To assess the integrated care interventions, a study needs to be designed to review the pre-existing system performance. Hospital Length of Stay (LOS) is one of the single most important indicators of hospital performance and health care delivery. LOS not only evaluates bed management and the efficiency of internal hospital systems but also the performance of pre-admission and post-discharge community-based health and social care systems.

The cost of long stay has a significant impact on individual hospital budgets and overall health systems. Consequently, studies of LOS are essential for management and financing of hospitals and health systems.

This study aims to determine the underlying internal and external health and social care factors that impact on long length of stay in RPA hospital.

The research team uses Critical Realism (CR) design for this study. CR seeks to understand the underlying mechanisms and structures that are generating the observed phenomenon. CR does not assume reality to be a single, observable, measurable, determinable layer. CR assumes reality has multiple layers containing structures and mechanisms that influence the observable.

Mixed method (Quantitative and Qualitative) studies are used to combine the strengths of, and to compensate for, the limitations of quantitative and qualitative methods. The Quantitative research uses longitudinal administrative data from the long hospital length of stay committee and supporting health district electronic medical records. Study variables will include: LOS, diagnosis and procedures, patient demographics, and various referral and pre and post discharge parameters. Statistical analysis will use exploratory data analysis, regression and time-trend methods. The Qualitative study will use critical realist interview methods, purposeful selection of key staff and patients.

Quantitative analysis will be used to inform the qualitative interview questions. Interviews are expected to commence in late 2018. Quantitative findings from 2017 & 2018 data will be presented. The research team outlines underlying structures and mechanisms contributing to
long LOS and develop realist MCO theoretical propositions in the form mechanism (M), context (C), Outcome (O).

The research team will demonstrate the use of critical realist research methods to study health and social care factors impacting on hospital LOS. The findings will be used to develop realist theoretical propositions that can be used to design service, policy and system-wide interventions.

**Keywords**: health and social factors leading long hospital stay