# SHIELD ILLINOIS NOTICE OF FUNDING OPPORTUNITY

# IIN AND SHIELD ILLINOIS RESEARCH

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## INTRODUCTION

 SHIELD Illinois, (also referred as "SHIELD"), is the University of Illinois System's initiative to make the innovative saliva-based covidSHIELD COVID-19 test available to: K-12 schools, colleges, universities, companies, and the public across the state of Illinois. SHIELD began testing in the Fall of 2020. SHIELD's clients are across the state of Illinois and included over 1,700 K-12 schools at its peak, as well as other higher education institutions, community colleges, and other organizations.

SHIELD grew rapidly in its tenure. SHIELD progressed from processing less than 5,000 tests in the Fall of 2020, 85,500 tests in May 2021, and just under 900,000 tests in January 2022. SHIELD crossed the 6-million-test threshold in May 2022, and surpassed the 7 million-test threshold in February 2023.

SHIELD started with fewer than 10 direct employees in 2020 and grew to over 300 direct employees by early 2022. The most growth experienced at SHIELD was during the time of April 2021 to November 2021, when SHIELD grew from 70 direct employees to over 280 direct employees, increasing 300% within about 7 months.

It is even more pertinent to understand that SHIELD's growth occurred during a time of increased business challenges across the world. For instance, talent shortages, supply chain issues, material shortages, and general economic uncertainty during the pandemic has created a unique landscape that has required SHIELD to adapt their strategy continuously.

SHIELD is soliciting proposals for both basic and applied research in the topics outlined in PART I. To be eligible for consideration, the proposal must meet the requirements for scientific study and items outlined in PART I. The proposals submitted under this notice of funding will be subjected to review.

## POINT OF CONTACT

For contractual questions contacting proposals contact: Anna Pinsoneault via email at annap@uillinois.edu

## PART I

### BACKGROUND AND RESEARCH INTERESTS OF THE RESEARCH LABORATORY

SHIELD Illinois, the non-profit COVID-testing unit of the University of Illinois System, in conjunction with Illinois Innovation Network (IIN) is seeking to better understand the broader impacts of the SHIELD Illinois unit and discover best practices for guiding public responses to future crises. The result will be peer-reviewed publications and academic case studies across dozens of different topics and disciplines. Findings will be utilized by key stakeholders to further guide future pandemic responses and provide insights.

The Goals of our research are:

1. Fund academic and public health research throughout the United States.

2. Produce academic publications and case studies to provide a legacy for SHIELD and understanding of lessons learned throughout this time.
3. Determine how SHIELD Illinois can add value to public health and the safety of PK-12 schools, higher education institutions, and organizations in future pandemics through understanding our operations, best practices, and impact of testing programs.
4. Utilize quantitative and qualitative research findings and insights to inform and guide leaders during future pandemics.

**Cost Proposal Preparation**

The cost portion of the proposal should show:

A. Personnel:
B. Fringe Benefits:
C. Travel:
D. Equipment:
E. Supplies:
F. Other (Must be specific)
G. Funding available to match (Detail all sources)
H. Funding for UIUC, UIC, or UIS (specify recipient and amount):
    1. Please note if any funding will be directed to University of Illinois Chicago, University of Illinois Springfield, or University of Illinois Urbana-Champaign regardless of role in the project or the AG line item.

**SHIELD ILLINOIS LABORATORY**

I.     Introduction

SHIELD is looking to provide funding to research that could provide public health insights by the analysis of SHIELD's impact, organizational growth, strengths, capabilities, data processes, and operations to serve as guidance during a future pandemic. Examples of such research projects include, but are not limited to:

II.     Research Areas
A. SHIELD as an intervention
    1. Determine how SHIELD can best support the public health and safety of K-12 schools, higher education institutions, and organizations by understanding our operations, best practices, and the impact of public health programs.
    2. Investigating the effect of not utilize a testing program is also pertinent. Study those who did not use SHIELD or other interventions and the impacts across different categories, specifically quantitative data, not anecdotal evidence.

3. What sort of value did SHIELD have in urban areas vs. rural areas? Should testing strategies be deployed differently in metro areas vs. rural areas? Are rural areas better isolated if testing is better?

4. What worked best in rolling out testing on a state level? At what level were different aspects best handled?

B. The Impact

1. Understand the impact of Shield. This can include costs in relation to benefits of SHIELD testing including, but not limited to social, economic, and educational. Some examples could include lives saved through testing, downstream community effects, jobs created, educational effects through keeping children in school, and the future long-term health consequences prevented through testing.

2. Similar states had similar testing capabilities as University of Illinois, however, they did not use them. For example, University of Wisconsin and University of Michigan have similar resources but leadership decided not to pursue a testing program. What were the outcomes within those states based on leadership decisions?

3. The impact of testing on outcomes (mortality, hospitalization, school learning loss, etc.).

4. Other impacts on: a) Public Health, b) Education, c) economy (keeping business operation), d) innovation in government, e) Crisis responses are also warranted.

C. Lessons Learned

1. Case study of SHIELD Illinois from an organizational standpoint; how we were formed, what was done well, - how we worked together to scale-up quickly, the impact and example for the future - Why were mitigations like testing relatively easy to implement in some areas but not others? How does institutional support, partnerships, infrastructure, and other factors impact mitigation efforts?

2. What role does institutional leadership and program "champions" play in successfully combating and mitigating public health emergencies?

3. Lessons learned from early and comprehensive testing in mitigation of the untoward consequences of generalized policies across all population segments.

4. Lessons learned in speed to market testing by separating the workgroups of SHIELD vs. SHIELD IL vs. SHIELD T3 (University of Illinois spin-out providing the covidSHIELD test outside of Illinois) .

D. Utilizing Data

1. Utilize quantitative and qualitative research findings and insights to understand SHIELD's growth, capabilities, and strengths to better inform future decision-making processes.

2. Utilize SHIELD Illinois' data and academic expertise to produce actionable insights. Lessons learned from a leadership and operational standpoint (e.g., How could we reduce the cycle time around decision making?).

3. Network analysis of public health communities and how they functioned.

4. How do we account for the starkly different mortality rates across geographic or socio-economic areas including within regions and adjacent counties with common hospital feeders?

5. Conduct a study surrounding misinformation about SHIELD Illinois within the news, etc.

6. Analysis of success of public health initiatives pointing at disinformation, community support, death rates, and data.
7. Best practice data architecture for data collection and dissemination for public health, research, and privacy concerns.
8. Data analysis within and among population cohorts and settings of infection transfer.
9. How could our data platform have been set up in a more efficiently to improve interoperability? Could SHILED data have been used to better inform public health officials, schools, or communities? For instance, did the whole state have to be shut down or could we have shut down certain areas throughout the pandemic with a more analytical data platform?

## PART II

## PRE-PROPOSAL AND PROPOSAL EVALUATION

A. All proposals submitted to this notice of funding should include a Cover page, an abstract, project description, a scope of work, team biographies, and a cost proposal (further details are outlined in part III). Upon submission, a review committee consisting of University of Illinois System leadership and SHIELD leadership will evaluate all proposals received and will determine projects to be funded.

B. Proposals submitted in response to this notice of funding will be evaluated using the following criteria:
   1. The overall project and activity alignment with SHIELD Illinois areas of interest
   2. Project addresses SHIELD Illinois area(s)
   3. Scope of Work
   4. Budget / Availability of Funds

C. Priority will be to the following types of projects:
   1. Projects that will help understand the multiple facets of SHIELD including strengths, capabilities, impact, organizational growth, supply chain, logistics, internal processes, data, human resources, culture, and operations.
   2. Projects that will help understand how to handle future COVID variants, future pandemics, public policy, educational policy, and other public health programs.
   3. Projects that will produce econometric models to better understand the costs of the pandemic. Some examples could include but are not limited to the cost of a positive patient, the impact of SHIELD on a school, educational/developmental outcomes, effectiveness of public health initiatives, and the cost of a keeping a child out of school.
   4. Projects that provide a unique viewpoint or researchers with unique skills that can offer a new lens not considered or included above that would substantially benefit public health.

## PART III

## PRE-PROPOSAL AND PROPOSAL PREPARATION

## SECTION 1 - INTRODUCTION

This section provides information in preparing research proposals for submission.

Proposals are due by May 2, 2023 (11:59 pm CDT) to shieldillinois@uillinois.edu. After evaluation, the recipients of the awards will be notified no later than June 6, 2023.

## SECTION 2 - GENERAL INFORMATION

A.   AWARDS:

Performance after the receipt of an award signed indicates your full acceptance of all terms and conditions within the award.

The budget for the Research division within SHIELD is approximately $1,500,000. However, budget could be higher for certain projects dependent on if they require further equipment or materials.

SHIELD will select research projects from all responses. SHIELD expects project funding to vary and will provide a range of funding from $20,000 to upwards of $150,000+.   Match is strongly encouraged and may be in the form of cash, personnel time, or unrecovered indirect costs. No more than 30% of the requested funds may pay for full-time researchers'/professors' salaries and benefits. No indirect costs will be allowed. Funds will be advanced on a fixed price agreement.

B.   AWARD REQUIREMETS:

Recipients of the award must complete the project within (2) years of funding. Upon completion of the project, a written report must be submitted electronically to the Office of the Vice President for Economic Development and Innovation. Lead PI and Co-PIs commit to acknowledge SHIELD in outcomes and reports.

C.   PROPOSAL PREPARATION AND SUBMISSION:


## SECTION 5 - CONTENTS OF FULL PROPOSALS

The proposal should contain the following:

1. Cover page (Project Name, Lead Researcher with contact information, Co-Investigators with contact information)
2. SHIELD Illinois Abstract (no more than 250 words)
3. Project Description (no more than 2 pages, single-spaced, 12 font)
4. Scope of Work (no more than 1 page, single-spaced, 12 font) – note that only page 1 will be read from any submissions of longer than 1 page
5. Team bios (no more than one-half page per team member)
6.  Cost proposal (if matching funds, include here, no more than 2 pages, singles-spaced, 12 font). Refer to the cost proposal section.

COST

The cost portion of the proposal should contain an estimation of the project in the areas detailed below. The estimate should include the following:

1. A complete detail of personnel to include, by discipline, hours or percentage of time and salary.
2. Fringe benefits rate and base.
3. Complete detail of travel to include reason/need for travel, destination, airfare, per diem, rental car, etc.
4. An itemized list of equipment showing cost of each item.
5. Description and cost of expendable supplies.
6. Other direct costs (reproduction, computer, etc.).
7. The amount of funds that would be matched (detail all sources).
8. Specification of recipient and amount. Please note if any funding will be directed to University of Illinois Chicago, University of Illinois Springfield, or University of Illinois Urbana-Champaign regardless of role.

**ATTACHMENTS**

**ATTACHMENT A: BUDGET TEMPLATE**

| Category | Funding Request * | Match Provided |
|---|---|---|
| A. Personnel | | |
| B. Fringe Benefits | | |
| C. Travel | | |
| D. Equipment | | |
| E. Supplies | | |
| F. Other* (Specify) | | |
| G. Total | | |

Provide a written summary of the budget:

A. Personnel:
B. Fringe Benefits:
C. Travel:
D. Equipment:
E. Supplies:
F. Other (Must be specific):
G. Match (Detail all sources):
H. *Funding recipient(s) (specify recipient and amount):

*Please note if any funding will be directed to University of Illinois Chicago, University of Illinois Springfield, or University of Illinois Urbana-Champaign regardless of role in the project or the A-G line item.

**ATTACHMENT B: SHIELD Illinois Scoring Matrix**

The chart below identifies the area of review and total points maximum for each area of review. In addition, the strengths and weaknesses will be identified for each proposal.

| Proposal Section | Evaluation Points* | Total Max Points | Total Score** |
|---|---|---|---|
| A. Project and activity alignment with SHIELD Illinois areas of interest | | 20 | |
| B. Project addresses SHIELD Illinois area(s) | | 20 | |
| C. Scope of work | | 20 | |
| D. Budget/Matching Funds | | 10 | |

*Evaluation Points 1=lowest, 20=highest
**Total Score = Evaluation Points

**TOTAL**

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