



Smart Medicine Cap

Enhancing Medical Research Precision

Proven at Columbia University, Ready for Your Research

Medication Adherence: A Barrier to Trial Success

- **Low Patient Adherence:** In longer term treatments for chronic illnesses, adherence averages only ~50% of patients in developed countries. This poor adherence leads to gaps in data and diminished outcomes. Non-adherence in trials skews data, delaying publications and funding (up to 50% non-adherence rates, CDC, 2017).
- **Engagement Difficulties:** The success of Research-grade digital health tools, wearables and health devices “*depends mainly on the willingness of patients to continue to use them*”[pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/25811111/) – because it adds another step in a patient’s life.
- **Quality Data Collection:** Traditional studies rely on infrequent clinic visits and self-reports (e.g., diaries) and unreliable increasing the needs for sample size needs and costs.
- **Trial Risks:** Low participant engagement in chronic disease studies risks dropout, undermining longitudinal data collection.

The Need: Innovative way to gather continuous, real-time data of patients’ adherence and health, to ensure trial integrity, statistical power that helps to accelerate publications, and secure competitive grants.

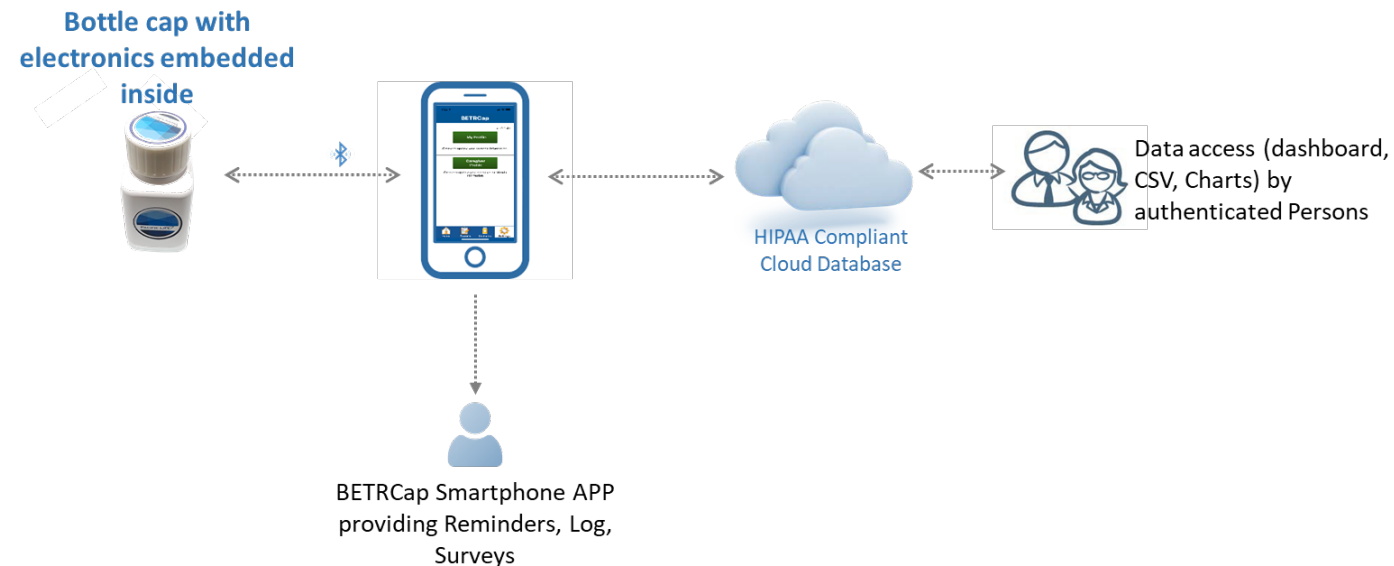
Smart Medicine Cap: Precision Adherence for Trials

What is BETRCap?

A medicine pill bottle's Cap is replaced with a similar looking one, that have electronics built in. A smartphone APP pairs with the Cap and also with a secure Cloud database.

The User takes pill **as usual**, and those events are recorded on the smartphone and simultaneously on the Cloud database in real-time. Optionally the APP can be programmed to provide alerts and to send surveys.

- ✓ NO special mobile phone subscriptions needed,
- ✓ NO need for manual note keeping
- ✓ NO need for charging the electronic Cap
- ✓ System works transparently for the User



“Proven at Columbia to boost engagement by 24%”

Why BETRCap for Your Research

Improved Adherence & Data Quality: Patient monitoring without needing them to embrace another step, (e.g. charging a system, putting on a wearable, etc.) helps **boost patient adherence** to study protocols. More consistent patient participation means **fewer data gaps** and more reliable outcomes for your trials.

Rich Continuous Data: Get granular, continuous datasets on patient medicine taking behavior. This can reveal patterns (e.g. daily medication times, symptom fluctuations) that periodic surveys might miss – yielding deeper insights for your research.

Easy Integration into Studies: BETRCap is **plug-and-play** for research projects. Our team provides support to integrate the device and app into your study workflow with minimal disruption. It can complement existing interventions without heavy infrastructure or training.

Low-Risk, High Reward Pilot: For research projects, piloting BETRCap is low-risk – we supply the technology and expertise, while you gain a novel tool. A successful pilot can lead to publications, follow-on grants, and a leadership position in digital health research.

HIPAA/21 CFR Part 11 compliant: Data is encrypted and stored in compliance of HIPAA requirements

Proven Impact at Columbia University

Credibility through Experience: BETRCap has already been tested in a 6-month pilot study at Columbia University (2021) involving patients with chronic conditions. This collaboration demonstrates our ability to work within academic research settings and adapt to study protocols.

High Initial Adoption: In the Columbia trial, ~85% of participants engaged with BETRCap, showing strong initial interest and willingness to try the device. (In fact, 75% of the intervention arm and 94% of the control arm used the device at least once.) This high uptake indicates that patients are open to innovative tools when introduced in a supportive environment.

Challenges & Learnings: While initial uptake was high, **sustained use** of the device was modest. The principal investigator noted that the primary reason was due to the ongoing COVID-19 pandemic interrupting routines.

Despite these unusual circumstances, the study provided **valuable insights into patient behavior and device engagement**. Importantly, it helped validate:

- BETRCap's **ease of introduction and setup**, with strong initial uptake.
- The **importance of embedding BETRCap into the patient's daily routine** and broader care ecosystem to sustain usage.

Join other forward-thinking institutions piloting **BETRCap** to monitor medication adherence. Our platform is designed to integrate seamlessly into your studies.

Ideal Applications: Chronic disease trials (e.g., diabetes, HIV), phase II/III studies, adherence-focused research, patient behavioral studies.

Contact us to schedule an introductory call today.

Our solution

HIPAA/21 CFR Part 11 compliant



Sensor enabled Pill Bottle.



Smartphone APP: Manages medicine schedule and reminders. Optionally, you may also send messages and surveys [customizable].



Cloud Application: A data dashboard with real-time visibility of all Patients [customizable] and download data anytime.



Documentation and hands-on training for staff and technical support throughout the study.

Thank You

Contact Us



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