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HEALTHY B-HIVE GRANT PROPOSAL

ABSTRACT

Purpose

There's a high incidence of HIV positive pregnant women in Puerto Rico, and after the hurricanes Irma and Maria, many of these women no longer have access to proper nutrition, which may increase the risk of gestational and birth complications. The goal of our intervention is to provide nutritional care to pregnant women who are HIV positive in San Juan, Puerto Rico and to promote healthier pregnancy and healthy birth for their babies.

Target Population

Our target population is HIV positive pregnant women in San Juan, Puerto Rico. These women will go through screening tests that prove that they are already on ART and are not an active drug and alcohol users.

Methods

This program consists of a secondary intervention at an individual level, which will include provisions to promote healthy weight gain in pregnant women who are HIV positive to ensure their babies will be born full term and at a healthy birth weight. We intend to do this through nutritional screening, counseling, supplementation, diet recommendations, Sunday lunches incentives, and education.

Expected Outcomes

At the end of the three-year intervention we expect: (a) to see an improvement in full-term gestation by 15%, and in birth weight by 30%, (b) that 90% of HIV positive pregnant women will be able to list at least 3 foods that have a negative interaction with ART, (c) that our staff will provide nutrition education related to ART to 90% of HIV positive pregnant women participating in our program.

SPECIFIC AIMS AND BACKGROUND

Six months after the devastation caused by hurricanes Irma and Maria, many mothers, mothers-to-be, and infants in Puerto Rico still do not have adequate health and nutrition care. If proper care is not provided, healthy pregnant women face the risk of complications, placing HIV+ pregnant women at even higher risk. While some mothers use Antiretroviral Therapy (ART) to manage HIV, they do not have adequate support with nutrition management.

We are a team of RDs for Healthy B-HIVE (Healthy Babies in HIV Environments) program, and our **goal** is to provide nutrition care to HIV+ pregnant women via education, supplementation, and diet management to promote full-term gestation and decrease rates of low birth weight (LBW). Length of gestation and birth weight can be used as valid indicators of an infant's survival within the first two years of life.

Our **target population** includes HIV pregnant women in San Juan, Puerto Rico. These women have gone through screening tests that prove that they are already on ART and are not abusing drugs and alcohol.

Health Objective: At the end of the three-year period, we expect to see:

- a.) An increase in full-term gestation by 15%
- b.) Decrease in low birth weight babies (LBW) by 30%

Behavioral Objective: At the end of the three-year period, we expect that 90% of HIV positive pregnant women will be able to list at least four foods that have a negative

interaction with ART and should be avoided, as well as the main modes of HIV transmission.

Process Objective: Within 18 months period, our staff will provide nutrition education related to ART to 50% of HIV positive pregnant women participating in our program.

INTERVENTION

The interventions will follow this step-by-step guideline:

1. Contact hospitals in San Juan and ask them to hand out informational pamphlets about our program to HIV+ pregnant women receiving ART.
2. To be eligible for our program, pregnant women need to be already receiving ART and pass a drug and alcohol test.
3. Our clinic will hire 2 full-time DTRs to do the majority of patient assessment as they have lower hourly wages than RDs, 1 part-time nurse for medical emergencies, 1 phlebotomist to perform lab work, 3 dietary aides to perform nutrition-related clerical tasks and help out with Sunday lunches, 1 social worker to provide therapy to patients in distress, 5 cooks for the Sunday lunches, and 3 full-time Certified Dietary Managers (CDM) to oversee management of clinic. We will hire a driver for transportation. All employees, except the CDMs, will be recruited from Puerto Rico because they are culturally competent.
4. We will rent an office space near La Perla, a low-income neighborhood in San Juan.
5. Weekly rental of local Event Center for Sunday Lunches.
6. Mini-van will be purchased for transportation.
7. Our driver will pick up women who live further than a 15-minute walk away from our clinic. CDMs confirmed the road accessibility in San Juan by contacting nearby businesses.
8. At their first visit, DTRs will evaluate pregnant women's anthropometrics and perform food frequency questionnaire or 24-hour recall to assess caloric and protein intake. They will also start nutrition education via pamphlets in the first

- meeting. Participants will also receive their first diaper pack, and continue to receive it at each weekly visit.
9. The phlebotomist will perform a complete blood count to assess their hemoglobin, hematocrit and MCV values to rule out anemia. To assess iron, we will measure serum iron, serum ferritin, and transferrin levels. We will also be testing serum folate and blood methylmalonic acid (MMA) levels to distinguish B12 and folate deficiencies.
 10. Participants will meet with the dietitians weekly to monitor weight in order ensure proper weight gain of 2-4 lbs. during the first trimester and 1 lb/week after that (adjusted for higher BMI).
 11. Participants will receive appropriate supplements (Folic Acid, Iron and Ensure shakes) and ART specific foods and supplies as needed.
 12. For each weekly dietitian visit, women will receive a food voucher for their nuclear family to attend our Sunday Puerto Rican lunches. Before lunch, the RDs will provide a 30-minute group lecture on nutrition management related to ART to the women and their families to encourage family support.
 13. Pregnant women who need emotional help will be referred to the clinical social worker for therapy.
 14. We will provide women with laminated copies of all of our pamphlets and nutritional materials, so they can share information with other women and continue with their weekly meeting if they desire.

TIMELINE

Time Stamp	Goals to achieve
1 st month	<ul style="list-style-type: none"> • Finish furnishing clinic. • Hire and train employees. • Purchase van. • Finish contacting hospitals in San Juan and distributing pamphlets to them. • Perform drug and alcohol tests for potential participants.
2 nd month	<ul style="list-style-type: none"> • Start seeing participants.

	<ul style="list-style-type: none"> • Begin performing blood testing to monitor iron, folate, and B12 status (reassess every trimester). • Perform food questionnaires to assess protein and overall food intake (reassess monthly). • Hand out food journals to the women. • Begin Sunday lunches and nutrition education sessions on a weekly basis. • Begin incentives (diapers and ART specific foods and supplies).
3 rd month	<ul style="list-style-type: none"> • Evaluate participant's nutrition knowledge.
6 th month	<ul style="list-style-type: none"> • Improvement in weight gain. • Improved appetite. • Decreased symptoms r/t ART. • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
9 th month	<ul style="list-style-type: none"> • Evaluate participant's nutrition knowledge.
12 th month	<ul style="list-style-type: none"> • Improved gestational period, improved birth weight and decreased labor complications for participants who have given birth. • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
15 th month	<ul style="list-style-type: none"> • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
18 th month	<ul style="list-style-type: none"> • Begin overall monitoring of our program. • Begin questionnaires to track satisfaction of program. • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
21 st month	<ul style="list-style-type: none"> • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
24 th month	<ul style="list-style-type: none"> • Provide participants with our nutrition laminated education materials and train them how to efficiently take time off from their busy schedules to spread the knowledge in their community. • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
27 th month	<ul style="list-style-type: none"> • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.

30 th month	<ul style="list-style-type: none"> • Begin outcome evaluation and continue monitoring our intervention.
33 rd month	<ul style="list-style-type: none"> • Evaluate participant's knowledge on ART related foods and modes of HIV transmission.
36 th month	<ul style="list-style-type: none"> • Finish monitoring and evaluating our program in the last 6 months. • Evaluate participant's knowledge on ART related foods and modes of HIV transmission. • At the end of the period we will see an increase in full-term gestation by 15% and a decrease in low birth weight babies (LBW) by 30% • Our health, behavioral and process objectives will be met at the end of the program.

GENERAL BUDGET AND JUSTIFICATION

Our program is requesting \$3 million to implement our intervention in San Juan, Puerto Rico to promote healthier pregnancies in HIV+ women.

Table 1: Staff budget description: Clinic business hours are from Wednesday through Friday from 9am-4pm, and on Saturdays from 9am-1pm. Some employees will also work on Sunday at our lunch events from 9-2pm. This program runs a total of 30 hours per week.

Job Title	Quantity	Hourly Wage	Hours per week	Annual Salary	3- Year Salary
CDM	3	\$30	40	\$197,200	\$561,600
Nurse	1	\$25	25	\$32,500	\$97,000
Phlebotomist	1	\$15	25	\$19,500	\$58,500
DTR	2	\$18	25	\$46,800	\$140,400
Social Worker	1	\$30	25	\$39,000	\$117,000
Diet Aid	3	\$15	30	\$70,200	\$210,600
Cooks	5	\$12	5	\$15,600	\$46,800
Janitor	2	\$12	30	\$18,720	\$56,160

Driver	1	\$12	25	\$15,600	\$46,800
Total	18	\$169	225	\$452,000	1,334,860

Table 2: Materials and resources budget description: Detailed specification on the amounts of resources required to run our program for three years.

	Specifications	Cost for 1 year	Cost for 3 years
Clinic Rental	Rent \$5,000 per month	\$60,000	\$180,000
Event center (Sunday)	Rent \$1000 for one day	\$52,000	\$156,000
Overseas shipment	One shipment per year	\$5,000	\$15,000
Van	Seat 8 to 10 people	N/A	\$3,000
Gas	Average 1,000 miles per week; \$14 mi/gal; \$4/gal.	\$14,857	\$44,571
Generator	\$5,000 one time cost in the first year	N/A	\$5,000
Internet	\$200 (mobile hotspot), \$100 data	\$1,400	\$3,800
Laptops	6 laptops, refurbished	\$150	\$900
Printers	1 printer for the entire clinic	N/A	\$80
Handouts	\$160/500 brochures; \$1.50/laminate.	\$1,213	\$3,640
Office supplies	\$15 per month	\$180	\$540
Office furniture	\$2,000/cubicle. We have 5 cubicles.	N/A	\$10,000
Medical supplies + Lab biochemical analysis	\$735/woman; 100 women/year; One analysis/trimester.	\$73,500	\$220,500
Supplements	Folic acid \$4/400 caps bottle; iron \$6/300 cap bottle.	\$1,000	\$3,000

Protein Supplement	\$31/ pack of 30 Provide 2 bottles per day/woman	\$67,200	\$201,600
Food for Sunday Lunches	\$600 for food/week, \$1000 kitchen supplies (one-time purchase)	\$32,200	\$94,600
Water	10 5-gallon bottles \$50; \$100/week.	\$10,598	\$31,794
ART specific foods and supplies	Weekly at appointments women will receive a pack with the following: ginger tea, ginger chewable, crackers, omega 3 trail mix, applesauce, jello, mouth creams to treat mouth sores	\$161,705	\$485,115
Diapers	\$8 per pack. Each woman will receive a pack per week during appointments	\$32,000	\$96,000
Gift Hamper for Program Completion	(Diapers, Bottles, Baby Clothes). \$200 per gift	\$20,000	\$60,000
Miscellaneous	Extra money for maintenance, unforeseen costs	\$16,666	\$50,000
Total:		\$549,669	\$1,665,140

MONITORING AND EVALUATION METHODS

- The CDMs will survey potential participants to evaluate the nutrition education they are already receiving at the HIV support clinics and modify and standardize our interventions accordingly.
- We will assess participant's knowledge about specific food interactions related to ART via questionnaires provided by DTRs.
- Blood work of participants will be collected at the beginning of the program to monitor folate, iron and overall nutritional status and then once every trimester. Food frequency questionnaires will be used to assess protein intake monthly.
- DTR will follow participant's weight gain weekly and compare their values against standard weight gain curve for pregnant women. Appropriate nutrition and weight

gain will increase their chance of gestation closer to full term and improved birth weight.

- Upon delivery, women will receive a gift hamper if they report to us with their baby's birth weight and the length of their gestation within two weeks.
- At 18 months, we will use questionnaires to track the satisfaction of the women and employees in our program.
- We do expect to see potential leakages if these women share their nutritional supplements and diapers with the rest of their family members.

SUSTAINABILITY PLAN

At the end of the three-year program, all participating women will be well equipped to share their knowledge with family and friends regarding nutrition and HIV management and prevention. We will provide women with laminated copies of all of our pamphlets and nutritional materials, so they can share information with other women and continue with their weekly meeting if they desire. We will motivate participants to take time out of their busy schedules to spread this knowledge to serve their society.

References

<http://www.clasificadosonline.com/UDTransDetail.asp?AutoNumAnuncio=9438433>

http://www.thecarycompany.com/rectangular-plastic-tight-head-container-57w70n?utm_source=google_shopping&m=simple&qclid=Cj0KCQiAuP7UBRDIArIsAFpxiRJQbaw023Uqnm-brn367vK1cvNNQyAPYBjK604xZww0PXq1RBFxMhQaAtQUEALw_wcB

https://www.numbeo.com/cost-of-living/country_result.jsp?country=Puerto+Rico

<https://www.sokanu.com/careers/taxi-driver/salary/puerto-rico/>

<https://tradingeconomics.com/puerto-rico/gasoline-prices>

https://jet.com/product/detail/1efbbbd09d8a4502af2acb98238c1cd4?jcmp=pla:ggl:jd_cons_gen_health_beauty_a3:health_beauty_vitamins_dietary_supplements_supplements_a3:na:PLA_786070215_37816649221_pla-304213368228_c:na:na:na:2PLA15&code=PLA15&pid=kenshoo_int&c=786070215&is_retargeting=true&clickid=3f465e42-423a-441d-ac39-c1cea6402145&qclid=Cj0KCQiAuP7UBRDIArIsAFpxiRKeca7BnrGXob9vYTGHL7guVD4ZacGokvweOml18SJEkgHqSOOFM1saAmeGEALw_wcB

<https://www.costco.com/Ensure-Original-Nutrition-Shake-8-fl.-oz.%2C-30-pack.product.11677536.html>

https://www.amazon.com/Pampers-Swaddlers-Diapers-Newborn-Count/dp/B00B61HV8Q/ref=sr_1_6_s_it?s=hpc&ie=UTF8&qid=1520477500&sr=1-6&keywords=diaper&refinements=p_n_feature_keywords_two_browse-bin%3A6899500011

<https://www.uprinting.com/brochure-printing.html>

https://www.staples.com/Laminating-Service/product_381713

<https://www.hiv.va.gov/patient/daily/diet/single-page.asp>



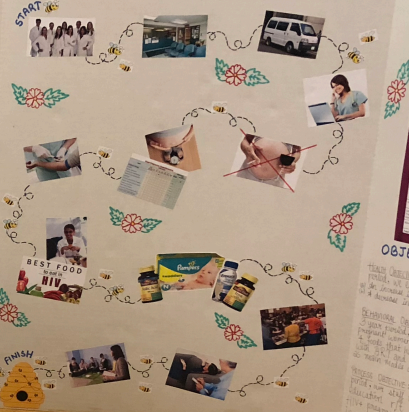


BACKGROUND
The B-Hive is a community health center that provides a safe and supportive environment for people living with HIV. The B-Hive is a community health center that provides a safe and supportive environment for people living with HIV.

Healthy B-Hive Healthy Babies in HIV Environments

LOCATION
The B-Hive is located at 1234 Main Street, New York, NY 10001.

FINISH
The B-Hive will be open for 12 months, from January 1, 2018, to December 31, 2018.



BUDGET

Item	Quantity	Unit Price	Total Price
Food	100	\$1.00	\$100.00
Supplies	50	\$2.00	\$100.00
Personnel	10	\$10.00	\$100.00
Transportation	10	\$10.00	\$100.00
Other	10	\$10.00	\$100.00
Total			\$500.00

OBJECTIVES
The B-Hive will provide a safe and supportive environment for people living with HIV. The B-Hive will provide a safe and supportive environment for people living with HIV.

My Prevention
I will use my prevention resources to stay healthy and safe. I will use my prevention resources to stay healthy and safe.

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