Fiscal Year:	FY 2018	**Task Last Updated:**	FY 03/28/2018
PI Name:	Wotring, Virginia Ph.D.		
Project Title:	Dose Tracker Application for Monitoring Crew Medication Usage, Symptoms, and Adverse Effects During Missions		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline--Element/Subdiscipline:			
Joint Agency Name:		**TechPort:**	No
Human Research Program Elements:	(1) **ExMC**:Exploration Medical Capabilities		
Human Research Program Risks:	(1) **Medical Conditions**:Risk of Adverse Health Outcomes and Decrements in Performance Due to Medical Conditions that occur in Mission, as well as Long Term Health Outcomes Due to Mission Exposures (2) **Pharm**:Risk of Ineffective or Toxic Medications During Long-Duration Exploration Spaceflight		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
PI Email:	Virginia.Wotring@bcm.edu	**Fax:**	FY
PI Organization Type:	UNIVERSITY	**Phone:**	
Organization Name:	Baylor College of Medicine		
PI Address 1:	Center for Space Medicine		
PI Address 2:	6500 Main St, Suite 910		
PI Web Page:			
City:	Houston	**State:**	TX
Zip Code:	77030	**Congressional District:**	9
Comments:	PI formerly with Universities Space Research Association until fall 2015.		
Project Type:	FLIGHT	**Solicitation / Funding Source:**	Directed Research
Start Date:	05/26/2016	**End Date:**	11/30/2018
No. of Post Docs:		**No. of PhD Degrees:**	
No. of PhD Candidates:		**No. of Master' Degrees:**	
No. of Master's Candidates:		**No. of Bachelor's Degrees:**	
No. of Bachelor's Candidates:		**Monitoring Center:**	NASA JSC
Contact Monitor:	Antonsen, Erik	**Contact Phone:**	281.483.4961
Contact Email:	erik.l.antonsen@nasa.gov		
Flight Program:	ISS		
Flight Assignment:	NOTE: Grant ended 11/30/2018 per PI and NSSC information; original end date was 5/25/2021 (Ed., 2/26/19)		
Key Personnel Changes/Previous PI:	March 2018 report: Kyla Cook left the project ; March 2017 report: Kyla Cook added as BCM (Baylor College of Medicine) Project Manager and Data Analyst.		
COI Name (Institution):	Smith, LaRona M.S.,R.N. (JES Tech/NASA Johnson Space Center)		
Grant/Contract No.:	NNX16AK78G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	NOTE: Continuation of "Dose Tracker Application for Monitoring Crew Medication Usage, Symptoms, and Adverse Effects During Missions" (Internal Project) with the same investigator, Dr. Virginia Wotring, due to PI move to Baylor College of Medicine. Do medications used during spaceflights work the same as they do on Earth? This single question underlies most of the unknowns within NASA's Human Research Program Risk of Clinically Relevant Unpredicted Effects of Medication. During spaceflight, the body undergoes a number of physiological changes that are expected to result in altered interactions with administered medications, but it is not yet known if, or to what extent, these actually occur. The potential for therapeutically relevant alteration in either pharmacokinetics (how the body handles administered medications) or pharmacodynamics (how administered medications act upon the body) has long been a concern. This observational epidemiological study is a proactive step toward addressing this issue via regular direct questioning of crewmember volunteers, a model that the Johnson Space Center (JSC) Nutritional Biochemistry Discipline has proven to be both feasible and useful. A tablet- or handheld device-based questionnaire will be used to permit fast and efficient collection of data regarding crewmembers' medication use on a near real-time basis, eliminating the current problems associated with recall over periods of weeks. Specific questions regarding medication use (somewhat different from the questions that physicians ask regarding patient health) will be asked of each participating crewmember. The data collection process will be streamlined by using a flexibly programmed computerized survey application that leverages the limited medication choices aboard, the doses available, typical dosing frequency, and side effects associated with each medication to provide an individualized short questionnaire for each medication use by the crewmember. Coded (de-identified) data will be delivered weekly to a secure server on the ground for analysis by study investigators. Post-flight (after re-adaptation to Earth's gravity), each participating crewmember will repeat recording their medication usage, so that their ground medication usage frequencies, doses, and perceptions may be compared to those recorded during flight.
Rationale for HRP Directed Research:	This research is directed because it contains highly constrained research, which requires focused and constrained data gathering and analysis that is more appropriately obtained through a non-competitive proposal.
Research Impact/Earth Benefits:	
Task Progress:	One subject completed flight data collection in 2017. Dose Tracker was removed from the flight queue in 2017. Only 6 subjects completed inflight data collection and 5 subjects completed ground data collection. This is far short of the requested 24 subjects, which was designed to reach n=6 for the most commonly used medications (which are used by ~25% of crew). It is unlikely that results can be publicly reported with such a small number of subjects. The Principal Investigator (PI) awaits written direction to confirm this change before altering the study IRB (Institutional Review Board) protocol and commencing the limited analysis possible on the abbreviated data set. Results and conclusions may need to be restricted to only relevant NASA personnel.
Bibliography Type:	Description: (Last Updated: 12/24/2019)