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The High-intensity Specialist Led Acute Care (HiSLAC) Project

Summary for Local Project Leads, May 2015

HiSLAC is a 5-year project funded by the NIHR (HS&DR programme) to investigate the causes of the difference in mortality associated with weekend and weekday admission to hospital, with particular reference to the availability of specialists (consultants) and supporting services. The project is endorsed by NHS England, the Academy of Medical Royal Colleges, the NHS Confederation, and many other professional organisations. Of 146 acute hospital Trusts in England, 126 are participating in the project.

Phase 1 (2014-16)

Now complete, Phase 1 involved developing metrics for measuring hospital specialist intensity across the NHS in England and evaluating hospital episode statistics (HES) for evidence of the weekend effect from 2007 onwards. This work was successfully completed, and shows that Sunday admission is indeed associated with a higher subsequent mortality (10%) and that specialist intensity at weekends is on average half that of weekdays. The aim of Phase 2 of the project is to determine whether a relationship exists between specialist intensity and patient outcomes by studying changes in these variables over the following four years.

Phase 2 (2016-19)

Aim: to determine the relationship between the difference in weekend-weekday patient outcomes and weekend-weekday specialist staffing intensity.

Design: A mixed-methods project at local and national levels

Phase 2 is a natural experiment in which we prospectively measures secular changes (differences over time) in the difference in weekend-weekday patient outcomes and the difference in weekend-weekday specialist staffing as Trusts establish NHS England's 7-day services standards. Comparing differences in this way compensates to some extent for variations in case mix.

Phase 2 has two major workstreams, workstream A at national and workstream B at local level, together with health economics analysis of the impact of changes in specialist intensity over time.

Workstream A: NHS System-level analysis of weekend-weekday intensity-mortality relationships for emergency (unplanned) admissions to all English NHS acute hospitals. The intensity of specialist

provision is derived from the annual web-based Point Prevalence Survey of all hospital specialists in England. HiSLAC local project leads and medical directors are asked to encourage completion of the survey in June each year by distributing the web-link by email to all consultants and associate specialists in the Trust. Each Trust receives its own data referenced against the other (anonymised) Trusts.

Workstream B: Hospital-level comparison study. A detailed cross-sectional analysis of emergency non-operative admissions in 20 hospitals, 10 with high-intensity and 10 with low-intensity specialist staffing at weekends.

Following an induction visit by the HiSLAC project team, local project leads at each of the 20 hospitals are asked to facilitate the following activities:

- **Access to anonymised PAS data and other locally-held clinical information:**

Local data will be extracted from patient administration systems (PAS) annually to supplement that submitted to HES. Comparisons will be made between specialist intensity (as measured by HiSLAC Project surveys) and length of stay (using time of admission from PAS system – not collected for HES); Cardiopulmonary Resuscitation (CPR) rates, unplanned ICU admissions (ICNARC case mix programme dataset); hospital readmission within 7 days; staff absenteeism rates; and patient-reported outcome measures of satisfaction. No patient identifiers are retained.

- **Case record reviews of 50 weekend vs 50 weekday admissions to each Trust during two epochs:**

Case record reviews will be conducted for two epochs: 2011-2013 and 2016-2017, to capture pre-intervention and post-intervention periods of specialist staffing. For each epoch, 100 pre-specified case records will be retrieved from each of the 20 hospitals (in total 200 from each hospital). Half the records from each centre will be weekend admissions, half weekday. Case records will be sampled by the HiSLAC team from in-hospital deaths.

Funding is available for case record extraction and preparation; the project will pay each Trust £30 for each set of case records (£6000 in total). Records must be photocopied, personal identifiers and date of admission masked, and the photocopies scanned for digital transmission to the project team's secure server. Case record review is undertaken centrally by an invited and trained panel of senior registrars and consultants in acute specialities (honorarium payable). Subsequent analysis will examine whether quality of care varies by admission epoch and the degree of specialist intensity.

- **Ethnographic evaluations: observations at the front-line**

An ethnographer (social scientist trained in observing the clinical environment) will visit each of the 20 Trusts for several days spanning a weekend each year. Ethnographers will record the views of staff about how specialist input has changed, and whether the other 7-day working standards have been implemented. They will also conduct interim telephone interviews with around 2 key informants at each hospital, at the mid-point between annual visits (around six months after each visit), to gain insight into progress and challenges during the periods between observation visits. The observation visits will be conducted between Friday morning and Monday evening. A range of medical acute admitting wards will be included.

The data collected will consist of field notes from observations and informal chats with hospital staff, and collection of documents related to the implementation of HiSLAC such as meeting notes and blank handover forms. Researchers will focus on observing weekend staffing levels and how staffing is managed, the functioning of ward teams and other teams that support specialist-delivered care, and the nature of formal reviews and handovers. The researcher will also aim to collect data on salient features of the local systems, social factors, and organisational context that may impact on implementation of HiSLAC. Through debriefing sessions with researchers, we will ensure that the data collection remains focused on core topics, and that emerging themes are explored and used to inform subsequent data collection.

Semi-structured interviews will be conducted by invitation with 3-5 members of staff (including those in a range of clinical and managerial roles) in each participating hospital to explore: current weekend working patterns and views on the reasons for these patterns; experiences of differences in care organisation and delivery on weekdays and at weekends and the impact of this on staff and patients; and barriers and facilitators of efforts to introduce HiSLAC. Each interview will be tailored to the individual staff member's role, and will also explore issues that arise during observations.

Summary of project-related tasks for LPLs

All Trusts: please facilitate the annual HiSLAC survey (email guidance and reminders will be sent)

20 Trusts in Phase 2 detailed study:

- Induction visit by project team (project manager will coordinate)
- Facilitate meeting with Trust Informatics team to plan access to PAS data
- Facilitate meeting with Medical Records staff to plan access to 200 case records
- Facilitate annual access by ethnographers to clinical environment and for staff interviews.
- Facilitate contacts with R&D to agree site-specific approvals.

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