

Supplemental Appendix for “Intimate Partner Violence in Low- and Middle-Income Countries: Insights from Economic Research”  
 Manisha Shah and Lydia Barski

Table 6—: Cost of IPV Case Averted

	Intervention (2)	IPV type (3)	Estimate of treatment effect (4)	Cost of program <sup>a</sup> (5)	Number of people needed to reach to avert one case <sup>b</sup> (6)	Cost of one case averted <sup>a</sup> (7)
<i>Panel A: Select studies from Table 2</i>						
Hidrobo and Fernald (2013)	UCT	Controlling behaviors	-6 pp	\$233	17	\$3,875
Hidrobo, Peterman and Heise (2016)	CCT	Controlling behaviors	-8 pp	\$240	13	\$3,000
Roy et al. (2019)	UCT+BCC	Physical	-7 pp	\$456	15	\$6,514
Heath, Hidrobo and Roy (2020)	UCT	Emotional	-6.1 pp	\$649	17	\$10,635
		Controlling behaviors	-6 pp		17	\$10,812
Peterman, Valli and Palermo (2022)	UCT	Emotional, physical, or sexual	-3 pp	\$284	34	\$9,472
Roy et al. (2024)	UCT+BCC	Emotional	-7 pp	\$456	15	\$6,514
		Physical	-14 pp		8	\$3,257
<i>Panel B: Select studies from Table 3</i>						
Bandiera et al. (2020)	Lifeskills (adolescent females)	Sexual	-5.3 pp	\$18	19	\$338
Shah et al. (2025)	Sports life skills (adolescent males)	IPV often	-5.1 pp	\$41	20	\$804
	Goal setting invention (adolescent females)	IPV often	-8.7 pp	\$38	12	\$437
<i>Panel C: Select studies from Table 5</i>						
Pronyk et al. (2006)	Microfinance + gender/HIV training	Physical and/or sexual	0.45 (aRR) ≈ -6.6 pp	\$43	16	\$650
Dunkle et al. (2020)	Couple's training	Physical and/or sexual	0.44 (aRR) ≈ -23.4 pp	\$20	5	\$85
Boyer et al. (2022)	Faith-based marital counseling	Any	-5pp	\$91	20	\$1,820

*Notes.* This table presents cost estimates for averting one case of IPV. For each study, we show the authors' reported treatment effect size, as well as our own estimates when conversion to percentage points (pp) is necessary. We then calculate the number of people who would need to be reached by the intervention to prevent one case of IPV as well as the corresponding cost per case averted. CCT = conditional cash transfer; UCT = unconditional cash transfer; BCC = behavioral change communication around nutrition; aRR = adjusted risk ratio.

<sup>a</sup> Rounded to the nearest dollar.

<sup>b</sup> Rounded up to the nearest integer.

This appendix details the calculations used to generate the cost to avert one case of IPV in Table 6, using estimates from a subset of empirical work explored across Tables 2, 3, and 5, for which cost information is available. We show the number of people needed to reach to avert one case of IPV, which ranges from 5 - 34, and the cost of one case of IPV averted, which ranges from \$85 - \$10,812 USD. For cash transfer programs, cost is defined as the value of the transfer itself. In contrast, estimates from economic and public health interventions reflect broader program intervention costs. This is important to consider when comparing costs across intervention type.

When regression results are expressed in percentage points, we assume that for a 6 percentage point reduction, six cases would be averted within 100 individuals. We multiply the number of people needed to reach in order to avert one case by the individual cost—this is the cost of one case averted. The public health literature largely uses adjusted risk ratios to display results. We transform the adjusted risk ratios into percentage point estimates by multiplying the relative risk

reduction (1 - *adjusted risk ratio*) by the control group's follow-up IPV rate. Results are rounded up to the nearest person. While the numbers shown in the table have been rounded for ease of reading, the actual calculations use the unrounded numbers.

Panel A displays the cost of one case averted for cash transfer programs. Hidrobo and Fernald (2013) study an unconditional cash transfer that has a cost of \$15/month (pg. 306). Considering the roll-out and endline surveys, the shortest time a household could receive the transfer is 11 months, and the longest is 20. The calculations here are based on the average of those numbers,  $\$15 \times 15.5 = \$232.50$ , rounded to \$233 for ease of reading in the table. We take the authors' estimate (-6 percentage points) from Table 4, column 5 of the paper.  $100/6 = 16.\bar{6}$ , which we round up to 17 to show the minimum number of people needed to reach to avert one case.  $(100/6) * \$232.50 = \$3,875$ , which is the cost of one case averted.

Hidrobo, Peterman and Heise (2016) explicitly state that the transfer totals \$240 over the program period (pg. 287). We take the authors' estimate (-8 percentage points) from Table 4, 'extended controls.'  $100/8 = 12.5$ , which we round up to 13 to show the minimum number of people needed to reach to avert one case.  $(100/8) * \$240 = \$3,000$ , which is the cost of one case averted.

In Roy et al. (2019), beneficiaries receive transfers which equal approximately \$19/month (pg. 867), for 24 months,  $\$19 * 24 = \$456$ . An unconditional cash transfer is coupled with an intensive nutrition behavioral change communication (BCC) intervention, for which no approximate cost is provided. For this reason, our calculations likely understate the true cost of averting one case. We take the authors' estimate (-7 percentage points) from Table 1, 'Physical, Extended controls.'  $100/7 = 14.29$ , which we round up to 15 to show the minimum number of people needed to reach to avert one case.  $(100/7) * \$456 = \$6,514.29$ , which we round to \$6,514.

Beneficiaries in Heath, Hidrobo and Roy (2020) receive a transfer equivalent to \$18.02/month for 36 months (pg. 3).  $\$18.02 * 36 = \$648.72$ , which we round up to \$649 for ease of reading in the table. For 'Emotional' we take the authors' estimate (-6.1 percentage points) from Table 3, 'Overall effect.'  $100/6.1 = 16.39$ , which we round up to 17 to show the minimum number of people needed to reach to avert one case.  $(100/6.1) * \$648.72 = \$10,634.75$  which we round to \$10,635, the cost of one case averted. For 'Controlling Behaviors' we take the authors' estimate (-6 percentage points) from Table 3, 'Overall effect.'  $100/6 = 16.\bar{6}$ , which we round up to 17 to show the minimum number of people needed to reach to avert one case.  $(100/6) * \$648.72 = \$10,812$ , the cost of one case averted.

Recipients of the unconditional cash transfer in Peterman, Valli and Palermo (2022) receive either: 64, 76, 88, or 106 Ghanaian cedi (pg. 539). We use the average (83.5) and account for the 13 payments a household receives across the life of the project (pg. 539). We use the Treasury's closing exchange rate of 3.82 cedi to USD in 2015, the first year of the evaluation.  $83.5 * 13/3.82 = \$284.16$  which we round to \$284 for ease in the table. We use the authors' estimate (-3 percentage points) from Table 5, column 9, 'Experienced IPV.'  $100/3 = 33.\bar{3}$  which we round to 34 to show the minimum number of people needed to reach to avert one case.  $(100/3) * \$284.16 = \$9,472$ , the cost of one case averted. While the estimate is not statistically significant, it is negative across specifications. Moreover, the authors also report a treatment-on-the-treated effect, accounting for minor noncompliance; this result is qualitatively similar, with no meaningful change in magnitude or statistical significance. Given the direction and consistency of the estimates, we retain this result in the table.

Since Roy et al. (2024) is a longer-run follow-up of the same intervention in Roy et al. (2019), the transfer amount is the same and the same stipulations apply regarding quantification of the BCC. For 'UCT + BCC, Emotional' we take the authors' estimate (-7 percentage points) from Table 3 'Cash + BCC.'  $100/7 = 14.29$ , which we round up to 15 to show the minimum number of people needed to reach to avert one case.  $(100/7) * \$456 = \$6,514.29$ , which we round to \$6,514, the cost of one case averted. For 'UCT + BCC, Physical' we take the authors' estimate (-14 percentage points) from Table 3 'Cash + BCC.'  $100/14 = 7.14$ , which we round up to 8 to show the minimum

number of people needed to reach to avert one case.  $(100/14) * \$456 = \$3,257.14$ , which we round to \$3,257, the cost of one case averted.

Panel B looks at the cost of one case averted for interventions from the economic initiatives presented in Table 3. Bandiera et al. (2020) report an overall cost of \$17.9 (pg. 216) per eligible girl. Since their estimates are taken four years after implementation, the authors use longer-run costs despite higher expenditures during implementation. We round this to \$18, for ease of reading in the table. We use the authors' estimate (-5.3 percentage points) from Table 5, 'Endline.'  $100/5.3 = 18.87$ , which we round to 19 to show the minimum number of people needed to reach to avert one case.  $(100/5.3) * \$17.9 = \$337.74$  which we round to \$338, the cost of one case averted.

Shah et al. (2025) note that the per-female cost of the *Boys* treatment is \$41 and the per-female cost of the *Goal* treatment is \$38 (both taken from Table A8). For 'Sports lifeskills (Adolescent males)' we take the authors' estimate (-5.1 percentage points) from Table 1 column 1, using the estimate for which beneficiaries are partnered and sexually active at baseline.  $100/5.1 = 19.61$  which we round to 20 to show the minimum number of people needed to reach to avert one case.  $(100/5.1) * \$41 = \$803.92$  which we round to \$804, the cost of one case averted. For 'Goal setting (Adolescent females)' we take the authors' estimate (-8.7 percentage points) from Table 1 column 2, using the estimate for which beneficiaries are partnered and sexually active at baseline.  $100/8.7 = 11.49$  which we round up to 12 to show the minimum number of people needed to reach to avert one case.  $(100/8.7) * \$38 = \$436.78$  which we round to \$437, the cost of one case averted.

Panel C displays the cost of one case averted for some of the public health interventions in Table 5. Pronyk et al. (2006) estimates the cost of the trial phase at \$42.93, which we round to \$43 (Table 3, 'Per capita cost' of Jan et al. (2011)). Since the IPV effects are drawn from the cohort surveyed during that phase, we use the trial phase cost in our calculations. We take the authors' estimate of adjusted risk ratio = 0.45 from Table 4 to convert to percentage points. We take the proportion of the comparison group experiencing IPV at follow-up from Table 4, 0.12.  $(1 - 0.45) * 0.12 = 0.066$ , or a 6.6 percentage point reduction.  $100/6.6 = 15.15$  which we round up to 16 to show the minimum number of people needed to reach to avert one case.  $(100/6.6) * \$42.93 = \$650.45$  which we round to \$650, the cost of one case averted.

In Dunkle et al. (2020), the couple's counseling is estimated at \$20 per participant in a complementary cost-effectiveness analysis (Table 3, 'Research setting, Incremental cost per capita' of Ferrari et al. (2022)). We take the authors estimate of adjusted risk ratio = 0.44 from Table 4. We convert the adjusted risk ratio to percentage points. We take the proportion of the control experiencing IPV at endline from Table 4, 0.417.  $(1 - 0.44) * 0.417 = 0.234$  or a 23.4 percentage point reduction.  $100/23.4 = 4.27$  which we round up to 5 to show the minimum number of people needed to reach to avert one case.  $(100/23.4) * \$20 = \$85.47$  which we round to \$85, the cost of one case averted.

Lastly, Boyer et al. (2022) measure their program's impact and estimate cost as \$91 to train each religious leader (pg. 7). We take the authors' estimate (-5 percentage points) from Table 1 column 2.  $100/5 = 20$ , the minimum number of people needed to reach to avert one case.  $(100/5) * \$91 = \$1,820$ , the cost of one case averted.

## REFERENCES

- Bandiera, Oriana, Niklas Buehren, Robin Burgess, Markus Goldstein, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2020. "Women's Empowerment in Action: Evidence from a Randomized Control Trial in Africa". *American Economic Journal: Applied Economics* 12(1), 210-259.
- Boyer, Christopher, Elizabeth Levy Paluck, Jeannie Annan, Tvisha Nevatia, Jasper Cooper, Jackline Namubiru, Lori Heise, and Rachel Lehrer. 2022. "Religious Leaders Can Motivate Men to Cede Power and Reduce Intimate Partner Violence: Experimental Evidence from Uganda". *Proceedings of the National Academy of Sciences* 119(31), e2200262119.
- Dunkle, Kristin, Erin Stern, Sangeeta Chatterji, and Lori Heise. 2020. "Effective Prevention of Intimate Partner Violence Through Couples Training: A Randomised Controlled Trial of Indashyikirwa in Rwanda". *BMJ Global Health* 5(12), e002439.

- Ferrari, Giulia, Sergio Torres-Rueda, Esnat Chirwa, Andrew Gibbs, Stacey Orangi, Edwine Barasa, Theresa Tawiah, Rebecca Kyerewaa Dwommoh Prah, Regis Hitimana, Emmanuelle Daviaud, Eleonah Kapapa, Kristin Dunkle, Lori Heise, Erin Stern, Sangeeta Chatterji, Benjamin Omondo, Deda Ogum Alangea, Rozina Karmaliani, Maqbool Ahmed Khuwaja, Rachel Jewkes, Charlotte Watts, and Anna Vassall. 2022. "Prevention of Violence Against Women and Girls: A Cost-Effectiveness Study across 6 Low- and Middle-Income Countries". *PLoS Medicine* 19(3), e1003827.
- Heath, Rachel, Melissa Hidrobo, and Shalini Roy. 2020. "Cash Transfers, Polygamy, and Intimate Partner Violence: Experimental Evidence from Mali". *Journal of Development Economics* 143, 102410.
- Hidrobo, Melissa and Lia Fernald. 2013. "Cash Transfers and Domestic Violence". *Journal of Health Economics* 32(1), 304–319.
- Hidrobo, Melissa, Amber Peterman, and Lori Heise. 2016. "The Effect of Cash, Vouchers, and Food Transfers on Intimate Partner Violence: Evidence From a Randomized Experiment in Northern Ecuador". *American Economic Journal: Applied Economics* 8(3), 284–303.
- Jan, Stephen, Giulia Ferrari, Charlotte H Watts, James R Hargreaves, Julia C Kim, Godfrey Phetla, Linda A Morison, John D Porter, Tony Barnett, and Paul M Pronyk. 2011. "Economic Evaluation of a Combined Microfinance and Gender Training Intervention for the Prevention of Intimate Partner Violence in Rural South Africa". *Health Policy and Planning* 26(5), 366–372.
- Peterman, Amber, Elsa Valli, and Tia Palermo. 2022. "Government Antipoverty Programming and Intimate Partner Violence in Ghana". *Economic Development and Cultural Change* 70(2), 529–566.
- Pronyk, Paul M, James R Hargreaves, Julia C Kim, Linda A Morison, Godfrey Phetla, Charlotte Watts, Joanna Busza, and John DH Porter. 2006. "Effect of a Structural Intervention for the Prevention of Intimate-Partner Violence and HIV in Rural South Africa: a Cluster Randomised Trial". *The Lancet* 368(9551), 1973–1983.
- Roy, Shalini, Melissa Hidrobo, John Hoddinott, and Akhter Ahmed. 2019. "Transfers, Behavior Change Communication, and Intimate Partner Violence: Postprogram Evidence from Rural Bangladesh". *Review of Economics and Statistics* 101(5), 865–877.
- Roy, Shalini, Melissa Hidrobo, John Hoddinott, Bastien Kolt, and Akhter Ahmed. 2024. "Can Transfers and Complementary Nutrition Programming Reduce Intimate Partner Violence Four Years Post-Program? Experimental Evidence from Bangladesh". *Journal of Human Resources* 59(6), 1714–1740.
- Shah, Manisha, Jennifer Seager, Joao Montalva, and Markus Goldstein. 2025. "Sex, Power, and Adolescence: Intimate Partner Violence and Sexual Behaviors". *Review of Economics and Statistics*. <https://doi.org/10.1162/REST.a.1693>.