Healthcare Delivery and Patient Outcomes – Study sections formed after ENQUIRE 2019

Biobehavioral Medicine and Health Outcomes (BMHO)

The Biobehavioral Medicine and Health Outcomes (BMHO) Study Section reviews applications that examine the interface of psychological/behavioral processes with biological, physiological, and neurological processes underlying a range of diseases and conditions across the human lifespan at the individual or small group level. Applications may use biopsychosocial and behavioral methods in conjunction with clinical approaches in order to improve health outcomes of diseases or conditions and reduce related morbidity and mortality. The study section does not review applications using animal models, or studies with a primary focus on the community level, health services/health systems, or population-level variables or sample sizes. The following topic areas fit within the scope of this study section:

- Studies focusing on behavioral or psychological approaches or responses to physiological or biological conditions, symptoms, or reactions to diseases or disorders.

- Studies focusing on the integration of behavioral and psychological approaches with medical/clinical approaches to improve health and manage disease/disabling conditions (including screening, rehabilitation, post-surgery care, medication adherence, treatment compliance, and symptom management).

- Studies focusing on investigating the role of physical activity, weight control, nutrition, self-regulatory and executive function in disease self-care, and quality of life, particularly when examined in the context of biomarkers and physiological responses to conditions or treatments.

- Studies focusing on behavioral, psychological, pharmacological, or social responses to interventions designed to reduce stress, distress or pain secondary to medical conditions or surgical procedures, including diagnosis or treatment of somatic diseases and conditions.

- Studies focusing on changes in quality of life/well-being and psychosocial adjustment related to biological or physiological diseases or treatments.

- Studies to test relevant applied mHealth and bioinformatic interventions focusing on individual- or small group-level behavioral approaches, including adaptive designs and clinical interventions addressing disease management and outcomes with a behavioral/psychological component.

Shared Interests and Overlap:
- BMHO and Lifestyle Change and Behavioral Health (LCBH) have shared interests in using behavioral methods to promote health and reduce disease risk at the individual or small group level. Applications that emphasize behavioral and psychological approaches integrated with clinical methods to remedy or slow the progression of disease are reviewed in BMHO. Applications that emphasize the adoption or uptake of behavior change in order to promote health and well-being or reduce health risks are reviewed in LCBH.

- BMHO and Interdisciplinary Clinical Care in Specialty Care Settings (ICSC) and Clinical Management in General Care Settings (CMGC) have shared interests in management/self-management of acute and chronic illnesses. Applications that propose research projects using

person- or patient-targeted psychological, cognitive and behavioral approaches to mitigate disease complications as outcomes are reviewed in BMHO. Applications that emphasize patient behavior and treatment responses with an intent to guide care management or inform clinical practice in the institutional, primary care or general care settings are reviewed in ICSC or CMGC.

- BMHO and Mechanisms of Emotion, Stress and Health (MESH) have shared interest in stress and pain. Applications that emphasize behavioral, psychological and social factors affecting stress and responses to interventions to reduce pain are reviewed in BMHO. Applications that emphasize basic biological responses to stress and pain and the interplay between stress/emotion and pain are reviewed in MESH.

- BMHO has shared interests with Interventions to Prevent and Treat Addictions (IPTA) and Addiction Risks and Mechanisms (ARM) in pharmacological and behavioral pain management approaches, especially on opioid use. Applications focused on the clinical use of prescribed opioids for pain management and individuals' experience and interpretation of pain and quality of life are reviewed in BMHO. Applications focused on the individual-level factors driving opioid abuse or dependence outcomes are reviewed in ARM, and those focused on the treatment of opioid abuse or dependence are reviewed in IPTA.

- BMHO and Social Psychology, Personality and Interpersonal Processes (SPIP) have shared interests in stress and health- related decision making. Applications that emphasize stress related pain and decisions on slowing the progression of diseases and mitigating medical complications are reviewed in BMHO. Applications that emphasize social aspects of stress, stress resilience and personality characteristics are reviewed in SPIP.

- BMHO and Neurobiology of Pain and Itch (NPI) have a shared interest in pain studies. Applications that involve human and/or clinical studies of pain that evaluate psychosocial factors, behavioral interventions and adjunct therapies, rehabilitation and patient outcomes are reviewed in BMHO. Applications that focus on the molecular biology, genetics, anatomy, physiology, imaging, psychophysics of pain, and somatosensory systems in animals and humans are reviewed in NPI.

Clinical Data Management and Analysis (CDMA)

The Clinical Data Management and Analysis (CDMA) Study Section reviews applications that develop computing technology, simulation/data models, data analytics, and technical software intended for eventual translation of research or novel findings for clinical use. Applications reviewed in CDMA should have major methods development, integration related to clinical use (integrating clinical/biological and genomics) or data mining, data analytics and methods development. Studies that propose the adaptation of previously developed computing methodology, simulation models, and technical software into behavioral interventions, patient services, or other population-based or precision health-based research are generally reviewed in other study sections. The following topic areas fit within the scope of this study section:

- Studies proposing computing and modeling of multi-source large-scale data that integrates clinical data with biological and genomics, such as bioinformatics for disease prediction,

diagnosis, and individualized treatment; public health bio-surveillance systems; screening tools/screening algorithms; and management of integrated database related to clinical use.

- Studies to develop data mining and analytics methods including natural language processing; machine learning (deep learning)/artificial intelligence; ontologies; data simulation and modeling; computer visualization; and spatial/temporal modeling. Data sources would include, but are not limited to: clinical data (such as electronic health records, administrative data, claims data, patient/disease registries, health surveys, clinical trials data); clinical images (pathological, radiological, etc.) integrated with other data (such as EHRs); physiologic data (such as electrocardiograms (EKGs) and electroencephalograms (EEGs); omics data; environmental data; behavioral phenotypes; social media analytics; mHealth data; and clinical trials data.

- Studies to develop and validate systems, software, or technologies for clinical use including computing architecture design; data security in the clinical research network; data collecting; storage and sharing (cloud); data standardization and integration; and data privacy.

Shared Interests and Overlap:

CDMA and Clinical Informatics and Digital Health (CIDH) have shared interests in informatics and computing methods and technology to support clinical decisions. Applications that emphasize the development of computing technology, simulation models, and software are reviewed in CDMA. Applications that emphasize clinical utility, scalable health IT interventions, and development of informatics platforms or evaluation of human-machine interface in the workflow towards implementation are reviewed in CIDH.

CDMA and Biodata Management and Analysis (BDMA) have shared interests in data integration, analysis and validation. Applications that emphasize the clinical translation or application of computational data mining methods/technology for clinical decision support are reviewed in CDMA. Applications that emphasize the analysis of biological data are reviewed in BDMA.

CDMA and Biostatistical Methods and Research Design (BMRD) have shared interests in data analysis and methodology development in biomedical, behavioral, and social science research. Applications that emphasize the clinical translation or application of computing and data mining methods and technology for clinical decision support are reviewed in CDMA. Applications that emphasize the development of scalable statistical and mathematical methods for data analysis and research design are reviewed in BMRD.

CDMA and Clinical Translational Imaging Science (CTIS) have shared interests in the use of imaging datasets for clinical decision support. Applications that emphasize the development, validation, and use of computational methodology to integrate data from multiple sources, which may include imaging datasets, to support healthcare delivery and clinical decisions are reviewed in CDMA. Applications that emphasize the development, optimization, or integration of imaging components and systems for clinical translation, or extract information from imaging data for clinical decision making are reviewed in CTIS.

CDMA and Emerging Imaging Technologies and Applications (EITA) have shared interests in the use of artificial intelligence and machine learning approaches with imaging technologies. Applications that emphasize the development, validation, and use of computing systems to integrate data from multiple datasets, including imaging, for clinical decision making are reviewed in CDMA. Applications that emphasize the newly developed imaging analysis/methods and tools for imaging processing, feature detection, and classification in imaging datasets are reviewed in EITA.

Clinical Informatics and Digital Health - CIDH

The Clinical Informatics and Digital Health (CIDH) Study Section reviews applications that develop, validate, and implement information technology-based approaches/tools for healthcare delivery, clinical decision-support in caring for individual patients, and clinician-patient data sharing. Applications are usually data-centric or scalable health IT interventions, large scale data validation and have clinical utility or applicability to health care by clinicians or precision health. The research areas include consumer health informatics, and mobile/wireless health (mHealth) and biosensor technology for clinical use. Applications reviewed in CIDH often involve the development, feasibility testing with real data and application of computing and informatics technology to be disseminated to clinicians and patients or translating the newly found knowledge from big data analytics to support clinical decisions. Studies that propose the integration of computing, simulation models, and technical software into behavioral interventions, patient services, or other population-based research are generally reviewed in other study sections. The following topic areas fit within the scope of this study section:

- Studies to develop and validate consumer/patient health informatics for patient management, patient-care giver/clinician communication, and digital analytical tools in making information accessible to patients. Technologies include wireless medical/health devices, telemedicine, medical device data systems, health IT, device software functions such as mobile medical applications, artificial intelligence and machine learning in medical device, and software as medical device.

- Studies to design, develop, evaluate the feasibility (validation and deployment of a prototype with large data), and implement/disseminate informatics systems on large scale by integrating data/information for consumer health informatics to improve patient and clinical workflow, such as testing and application of clinical informatics.

- Studies to develop, validate and apply to mobile and wireless health (mHealth); integration of mobile device design, software or smartphone App development; and use of sensor data integrated with clinical data for clinical decision support; use of mHealth or telehealth technology in patient monitoring, patient-provider communications, and adherence to treatment.

Shared Interests and Overlap:

CIDH and Clinical Data Management and Analysis (CDMA) have shared interests in informatics and computing methods and technology to support clinical decisions. Applications that emphasize the clinical utility and development of informatics platforms or evaluation of human-machine interface in

the workflow are reviewed in CIDH. Applications that emphasize the development of computing technology, simulation models, and software are reviewed in CDMA.

CIDH and Science of Implementation in Health and Healthcare (SIHH) have shared interests in the use of informatics technology for clinical decision support. Applications that emphasize the development of informatics systems or examine the human-machine interface are reviewed in CIDH. Applications that emphasize implementation strategies to adopt or integrate mHealth or clinical support tools are reviewed in SIHH.

CIDH and Organization and Delivery of Health Services (ODHS) have shared interests in the use of informatics systems to support the organization and delivery of health care services. Applications that emphasize the development of new informatics systems, methods and tools for eventual use to examine physician performance, patient management and the structure of health care organizations are reviewed in CIDH. Applications that emphasize service delivery and the use of existing and validated informatics systems to examine physician performance, provider service delivery, and the structure of health care organizations are reviewed in ODHS.

CIDH and Health Services: Quality and Effectiveness (HSQE) have shared interests in the use of informatics for assessment of healthcare quality and effectiveness related to the receipt of health services. Applications that emphasize the development and validation of informatics systems and tools for eventual translation into health services or examine the human-machine interface are reviewed in CIDH. Applications that emphasize the utilization and integration of previously developed and validated informatics systems to support clinical decision making in health services are reviewed in HSQE.

CIDH, Bioengineering, Technology, and Surgical Sciences (BTSS), and Instrumentation and Systems Development (ISD) have shared interests in wearable physiological monitoring and measurement devices. Applications that emphasize the development of mHealth platforms, integrating biosensor devices with software/App development and sensor data analysis to help with clinical decisions (e.g. monitoring, interactive communication, patient self-care etc.) are reviewed in CIDH. Applications that emphasize translational or clinical evaluation of wearable physiological monitoring and measurement devices in the context of surgical interventions are reviewed in BTSS. Applications that emphasize substantial engineering or hardware component development are reviewed in ISD.

Clinical Management in General Care Settings (CMGC)

The Clinical Management in General Care Settings (CMGC) Study Section reviews applications that identify, develop, and evaluate clinical management of patients from a provider perspective in general care settings, including home-based settings or ambulatory settings with care teams oriented around primary care, with the intent to guide care or inform clinical practice. The study section reviews applications that examine clinical management or symptom management of patients in general care settings, including rehabilitation, supportive care, and palliative care. The following topic areas fit within the scope of this study section:

- Studies to assess patient-level outcomes in general care settings, including home-based or ambulatory settings.

- Studies of clinical support and services for patient care and/or disability in primary care or home-based patient settings, including providing support for patient adherence to clinical treatment plans. Studies of patient and caregiver support in palliative or hospice care in community or home settings.
- Studies of survivorship care focused on improving patient care after treatment for life-threatening illness or occurrence of multi-morbid illness.
- Studies of maternal and infant care before and after delivery, including families needing support in the context of pediatric, obstetrical and postpartum clinical care in generalized care settings, primary care, or home-base settings.
- Studies of informal or family caregivers who support the clinical management of patients with chronic health conditions or disabilities.
- Studies examining provider-patient/caregiver communication and/or clinical decision-making in generalized or home-based settings. This may include care planning in early phases of chronic or life-threatening illness, such as development of advanced care plans or directives.
- Studies that test relevant applied m-health or telehealth intervention studies, or utilize bioinformatic approaches to support patient care and/or self-management for chronic disease and/or disabilities, with the intent to guide care or inform clinical practice.

Shared Interests and Overlap:

CMGC and Interdisciplinary Clinical Care in Specialty Care Settings (ICSC) have shared interests in the clinical management of patients. Applications that emphasize general care settings, home-based settings, or care in ambulatory settings involving primary care teams providing rehabilitation, symptom management, or supportive care (including palliative care) are reviewed in CMGC. Applications that emphasize the management of patients undergoing active treatment in an institutional setting (hospitals, nursing homes, inpatient facilities, and inpatient hospice), or the clinical management of patients in ambulatory settings that the involve specialty care teams/management of complex medical conditions, or addressing transitions of care between institutional and home-based settings are reviewed in ICSC.

CMGC and Behavioral Medicine and Health Outcomes (BMHO) have shared interests in management/self-management of acute and chronic illnesses in general care settings. Applications that emphasize patient behavior and treatment responses with an intent to guide care or inform clinical practice are reviewed in CMGC. Applications that emphasize person- or patient-targeted behavioral approaches to mitigate disease complications and associated pain are reviewed in BMHO.

CMGC and Lifestyle Change and Behavioral Health (LCBH) have shared interests in management/self-management of acute and chronic illnesses in general care settings. Applications that emphasize understanding patient behavior with an intent to guide care or inform clinical practice are reviewed in CMGC. Applications that emphasize a person-target approach to engage in behavioral changes to promote health lifestyles, adhere to disease treatments, reduce health risk, or improve well-being or quality of life are reviewed in LCBH.

CMGC and Health Promotion in Communities (HPC) have shared interests in health status in community settings. Applications that emphasize clinical or patient management in general care settings (including ambulatory, community health care, or home-based settings) are reviewed in CMGC. Applications that emphasize health promotion in communities or through community organizations are reviewed in HPC.

CMGC and Health Services: Quality and Effectiveness (HSQE) have shared interests in patient-provider interaction/communication and subsequent health outcomes in general care settings. Applications that emphasize the clinical management of patients, including patient-provider communication and decision-making with the intent to guide care or inform clinical practice are reviewed in CMGC. Applications that emphasize provider outcomes in the context of health care service receipt are reviewed in HSQE.

CMGC and Community Influences on Health Behavior (CIHB) have shared interests in health status in community settings. Applications that emphasize the clinical management and support of individuals and families coping with one or more pathological or comorbid conditions in general care settings (including ambulatory, community health care, or home-based settings) are reviewed in in CMGC. Applications that emphasize social, cultural, environmental, and other community-level factors relevant to disease prevention or health promotion and their relationship with a range of health outcome are reviewed in CIHB.

CMGC and Health Disparities (HHD) have shared interests in disparities in the access and utilization of health care in the in generalized care, including primary care, or home-based settings. Applications that emphasize the clinical management of members of diverse patient groups and/or their informal caregivers with the intent to guide care or inform the clinical practice of these groups are reviewed in CMGC. Applications that emphasize systematic underpinnings health disparities as it relates to access to, use of, and effectiveness of health services are reviewed in HHD.

Healthcare and Health Disparities (HHD)

The Healthcare and Health Disparities (HHD) Study Section reviews applications examining the systemic underpinnings of health care disparities closely associated with social, economic, and/or environmental disadvantage (race, ethnicity, gender, sexuality, socioeconomic status, age, geographic location, education level, disability status, immigrant status and a wide range of other vulnerable populations), and how social determinants of health relate to access to, use of, and effectiveness of health services and health promotion at the health systems level. Studies designed to address individual, community, and population-level disparities and/or cultural adaptations of existing interventions are better suited to other study sections. The following topic areas fit within the scope of this study section:

- Studies where the primary aim is to address or reduce systematic factors related to health and health care disparities in access to and utilization of care across dimensions of social, economic, and place-based disadvantage by race, gender, class, sexual orientation, gender identity and expression, immigrant status, and other disadvantaged groups.
- Health care-related research to assess multiple influences on health disparities at the healthcare systems level.
- Studies related to structural or systemic factors such as stigma and implicit or explicit bias that mediate the relationship between impact disadvantage and health care or service-related outcomes.

- Studies to investigate the role of technology, including mHealth designed specifically to address or ameliorate health disparities in access/utilization, particularly for rural and vulnerable groups.

Shared Interests and Overlap:

HHD and Social Sciences and Population Studies (SSPS) have shared interests in the study of determinants of health disparities and health outcomes at the population level. Applications that emphasize systematic underpinnings of health disparities as it relates to access to, use of, and effectiveness of health services are reviewed in HHD. Applications that emphasize population-level determinants of health disparities and relevant demographic outcomes, including morbidity, mortality or changes in population composition are reviewed in SSPS.

HHD and Organization and Delivery of Health Services (ODHS) have shared in health disparities as it relates to health care delivery processes. Applications that emphasize the delivery of care and healthcare systems to primarily address persistent inequities in access to care for minority and other vulnerable groups are reviewed in HHD. Applications that emphasize the impact of organization and delivery of healthcare on health outcomes at the systems level, including providers and healthcare organizations are reviewed in ODHS.

HHD and Health Services: Quality and Effectiveness (HSQE) have shared interests in health disparities as it relates to health service receipt. Applications that emphasize the systematic underpinnings of health disparities as it relates to access to, use of, and effectiveness of health services by minority and vulnerable patient groups are reviewed in HHD. Applications that emphasize measures of quality of care and provider outcomes as it relates to the receipt of health services by members of diverse patient groups are reviewed in HSQE.

HHD and Community Influences on Health Behavior (CIHB) have shared interests in health disparities and health outcomes. Applications that emphasize interventions and/or focus on the mechanisms and processes underlying health disparities in healthcare settings are reviewed in HHD. Applications that emphasize outcomes in minority populations where the focus of study is the community's health or community-level environmental risks rather than a study of the systemic underpinnings of disparity are reviewed in CIHB.

HHD and Social Psychology, Personality and Interpersonal Processes (SPIP) have shared interests in determinants of health disparities. Applications that emphasize the relationship between stigma, health service utilization, and treatment-seeking as system-level contributors to health disparities are reviewed in HHD. Applications that emphasize social-psychological processes that mediate the relationship between stigma and individual-level health outcomes are reviewed in SPIP.

HHD and Health Promotion in Communities (HPC) have shared interests in addressing health disparities among vulnerable populations. Applications that emphasize healthcare access or utilization among a vulnerable group or examine healthcare service-related outcomes are reviewed in HHD. Applications that emphasize community-oriented approaches to mitigate risk behavior and/or prevent the onset of disease in the general population are reviewed in HPC.

HHD and Clinical Management in General Settings (CMGC) in disparities in the access and utilization of health care in generalized care, including primary care, or home-based settings. Applications that emphasize systematic underpinnings health disparities as it relates to access to, use of, and effectiveness of health services are reviewed in HHD. Applications that emphasize the clinical management of members of diverse patient groups and/or their informal caregivers with the intent to guide care or inform the clinical practice of these groups are reviewed in CMGC.

HHD and Interdisciplinary Clinical Care in Specialty Care Settings (ICSC) have shared interests in disparate outcomes in vulnerable patients receiving care in the institutional setting. Applications that emphasize systematic underpinnings health disparities as it relates to access to, use of, and effectiveness of health services are reviewed in HHD. Applications that emphasize patient outcomes of members of diverse patient groups and/or their informal caregiver.

Health Promotion in Communities (HPC)

The Health Promotion in Communities (HPC) Study Section reviews applications that develop and test the efficacy and effectiveness of interventions with a community-oriented approach aimed at promoting health or moderating health risks in the general population. HPC also reviews application proposing interventions to address health implemented in community organizations or other non-clinical settings (e.g., schools, worksites, service delivery organizations). The following topic areas fit within the scope of this study section:

- Studies proposing interventions that utilize community resources, organizations, and information systems for outreach, health education, and service delivery; or interventions which use social and organizational networks as systems for intervention and services delivery.

- Studies looking at community or local environment characteristics; developing and evaluating interventions at the community level among the general population.

- Studies utilizing a community-based participatory research (CBPR) approach, experimental/quasi-experimental, and multi-level approaches, or mHealth technology where a specific community, community structure, or relationship to a local group/organization is a central consideration.

Shared Interests and Overlap:

HPC and Clinical Management in General Care Settings (CMGC) have shared interests in health status in the community setting. Applications that emphasize health promotion in general population in communities or through community organizations are reviewed in HPC. Applications that emphasize clinical or patient management in general care settings (including ambulatory, community health care, or home-based settings) are reviewed in CMGC.

HPC and Community Influences on Health Behavior (CIHB) have shared interests in health status in the community setting. Applications that emphasize community-oriented approaches or interventions to mitigate risk behavior and/or prevent onset of disease in the general population are reviewed in HPC. Applications that emphasize community-level social, cultural, and environmental risk factors and

processes and their relationships with a range of outcomes (using qualitative, ethnographic, mixed methods and other non-interventional designs) are reviewed in CIHB.

HPC and Healthcare and Health Disparities (HHD) have shared interests in addressing health disparities among vulnerable populations. Applications that emphasize community-oriented approaches to mitigate risk behavior and/or prevent the onset of disease in general population are reviewed in HPC. Applications that emphasize healthcare access or utilization among a vulnerable group or examine healthcare service-related outcomes are reviewed in HHD.

HPC and Lifestyle Change and Behavioral Health (LCBH) have shared interests in health promotion and moderating health risks. Applications that emphasize community-level interventions to promote health and moderate health risks, including social environment change and policy change are reviewed in HPC. Applications that emphasize behavioral approaches to promote health and prevent or delay the onset of disease at the individual, family or small group levels through the built environment are reviewed in LCBH.

HPC and Science of Implementation in Health and Healthcare (SIHH) have shared interests in community or local environmental characteristics affecting intervention uptake, and both may utilize approaches that engage with relevant community stakeholders and end users. Applications that emphasize efficacy and effectiveness of community-level interventions on health outcomes are reviewed in HPC. Applications that emphasize the testing of implementation and dissemination theories, models and conceptual frameworks in community settings and relevant implementation outcomes (such as feasibility, fidelity, penetration, acceptability, sustainability, uptake and costs) are reviewed in SIHH.

HPC and Interventions to Prevent and Treat Addiction (IPTA) have shared interests in preventing addiction. Applications that emphasize community-level interventions to prevent addiction in the general population are reviewed in HPC. Applications that emphasize preventing, reducing, or treating addiction at the individual level are reviewed in IPTA.

Health Services: Quality and Effectiveness (HSQE)

The Health Services Quality and Effectiveness (HSQE) study section reviews applications that focus on the provision of health services, healthcare quality, effectiveness, and individual/patient health outcomes. Studies focus on the access/receipt/utilization of services, cost-effectiveness, and comparative effectiveness. Service receipt settings may include: home and community-based settings, hospitals, emergency rooms, ICUs, NICUs, operating rooms, nursing homes, palliative care settings, primary care, and community clinics. The following topic areas fit within the scope of this study section:

- Studies focused on the interaction of patients and providers in the delivery of health care services and individual/population-level outcomes associated with service receipt.
- Studies that examine provider service modalities, alternative service systems and individual patient outcomes.
- Studies that examine pharmaco-epidemiology, pharmacoeconomics, pharmacovigilance, and individual patient outcomes.

- Studies that apply risk prediction modeling and clinical decision making to improve health service delivery (at the individual/patient level).
- Studies that focus on comparative effectiveness of existing interventions in health care services.

Shared Interests and Overlap:

HSQE and Organization and Delivery of Health Services (ODHS) have shared interests in the delivery of health care services. Applications that emphasize assess healthcare quality and effectiveness in relation to the receipt of individual health services and individual patient outcomes are reviewed in HSQE. Applications that emphasize the organization, utilization and delivery of healthcare on a systems level, provider, or organizational level are reviewed in ODHS.

HSQE and Social Sciences and Population Studies (SSPS) have shared interests in population-level health outcomes. Applications that emphasize health care services, health care quality, and cost effectiveness are reviewed in HSQE. Applications that emphasize a key social or behavioral focus on health and well-being across the life course, health disparities, demographic processes, and economic outcomes are reviewed in in SSPS.

HSQE and Interdisciplinary Clinical Care in Specialty Care Settings (ICSC) have shared interests in the patient-provider interaction/communication and subsequent health outcomes in institutional and inpatient settings. Applications that emphasize provider outcomes and/or organizational-level outcomes in the context of health care service receipt are reviewed in HSQE. Applications that emphasize the interaction of patients and providers in the context of clinical management of patients, including patient-provider communication and decision-making are reviewed in ICSC.

HSQE and Clinical Management in General Care Settings (CMGC) have shared in patient-provider interaction/communication and subsequent health outcomes in general care settings. Applications that emphasize provider outcomes in the context of health care service receipt are reviewed in HSQE. Applications that emphasize the clinical management of patients, including patient-provider communication and decision-making with the intent to guide care or inform clinical practice are reviewed in CMGC.

HSQE and Science of Implementation in Health and Healthcare (SIHH) have shared in dissemination and implementation of evidence-based practices in health systems. Applications that emphasize the receipt of services, health care quality and effectiveness and individual-/patient- and population-level health outcomes are reviewed in HSQE. Applications that emphasize dissemination and implementation processes and outcomes related to implementation of evidence-based practices, guidelines, and interventions with health care providers and organizations are reviewed in SIHH.

HSQE and Healthcare and Health Disparities (HHD) have shared interests in health disparities as it relates to health service receipt. Applications that emphasize measures of quality of care and provider outcomes as it relates to the receipt of health services by members of diverse patient groups are reviewed in HSQE. Applications that emphasize the systematic underpinnings of health disparities as it relates to access to, use of, and effectiveness of health services by minority and vulnerable patient groups are reviewed in HHD.

HSQE and Clinical Informatics and Digital Health (CIDH) have shared interests in the use of informatics for assessment of healthcare quality and effectiveness related to the receipt of health services.

Applications that emphasize the utilization and integration of previously developed and validated informatics systems to support clinical decision making in health services are reviewed in HSQE. Applications that emphasize the development and validation of informatics systems and tools for eventual translation into health services or examine the human-machine interface are reviewed in CIDH.

HSQE and Addictions Risks and Mechanisms (ARM) have shared interests in prescription drug use and abuse, especially in opioids. Applications that emphasize system and provider-level health care delivery for prescription drugs, system and provider medication prescribing practices, and provider provision of prescribed medication services are reviewed in HSQE. Applications that emphasize individual patients' misuse of, and/or addiction, and abuse of prescription drugs (especially opioids) are reviewed in ARM.

Interdisciplinary Clinical Care in Specialty Care Settings (ICSC)

The Interdisciplinary Clinical Care in Specialty Care Settings (ICSC) Study Section reviews applications addressing the clinical management of patients in institutional and inpatient settings (such as hospitals, nursing homes, inpatient facilities, and hospice care facilities), as well as patients in ambulatory settings receiving active specialty care or involving specialized/complex care teams. Studies reviewed in ICSC have direct patient care implications or be closely associated with clinical practice; applications with a strong biological, basic science, occupational health, or animal model focus are reviewed in other study sections. Examples of patient-care oriented disciplines that may be reviewed in the study section include, but are not limited to nursing, medicine, pharmacy and physical and rehabilitation medicine. The following topic areas fit within the scope of this study section:

- Studies to assess patient-level outcomes in institutional or specialty care settings, or for patients with complex care needs; including inpatient settings, surgical centers, dialysis centers, or those undergoing active treatment or ongoing specialty or complex care.

- Studies on treatment modalities for patients and/or caregivers for acute, life-limiting, chronic illness occurring in institutional settings, or palliative and end of life care within the institutional setting.

- Clinical studies of symptom-management in institutional or specialty care settings such as pain, fatigue, stress, and depression, or functional status changes during the active treatment of an underlying condition (e.g., cancer, organ transplant, brain injury or other neurological insult, myocardial infarction or other coronary disease).

- Studies of perinatal care for mothers with complex needs managed in institutional or specialty care settings, mothers in active labor, and infants with complex needs including those treated in neonatal intensive care units (NICU). Studies of involved families and other informal caregivers are also included.

- Studies of transitions between institutional and home-based settings, including preparation for inpatient care or for discharge from hospital to home.

- Studies examining provider-patient communication and/or clinical decision-making in institutional and/or specialty care settings.

Shared Interests and Overlap:

ICSC and Clinical Management in General Care Settings (CMGC) have shared interests in the clinical management of patients. Applications that emphasize the management of patients undergoing active treatment in an institutional setting (hospitals, nursing homes, inpatient facilities, and inpatient hospice), or the clinical management of patients in ambulatory settings that involve specialty care teams/management of complex medical conditions, or addressing transitions of care between institutional and home-based settings are reviewed in ICSC. Applications that emphasize general care settings, home-based settings, or care in ambulatory settings involving primary care teams providing rehabilitation, symptom management, or supportive care (including palliative care) are reviewed in CMGC.

ICSC and Health Services: Quality and Effectiveness (HSQE) have shared interests in patient-provider interaction/communication and subsequent health outcomes in institutional and inpatient settings. Applications that emphasize the interaction of patients and providers in the context of clinical management of patients, including patient-provider communication and decision-making are reviewed in ICSC. Applications that emphasize healthcare provider outcomes and/or organizational-level outcomes in the context of health care service receipt are reviewed in HSQE.

ICSC and Biobehavioral Medicine and Health Outcomes (BMHO) have shared interests in management/self-management of acute and chronic illnesses in the institutional setting. Applications that emphasize patient behavior and treatment responses with an intent to guide care or inform clinical practice are reviewed in ICSC. Applications that emphasize person- or patient-targeted behavioral approaches to mitigate disease complications and associated pain are reviewed in BMHO.

ICSC and Pregnancy and Neonatology Study Section (PN) have shared interests in the clinical management of pregnancy. Applications that emphasize parent and/or infant outcomes through the receipt of care in institutional or specialty care settings are reviewed in ICSC. Applications that emphasize biological or physiological factors related to pregnancy maintenance, complications of pregnancy, fetal biology, and neonatology are reviewed in PN.

ICSC and Healthcare and Health Disparities (HHD) have shared interests in disparate outcomes in vulnerable patients receiving care in the institutional setting. Applications that emphasize patient outcomes of members of diverse patient groups and/or their informal caregivers are reviewed in ICSC. Applications that emphasize the systematic underpinnings of health disparities as they relate to access to, use of, and effectiveness of health services are reviewed in HHD.

Science of Implementation in Health and Healthcare (SIHH)

The Science of Implementation in Health and Healthcare (SIHH) Study Section reviews applications that identify, develop, and evaluate dissemination and implementation theories, strategies and methods designed to integrate evidence-based health interventions into public health, clinical, and community settings. Applications reviewed in SIHH should have a major methods, strategy, or theoretical development component in implementation science in order to understand how interventions are implemented and measure implementation outcomes in public health, clinical, and community settings. Studies that test effectiveness of evidence-based interventions with a focus on evaluating intervention

outcomes rather than implementation outcomes (e.g., testing of specific implementation strategies) are reviewed in other study sections. Additionally, applications proposing basic science, pre-clinical, or clinical research perspectives are reviewed in other study sections. The following topic areas fit within the scope of this study section:

- Studies that focus on the testing of theories, models and conceptual frameworks for dissemination and implementation processes and outcomes (e.g. feasibility, fidelity, penetration, acceptability, sustainability, uptake, and costs) with approaches that emphasize resources of local care settings and the needs of multiple stakeholders (i.e. people or organizations who have an interest in the research project or are affected by its outcomes).
- Studies to examine the organization, adoption and integration of efforts to implement evidence-based practices, mobile health (mHealth) applications or platforms, or guidelines into practice for health care providers, patients, organizations, and communities.
- Studies to explore innovative approaches to identify, understand and develop strategies for overcoming barriers to the adoption, adaptation, integration, scale-up, and sustainability of evidence-based interventions, tools, policies, and guidelines.
- Studies to understand circumstances that create a need to stop or reduce ("de-implement") the use of interventions that are ineffective, unproven, low-value, or harmful.
- Studies that examine the integration of multiple evidence-based interventions in order to create an evidence-based system of care.
- Studies to explore strategies to impact organizational structure, climate, culture, and processes to enable dissemination and implementation of clinical/public health information and effective clinical/public health interventions.
- Studies to develop advance dissemination and implementation science measures and methods that assess the ability of an approach to move evidence into practice in various settings.

Shared Interests and Overlap:

SIHH reviews applications where the primary objective is to assess the impact of an implementation strategy on outcomes like adoption, fidelity, and sustainability, often referred to as Type 3 hybrids (although clinical outcomes associated with the implementation strategy may also be assessed). SIHH also reviews Type 2 hybrids which have a balance between effectiveness and implementation aims, specifically where the studies are comparing different implementation strategies. Type 2 hybrids employing a single implementation strategy are reviewed in other sections. Applications where the primary focus is on testing the effectiveness of a clinical intervention with a secondary focus on understanding the implementation strategies (Type 1 hybrid design) are reviewed in other study sections.

SIHH and Organization and Delivery of Health Services (ODHS) have shared interests in dissemination and implementation of evidence-based practices in health systems. Applications that emphasize dissemination and implementation processes and outcomes within health systems (providers and health care organizations) are reviewed in SIHH. Applications that emphasize the organization and delivery of health services and examine health outcomes at the system level are reviewed in ODHS.

SIHH and Health Services: Quality and Effectiveness (HSQE) have shared interests in dissemination and implementation of evidence-based practices in health systems. Applications that emphasize the

dissemination and implementation processes and outcomes related to implementation of evidence-based practices, guidelines, and interventions with health care providers and organizations are reviewed in SIHH. Applications that emphasize the receipt of services, health care quality and effectiveness and individual-/patient- and population-level health outcomes are reviewed in HSQE.

SIHH and Health Promotion in Communities (HPC) have shared interests in community or local environmental characteristics affecting intervention uptake, and both may utilize approaches that engage with relevant community stakeholders and end users. Applications that emphasize the testing of implementation and dissemination theories, models and conceptual frameworks in community settings and relevant implementation outcomes (such as feasibility, fidelity, penetration, acceptability, sustainability, uptake and costs) are reviewed in SIHH. Applications that emphasize efficacy and effectiveness of community-level interventions on health outcomes are reviewed in HPC.

SIHH and Clinical Informatics and Digital Health (CIDH) have shared interests in the use of informatics technology for clinical decision support. Applications that emphasize implementation strategies to adopt or integrate mHealth or clinical support tools are reviewed in SIHH. Applications that emphasize the development of informatics systems or examine the human-machine interface are reviewed in CIDH.

Lifestyle Change and Behavioral Health (LCBH)

The Lifestyle Change and Behavioral Health (LCBH) Study Section reviews applications focusing on the adoption or uptake of health promoting behaviors or lifestyle changes to reduce health risks or to recover from diseases, conditions, or treatments at the individual or small group level. Applications typically use psychosocial and behavioral methods designed to improve well-being, delay disease onset, or to maintain recovery from diseases across the human lifespan. The study section does not review applications using animal models, or studies with a focus on community-level or population-level variables. The following topic areas fit within the scope of this study section:

- Studies focusing on promotion of healthy lifestyles in individuals (e.g. physical activity, body weight control and maintenance, healthy dietary intake, management of sleep, alternative medicine methods such as yoga and Tai chi, self-care) to reduce risks or delay disease onset, as well as maintaining recovery from diseases including cancer, cardiovascular and diabetic diseases, and other chronic conditions across the life span.

- Studies on cultural adaptations of interventions or approaches to reduce risks and health disparities in diverse populations.

- Studies with relevant applied mHealth and bioinformatic interventions involving individual- or small group-level lifestyle change components, including adaptive designs interventions addressing health promotion and risk reduction.

Shared Interests and Overlap:
- LCBH and Biobehavioral Medicine and Health Outcomes (BMHO) have shared interests in using behavioral methods to promote health and reduce disease risk at the individual or small group level. Applications that emphasize the adoption or uptake of behavior change in order to

promote health and well-being or reduce health risks are reviewed in LCBH. Applications that emphasize psychological and behavioral approaches integrated with clinical methods to remedy or slow the progression of diseases are reviewed in BMHO.

- LCBH and Clinical Management in General Care Settings (CMGC) have shared interests in management/self-management of acute and chronic illnesses in general care settings. Applications that emphasize a person-target approach to engage in behavioral changes to promote healthy lifestyles, adhere to disease treatments, reduce health risk, or improve well-being or quality of life are reviewed in LCBH. Applications that emphasize understanding patient behavior with an intent to guide care management or inform clinical practice are reviewed in CMGC.

- LCBH and Health Promotion in Communities (HPC) have shared interests in health promotion and moderating health risks. Applications that emphasize behavioral approaches to promote health and prevent or delay the onset of disease at the individual or small group levels through the built environment are reviewed in LCBH. Applications that emphasize community-level interventions to promote health and moderate health risks, including social environment change and policy change are reviewed in HPC.

- LCBH and Psychosocial Development, Risk and Prevention (PDRP) have shared interests in disease prevention. Applications that emphasize health promotion and moderating health risks in general population are reviewed in LCBH. Applications that emphasize the risks and protective factors related to developmental courses that may contribute to disease prevention (parenting skills, social and emotional developments) are reviewed in PDRP.

- LCBH and Mechanisms of Emotion, Stress and Health (MESH) have shared interests in sleep studies and their effects on health promotion. Applications that emphasize sleep that contributes to health promotion and disease prevention are reviewed in LCBH. Applications that emphasize how sleep interacts primarily with physical and mental health are reviewed in MESH.

- LCBH and Kidney, Nutrition, Obesity and Diabetes (KNOD) have shared interests in the primary prevention of obesity. Applications that focus on lifestyle changes, diet, and physical activity for obesity prevention and treatment at the individual or small group levels are reviewed in LCBH. Applications that focus on epidemiology and genetic epidemiology of obesity and pathophysiological mechanisms are reviewed in KNOD.

- LCBH and Human Studies of Diabetes and Obesity (HSDO) have shared interests in the investigation of obesity risk factors. Applications that focus on lifestyle changes and other psychosocial/behavioral methods to identify obesity risks and delay onset of weight related diseases and conditions are reviewed in LCBH. Applications that focus on biological and physiological obesity risk factors are reviewed in HSDO.

Organization and Delivery of Health Services (ODHS)

The Organization and Delivery of Health Services (ODHS) study section reviews applications focused on the organization and delivery of health services from a systems level, including health care financing, insurance, access, utilization and the provision of health services at the population level. Many studies

will rely on large administrative data sources (e.g. Medicare, Medicaid, SEER etc.). The following topic areas fit within the scope of this study section:

- Studies to examine the structure of health care organizations (range of services) and delivery systems, and their performance and efficiency.
- Studies to examine the structure of hospital or other healthcare systems (size and service capacity), hospital performance measures, and hospital operations.
- Studies to develop practice guidelines and operational research in health care organizations and examine health care provider characteristics.
- Studies to examine physician performance, practice networks, and physician payment practices and systems.
- Studies to examine health system access including cost of care, health care financing, and the financial costs at the population level.
- Studies to examine health plans and health insurance coverage, scope, costs, eligibility, benefits, and reimbursement.
- Studies to understand implications of health policy changes for health care systems, providers and organizations.
- Studies to examine the organization and delivery of pharmaceutical services.
- Studies to utilize risk prediction tools and clinical decision making at the provider and systems level.
- Studies that use implementation science principles to focus on the delivery of services at the systems-level or state-level. This includes studies using systems science methods (agent-based modeling, social networking analysis, simulation modeling and system dynamics modeling).

Shared Interests and Overlap:

ODHS and Health Services: Quality and Effectiveness (HSQE) have shared interests in the delivery of health care services. Applications that emphasize the organization, utilization and delivery of healthcare on a systems level, provider, or organizational level are reviewed in ODHS. Applications that emphasize healthcare quality and effectiveness in relation to the receipt of individual health services and individual patient outcomes are reviewed in in HSQE.

ODHS and Social Sciences and Population Studies (SSPS) have shared interests in health and economic outcomes at the aggregate level. Applications that emphasize organization, delivery and financing of healthcare at the health systems level, is focused on the provider and organizational outcomes, and uses large administrative data sources are reviewed in ODHS. Applications that emphasize a key social or behavioral focus on health and well-being across the life course, health disparities, demographic processes, and related economic outcomes are reviewed in SSPS.

ODHS and Science of Implementation in Health and Healthcare (SIHH) have shared interests in dissemination and implementation of evidence-based practices in health systems. Applications that emphasize the organization and delivery of health services and subsequent health outcomes at the system level, including implementation of systems-level or state-level services are reviewed in ODHS.

Applications that emphasize dissemination and implementation processes and outcomes within health systems (providers and health care organizations) are reviewed in SIHH.

ODHS and Healthcare and Health Disparities (HHD) have shared interests in health disparities as it relates to health care delivery processes. Applications that emphasize the impact of organization and delivery of healthcare on health outcomes at the systems level, including providers and health care organizations, are reviewed in ODHS. Applications that emphasize the delivery of care and healthcare systems to primarily address persistent inequities in access to care for minority and other vulnerable groups are reviewed in HHD.

ODHS and Clinical Informatics and Digital Health (CIDH) have shared interests in the use of informatics systems to support the organization and delivery of health care services. Applications that emphasize service delivery and the use of existing and validated informatics systems to examine physician performance, provider service delivery, and the structure of health care organizations are reviewed in ODHS. Applications that emphasize the development of new informatics systems, methods and tools for eventual use to examine physician performance, patient management and the structure of health care organizations are reviewed in CIDH.