diabetes, prior bariatric surgery, and IVF. The intervention included an individualized dietitian-prescribed calorie-specific DASH-type diet, physical activity, internet-based self-monitoring of diet adherence, and weekly coaching calls, with opportunities for group visits, webinars, and podcasts. Usual care participants were provided websites, electronic newsletters, and non-diet related pregnancy information. Obstetric providers and data collectors were not aware of patient group assignment.

RESULTS: 281 participants were randomized to the intervention or usual care, with complete data available for all but 2 patients. Baseline characteristics of maternal age, parity, gestational age at randomization, race, ethnicity, and pre-pregnancy BMI were similar. There were 4 pregnancy losses after randomization but before 24 weeks (data not included), and 1 fetal death after 24 weeks. The intervention group gained significantly less weight from enrollment to 36 weeks than the usual care group, and fewer participants exceeded the IOM recommendations (table). This did not result in fewer diagnoses of gestational diabetes, preeclampsia or gestational hypertension, or birth weight >4 kg; a higher rate of cesarean birth was observed in the intervention group.

CONCLUSION: The MOMFIT behaviorally adapted, nutrient-dense, energy-balanced diet and lifestyle intervention resulted in better adherence to IOM guidelines for gestational weight gain, but improvements in pregnancy outcomes were not observed.

Outcome	Intervention (n=139)	Usual care (n=135)	p-value
Overall GWG (lbs, enrollment to 36wk)*	19.1 ± 10.3	23.7 ± 10.2	<0.001
Overall GWG (lbs, self-reported prepreg to 36wk)*	22.5 ± 12.3	25.3 ± 21.4	0.20
Rate of weight gain (lbs/wk)	0.9 ± 0.5	1.1 ± 0.5	<0.001
Participants exceeding 2009 IOM guidelines **	95 (68%)	116 (86%)	<0.001
Gestational age at delivery	39.2 ± 1.8	38.9 ± 1.9	0.12
Gestational diabetes	9 (6%)	11 (8%)	0.59
Preeclampsia or gestational HTN	12 (9%)	14 (10%)	0.62
Cesarean delivery	55 (40%)	36 (27%)	0.023
Birth weight (gm, mean ± SD)	3422 ± 545	3367 ± 616	0.43
Birth weight >4000 gm	17 (12%)	17 (13%)	0.93

*excluding patients delivering before 36 weeks; ** >0.7 lbs/week if overweight; >0.6 lbs/week if obese

3 Routine antenatal ultrasound in low/middle income countries: a cluster randomized trial

Elizabeth Mcclure[1], Robert Goldenberg[2], David Swanson[3], Sarah Saleem[4], Fabian Esamai[5], Ana Garces[6], Elwyn Chomba[7], Antoinette Tshefu[8], Janet Moore[1], Jonathan Swanson[3], Edward Liechty[9], Carl Bose[10], Nancy Krebs[11], Waldemar Carlo[12], Marion Koso-Thomas[13], Menachem Miodovnik[13], Robert Nathan[3]
[1]RTI international, Durham, NC, [2]Columbia University, New York, NY, [3]University of Washington, Seattle, WA, [4]Aga Khan University, Karachi, Pakistan, [5]Moi University, Eldoret, Kenya, [6]INCAP, Guatemala City, Guatemala, [7]University of Zambia, Durham, Zambia, [8]Kinshasa School of Public Health, Kinshasa, Congo, Democratic Republic of the, [9]Indiana University, Indianapolis, IN, [10]UNC Chapel Hill, Chapel Hill, NC, [11]University of Colorado at Denver, Denver, CO, [12]University of Alabama at Birmingham, Birmingham, AL, [13]NICHD, Bethesda, MD

OBJECTIVE: US is commonly used at antenatal care (ANC) in high-income countries (HIC) despite little evidence that it reduces maternal, fetal or neonatal mortality. In LMIC, US may increase ANC use and referrals for complications. We tested the hypothesis that US-naïve providers could be trained to perform basic obstetric US and using these providers whether ANC and referrals would increase and result in improved outcomes.

STUDY DESIGN: This intent-to-treat trial of 46,838 women and nearly 50,000 exams was performed in 58 clusters (geographic areas of ≥350 births/year) in Pakistan, Kenya, Zambia, DRC and Guatemala.

Clusters were randomized to usual care or to the intervention including basic US at 16-22 and 32-36 wks with referrals for US-diagnosed conditions. Fetal, neonatal, maternal mortality and maternal near-miss, the primary composite outcome, were collected during ANC, at delivery and 42 days post-partum through an independent registry. US exam data were collected on women who had a study US.

RESULTS: Groups did not differ in use of ANC (RR 1.0 95% CI 1.00,1.01), the composite outcome (RR 1.09 95% CI 0.97,1.23), or the components (Table). After 2 wks of intensive training and a 3 mo pilot with all tests supervised, trainees performed quality basic exams. During the 18 mo trial, 78% of women delivering in the intervention clusters received at least 1 study US; 60% received 2. Conditions noted on US included twins, previa, oligo/poly-hydramnios and abnormal lie. All were within expected ranges. 9% of women were referred for an US-diagnosed condition; 71% attended the referral.

CONCLUSION: US-naïve providers were successfully trained to conduct basic US exams. However, routine ANC US did not increase ANC use or hospital births nor did it improve the composite outcome or components. These LMIC results confirm Cochrane reviews of US in HIC. Introducing routine US in LMIC is unlikely to improve outcomes, would potentially pose a large burden on available resources, and detract from other more beneficial services.

First Look Trial Results in DRC, Kenya, Zambia, Guatemala and Pakistan, 2014-2016			
	Intervention	Control	RR (95% CI)
Study Clusters, N	29	29	
Women Enrolled, N	23,956	22,882	
Primary composite outcome, %	8.7	8.3	1.09 (0.97, 1.23)
Stillbirth . Rate/1000	27.8	27.0	1.08 (0.95, 1.24)
28-day NMR, Rate/1000	23.1	24.1	0.99 (0.86, 1.13)
Near miss, Rate/1000	48.3	44.9	1.11(0.90, 1.37)
Maternal Death per 100,000	117	127	
Received at least one ANC visit, %	97.7	96.6	1.00 (1.00, 1.01)
ANC Visits >=4, %	50.1	47.5	1.03 (0.90, 1.17)
Delivered at hospital with CS capacity, %	33.8	31.9	1.04 (0.86, 1.26)

4 Is magnesium sulfate use of benefit post partum? A randomized controlled trial

Jack Ludmir[1,2], Paulino Vigil-De Gracia[3], Mag-PIP (Magnesium post partum in preeclampsia) study group
[1]Pennsylvania Hospital, Philadelphia, PA, [2]Perelman School of Medicine. Univ. of Pennsylvania, Philadelphia, PA, [3]Complejo Hospitalario de la Caja de Seguro Social, Panama, Panama

OBJECTIVE: To determine if the use of Magnesium Sulfate (Mag) post delivery reduces the risk of eclampsia post partum in patients with severe preeclampsia that received at least 8 gm of Mag prior to delivery.

STUDY DESIGN: A randomized controlled trial was conducted in nine maternity hospitals in Latin America in patients with severe preeclampsia that had received at least 8gm of Mag prior to delivery. Sample size power calculation for non-inferiority required 1120 patients. 1113 patients were randomized. 555 patients to continue the infusion of IV Mag for 24 hours post partum and 558 were randomized to stopping the Mag infusion immediately post delivery. The primary outcome was the development of eclampsia in the first 24 hours post delivery. Secondary outcomes included maternal death