






Apple Health Integration - User Guide

IMPLEMENTED - Ready to Use!

Your app now has **FREE Apple Health integration** that allows users to:




-  Upload Apple Health data
 -  Track sleep correlation with mood
 -  Monitor stress via Heart Rate Variability (HRV)
 -  See exercise impact on mental health
 -  Get personalized health insights
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How to Use (For Your Users)

Step 1: Export Apple Health Data

1. Open **Health app** on iPhone/iPad
2. Tap your **profile picture** (top right)
3. Scroll down and tap "**Export All Health Data**"
4. Tap "**Export**" to confirm
5. Health app will create a ZIP file (takes 1-2 minutes)
6. **Share/Save** the ZIP file
 - AirDrop to Mac
 - Save to Files app
 - Email to yourself
 - Upload to cloud storage

Step 2: Upload to Mental Health App

1. Go to your Mental Health Assistant dashboard
2. Find the  **Apple Health Integration** card
3. Click "**Choose File**" and select the exported ZIP
4. Click "  **Upload Apple Health Data**"
5. Wait 30-60 seconds for processing
6. You'll see:  **Success! Imported XXX days of health data**

Step 3: View Insights

Click "  **View Health Summary**" to see:

- Average sleep hours
 - Heart Rate Variability (stress indicator)
 - Steps and exercise minutes
 - Stress level distribution (low/moderate/high)
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What Data is Extracted

Sleep Data 🛌

- Total sleep hours per night
- Correlates with mood tracking
- **Insight:** Shows if poor sleep affects mood

Heart Rate Variability (HRV) ❤️

- Best indicator of stress/recovery
- Higher HRV = Lower stress
- Lower HRV = Higher stress
- **Insight:** Tracks stress trends over time

Activity Data 🏃

- Daily step count
- Exercise minutes
- **Insight:** Shows if exercise improves mood

Mindfulness 🧘

- Meditation/breathing minutes
- **Insight:** Tracks practice consistency

Health-Mood Correlations

The app automatically correlates health data with mood entries:

Better Sleep → Better Mood
Higher HRV → Lower Stress
More Exercise → Reduced Anxiety

Example insights you might see:

- ⚠️ "You're averaging 5.5 hours of sleep. Aim for 7-9 hours to improve mood."
- ✅ "Great sleep! You're averaging 7.8 hours per night."
- ⚠️ "Your HRV indicates higher stress. Consider more rest or meditation."
- ✅ "Your HRV looks great! Stress management is working well."

Privacy & Security

- ✅ Data stored encrypted in your MongoDB Atlas database
- ✅ Only you can access your health data
- ✅ Files are deleted immediately after processing

- ☒ No third-party APIs or data sharing
 - ☒ HIPAA-compliant approach (secure, private)
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Technical Details

Data Extracted:

- `HKCategoryTypeIdentifierSleepAnalysis` → Sleep hours
- `HKQuantityTypeIdentifierHeartRateVariabilitySDNN` → HRV (stress)
- `HKQuantityTypeIdentifierHeartRate` → Heart rate
- `HKQuantityTypeIdentifierStepCount` → Steps
- `HKQuantityTypeIdentifierAppleExerciseTime` → Exercise minutes
- `HKCategoryTypeIdentifierMindfulSession` → Mindfulness sessions

Files Created:

- `models/HealthData.js` - MongoDB schema for health data
 - `services/appleHealthService.js` - Parses Apple Health XML
 - API endpoints: `/api/health/upload`, `/api/health/summary`, `/api/health/correlation`
 - UI in dashboard with upload and summary views
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Troubleshooting

"Invalid Apple Health export"

- Make sure you exported from the Health app (not downloaded from elsewhere)
- The ZIP must contain `apple_health_export/export.xml`

"Upload failed"

- Check file size (should be < 100MB for most users)
- Make sure it's a `.zip` file
- Try exporting again from Health app

"No health data available"

- You need to upload your Apple Health export first
 - Make sure MongoDB is connected (see `MONGODB-SETUP.md`)
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Cost: \$0 💰

This implementation is **completely FREE**:

- ✗ No third-party APIs
 - ✗ No subscription fees
 - ✗ No additional services needed
 - ☒ Uses your existing MongoDB Atlas (free tier)
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- ☒ Built-in file processing

Future Enhancements (Optional)

1. **Auto-correlation analysis** - AI suggestions based on patterns
2. **Weekly health reports** - Email summaries
3. **More metrics** - Blood pressure, glucose, etc.
4. **iOS app** - Real-time HealthKit sync (no manual export needed)
5. **Wearable support** - Fitbit, Garmin, Oura via Terra API

Status: ☒ Fully implemented and ready to use!

Users can now upload their Apple Health data and see how sleep, exercise, and stress affect their mental health! 🐛