

StomaTrack: A Comprehensive Smartphone Application to Track Ostomy Output, Medication Adherence, and Fluid Intake to Prevent Readmission Due to Dehydration

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Purpose/Background:

Patients with a new ileostomy face a significant risk of dehydration, which is associated with a 20% rate of hospital readmission within the first 30 days post-surgery. Traditional methods like pen and paper for tracking ostomy output often leave patients without a clear understanding of the implications of their daily output or the ability to recognize concerning trends. The resulting dehydration not only poses a health risk but also brings financial and emotional burdens to patients already adapting to substantial lifestyle changes. Our primary aim was to create an intuitive tool that enables meticulous tracking of ostomy output, medication adherence, and fluid intake. This would help patients recognize and respond to early signs of dehydration, while also offering educational resources and supporting communication with healthcare providers.

Methods/Interventions:

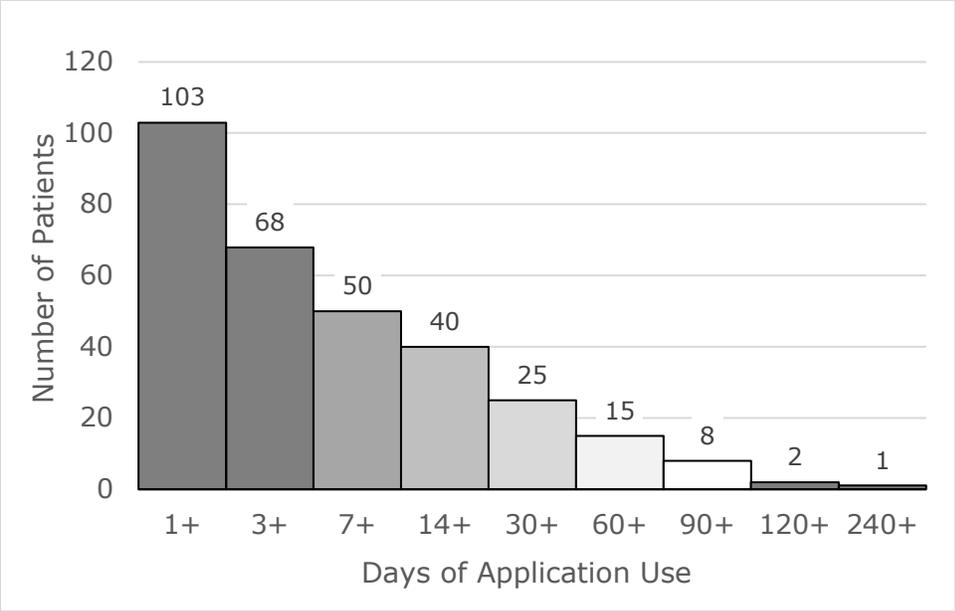
StomaTrack was developed as a free digital tool to empower patients to manage their ileostomy care more easily. Upon downloading the app, users can conveniently enter data for ostomy output and fluid intake, promoting self-management of hydration throughout the day. The app's home screen features a dynamic graph displaying five-day trends in output. Alerts are triggered when daily output reaches 1000 mL and 1500 mL, prompting users with general medication and hydration advice and encouraging them to contact their care teams. A calendar page stores objective output data for use during medical appointments, and healthcare providers may also monitor their patients' ostomy output remotely. The app includes multiple pages of educational content, including FAQs and access to the ACS Ostomy Skills Education YouTube series, designed to support patient education and autonomy.

Results/Outcomes:

Since its release in the Apple and Android stores in November 2023 and August 2024 respectively, StomaTrack has been downloaded 151 times. Fifty-seven unique patients (40% male) have logged output at least once. The median number of days logged among active users was 8 (range 1–120). Two-thirds of users are patients from our institution, while the remaining third discovered the app independently. Notably, the oldest user, age 84, has logged output for 62 consecutive days.

Conclusion/Discussion:

StomaTrack demonstrates that a simple, free smartphone application can be a valuable tool for patients with an ileostomy—supporting hydration tracking, patient education, and improved clinical decision-making. Future research is underway to assess its impact on reducing emergency care utilization and the associated negative effects on patients' physical and mental health.



StomaTrack: Your All-In-One Ostomy Companion

Add Ostomy Output

Date/Time (Leave blank to use current time)
Mon, Apr 28 - 2:41 PM

Input Volume (mL)
Enter volume here...

Input Consistency (Select one)
 Unknown
 Liquid
 Soft
 Solid

1 fl oz = 30 mL
 4 fl oz = 120 mL 24 fl oz = 720 mL
 8 fl oz = 240 mL 32 fl oz = 960 mL
 16 fl oz = 480 mL 64 fl oz = 1,920 mL

StomaTrack

TODAY'S SUMMARY

Ostomy Output	Fluid Intake	Medications
1000 mL	720 cc	Imodium 2 mg

View/Edit Individual Entries

FIVE-DAY SUMMARY

Wed, 4/23 - Mon, 4/28

High Output Zone

Date	Ostomy Output	Fluid Intake	Medications
Mon, 4/28	1000 mL	720 cc	Imodium 2 mg

StomaTrack

Add a Medication

Date/Time (Leave blank to use current time)
Mon, Apr 28 - 2:41 PM

Select one or more medications below

Fiber
 Imodium 2 mg
 Imodium 4 mg
 Imodium 6 mg
 Lomotil 2.5/0.025 mg
 Lomotil 5.0/0.050 mg
 Lomotil 7.5/0.075 mg

Or Enter Custom Medication

Wipe Custom Medications

Brand Name & Generic Name
 Imodium = Loperamide
 Lomotil = Diphenoxylate/Atropine
 Motamucil = Fiber

Add Fluid Intake

Date/Time (Leave blank to use current time)
Mon, Apr 28 - 2:41 PM

Select Volume

Or Enter Custom Value (Ounces)

1 fl oz = 30 mL
 4 fl oz = 120 mL 24 fl oz = 720 mL
 8 fl oz = 240 mL 32 fl oz = 960 mL
 16 fl oz = 480 mL 64 fl oz = 1,920 mL