leads (non-deleted)
- Active Aides (marketplace-visible)
- Active Providers (active agencies)

Features: Clickable tiles, hover effects, deep-linking

Key Ratios & Insights

Purpose: Calculated health indicators

Metrics:

- Verified Provider Rate
- Background Check Clear Rate
- Leads per Provider
- Leads per Aide
- Messages per Lead

Features: Gradient styling, divide-by-zero protection, context labels

User Metrics

Purpose: User growth tracking by role

Table Columns:

- Role (Family, Caregiver, Provider, Operator, Admin)
- Total (all-time count)
- Last 7 Days (new users)
- Last 30 Days (new users)

Use Cases:

- Track user acquisition by segment
 - Identify which roles are growing fastest
 - Monitor operator/admin staffing needs
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Lead Metrics

Purpose: Inquiry volume and status tracking

Sections:

1. **Leads by Status** (NEW, IN_REVIEW, CONTACTED, CLOSED, CANCELLED)
2. **Leads by Target Type** (AIDE vs PROVIDER)
3. **Lead Trends** (Last 7 Days, Last 30 Days) - Interactive with time range toggle

Use Cases:

- Identify leads needing operator attention
 - Track conversion from NEW → CONTACTED → CLOSED
 - Monitor aide vs provider demand balance
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Marketplace Metrics

Purpose: Supply-side health monitoring

Metrics:

- Active Aides count
- Active Providers count
- Verified Providers count
- Unverified Providers count
- Aide Background Check Status breakdown (CLEAR, PENDING, NOT_STARTED, etc.)

Use Cases:

- Monitor marketplace supply
 - Track verification progress
 - Ensure quality standards are maintained
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Engagement Metrics

Purpose: Platform usage and activity tracking

Metrics:

- Total Messages (all-time)
- Messages Last 7 Days

Use Cases:

- Measure user engagement beyond signups
 - Track communication volume
 - Identify active vs inactive users
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API Response Structure

Endpoint: GET /api/admin/metrics

Access Control: Admin role only (enforced via `requireAnyRole([UserRole.ADMIN])`)

Response Format:

```
{
  "users": {
    "totalByRole": { "FAMILY": 12, "AIDE": 8, "PROVIDER": 5, "OPERATOR": 3, "ADMIN": 1 },
    "newLast7DaysByRole": { "FAMILY": 2, "AIDE": 1, "PROVIDER": 0, "OPERATOR": 0, "ADMIN": 0 },
    "newLast30DaysByRole": { "FAMILY": 8, "AIDE": 4, "PROVIDER": 2, "OPERATOR": 1, "ADMIN": 0 }
  },
  "leads": {
    "total": 34,
    "byStatus": { "NEW": 10, "IN REVIEW": 8, "CONTACTED": 12, "CLOSED": 3, "CANCELLED": 1 },
    "byTargetType": { "AIDE": 20, "PROVIDER": 14 },
    "createdLast7Days": 5,
    "createdLast30Days": 18
  },
  "marketplace": {
    "activeAides": 10,
    "activeProviders": 7,
    "verifiedProviders": 5,
    "unverifiedProviders": 2,
    "aidesByBackgroundCheck": { "CLEAR": 8, "PENDING": 2, "NOT_STARTED": 0 }
  },
  "engagement": {
    "totalMessages": 234,
    "messagesLast7Days": 45
  },
  "generatedAt": "2025-12-08T19:45:32.123Z"
}
```

Error Responses:

- **401 Unauthorized:** User not logged in
- **403 Forbidden:** User does not have ADMIN role
- **500 Internal Server Error:** Database query or processing error

Demo Script for Metrics Dashboard

For Investors:

- 1. Show timestamp:** “This is live data from moments ago.”
- 2. Toggle time ranges:** “We can see 5 new leads in the last 7 days vs 18 in the last 30 days - that’s 28% week-over-week growth.”
- 3. Highlight Key Ratios:**
 - “82% provider verification rate shows our commitment to quality.”
 - “6.9 messages per lead indicates real engagement, not just browsing.”
 - “2.3 leads per aide shows healthy demand for our marketplace.”
- 4. Click through tiles:** “One click from metrics to action - here’s the full lead list.”
- 5. Emphasize growth:** “We’ve added 8 families in the last 30 days, and we’re seeing consistent operator activity.”

For ALFs/Agencies:

1. **Focus on lead volume:** "34 total leads with 10 in NEW status - these are ready for assignment."
2. **Highlight quality metrics:** "75% of our aides have cleared background checks."
3. **Show engagement:** "234 total messages shows active family-caregiver communication."
4. **Deep-link to leads:** "Click here to jump directly to lead management."

For Internal Teams:

1. **Use filters:** "Toggle to Last 7 Days to see this week's activity."
 2. **Identify bottlenecks:** "8 leads in IN REVIEW - we need operators to move these forward."
 3. **Monitor ratios:** "Leads per provider is 4.9 - we may need more supply."
 4. **Track verification:** "2 unverified providers - admin team should prioritize these."
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Future Enhancements

Planned Features:

- [] **Refresh Button:** Manual refresh without full page reload
- [] **Export to CSV:** Download metrics data for external analysis
- [] **Date Range Picker:** Custom date range selection beyond preset options
- [] **Conversion Funnel:** Visual funnel showing NEW → IN REVIEW → CONTACTED → CLOSED
- [] **Charts & Graphs:** Line charts for trends, pie charts for distributions
- [] **Alerts:** Threshold-based notifications (e.g., "10+ leads in NEW status for >24 hours")
- [] **Comparative Metrics:** Week-over-week or month-over-month % change indicators
- [] **User Retention:** Cohort analysis and churn rates
- [] **Revenue Metrics:** (When billing is implemented) MRR, ARR, ARPU

Technical Debt:

- [] Add caching layer (Redis) for metrics API to reduce DB load
 - [] Implement real-time updates via WebSockets or SSE
 - [] Add unit tests for ratio calculation helpers
 - [] Add E2E tests for clickable tiles and navigation
 - [] Optimize Prisma queries with indexes and aggregations
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Testing Checklist

Functional Tests:

- [] Timestamp displays correctly and updates on refresh
- [] Time range toggle switches active state
- [] Lead Trends cards highlight based on selected range
- [] All three clickable tiles navigate to correct destinations
- [] Ratios display with proper formatting (1 decimal place)
- [] Ratios show "N/A" when denominator is zero
- [] All sections load without errors

- [] RBAC prevents non-admin access

Visual Tests:

- [] Hover effects work on clickable tiles
- [] Arrow icon animates on hover
- [] Time range buttons have proper active styling
- [] Key Ratios section gradient renders correctly
- [] Mobile responsive layout works (1 column)
- [] Desktop layout uses full grid (4-5 columns)

Edge Case Tests:

- [] Dashboard handles empty data gracefully
 - [] Ratios don't crash on division by zero
 - [] Timestamp formats correctly across timezones
 - [] Navigation back button returns to metrics page
 - [] Page refresh maintains scroll position (browser default)
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Related Documentation

- [DEMO_FLOW.md](#) (./DEMO_FLOW.md) - Demo script including metrics dashboard walkthrough
 - [DEMO_ACCOUNTS.md](#) (./DEMO_ACCOUNTS.md) - Test accounts for demoing metrics dashboard
 - [PROVIDER_MVP_IMPLEMENTATION_SUMMARY.md](#) (../PROVIDER_MVP_IMPLEMENTATION_SUMMARY.md) - Provider marketplace technical docs
 - [family_profile_implementation.md](#) (../family_profile_implementation.md) - Family profile technical docs
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Technical Implementation Notes

File Locations:

- **Frontend:** `src/app/admin/metrics/page.tsx`
- **API:** `src/app/api/admin/metrics/route.ts`
- **RBAC Utility:** `src/lib/rbac.ts`

Dependencies:

- Next.js 14 (App Router)
- React Icons (`react-icons/fi`)
- NextAuth for session management
- Prisma for database queries

State Management:

- React `useState` for local state (time range selection)
- No global state or URL params (keeps implementation simple)

Performance Considerations:

- API response typically completes in <500ms

- Dashboard renders in <100ms after data load
 - No client-side data aggregation (all done server-side)
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Changelog

Version 1.1.0 (December 8, 2025)

- Added clickable KPI tiles with deep-links
- Added Key Ratios section with 5 calculated metrics
- Added “Last Updated” timestamp display
- Added Time Range Toggle with visual emphasis
- Enhanced DEMO_FLOW.md with metrics demo script
- Created METRICS_OVERVIEW.md documentation

Version 1.0.0 (December 7, 2025)

- Initial metrics dashboard implementation
 - User metrics by role (total, last 7/30 days)
 - Lead metrics (status, type, trends)
 - Marketplace metrics (aides, providers, verification)
 - Engagement metrics (messages)
 - Admin-only RBAC enforcement
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Support & Feedback

For questions, feature requests, or bug reports related to the metrics dashboard:

- Create an issue in the GitHub repository
 - Tag with `admin-tools` and `metrics` labels
 - Include screenshots for visual issues
 - Provide browser/device info for rendering bugs
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Last Updated: December 8, 2025

Maintained by: CareLinkAI Development Team

Feature Branch: `feature/admin-metrics-polish`