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# Cardinal's Blues: Implementation of a School-based Cognitive Behavioral Therapy Program for Jefferson County Public Schools in Louisville, Kentucky

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# CARDINAL'S BLUES: IMPLEMENTATION OF A SCHOOL-BASED COGNITIVE BEHAVIORAL THERAPY PROGRAM FOR JEFFERSON COUNTY PUBLIC SCHOOLS IN LOUISVILLE, KENTUCKY

CAPSTONE PROJECT PAPER

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## SPECIFIC AIMS

With the increasing rate of adolescent depression and anxiety[1 2], developing mental health interventions is necessary. Many adolescents' times spent in schools increased compared to 20 years ago[5], which makes school-based intervention programs suitable for reaching adolescent population effectively. Though there are numerous treatment providers available in Jefferson County, Kentucky, the school-based prevention programs addressing adolescent's negative mental health outcomes have never been implemented.

The Blueprints for Healthy Youth Development developed a program called the Blues Program[24]. The Blues Program provides an adapted version of group Cognitive Behavioral Therapy sessions to train and educate adolescents coping skills and cognitive restructuring[24]. With weekly activities dedicated to train youth population to prepare for emotionally stressful events that they are experiencing currently as well as for future, *Cardinal's Blues* program will use the strategy that is based on the evidence-based program.

Cardinal's Blues Program is based on the Blues Program developed according to the Community Preventive Services Task Force (CPSTF)'s recommendation. The Specific Aims of the program are:

1. Establish community partnerships for a Community Advisory Board and necessary referral systems;
2. Train and certify a diverse and culturally competent facilitators;
3. Deliver the program to various schools within the Jefferson County Public Schools district;
4. Evaluate the process and outcome of the program on the rate of adolescent depressive symptoms and depression in Louisville, Kentucky.

## TARGET POPULATION AND NEED

### *Adolescent Mental Health*

The adolescent population has been increasingly experiencing negative mental health outcomes including major depressive disorder, anxiety disorder, and suicidality. From 2013 to 2019, Centers for Disease Control (CDC) gathered data that suggest 1 in 5 (20.9%) of adolescents experiencing a major depressive episode[1]. In 2019 CDC data, 36.7% reported "feeling sad or hopeless" with 18.8% of adolescents seriously considering attempting suicide and 15.7% made a detailed suicide plan and 8.9% attempted suicide[1]. 73.8% of adolescents suffering from depression were comorbid with anxiety, and 47.2% of adolescents with depression were comorbid with behavior problems[1]. The National Comorbidity Survey (NCS-A) also reports that 14% of adolescents aged 15 to 18 experience major depressive disorder (MDD), and about 20% adolescents would have experienced MDD by the time they turn 18 years old[2].

Even with established evidence of adolescent mental health worsening, many adolescents do not receive appropriate treatments early in the symptomatic phase due to several barriers[3]. Parents face structural barriers such as challenges of securing treatment appointments that would avoid their working hours and children's school hours; some of them even face issues securing transportation to get to treatment locations[3]. Stigma and concerns regarding confidentiality are reasons for not seeking nor full participation in appropriate mental health treatments among adolescents[3]. Even though some adolescents may have sought treatments in the past for their mental health issues, several studies indicate how adolescents' negative experiences dealing with shame or embarrassment hinder them from continuing their treatment courses[3]. In addition, the cost of services may become another hinderance for

adolescents from receiving proper care before their mental health conditions deteriorate further[3].

Untreated adolescent mental health illnesses will produce further detrimental consequences. The impact could damage their functions in academic settings, home life, and other various social circumstances[4]. Adolescents may struggle with core subjects such as math and reading, which may lead to worse results in education[3]. There is a greater risk of adolescents beginning substance use, violence, and other risky behaviors, which eventually cause worse overall health outcomes[3]. Even if adolescents receive proper treatment when they are experiencing preliminary stages of symptoms, there may be lingering symptoms of their mental health conditions[2]. With prevalence of adolescent mental health conditions and detrimental consequences of neglected mental health conditions, early onset treatments and prevention are necessary components[2 3].

*Importance of Schools*

With an increased amount of time spent in school settings compared to 20 years ago[5], schools hold a key of promoting adolescent mental health wellness[6]. There is a positive association between schools engaging in early identification/onsite treatment services and the overall adolescent mental health outcomes[7]. Mental health resources available for adolescents in school settings indicate that the school environment normalizes ongoing discussions on adolescent mental health, which reduces stigma within community[7]. Schools also serve adolescents as their primary resource for referrals to more specialized mental health providers, which could lead more students to access and receive mental health services[7].

Schools can also play a crucial role in reducing existing disparities in accessing mental health services[8]. With adolescents attending schools and being present in school settings, providing mental health services increases access for adolescents of varied backgrounds across different sociodemographic factors[8]. Though it is not the only setting that offers any mental health related support and services, faculty members and school mental health professionals can identify youths who are struggling based on baseline youths in the same settings[8]. Through many perspectives, offering mental health services in school environments can benefit the overall mental health outcomes adolescent populations regardless of their socioeconomic statuses or racial/cultural backgrounds.

*Target Population: Jefferson County, Kentucky*

The Youth Risk Behavior Surveillance System (YRBSS) collects multiple variables based on student demographics, youth health behaviors, substance use behaviors, and student experiences, and it is a nationally delivered surveillance tool that the CDC employs to monitor the youth population's health outcomes[9]. The Youth Risk Behavior Survey data summary & trends report (2011-2021) composed by the CDC displays the rate of high school students who suffered from mental health conditions and suicidality increased from 2011 to 2021[10]. Based on the YRBSS data collection, there were no significant differences in mental health conditions across the racial and ethnic

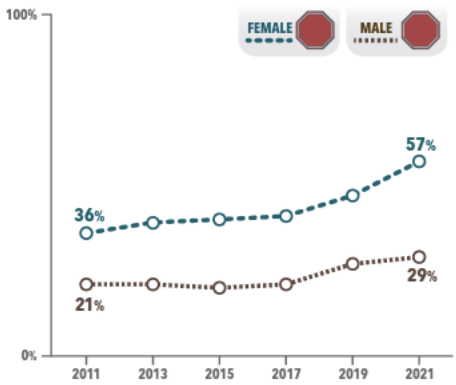



*Figure 1 10-year Trend description by Sex (CDC, 2023)*

groups[10]. Along with mental health trends, the report also states that the rate of students who made a suicide plan and attempted suicides increased from 2011 to 2021[10].

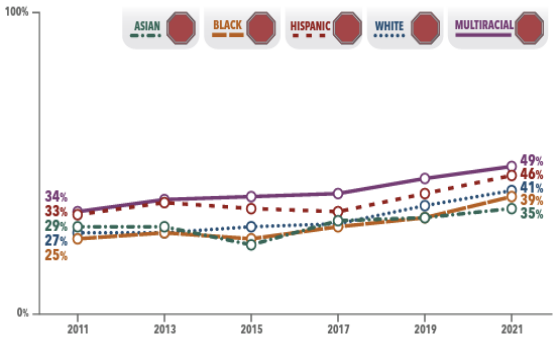



*Figure 2 10-year Trend Description by Race & Ethnicity (CDC, 2023)*

When compared to other states, Kentucky is in 30th place for having 59.30% of adolescents who did not receive necessary mental health services for their mental health conditions[11]. 15.15% of adolescents suffer at least one major depressive episode in Kentucky, and 9.9% of adolescents struggle with major depressive disorder (MDD)[11]. Kentucky has a higher percentage of adolescents who did not receive adequate mental health care and a higher percentage of adolescents who suffer at least one major depressive episode compared to the national average of both criteria[11].

The data trends based on the Kentucky Incentives for Prevention (KIP) survey suggest that the national and state trends of mental health worsening in adolescents align with the trends in counties[12]. Between 2012 and 2021, the rate of serious psychological distress among 10th graders increased from 17.3% to 25.2%, and Seven Counties which include Jefferson County had 21.9% of adolescents suffering from serious psychological distress[12]. Based on the census data, Jefferson County has 24.0% African Americans, 6.1% Hispanic/Latino population, 3.5% multiracial population, 2.1% Asian population, and 0.1% American Native

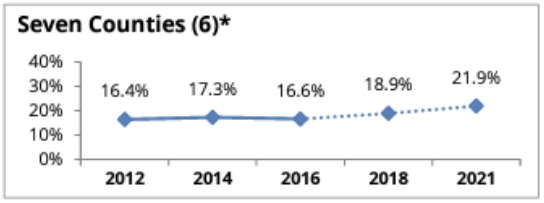



*Figure 3 Regional Trends-Serious Psychological Distress by 10th Graders, 2012-2021 (KIP)*

*Figure 4 Map of Louisville, Kentucky*

population. Jefferson County is the most populous county in Kentucky across the age groups[13] and would be a suitable location for adolescent mental health interventions to take place.

*Available Resources and Gaps*

Jefferson County has numerous organizations and resources available to address existing mental health issues for adolescent populations. Seven Counties Services offer school-based mental health treatment services in Jefferson County, Kentucky along with operating various programs for reducing substance misuse and suicide through the Regional Prevention Center[14]. They have operated "Question Persuade Refer (QPR) Gatekeeper program," which is a suicide prevention program designed to train individuals to refer individuals who might be at risk of suicidality, and "Screening, Brief Intervention, And Referral to Treatment (SBIRT)," which is evidence-based program addressing adolescents' alcohol and illicit substance use[14]. Although these programs and services provide mental health care for adolescents to a certain extent, they do not offer any programs specifically addressing depression and anxiety issues among adolescents.

There are other organizations that offer community-based mental health services for adolescents other than Seven Counties Services. Both University of Louisville and Spalding University, which are in Louisville, KY, offer adolescent mental health services[15]. The University of Louisville created a behavioral health, counseling, and psychology service called the Cardinal Success Program to increase access to mental health care in west Louisville community[16]. The Cardinal Success Program is through a partnership with the College of Education and Human Development, the Department of Counseling and Human Development, and west Louisville

community[16]. The services offered by the Cardinal Success Program provide individual or group counseling, treatment, and assessment conducted by the graduate students completing their practicum under the faculty members at the University of Louisville[16]. Spalding University also has their Center for Behavioral Health[15] that has doctoral clinician students provide various treatments and mental health care services based on the patients' needs individually[17]. However, like the services provided by Seven Counties Services, these organizations offer treatment services rather than prevention or intervention programs for adolescent mental health. Due to their nature, the services would be suited for adolescents already experiencing symptoms of Major Depressive Disorder (MDD) or Generalized Anxiety Disorder (GAD).

*Stress as a Risk Factor*

Adolescents experience life-changing experiences psychologically and physically. Along with significant changes come stressors that may alter the appropriate development of adolescents' brains[18]. People refer to adolescence as a "sensitive period," which illustrates how various aspects of change within and around adolescents generate greater impact on their brain development[18]. Among the number of potential risk factors, stress is a crucial risk factor to address detrimental mental health outcomes for adolescents[18]. Thus, promoting school-based or community-based programs could benefit adolescents because 1) they spend a considerable amount of time in schools[6]; 2) adolescents could access the programs conducted in schools as they are readily available[19]; and 3) the programs could address health disparities concerning mental health services for adolescents of any backgrounds[19].

## PROGRAM APPROACH

*Evidence-Based Program*

The school system will be a suitable environment for addressing adolescent mental health concerns. According to the Community Preventive Services Task Force (CPSTF), school-based cognitive behavioral therapy programs assist adolescent populations by providing various problem-solving methods, emotional regulations, and beneficial patterns of behaviors and thoughts[20]. Cognitive Behavioral Therapy (CBT) is an active treatment method that promotes decreasing stress and increasing beneficial behavior patterns for patients who suffer from mental health issues[21]. The original design of CBT methods customize for individual patients' needs, and thus, allows the treatment to be effective and targeted[21].

Unlike the traditional CBT's approach, which is more treatment-driven[21], the Blues Program utilizes various elements of the traditional CBT methods to implement a school-based CBT program targeting high school students who may be at risk of Major Depressive Disorder (MDD)[22]. The Blues Program is a "certified Model Program" by the Blueprints for Healthy Youth Development, which means that the program has met the evidence-based criteria as well as establishing the quality of the evidence through rigorous randomized-controlled-trials (RCT) and confident intervention impact criteria[23]. With the well-founded evidence provided by the Blueprints for Healthy Youth Development[22] and available resources in Jefferson County for adolescent mental health[15], the "Cardinal's Blues" will be a great fit for implementation in Jefferson County Public Schools (JCPS).

The objectives for the Cardinal's Blues Program are 1) to enroll students who may display the risk factors of Major Depressive Disorder (MDD) or Generalized Anxiety Disorder (GAD) to

the program, 2) to address ways for adolescents to cope with emotional distress through behavioral patterns, and 3) producing future strategies for dealing with stressors. The long-term goals would be reducing the extremity of symptoms related to MDD or GAD, and to decrease the rate of first onset experience of depressive symptoms; albeit the long-term goals stated in the logic model provided by the Blueprints for Healthy Youth Development[22] would take longer for proper assessment than the three-year period of the program. The Blueprints for Healthy Youth Development suggests that the program utilizes the screening tool, such as Center for Epidemiologic Studies Depression Scale (CES-D), for student enrollment to the program[22]. The program will involve the JCPS community including the faculty/staff members of the school along with the parents of students and external organizations who would be valuable resources for the program.

The Blueprints for Healthy Youth Development at the Institute of Behavioral Science, University of Colorado Boulder developed the blueprints for the Cardinal's Blues program[24]. Their mission to generate rigorous evidence-based intervention programs allowed them to develop the Blues Program based on the previously conducted randomized-controlled-trials (RCT)[24]. Based on the provided RCT by the Blueprints for Healthy Youth Development, Austin Independent School District adapted the Blues program and recruited participants of 2% Asians, 9% African Americans, 46% Caucasians, 33% Hispanics, and 10% who specified other or mixed heritage, which is like the demographics of JCPS[25]. Based on the results stated in the provided RCT studies, the late adolescents (age 15 to 19) who participated in the program experienced improvements according to the interviewer-rated assessment right after the program's completion[25], at six month follow-up[25], and at one- and two-year upon completion of the

program [26]. The adolescents who participated in the program also improved social adjustment when assessed six months after the program's completion[25]. The support of evidence and the implementation tools for the program implementation provided by the Blueprints for Healthy Youth Development would assist JCPS to implement the Cardinal's Blues program successfully.

Prior to implementation, we will meet with the stakeholders through focus groups and conduct key informant interviews to receive their input on the program. The stakeholders would include the following members:

*School District Psychologists*: Jefferson County Public Schools (JCPS) have 45 trained school psychologists working in various schools[27]. They provide mental health support by working closely with the student population in Jefferson County and communicate with the parents of the students as well. They would be a group of suitable personnel for the program due to their established rapport with students and parents, as well as their familiarity with the school system's various policies. Dr. Rashawna Mullaney is the appointed lead psychologist for the district[27] and could be the first person of contact to gather school district psychologists. The program would include training of personnel to moderate CBT sessions, and the psychologists would be more familiar with the program's training than anyone within the school district.

*School Faculty/Staff Members*: The program is a school-based intervention and requires cooperation of the school faculty/staff members. The program coordinator will communicate with the faculty/staff members about the program to ensure that the program will not interfere with the scheduled classes and activities. The program will also need their support for recruiting the student-participants and communicating about the program to their parents. Staff members

with specialties such as school nurses and medical professionals could also be facilitators of the CBT sessions.

*Parent Activity Council (PAC)*: Since the target population is late adolescents, the parents' ongoing support for students' mental health care would be crucial for smooth process of program implementation. JCPS has the Parent Activity Council (PAC) who could assist us to gather further information on the student population and to efficiently communicate with other parents who might not be actively involved in the school district.

*External Organization*: As mentioned above, Jefferson County has several external organizations that provide mental health services[15]. Both University of Louisville and Spalding University have graduate students (master's and Doctoral) who work in the Cardinal Success Program[16] and the Center for Behavioral Health[17]. Seven Counties Services also provide mental health services with qualified mental health professionals[14]. With many available professionals and students who are being trained in Louisville, KY, the program coordinator will communicate with them for data collection, assisting CBT sessions with school psychologists for the program, and volunteer in assisting getting access to personnel trainings required for the program implementation.

Upon conducting pre-implementation research, we will identify stakeholders and formulate the community advisory board (CAB). The members of CAB will provide the program's feedback and oversight for the program implementation. While the program coordinator will carry out daily activities and other significant administrative responsibilities, the CAB members will be a crucial resource in providing necessary information to the director and the coordinator. The CAB will include JCPS manager of district health, Dr. Rashawna Mullaney, nurse of health

screening, nurse of health coordinator, a trained mental health professional University of Louisville, Spalding University, Seven Counties Services, and a parent from the Parent Advisory Council (PAC). The CAB will meet monthly in the first year to assist program implementation and will meet quarterly in the second and third year. The meeting will take place in person at the school district office but will provide virtual options for those who cannot attend in person.

*Facilitator Training*

As the program requires one or two facilitators to run sessions, the Blues program suggests the facilitators be mental health professionals who obtained master's degree. The Blues program states that school counselors, nurses, and/or teachers would be ideal candidates to become trained facilitators for the program. They also suggest that other staff members with a high school diploma have two to four years of training or experience working with adolescents in a helping role could implement the program with supervisory support.

The Blueprints for Healthy Youth Development has a master Blues program trainer of trainers (TOT) who provides 8-hour training sessions (done in either one full-day session, or two half-day sessions) virtually or in person[24]. The initial training will include reviewing outcome papers, the program manual, intervention rationale, training through role-play exercises, discussing any issues in process, and crisis response plans[24]. Once the initial training is complete, the program could deliver cohort sessions for facilitator adherence certification process.

The Blueprints for Healthy Youth Development provides a fidelity adherence certificate for any organization implementing the Blues program. The facilitators can send the recordings of two complete cohort sessions (two 6-hour sessions) with the student participants for the master

TOT to review, receive reviews from the master TOT and adherent scores for each session to get the fidelity adherence certificate for the program. After receiving the certificate, they can run the program's sessions without the master TOT's supervision of each session and proceed to get the TOT certification for the program sustainability.

Any facilitators who achieved the fidelity adherence certificate can obtain the TOT certificate. Having a facilitator who has the TOT certification ensures the program's sustainability as the TOT will support the local organization to continue the program. For any TOT trainees to obtain the TOT certificate, they will review the facilitators conducting the program's sessions with the students and provide feedback along with adherence scores. The TOT trainers will review the same materials as the trainees and provide feedback along with adherence scores. When their scores and feedback are within 10 points difference, they begin to train the staff members of their agency for them to become facilitators. The TOT trainer observes the TOT trainee providing materials and training sessions to staff members, and if the TOT trainer deems the trainee trained, the TOT trainee becomes a certified master TOT. Having a master TOT within the school district will provide sustainability of the program and could expand to other counties who might benefit from implementing the Blues Program.

*Pilot Phase with a Cohort*

The program has six 1-hour sessions for a group of student participants to meet with the facilitator as a component. Since the fidelity adherence certification requires each facilitator to record conducting two complete program sessions with cohort participants, the pilot phase of the program implementation will occur simultaneously with the fidelity adherence certification

process. Two facilitators will run two complete sessions with cohorts of adolescents from the chosen school for the fidelity adherence certification process. A new facilitator completing training to become certified could conduct the third cohort of students for the fidelity adherence certified facilitators. A fidelity certified facilitator will supervise the new facilitator as a part of receiving a master TOT certificate.

We will conduct all three cohort sessions in a high school of JCPS. Among high schools in JCPS district, DuPont Manual High school would be a suitable location for the program's pilot phase. The location is close to the University of Louisville, Seven Counties Services office, Spalding University, and the student body is diverse, making it a suitable location for the pilot phase of the program to occur. The Blues Program recommends that each group should have six to eight high school students[22]. DuPont Manual High school has about 1,950 students enrolled, allowing us to have three cohort sessions without issues.

*Participant Recruitment*

The goal of the program is to reach adolescents aged 14 to 19 with symptoms of anxiety, stress, negative thoughts, and depression. The program is suitable for students interested in learning about effective coping skills and supporting their friends with the knowledge they gain from it. The coordinator will recruit student participants using diverse methods. Previous research has recruited participants through mass mailings, handbills during lunch hours, and posters around hallways throughout the school property[25]. For the program's purposes, we will utilize the homeroom time to conduct a school-wide electronic survey asking if students are interested in participating in the program. If any students are absent during the homeroom time,

they will receive an email containing the link to the survey. The parents will receive an email containing information about the survey the day before conducting the survey.

The program is not appropriate for adolescents who have untreated MDD/GAD or meet the criteria for MDD or GAD as the program is a prevention program, not a treatment program. Therefore, the program will require a screening procedure before enrolling any participants to the program. For streamlining and efficiency purposes, the students expressing their interests in participation based on the school-wide survey will receive a digital consent form for them to fill out. If they are younger than 18 years of age, they will need parental consent as well. The consent form will contain information on collecting CES-D results of students, enrollment eligibility criteria, the program's goals, detailed session activities, and contact information of the program coordinator/director. Once the coordinator receives appropriate consent from the students and/or the parents, they will receive an electronic, self-administered CES-D. If a student is interested in participating in the program but meets the criteria of suicidal ideation or any other serious mental health issues, the program will immediately notify the parents and refer them to appropriate treatment services. Adolescents who have history of mental health conditions, but do not meet the criteria for suicidal ideation or any serious mental health issues at the time of the screening will be eligible to participate in the study.

Students with history of mental health conditions and adolescents who screen to possess two or more symptoms will receive a message encouraging them to participate in the program upon submission of CES-D. Those students who meet the eligibility criteria to participate in the program will receive a follow-up email with the program information, sign-up form, and the coordinator/director's contact information. The parents of those students eligible for the

program will receive a similar email with the program information and the contact information of the program coordinator.

*Session Activities*

The program engages the participants actively through various activities and assignments. Each session will be one hour long, and the complete program has six sessions. Throughout the program, the group will build rapport with one another and engage in various pleasant activities. The participants will receive all materials required for completion of the program during their sessions accordingly from the facilitator(s). The facilitator will utilize the program manual to moderate each session and will adhere to the structured guidelines of content and time limits for fidelity adherence to the original program. For the best participant retention rates, the students will receive snacks and drinks throughout the program and a certificate of completion after the program is complete.

Table 1: Session Schedule with the List of Activities

| Schedule | Activities |
|---|---|
| Session #1 | • Introduction and the overview of the program.<br>• Establishing confidentiality and what respect entails.<br>• Practicing triangle diagram, changing thinking, changing doing, and benefits of the activities.<br>• Home exercises. |
| Session #2 | • Review concepts from Session #1.<br>• Dive deeper into the concepts of Changing Thinking.<br>• Challenging negative thoughts and brainstorming the alternatives.<br>• Home exercises. |
| Session #3 | • Review concepts from Session #2.<br>• Challenging negative thoughts practice by asking ourselves, “where’s the evidence?” |

| | |
|---|---|
| | • Elaborate benefits of cognitive restructuring and how challenging negative thoughts could produce positive outcomes.<br>• Home exercises. |
| Session #4 | • Review concepts from Session #3.<br>• Improving cognitive restructuring by facing negative thoughts that might be true; learning how to react to them.<br>• Brainstorming for coping strategies.<br>• Home exercises. |
| Session #5 | • Review concepts from Session #4.<br>• Training our minds to plan coping strategies for future negative thoughts.<br>• Brainstorming what daily hassles may occur in the future; also brainstorming fun activities that would counter the negative thoughts produced by daily hassles.<br>• Home exercises. |
| Session #6 | • Review concepts from Session #5.<br>• Training our minds to plan for major life events that could happen in the future.<br>• Brainstorming what coping mechanisms would produce the best outcomes for dealing with major life events.<br>• Provide the Positive Emotions Toolbox with elaboration.<br>• Conduct the Exit Questionnaire. |

The coordinator and the program director will provide the copies of the program manual and the student handbook to corresponding facilitators during the training sessions.

The students will have completed CES-D screening before and after the program enrollment to assess how their mental health symptoms and conditions have changed. As the Blues Program recommends, the coordinator will utilize a digital, self-administered version of CES-D during the participant recruitment process and after the program completion of participants. The results of CES-D will be secure on JCPS district's password-encrypted server, and only program personnel with granted access will have permission to obtain the results. The recorded sessions for facilitator training purposes will be saved on a password-encrypted storage, and the trainee

facilitators will send password-encrypted emails under the firewall protected servers to ensure the participant confidentiality.

*Year 2 & Year 3*

Upon the completion of the pilot phase of the program in the first year, the program will expand at a larger scale via established partnerships within the school district and the help of external organizations. Year 2 of the program will focus on implementing the program in various schools within JCPS to reach more students from various backgrounds. While the program is expanding, the coordinator will conduct follow-up assessments of the three cohorts of participants who completed the program in Year 1. With more facilitators who could moderate session activities with participants, the program could have six groups completing the program simultaneously through a partnership with the school district, school psychologists, and graduate students. The CAB meetings will occur quarterly as the program has completed its pilot phase.

Year 3 of the program will focus on implementing it with more groups and evaluation of the program to see its efficacy. The CAB meetings will go over findings and reports based on the data collected from the program evaluations to see if the program is sustainable in the future. With the number of certified professionals to moderate session activities, the program could have eight groups completing the program. The data collection will occur as the program progresses, and the data analysis will be available for reporting the results of the program with the funding agencies and stakeholders.

*Integration of School Social Media & Mass Communication*

The coordinator will recruit students through mass communication methods such as school-wide announcements before school starts and after school is over. One of the methods that schools utilize is chain-email communication. The school administrator could utilize email communication to advertise and recruit students for the program throughout the three-year period of the program. While email communication would be effective, ensuring fidelity of recruitment and communication could call for integration of school social media as a communication method. Though social media has been associated with negative impact on adolescents' mental health, they can potentially provide social support along with being the informational resource on mental health care[28]. Thus, integrating both the email communication chains, social media threads, along with physical posters around school campuses would produce the best outcome.

*Community Engagement*

While the program is a school-based intervention, the program's efficacy and impact could extend to other parts of the community. External organizations such as University of Louisville, Spalding University, and Seven Counties Services offer mental health services. If proven effective, the program could extend to other school districts through partnerships with the external organizations' support. The schools will also have students who are experiencing severe symptoms of MDD and GAD. The program will refer the students who suffer from MDD and GAD to professional mental health treatment services accordingly as the Cardinal's Blues program is a prevention program and not a treatment program. Building firm partnerships with surrounding organizations of JCPS would benefit the crisis action plans for the program

coordinator, facilitators, and the program director. Having a solid referral system within the school system will also raise awareness of those existing services for students if they ever need to receive appropriate treatments.

*Possible Challenges*

The students at risk or showing preliminary symptoms of depression and anxiety will benefit from participating in the program. However, if the students desire to participate and CES-D results indicate that the students meet the criteria of MDD or GAD, the students cannot enroll in the program as it is a prevention program. The coordinator must refer students to other school-based services provided via the partnership with the Seven Counties Services, or to other external organizations' services. The inclusion/exclusion criteria for the program may be a challenge for recruiting appropriate students for each program session. Thus, creating an efficient and streamlined system of student recruitment will play a crucial role in making the program implementation smooth.

Another challenge is building a sustainable support system with the school faculty/staff members. They are crucial members of the school district as they spend most time with the target population and have other primary responsibilities that deal with academic aspects of the school system. We will continue building rapport with them and build an efficient communication chain to avoid miscommunication of any forms.

Parents' support for the program will be important as they must sign consent for their adolescent students to participate in the program. The coordinator along with the school

psychologists will communicate with the parents and hold Q & A sessions if they have questions about the program in depth.

## PROGRAM EVALUATION

Cardinal's Blues Program aims to facilitate group CBT sessions for reducing depressive symptoms, developing strategies for coping stressors, and building social support among high school students. We will work to achieve the listed goals by providing necessary certification training and supporting JCPS school district to adhere and establish self-efficacy in facilitating the program sessions with high school students. The program will have fidelity evaluation and outcome evaluation as discussed below. The design of the program will implement the Blues Program's Fidelity Verification Process, which promotes model adherence, quality implementation, sustainability, and demonstrating program outcomes and impact[22]. Therefore, both fidelity evaluation and outcome evaluation will adapt their corresponding components from the provided evaluation tool.

### *Fidelity Evaluation*

The program requires all facilitators to receive training to become certified facilitators who can moderate the program's sessions without any supervision. The certification process requires all training facilitators to submit the recording of two complete cohort sessions to the expert trainer of trainers (TOT), receive feedback on fidelity adherence, and become certified. Once the facilitators complete the fidelity adherence certification process, they can moderate the program's sessions on their own, which enhances the sustainability of the program.

The fidelity evaluation will occur in the first quarter and the second year of the program. The program coordinator and director will both complete the fidelity evaluation based on the criteria and items from the Fidelity Verification Process. Upon completion of the evaluation, they will report the evaluation with the grant agency to ensure that the program adheres to the planned processes of implementation, program delivery, and sustainability. Each item on fidelity evaluation will utilize the following ratings:

| Rating Scale | Description |
|---|---|
| Excellent implementation (1) | • The site is implementing with an outstanding level of fidelity and exceeds expectations in various areas.<br>• The program has been adhering to the provided model and serves as a model site to others implementing the program.<br>• The program is achieving all required deliverables, and it anticipates positive future outcomes. |
| Strong/sufficient implementation (2) | • The site is implementing with sufficient level of fidelity.<br>• The program has been following the provided model without significant concerns or with minimal recommendations for improvement.<br>• The program is achieving expected outcomes and should continue in the future. The program should generate positive outcomes under the assumption of continuing to implement at the current level. |
| Improvement needed (3) | • The site must make significant changes and improvements to the current implementation.<br>• The program has not been following the provided model and does not possess the level of fidelity.<br>• If the site takes corrective actions in a timely manner, it could still achieve the expected outcomes. |
| Serious implementation concerns (4) | • There are serious concerns concerning implementation. The site does not implement with fidelity and has not adhered to any of the program model as designed by the developer.<br>• The site should continue to work closely with the program coordinator/director to develop a |

| | |
|---|---|
| | corrective action plan and should improve quality of implementation. |

The program coordinator and director will utilize the ratings above to score each item of the fidelity evaluation. The items on the fidelity evaluation will include the following:

| Item | Description/Criteria |
|---|---|
| 1. Recruitment/Population Served/Target Numbers | • The program has a clear process and effective strategies for recruiting participants.<br>• Participants meet the model's target population.<br>• Group sizes are consistent with the model (6 to 10 participants per group). |
| 2. Training/Staff and Oversight | • Facilitators have received the required training in the model, from an approved trainer and in a timely manner.<br>• Staff have received the recommended level of supervision.<br>• Staff have the required qualifications to implement the program. |
| 3. Duration and Dosage | • The site is delivering the program with the correct intensity (frequency) for the model.<br>• Program is retaining participants for the required level of fidelity.<br>• Program is being delivered with the desired duration (length of program) for the model. |
| 4. Clinical Fidelity | • The site employs the guiding principles, phases of treatment, and/or strategies and techniques identified by the model appropriately and competently. |
| 5. Fidelity Measurement | • The master TOT has a scheduled fidelity monitoring sessions outside of facilitator fidelity adherence training sessions.<br>• The facilitators adhere to the manual for content of each session and ensures each participant receive the corresponding material(s). |
| 6. Program/Model Adherence | • The site is following all required practices for the program concerning staffing, training, caseloads, assessment, documentation, dosage, and duration, etc.<br>• The program follows the model with minimal adaptations. |

The program coordinator and director will complete the fidelity evaluation form of listed items with above ratings for each item and will send it to the program provider. The program

provider will submit it to the funding agency to ensure that the program meets the standard of process evaluation in place.

*Outcome Evaluation*

The program aims to reduce any onset of depressive symptoms and prevent adolescents from meeting all criteria for Major Depressive Disorder (MDD), Generalized Anxiety Disorder (GAD), and/or other serious mental health conditions. The Center for Epidemiologic Studies Depression Scale (CES-D) is a proven depression scale with the reliability measured in Cronbach's alpha being 0.87 and a proven level of validity[29]. Through participants' CES-D results collection, the program already has data to assess if the program is meeting the expected outcome. The items of CES-D will be in Appendix E.

The Blues Program recommends all participants to complete the program by attending all six sessions and engaging in each week's activities. The facilitators will have In-Session Tracking forms which will contain a section with attendance and another section about homework completion. The attendance section of the In-Session Tracking form will provide how many participants did not complete the program, and at which point each participant withdrew from the program with or without explanations. It will also provide information regarding the participant's attendance in-person and/or online.

The students participating in the program will also receive an Exit Questionnaire that collects their feedback related to the overall impression of the program, motivation for attending each session, rating group leaders (facilitators), and suggestions for improvements. The number of Exit Questionnaire completed will be a point of comparison to assess how many enrolled

students completed the program, and the students will have an opportunity to rate the program from their perspectives.

## CAPACITY OF APPLICANT ORGANIZATION

Jefferson County Public Schools (JCPS) will oversee the Cardinal's Blues program as it employs the program director and the coordinator. Jefferson County Public Schools (JCPS) district is the largest school district in Kentucky and is in the nation's top 30 largest school systems. JCPS serves 79 percent of all children in Louisville/Jefferson County (96,148 students) and operates 165 schools. JCPS plays a critical role for the adolescent population in Louisville/Jefferson County by promoting caring, equity, excellence, respect, individuality, diversity, opportunity, creativity, collaboration, and stewardship. Their mission is to challenge and engage learners to grow through effective teaching and meaningful experiences in caring, supportive environments. 83% of teachers working at JCPS have a master's degree or higher education.

JCPS has the necessary infrastructure and faculty/staff members with the levels of expertise in place to manage a large-scale intervention grant to support adolescent mental health. The district conducts various data collection annually for schools' needs assessment and data reporting to the Kentucky Department of Education. With professional staff members such as Dr. Rashawna Mullaney, the district's lead school psychologist, and Dr. Krista Drescher-Burke, the district's community data specialist, JCPS will have the capacity to implement and oversee the program.

JCPS has also established partnerships with organizations such as Seven Counties Services, the University of Louisville, and Bellarmine University, focusing on expanding school-based programs and services for students of any socioeconomic and racial background. The partnership with the University of Louisville has been addressing limited resources, structures hindering them from expanding the quality/quantity of services, and the need for firm communication pathways. Through the partnership, they have engaged graduate students as valuable resources for various sectors providing services. Bellarmine University also implemented its community capacity-building project by partnering with the JCPS. With community partner organizations supporting the JCPS district to serve many students in Louisville, we will deliver the program adhering to the Blues program's original blueprint and effectively to a wide array of students to improve their overall mental health outcomes.

## PARTNERSHIPS WITH COMMUNITY ORGANIZATIONS

As mentioned, Cardinal's Blues program involves building partnerships with existing community organizations. Jefferson County Public Schools District will primarily collaborate with the departments of behavioral health and psychology at the University of Louisville to sustainably implement the program. The program will benefit the graduate students by providing field experience in data collection, working with adolescent populations, and first-hand training for Cognitive Behavioral Therapy (CBT) sessions designed for the program. The partnership will benefit the district by providing graduate students who are currently learning and training to be future professionals working in the fields of behavioral health and mental health alike.

Other partnerships including Seven Counties Services and Spalding University's department of Behavioral Health will provide support to provide necessary mental health treatments for students who meet the criteria for Major Depressive Disorder (MDD) according to self-administered CES-D results obtained during the participant recruitment process. They will be necessary for those students who need attention for individualized treatments and cannot enroll in the program.

Table 2: Community Partnerships

| Organization | Expertise | Roles |
|---|---|---|
| University of Louisville (U of L) | Expertise in training future professionals in the fields of behavioral health and clinical psychology. | U of L will help with providing additional staff members based on graduate students who need to obtain practicum experience. Graduate students will work for data collection, assisting various group sessions, and additional research tasks related to the program implementation. |
| Seven Counties Services | Expertise in providing school-based mental health services that broadens access to various adolescent populations. | Seven Counties Services will serve as the point of providing treatment services for JCPS students who meet the criteria for Major Depressive Disorder (MDD). They will provide guidance on building a better referral system in which the school staff members can refer students to the services as well as parents. |
| Spalding University | Expertise in training doctoral students in behavioral health and providing treatment services. | Spalding University will also serve as the point of receiving referrals from JCPS for any students struggling from MDD. They also have graduate students who would be eligible to be the session facilitators. |

Our community partnerships will allow us to connect with the community to help understand what other mental health needs there are. Some of the organizations will provide valuable insights and information regarding funding for program implementation and support the program by providing additional resources that the program might need for a successful

implementation. We will also engage the partner organizations to analyze the outcomes of the program to widen the reach of the program to other districts in the region.

## PROJECT MANAGEMENT

The program director and the coordinator will oversee *Cardinal's Blues* program implementation in close collaboration with JCPS faculty and staff members. Varying educational backgrounds and experience of involved personnel will establish a firm foundation for smooth implementation. The program director, program coordinator, and graduate assistant will meet weekly, and they will meet with faculty/staff members bi-weekly to ensure quality coordination for the program. The team will meet with stakeholders serving on the Community Advisory Board throughout the program.

Dr. Rashawna Mullaney, Psy.S, will serve as the program director for *Cardinal's Blues*. She obtained her Psy.S degree in School Psychology from Eastern Kentucky University and has been working as a school psychologist for 24 years at the Jefferson County Public School districts. She has established competency in identifying learning disabilities, Attention Deficit Hyperactive Disorder (ADHD), and autism in students. She also has provided consultation to parents and school staff in designing instruction and accommodations to meet their needs as a school psychologist. With her experience and expertise in the field, she will oversee the implementation of the program, supervision, financial management, and community engagement via the Community Advisory Board.

Loui Chang, MPH, will serve as the Program Coordinator for *Cardinal's Blues*. He received his MPH degree from the University of Kentucky College of Public Health in 2023 and began

working for the Jefferson County Public Schools District. Mr. Chang will serve as the main contact personnel and manage daily operations for the program. His responsibilities will include data collection, analysis, communication with the community organizations, participant recruitment, and facilitator training. He will work with the program director, school district, and facilitators to develop a program timeline and plan before the program implementation. Mr. Chang will work with the PAC to recruit participants and work with community organizations to build a referral system.

Since the program is a school-based intervention, we will involve school staff and faculty members as key personnel for program delivery. Elise Christensen, LCSW and Terri Kendall, Psy.S work as mental health professionals within JCPS district. They will serve as liaison for faculty and staff members, and they will be two trained facilitators in the beginning of the program implementation. Their educational backgrounds and experience in the field of mental health will support them with necessary knowledge and skills to be trained as facilitators for the program sessions, and they will serve as the first master Trainer of Trainers (TOT) located in the district.

## BUDGET JUSTIFICATION

*Program Director*

Program director oversees the initial program planning including recruiting facilitators for the program and coordinating initial training for facilitators. The position also has additional supervisory responsibilities and communication with the coordinator to ensure the program is adhering to the fidelity of the original model and progressing to meet the goals. Additionally, the

director will work with community organizations to build firm partnerships and communicate any referral systems that are in place.

| | Pay | Time | Fringe | Amount Requested |
|---|---|---|---|---|
| Year 1 | $100,000 | 40% | $10,082 | $65,205 |
| Year 2 | $103,000 | 30% | $7,789 | $56,862 |
| Year 3 | $106,090 | 25% | $6,685 | $53,263 |
| | | | 3-Year Total = | $175,330 |

*Pay increases reflect an average annual increase by 3%
**Fringe is calculated in Table 3

*Program Coordinator*

The program coordinator will have responsibilities for coordinating necessary staff members for successful program development, delivery, and communication with necessary stakeholders and/or audience. They will be the main point of contact between the school district, partner organizations, staff/faculty members, and the program director. Additional responsibilities will include the supervision of daily operations of the program, facilitating program meetings, and initial partnership/community outreach.

| | Pay | Time | Fringe | Amount Requested |
|---|---|---|---|---|
| Year 1 | $60,000 | 100% | $15,123 | $75,123 |
| Year 2 | $61,800 | 100% | $15,577 | $77,377 |
| Year 3 | $63,654 | 100% | $16,044 | $79,698 |
| | | | 3-Year Total = | $232,198 |

*Master Trainer of Trainers (TOT)*

A total of two staff members will be the first facilitators to be certified by the fidelity adherence certification process of the Blues program, and they will be the first staff members to be certified to be master Trainer of Trainers (TOT). Their main responsibilities will include operating program

sessions as facilitators including interacting with adolescent participants and training future facilitators. They will hold a crucial role in establishing the program sustainability for the district and other communities around the region.

| | Pay* | Time | Fringe** | Amount Requested |
|---|---|---|---|---|
| Year 1 | $60,000 | 100% | $15,123 | $75,123 |
| Year 2 | $61,800 | 100% | $15,577 | $77,377 |
| Year 3 | $63,654 | 100% | $16,044 | $79,698 |
| | | | 3-Year Total = | $232,198 |

*Fidelity Certified Facilitators*

A total of ten staff members will receive fidelity adherence certification, which will allow them to operate weekly sessions with student participants without any supervision of the master TOT. They will work 2 hours a week for 24-total weeks of the year. Each week, facilitators will moderate weekly sessions conducting activities, tracking student progress, and following the fidelity of the original model.

| | Pay | Time | Fringe | Amount Requested |
|---|---|---|---|---|
| Year 1 | $5,000 | 24 hours | $1,260 | $6,260 |
| Year 2 | $5,150 | 24 hours | $1,298 | $6,448 |
| Year 3 | $5,305 | 24 hours | $1,337 | $6,642 |
| | | | 3-Year Total = | $19,350 |
| | | | 10 Facilitators × 3-Year Total = | $193,500 |

*Incentives*

Student participants who complete the program will receive a completion certificate along with the incentives worth $10. With an estimated 100 students a year and the potential for the $10 incentives, a total of 300 incentives must be budgeted. Therefore, $3,000 will be reserved for

program completion incentives for students. Aside from completion incentives, small rewards will be provided for each session such as candies, pens, and stickers. The miscellaneous rewards for up to 10 student participants per session must be reserved, and thus, $1,000 will be budgeted.

*Supplies*

The program requires utilizing whiteboards within the classrooms along with printed materials for each session handouts, workbooks, data collection resources, and facilitator manuals. Most of necessary supplies will be available within each school but must be budgeted to guarantee resource accommodation. A total of $2,000 will be budgeted for supplies each grant year.

*Space Coordination*

The program delivery will occur in school classrooms. Though the schools will oversee the program and have classrooms available, the program delivery is outside of school's jurisdiction. Thus, the space coordination will be budgeted separately for the program delivery. A total of $2,500 will be budgeted for spaces each grant year.

*Training*

The Blues Program provides initial training for facilitators virtually. The initial training will be 8 hours long and will cost a total of $2,800. Then, the facilitators will need to obtain the Blues Program's fidelity adherence certificate to operate a model adherent session without any supervision. The fidelity adherence certification will cost a total of $2,700 per facilitator, and a

total of $32,400 for all staffed facilitators. Two staff members will become the master Trainer of Trainers for the district and the region for the program sustainability. The master TOT certification will cost a total of $3,475 per certification, and a total of $6,950 for both staffed master TOT. In total, $42,150 will be budgeted for the program's necessary training.

*Fringe Benefits*

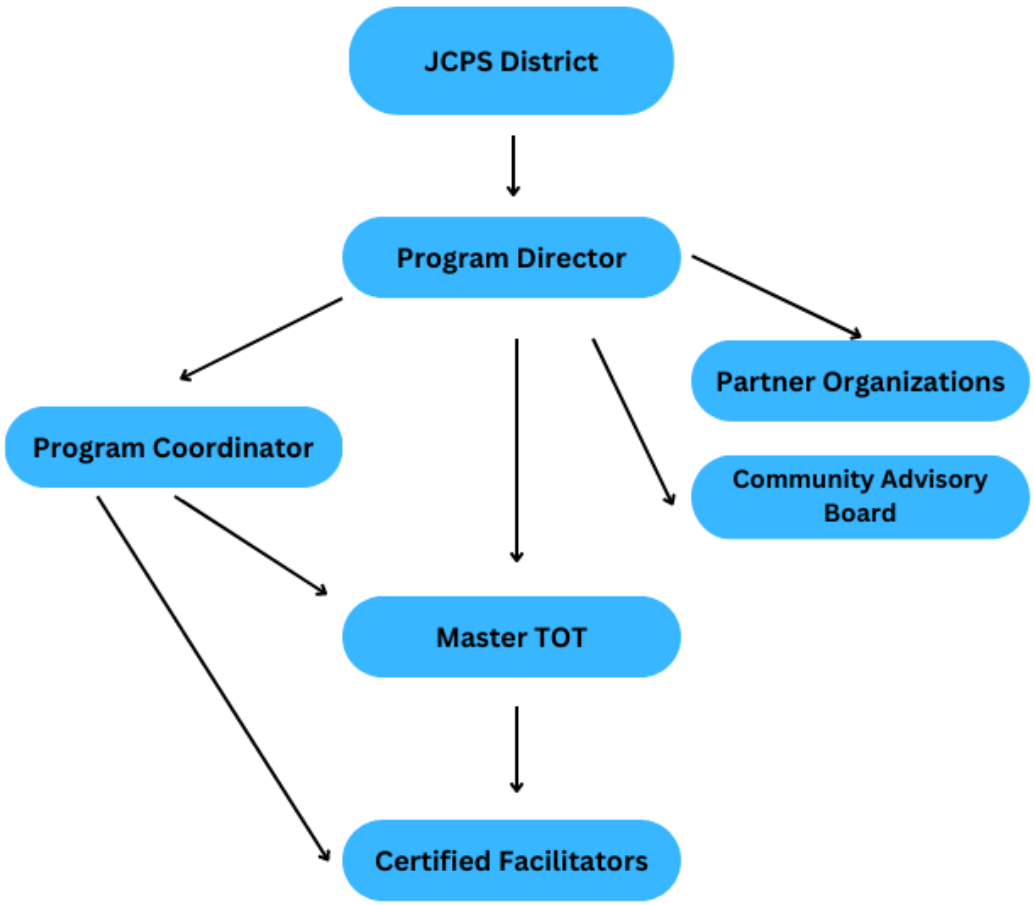
The following table is a complete description of the fringe benefits provided for all staff members:

| Table 3: Calculations for fringe benefits* Percent of Salary | |
|---|---|
| Social Security | 7.65%<br>*Salary x 0.0765 x 3* |
| Retirement | 10%<br>*Salary x 0.10 x 3 x # of staff* |
| Life Insurance | 0.055%<br>*Salary x 0.00055 x 3 x # of staff* |
| Other fringe | 2.5%<br>*Salary x 0.025 x 3 x # of staff* |
| Staff Bonus (after each year of employment) | 5%<br>*Salary x 0.05 x 3 x # of staff* |

**APPENDIX A.** Overall Program Budget

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| A. Personnel | $285,123 | $285,973 | $290,590 |
| B. Fringe Benefits | $68,051 | $67,500 | $68,187 |
| C. Training | $42,150 | $29,800 | $29,800 |
| D. Supplies | $2,000 | $2,000 | $2,000 |
| E. Space Usage | $2,500 | $2,500 | $2,500 |
| D. Incentives | $4,000 | $4,000 | $4,000 |
| Total | $403,824 | $391,773 | $397,077 |

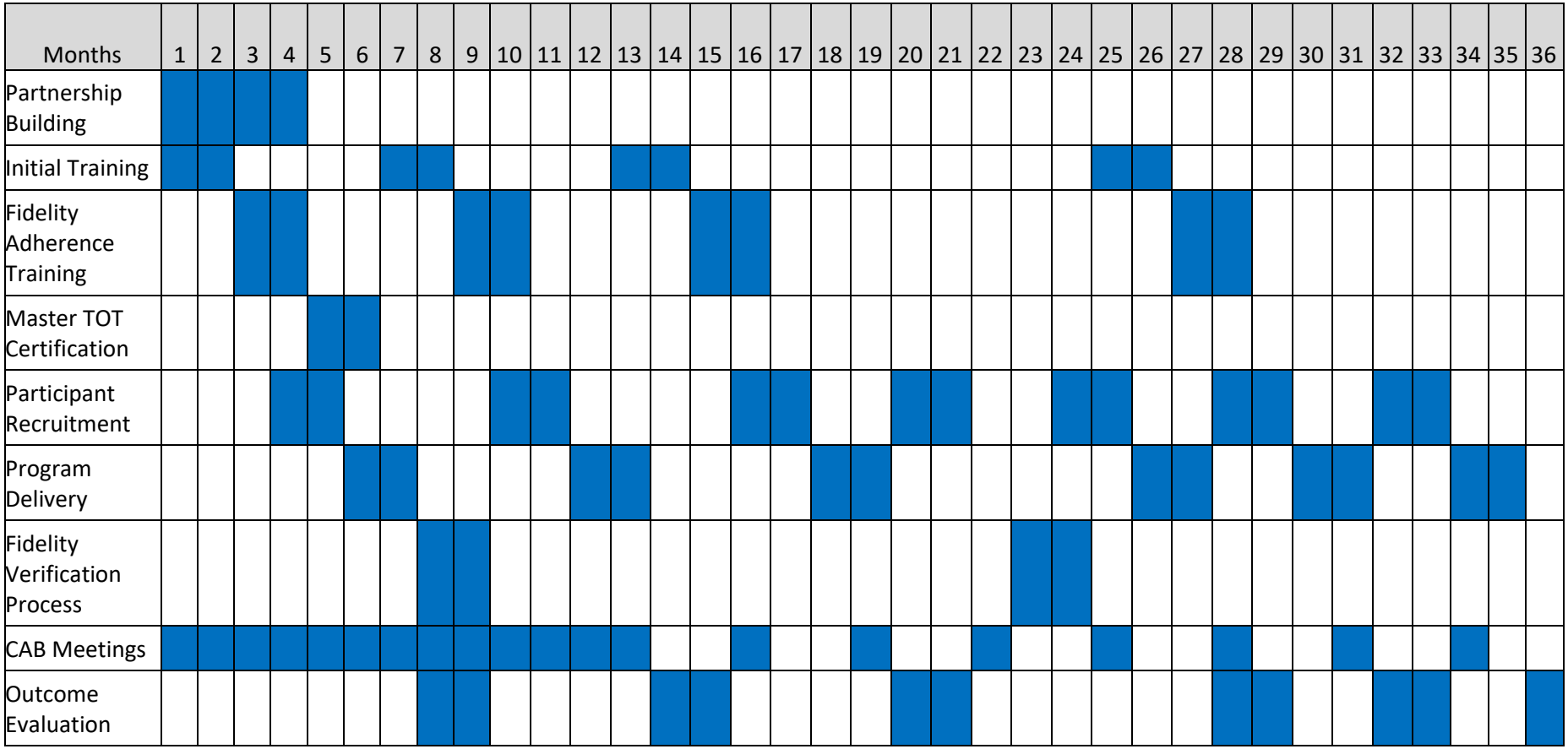
**APPENDIX B.** Organizational Chart



**APPENDIX C.** Cardinal's Blues Intervention Logic Model

| Inputs | Activities | Outputs | Outcomes | | |
|---|---|---|---|---|---|
| | | | Short-term | Intermediate | Long-term |
| • Facilitators<br>• Master Trainer of Trainers (TOT)<br>• Program Coordinator<br>• Program Director<br>• School faculty/staff<br>• JCPS School Psychologists<br>• Seven Counties Services<br>• Parent Advisory Council (PAC)<br>• Blueprints for Healthy Youth Development<br>• University of Louisville<br>• Spalding University | • Initial training<br>• Program manual<br>• Fidelity Adherence certification<br>• School-wide recruitment surveys<br>• Self-administered CES-D<br>• Consent<br>• Program enrollment<br>• Attending weekly sessions<br>• Group Activities | • Positive thinking practice<br>• Motivation enhancement exercises<br>• Triangle of Feelings, Thoughts, and Actions<br>• 1+2=3 Method<br>• Thought Identification Recording<br>• Mood Journal | • Reduced negative cognitions<br>• Increased positive thinking patterns<br>• Greater improvements in social adjustment<br>• Increased reports of pleasant activities | • 40% lower rate of depressive symptoms after cohort completion<br>• 40% cohort participant completion<br>• Referrals to mental health services when necessary<br>• 30% adolescent participation rate | • Decreased severity of depressive symptoms<br>• Preventing the onset of major depressive disorder (MDD)<br>• Increased social support among adolescents<br>• Decreased rate of MDD |

APPENDIX D. Gantt Chart



APPENDIX E. Self-administered CES-D Sample.

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week:

| During the past week… | Rarely or none of the time (less than 1 day) | Some or a little of the time (1-2 days) | Occasionally or a moderate amount of time (3-4 days) | All the time (5-7 days) |
|---|---|---|---|---|
| 1. I was bothered by things that usually don't bother me. | 0 | 1 | 2 | 3 |
| 2. I felt that I could not shake off the blues even with help from my family. | 0 | 1 | 2 | 3 |
| 3. I had trouble keeping my mind on what I was doing. | 0 | 1 | 2 | 3 |
| 4. I felt depressed. | 0 | 1 | 2 | 3 |
| 5. I thought my life had been a failure. | 0 | 1 | 2 | 3 |
| 6. I felt fearful. | 0 | 1 | 2 | 3 |
| 7. I felt that people disliked me. | 0 | 1 | 2 | 3 |
| 8. I felt lonely. | 0 | 1 | 2 | 3 |
| 9. My sleep was restless. | 0 | 1 | 2 | 3 |
| 10. I could not "get going." | 0 | 1 | 2 | 3 |
| Total Score | | | | |

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