Delivery Science Grants Program

No Differences in ED Visits, Hospitalizations, or Mortality Among Heart Failure Patients with Remote Telemonitoring

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| Challenge | **It is unknown whether novel, new, remote monitoring methods utilizing a comprehensive heart failure disease management program that includes telemonitoring and patient education might influence both health care**  **utilization (such as emergency department care and hospitalization) and mortality** |
| Existing Evidence | Four KPNC facilities (North Valley, South Sacramento, Santa Rosa and Napa-Solano) have used telemonitoring to follow and treat selected high-risk patients after a clinical encounter for worsening heart failure (HF). The  benefit of telemonitoring from randomized trials is unclear, some reported potential clinical and resource utilization benefits, but most had small sample sizes (<900 patients) and were heterogenous in the type of  telemonitoring. |
| Target Population | Eligible adults with heart failure at Roseville, Sacramento, South Sacramento, Santa Rosa, and Napa-Solano facilities between 2015-2019. |
| Intervention or Exposure | Use of a natural experiment within KPNC, with some patients receiving remote home-based telemonitoring using the Residio LifeStream system. Patients with & without telemonitoring were matched on age, sex, race/ethnicity, service area, left-ventricular ejection fraction,HF duration, and a high-dimensional propensity score. |
| **Outcomes/Key Findings** | Adults with HF who received telemonitoring had more frequent medication adjustments but comparable rates of hospitalizations and emergency department visits for worsening HF and all-cause mortality than controls who did not receive telemonitoring |
| **Resulting Action/Change** | **These results do not definitively recommend widespread adoption of telemonitoring for patients with heart failure, given these findings and uncertain benefit in randomized trials.** |
| Additional Recommendations | An adequately powered randomized controlled trial may be necessary to establish confidence in benefits of telemonitoring for heart failure, overall or in targeted subgroups. These results reinforce the need for evaluating new devices and methods prior to widespread implementation. |
| Implementation Tools | None |
| Implementation Measurement | Proportions of patient using telemonitoring, emergency department utilization, hospitalization rates, and mortality. |
| Reference | <https://pubmed.ncbi.nlm.nih.gov/37220825/>  A close-up of a medical information  Description automatically generated |