vs. 17.38 days). There was no significant difference between the twins in terms of indication for admission to the NNU including rates of birth asphyxia (1.6% vs. 1.2%).

**CONCLUSION:** There was very little difference observed between the outcomes of Twin 1 and Twin 2 in this large cohort study. Given the current rate of vaginal delivery for both twins we speculate this could be related to the standardised management protocols for twin pregnancy and delivery in a single unit.

### 873 A randomized trial of prenatal care using telemedicine for low-risk pregnancies: patient-related cost and time savings

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**OBJECTIVE:** To analyze patient-related cost and time savings associated with a telemedicine strategy for low-risk prenatal care compared to traditional care.

**STUDY DESIGN:** Planned secondary analysis of a prospective randomized-controlled trial of prenatal care using telemedicine versus traditional care for low-risk pregnancies in which patient satisfaction was the primary outcome. Low-risk parous women < 16 0/7 weeks’ gestation and carrying a singleton fetus were randomized to receive either a combination of telemedicine and 5 scheduled in-clinic prenatal visits, or traditional in-clinic care (overall number of prenatal visits was unaltered). Telemedicine encounters used a web-based platform and patients entered weight, blood pressure, and fetal heart rate into the electronic medical record patient portal. The primary outcome for this study was total visit-related costs and time usage for the patient. Secondary outcomes included costs and time related to work, personal activities, travel, and childcare. Time data were collected through self-report at 6 visit time points (20, 24, 28, 30, 34, 36 weeks). Analysis was by intent-to-treat and conducted using multivariable generalized linear models and 2-part models.

**RESULTS:** 200 women were randomized and the study groups were statistically similar at baseline. The telemedicine care group had significantly fewer in-clinic prenatal visits compared to the traditional prenatal care group (7.2 vs. 11.3 visits, p < 0.0001). Women randomized to telemedicine care had a mean of 4.37 (±1.9) telemedicine visits. Table 1 shows the time and time cost analyses. Visit-related costs for women in the telemedicine group were significantly lower compared to women in the traditional arm with a savings of $13 per telemedicine visit and an overall patient savings of approximately $56. Total patient time required for visits was also significantly reduced with telemedicine care saving 40 minutes per telemedicine visit and an overall time savings of 3 hours.

**CONCLUSION:** A novel telemedicine strategy for low-risk prenatal care is associated with lower visit-related costs and time savings for patients.

<table>
<thead>
<tr>
<th>Table 1: Multivariate Regressions Models Comparing Time Usage and Costs between Telemedicine Prenatal Care and Traditional Prenatal Care</th>
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</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
</tr>
<tr>
<td>Average Total Time</td>
</tr>
<tr>
<td>Average Cost <strong>Per</strong></td>
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</tbody>
</table>

**Table 2:** Multivariate Regressions Models Comparing Time Usage and Costs between Telemedicine Prenatal Care and Traditional Prenatal Care (Continued)

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### 874 Developing maternal morbidity identification algorithms: results from the pilot study of the WHO Maternal Morbidity Measurement Tool

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**OBJECTIVE:** Accurate identification of maternal morbidity in a consistent, reproducible way, particularly in limited-resource settings and at a primary-level is challenging given the lack of standard definition, measurement criteria, and tool. Building on the WHO’s Maternal Morbidity Working Group’s work, we developed and field-tested a Maternal Morbidity Measurement Tool (MMMT) to aid in the routine identification of maternal morbidities. We describe the development and findings of disease-specific algorithms, which aim to maximize the use of clinically available data, while minimizing utilization of limited human and public health resources.

**STUDY DESIGN:** In this multisite, cross-sectional study, the MMMT was administered to 750 third-trimester antenatal women (ANC) and 740 postpartum women (PPC) in Jamaica, Kenya, and Malawi. Algorithms were developed from elements of the maternal morbidity matrix. The sensitivity, specificity, and 95% confidence intervals (CIs) of disease identification by the algorithm was compared to provider diagnosis (gold standard).

**RESULTS:** The mean age of both ANC and PPC cohorts was 26. Six algorithms were developed, for the most common morbidities: anemia, HIV, hypertensive disorders, malaria, urinary tract infections, and vaginal infections (Figure 1). The sensitivity of ANC algorithms ranged from 51.9-100%, with specificity ranging from 96.3-100%; 95% CIs for the algorithms included the estimated rate from provider diagnoses. The sensitivity of PPC algorithms ranged from 61.9-98.9%, with specificity ranging from 95.9-100%. (Figure 2)

**CONCLUSION:** We successfully developed morbidity-identification algorithms utilizing symptoms, signs, investigations, and management strategies collected by the MMMT. Subsequent versions of this tool should be developed and tested in a variety of settings and populations to develop the ideal tool that can be used for routinely identifying maternal morbidities in resource-limited settings, which can better inform morbidity monitoring, policy, health services and resource decision-making.