CONSTELLATION FUND

QUANTITATIVE ANALYSIS OVERVIEW

Thank you for participating in our impact analysis process and for the important work your organization is leading in the community!

The Constellation Fund supports its poverty-fighting mission by weighing careful qualitative evaluations with quantitative analyses that are driven by peer-reviewed research, local demographic information, and data directly from nonprofits. What follows is a summary of these findings. However, it is important to put the quantitative information into the appropriate context.

Benefit-Cost Analysis

- Constellation calculates the value of poverty-fighting benefits that accrue to program participants at or below 185% of the federal poverty guideline. The primary two measurables throughout all of our metrics are lifetime improvements to health and income.

- This work results in a private benefit-cost ratio (BCR), which encapsulates the dollar amount of measurable poverty-fighting benefits created by an organization relative to how much it costs. It is worth emphasizing that a private BCR is different than a social BCR, which generally includes public returns on investment (e.g. savings to taxpayers). As a result, our BCRs are often lower than those of a social BCR.

- If your organization is receiving funding for the first time, Constellation will estimate a BCR again next year. It will likely change as we continue to refine and improve this estimate. We recommend you do not broadly share your organization's BCR until Constellation has completed two full evaluations.

Additional Context

CONSTELLATION'S METRICS ARE:	CONSTELLATION'S METRICS ARE NOT:
A Standard for Comparing Opportunities: Metrics allow for the weighting of similar and dissimilar programs.	**The Only Criteria for Making Grant Decisions:** Observations and qualitative information also play important roles in our grantmaking.
A Tool for Achieving Transparency: Constellation welcomes outside voices to examine, criticize, and improve the metrics.	**Report Cards on Potential Grantees:** A nonprofit can fulfill its own mission without scoring high on Constellation's metrics.
A Diagnostic Device: What do highest-scoring organizations have in common? Lowest?	**Exact and Unchanging:** Neither the data captured nor the calculations applied are perfect and, with additional research and refinement, our metrics are designed to evolve.
A Method for Assessing Constellation: We measure our own impact the same way we measure other organizations: how much poverty-fighting good we do with each dollar we spend.	**The Only Approach to Smart Philanthropy:** Other funding organizations may employ different but useful standards.

CONSTELLATION FUND

Organization Name:

Annex Teen Clinic

Impact Area:	Health	Geography:	North Minneapolis and Northwestern Suburbs
GRANT AMOUNT: $100,000	BENEFIT-COST RATIO: $4.13 : 1	CONSTELLATION'S IMPACT: $413,000	
Organization Budget: $2,323,305	Program Budget: N/A	Total Benefits: $9,711,097	

ORGANIZATION OVERVIEW

ORGANIZATION DESCRIPTION:

For fifty years, Annex Teen Clinic has provided low cost, sexuality-related health care, education, counseling, and outreach to adolescents in Northwest Hennepin County and North Minneapolis. All services are confidential and are offered at a low or no cost using a sliding fee scale. The Annex Teen Clinic serves youth ages 12-25 through its school-based education and its clinic-based health services. These youth are at risk for unplanned pregnancies and in need of reproductive health care. The Annex serves youth that cannot or choose not to access other providers due to their age, race, ethnicity, gender, sexual identity, income level, insurance status, transportation access, and concerns about confidentiality.

GRANT PURPOSE:

A grant from the Constellation Fund will support the Annex Teen Clinic's general operations. This includes reproductive health services in the clinic and sexuality health education provided in schools and community settings. Funds will cover some costs of uncompensated care among students who decline enrollment in state insurance programs out of confidentiality concerns

BENEFITS

ANALYSIS OF BENEFIT-COST RATIO:

This benefit-cost ratio estimate is for the activities of Annex Teen Clinic for the period January-December 2020. Constellation estimates that the largest health gains stem from treatment of sexually transmitted infections. The benefit of treating an STI is calculated using estimates for QALY gains from chlamydia and gonorrhea treatment. In contrast to past years, Constellation only estimated QALY gains for those who were actually treated and attributed 100% of the benefit to the Annex as compared to previous methods that used screening numbers to project a benefit. Birth control delivers a very large portion of the benefits provided by Annex. This includes only those receiving oral contraceptive pills, IUDs, implants, patches, injections and rings. It does not include an additional 507 patients who received emergency contraception. The QALY gains and decrements from long-lasting reversible birth control are not identical to those of emergency contraception; Constellation is not currently able to estimate the QALY gains from emergency contraception.

Annex Teen Clinic provided its sex and sexuality health education to fewer students in the year 2020 due to a combination of COVID-19 factors. Fewer schools had Annex deliver the full curriculum and fewer students reliably attended school to receive the full curriculum. Constellation significantly revised the school-based sexual education metric. The revised metric estimates the one-year QALY benefits from a comprehensive sexual education program leading to reduced sexually transmitted infections and increased use of contraceptives. Previous estimates used a Constellation metric that substantially overestimated the QALY gains from sexual health education; that metric has been updated and is now modeled on the Safer Choices curriculum, which is a fair match for what Annex provides its students.

PROJECTED BENEFITS SUMMARY:	
Birth control leading to increased quality-adjusted life years (QALY)	$3,419,000
Cervical cancer screenings leading to increased quality-adjusted life years (QALY)	$26,500
STI treatment leading to increased quality-adjusted life years (QALY)	$5,346,000
HIV Antiretroviral Treatment (ART) leading to increased quality-adjusted life years (QALY)	$12,762
HIV preexposure prophylaxis (PrEP) leading to increased quality-adjusted life years (QALY)	$1,875
Sex education (school-based) leading to increased quality-adjusted life years (QALY)	$901,719
Items gifted in-kind	$3,241
TOTAL IMPACT	$9,711,097

ORGANIZATION'S BENEFIT-COST RATIO:

Benefits:	$9,711,097
Costs:	$2,350,575
BENEFIT-COST RATIO	$4.13 : 1

CONSTELLATION'S IMPACT:

Grant Amount:	$100,000
Benefit-Cost Ratio:	$4.13 : 1
CONSTELLATION'S IMPACT	$413,000

Annex Teen Clinic
Data & Computations
January-December 2020 Data

OVERVIEW:

Metric ID	METRIC NAME	Benefits
HEA017	Birth control leading to increased quality-adjusted life years (QALY)	$3,419,000
HEA008	Cervical cancer screenings leading to increased quality-adjusted life years (QALY)	$26,500
HEA019	STI treatment leading to increased quality-adjusted life years (QALY)	$5,346,000
HEA100	HIV Antiretroviral Treatment (ART) leading to increased quality-adjusted life years (QALY)	$12,762
HEA042	HIV preexposure prophylaxis (PrEP) leading to increased quality-adjusted life years (QALY)	$1,875
HEA018	Sex education (school-based) leading to increased quality-adjusted life years (QALY)	$901,719
	In-kind	$3241
	TOTAL BENEFITS	$9,711,097

METRICS:

METRIC	HEA017 - Birth control leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# participants) x (% individuals getting treatment solely because of the program) x (# QALY increase) x ($ QALY)	
Description	This metric estimates the impact of birth control access and use on lifetime health, estimated in terms of quality-adjusted life years (QALY). The benchmark study evaluated 13 methods of contraception among women aged 15 to 50 years with respect to differences in health gains among other health outcomes. The study compared these methods with a hypothetical reference case of nonuse of contraception. The reversible contraceptive methods evaluated were: combination oral contraceptives (OCs); transdermal contraceptive patch (patch); vaginal ring; male condom (condom); diaphragm; copper intrauterine device (IUD); levonorgestrel-releasing IUD; depot medroxyprogesterone acetate (DMPA); estrogen–progestin monthly injectable; and two behavioral methods, periodic abstinence and withdrawal; as well as two permanent methods, tubal sterilization and vasectomy. The general metric is based on the average gain in QALY from the 13 contraceptive methods in the study however, the metric can be modified to estimate the benefits of a specific method.	
Components	Number of participants receiving oral contraceptive pills, intrauterine device, implants, patches, injections and rings (does not include emergency contraception): **[526].** Percentage of individuals receiving care due to program: **[100%].** In previous years Constellation used [0.26] which was based on the percentage of women aged 18–49 in Minnesota who are at risk of unintended pregnancy and do not use contraceptives (Douglass, et al., 2017). QALY increase: **[0.13]** This is based on the average gain in QALY from 13 contraceptive methods reported by Sonnenberg, et al. (2004). $ value per QALY: **[50000].**	

References	Douglas-Hall, A., Kost, K., and Kavanaugh M. (2017) State-Level Estimates of Contraceptive Use in the United States, 2017. New York: Guttmacher Institute, 2018. Sonnenberg, Frank A., et al. (2004). Costs and net health effects of contraceptive methods. Contraception, 69(6), 447-459.	
	TOTAL	**$3,419,000**

METRIC	HEA008 – Cervical cancer screenings leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# individuals screened) x (% individuals getting screened solely because of the program) x (# QALY increase) x ($ QALY)	
Description	This metric estimates the impact of cancer screening leading to improved health, estimated in terms of quality-adjusted life years (QALY).	
Components	Number of individuals screened for cervical cancer: **[53].** Percentage of participants screened solely because of the program: **[100%]**. In previous years Constellation used screening rates from the Minnesota Health Care programs for low-income as counterfactual baselines for different types of cancer (MHCP, n/d): Cervical cancer: [0.20], estimated as (1-Screening rate). Screening rate in MN = 0.80 QALY increase for screening for cervical cancer - **[0.01]**. This is the value of cervical cancer screening compared with no screening (Mandelblatt et al., 2002). $ value per QALY: **[50000].**	
References	Heijnsdijk, E. a. M., de Carvalho, T. M., Auvinen, A., Zappa, M., Nelen, V., Kwiatkowski, M., … de Koning, H. J. (2015). Cost-effectiveness of prostate cancer screening: a simulation study based on ERSPC data. Journal of the National Cancer Institute, 107(1), 366. Losina, E., Walensky, R. P., Geller, A., Beddingfield, F. C., Wolf, L. L., Gilchrest, B. A., & Freedberg, K. A. (2007). Visual Screening for Malignant Melanoma. Archives of Dermatology, 143(1). https://doi.org/10.1001/archderm.143.1.21 Mandelblatt, M., Lawrence, W., Womack, S., Yi, B., Jacobsen, D., Hwang, Y., Gold, K., Barter, J. & Shah, K. (2002). Benefits and costs of using HPV testing to screen for cervical cancer. Journal of the American Medical Association, 287(18), 2372-2381. html	

	Minnesota Health Care Programs (MHCP), (n/d) Retrieved from: https://www.health.state.mn.us/diseases/cancer/sage/about/facts.html Mittmann, N., Stout, N. K., Tosteson, A. N. A., Trentham-Dietz, A., Alagoz, O., & Yaffe, M. J. (2018). Cost-effectiveness of mammography from a publicly funded health care system perspective. CMAJ Open, 6(1), E77–E86. Tafazzoli, A., Roberts, S., Ness, R. & Dittus, R. (2005). A comparison of screening methods for colorectal cancer using simulation modeling. In M. E. Kuhl, N. M. Steiger, F. B. Armstrong & J. A. Jones (Eds.), Proceedings of the 2005 Winter Simulation Conference. Piscataway, NJ: Institute of Electrical and Electronics Engineers.	
	TOTAL	$26,500

METRIC	HEA019 - STI treatment leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# participants) x (# QALY increase) x ($ QALY)	
Description	This metric estimates the impact of treatment for sexually transmitted infections (STI) on lifetime health, estimated in terms of quality-adjusted life years (QALY).	
Components	Patients treated (all ages): **[396]**. QALY increase: **[0.27]**. The estimates from this metric are based on QALY gains from chlamydia and gonorrhea, but we extrapolate the impact to any STI (except HIV). QALY gains account for the possibility of complications or more severe cases. The QALY gains are from Shepherd, et al., (2010). $ value per QALY: **[50000]**.	
References	Department of Education. 2019 Minnesota Student Survey Prevention Region Tables. https://www.health.state.mn.us/data/mchs/surveys/mss/docs/regionaltables/metro19.pdf Shepherd, J., Kavanagh, J., Picot, J., Cooper, K., Harden, A., Barnett-Page, E., Jones, J., Clegg, A., Hartwell, D., Frampton, G. K., & Price, A. (2010). The effectiveness and cost-effectiveness of behavioural interventions for the prevention of sexually transmitted infections in young people aged 13-19: A systematic review and economic evaluation. Health Technology Assessment, 14(7), 1–230. https://doi.org/10.3310/hta14070 Sonnenberg, Frank A., et al. (2004). Costs and net health effects of contraceptive methods. Contraception, 69(6), 447-459. Tuite, A. R., Jayaraman, G. C., Allen, V. G., & Fisman, D. N. (2012). Estimation of the burden of disease and costs of genital Chlamydia trachomatis infection in Canada. Sexually Transmitted Diseases, 39(4), 260–267. https://doi.org/10.1097/OLQ.0b013e31824717ae	

	Wang, L. Y., Davis, M., Robin, L., Collins, J., Coyle, K., & Baumler, E. (2000). Economic Evaluation of Safer Choices. Archives of Pediatrics & Adolescent Medicine, 154(10), 1017. https://doi.org/10.1001/archpedi.154.10.1017	
	TOTAL	$5,346,000

METRIC	HEA100 - HIV Antiretroviral Treatment (ART) leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# participants) x (QALY increase) x ($ QALY)	
Description	This metric estimates the impact of one year of Antiretroviral treatment for HIV on QALYs. The research reports total QALYs over a period of multiple years. Constellation assumes treatment continues for that entire period, and reports average QALY gains due to a single year of treatment.	
Components	Number of participants: Adults receiving HIV Antiretroviral Treatment (ART): **[1]**. QALY increase**: [0.6717]**. This is the per-year increase in QALYs associated with providing ART treatment for HIV as compared to no treatment (Juusola, 2016; Walensky, 2013; Butler, 2021). $ value per QALY: **[50000]**. These benefits are then adjusted by a referral factor of [**38%**] to account for the involvement of a third-party that helps produce this outcome. The Annex is highly involved in the referral and the number of participants who received the treatment is known.	
References	Butler, K., Anderson, S. J., Hayward, O., Jacob, I., Punekar, Y. S., Evitt, L. A., & Oglesby, A. (2021). Cost-effectiveness and budget impact of dolutegravir/lamivudine for treatment of human immunodeficiency virus (HIV-1) infection in the United States. Journal of Managed Care & Specialty Pharmacy, 27(7), 891-903. Juusola, J. L., & Brandeau, M. L. (2016). HIV treatment and prevention: a simple model to determine optimal investment. Medical Decision Making, 36(3), 391-409. Walensky, R. P., Sax, P. E., Nakamura, Y. M., Weinstein, M. C., Pei, P. P., Freedberg, K. A., ... & Schackman, B. R. (2013). Economic savings versus health losses: the cost-effectiveness of generic antiretroviral	

	therapy in the United States. Annals of Internal Medicine, 158(2), 84-92.	
	TOTAL	$12,762

METRIC	HEA042 - HIV preexposure prophylaxis (PrEP) leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# participants) x (% of participants who receive treatment solely because of the program) x (# QALY increase) x ($ QALY)	
Description	This metric estimates the impact of HIV preexposure prophylaxis (PrEP) on the risk of contracting HIV and subsequent health impacts, estimated in terms of quality-adjusted life years (QALY). This metric should be applied to adult males who are considered at high risk for HIV exposure.	
Components	Number of participants: Male: **[3]**. Percentage of participants receiving treatment solely because of the program: **[100%]**. Constellation Fund determines this based on the availability of this type of program for vulnerable populations usually targeted by grantees. In general, we assume this number close to 100%. QALY increase: **[0.5]**. This is based on findings from Paltiel, et al. (2009), which estimated the impact of PrEP use, with 50% efficacy, on QALY during a span of 40 years. $ value per QALY: **[50000]**. These benefits are then divided by **[40]** to conservatively adjust for the QALY gains being for a span of 40 years.	
References	Paltiel, A. D., Freedberg, K. A., Scott, C. A., Schackman, B. R., Losina, E., Wang, B., Seage, G. R., Sloan, C. E., Sax, P. E., & Walensky, R. P. (2009). HIV preexposure prophylaxis in the United States: Impact on lifetime infection risk, clinical outcomes, and cost-effectiveness. Clinical Infectious Diseases, 48(6), 806–815. https://doi.org/10.1086/597095	
	TOTAL	**$1,875**

METRIC	HEA018 - Sex education (school-based) leading to increased quality-adjusted life years (QALY)	TOTAL
Equation	(# participants) x (% of sexually active students receiving sex education) x (# QALY increase) x ($ QALY)	
Description	This metric estimates the impact of one year of school-based sexual education on lifetime health, estimated in terms of quality-adjusted life years (QALY). The benchmark QALY increase estimated in this metric is based on the "Safer Choices" model. Safer Choices, is a school-based education program designed to prevent HIV, other STDs, and pregnancy among high school students. Safer Choices is a 2-year, theory-based, multicomponent intervention delivered across 21 sessions. The primary aim of Safer Choices is to reduce the number of students engaging in unprotected sexual intercourse by reducing the number of sexually active high school students and by increasing condom and contraceptive use among those students who have sex. It seeks to motivate behavioral change by addressing factors such as attitudes and beliefs (including self-efficacy), social skills (particularly refusal and negotiation skills), functional knowledge, social and media influences, peer norms and parent/child communication. Key features of the program include: Integration of HIV, other STD and pregnancy prevention to identify both shared and specific risk behaviors and teach prevention strategies. Clear and consistent messages, which highlight that it is not healthful to engage in unprotected intercourse. Interactive teaching methods, which include a variety of experiential activities such as roleplays, games, small-group activities demonstrations, and guided discussion. There is an emphasis on skills training and practice. Student skill practice using the in-class roleplays is an essential part of the curriculum. The program uses peer leaders as facilitators for selected activities. Five to 8 students from each classroom are elected by their classmates to serve as peer leaders. Implementation of the complete schoolwide program involves selecting a site coordinator, establishing a school health promotion council, implementing both levels of the curriculum, providing staff development, establishing a peer team to conduct school wide activities, promoting family involvement and parent education, and creating school-community linkages.	
Components	Number of participants: Number of students participating in the	

	program. Included students must have received the minimum dosage or participation in the program: **[1101]**. This includes 529 students in the Making Proud Choices curriculum, 544 students in Positive Prevention Plus, and 28 students in the Youth Leadership Council. % of sexually active students receiving sex education: **[21%]**. This is an average of: Students in 9th grade: Male: 0.12 Female: 0.08 Average: 0.1 Students in 11th grade: Male: 0.33 Female: 0.30 Average: 0.32 Average 9th and 11th grades all genders: 0.21. All data come from student surveys in the metro area (DOE, 2019). QALY increase: **[0.078]**. This is the number of QALYs from the STI cases averted and pregnancy avoided due to the intervention. The number of cases averted is based on Wang, et al., (2000). We use the results from the scenario with high rate of condom use and lower probability of transmission based on number of partners and sexual acts since the value of these parameters in this scenario are closer to Minnesota data. QALY gains are from Tuite, et al., (2012) and Sonnenberg, et al.,(2004). $ value per QALY: **[50000]**.	
References	Department of Education. 2019 Minnesota Student Survey Prevention Region Tables. https://www.health.state.mn.us/data/mchs/surveys/mss/docs/regionaltables/metro19.pdf Sonnenberg, Frank A., et al. (2004). Costs and net health effects of contraceptive methods. Contraception, 69(6), 447-459.	

	Tuite, A. R., Jayaraman, G. C., Allen, V. G., & Fisman, D. N. (2012). Estimation of the burden of disease and costs of genital Chlamydia trachomatis infection in Canada. Sexually Transmitted Diseases, 39(4), 260–267. https://doi.org/10.1097/OLQ.0b013e31824717ae Wang, L. Y., Davis, M., Robin, L., Collins, J., Coyle, K., & Baumler, E. (2000). Economic Evaluation of Safer Choices. Archives of Pediatrics & Adolescent Medicine, 154(10), 1017. https://doi.org/10.1001/archpedi.154.10.1017	
	TOTAL	**$901,719**

METRIC	In-Kind Spending and Donations	TOTAL
	Annex Teen Clinic donated $3,241 in transportation costs to participants.	
	Annex Teen Clinic also provided condoms and stipends to participants that are not included here.	
	TOTAL	$3,241