Syra HEALTH

# REQUEST FOR PROPOSAL

## RFP DOCUMENT

## REQUEST FOR PROPOSAL 21- 66776

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| 46 | **2.4.14** Please describe how your company will evaluate the functioning of the SEOW group and provide recommendations for improvement in the group and in the data reported. |
| 47 | **2.4.15** Please detail your company's experience providing consultation on data interpretation and data application. What are your typical response and data turn-around times? |
| 48 | **2.4.16** Please describe your company's experience in, and process for, providing technical assistance to groups and/or providers at the county or regional level. |

### 2.4.1 Please describe how your company will provide support and management of the SEOW, including the following tasks:

- Identify, collect, store, analyze, and interpret data related to substance abuse and the use/misuse of alcohol, tobacco, and other drugs.
- Collaborate under the direction of DMHA with local, state, and federal partners to determine statewide prevention priorities and inform decision-making and policy related to substance use/misuse.
- Provide a presentation of the SEOW findings annually to the Mental Health and Addiction Policy Advisory Council.

**Syra Health is committed to providing support and management of the Indiana state epidemiology and outcomes workgroup (SEOW) responsibilities that include statewide monitoring of substance abuse and mental health trends, identifying statewide prevention priorities, and disseminating research findings to policymakers, state agencies, community organizations, and the general public.**

The deliverables will describe the findings on alcohol, tobacco, marijuana, opioid, and stimulant use/misuse. In addition, data on mental health and suicide will be included, since both substance use and mental distress are highly correlated and frequently co-occur.

## Syra Health Core Team

- Syra Health core team consisting of epidemiologists, public health and policy analysts will be led by **Srikant Devaraj, PhD**, a renowned research economist and **Assistant Professor at Ball State University**. Devaraj earned a doctorate in economics from Indiana University, with fields in applied econometrics, health economics, and health informatics. His research focuses on public policy, business and economics, regional economics, and health/health services/behavioral outcomes.
- Syra Health medical writers and creative specialists' team will be led by **Deepika Vuppalanchi, PhD** who brings in a vast amount of primary research experience in the fields of neuroscience and drug pharmacology coupled with numerous publications in high impact journals. Deepika's team **will assimilate the results from data analyses and convert complex data information into digestible and impactful pieces of information that are accurate, scientifically vigorous, creatively enhanced to bring life to the epidemiological data findings**. The format of these data findings will be Microsoft PowerPoint, Adobe InDesign files for interactivity and printable format adobe files.
- Syra Health will subcontract with **Bingle Research Group, Inc**., **IT Transformers,** and **Certified Fraud & Forensic Investigation** to assist in evaluating the DMHA Prevention Regional Model by conducting phased surveys and in-depth interviews in a timely fashion.

## Datamining Methodology and Data Sources

Syra Health's core team will **conduct in-depth scientific literature search and datamine from a multitude of primary and secondary data sources including national and Indiana-based surveys as well as de-identified administrative records**. In order to compare Indiana with the nation as a whole and to determine trends in drug use and drug-related consequences over time, surveys and data sources that had at least two years' worth of data will be selected.

- To establish the quality and nature of every data source, we will generate a **reference audit document** that will have key descriptors like source name, description, geographic level: national and state level data, access and availability, trends (eg, pooled data averages from 2018–2020) and strengths/weaknesses**.**

Some of the data sources may include The Monitoring the Future Survey, The Indiana Youth Survey, The Indiana College Substance Use Survey, The Treatment Episode Data Set, The Drug Abuse Warning Network, The National Survey on Drug Use and Health, as well as data from state partners including the Indiana Department of Health, Indiana Department of Corrections, the Indiana Professional Licensing Agency, and the Department of Veteran's Administration.

## Statistical analysis

Our team will be able to provide meaningful inferences by applying appropriate statistical methods using Statistical Package for the Social Sciences (SPSS) and Statistical Analysis System (SAS) software. For surveys that do not have publicly available data sets, we will conduct statistical analyses using online analysis software and/or analysis tables provided by the agencies that conducted the data collection.

- **Using relevant advanced econometric techniques such as ordinary least squares estimation, panel regressions, instrumental variable approaches**, we will also be able to test whether or not any existing or potential policy may impact the outcomes of interest.
- Syra Health will subcontract with **IT Transformers**, who will provide additional data engineering services including analytics and reporting. IT transformers analytics experts will help bring data to life using any analytics tools like SSRS and SSAS, Cloud services like PowerBI and AWS Athena. Based on the deliverable **data visualizations tools like Tableau or Cognos will be utilized.**

## Collaboration with local, state, and federal partners to determine statewide prevention priorities

Syra Health's core scientific and epidemiological team members along with project coordinators will working closely with local, state, and federal partners to determine statewide prevention priorities for

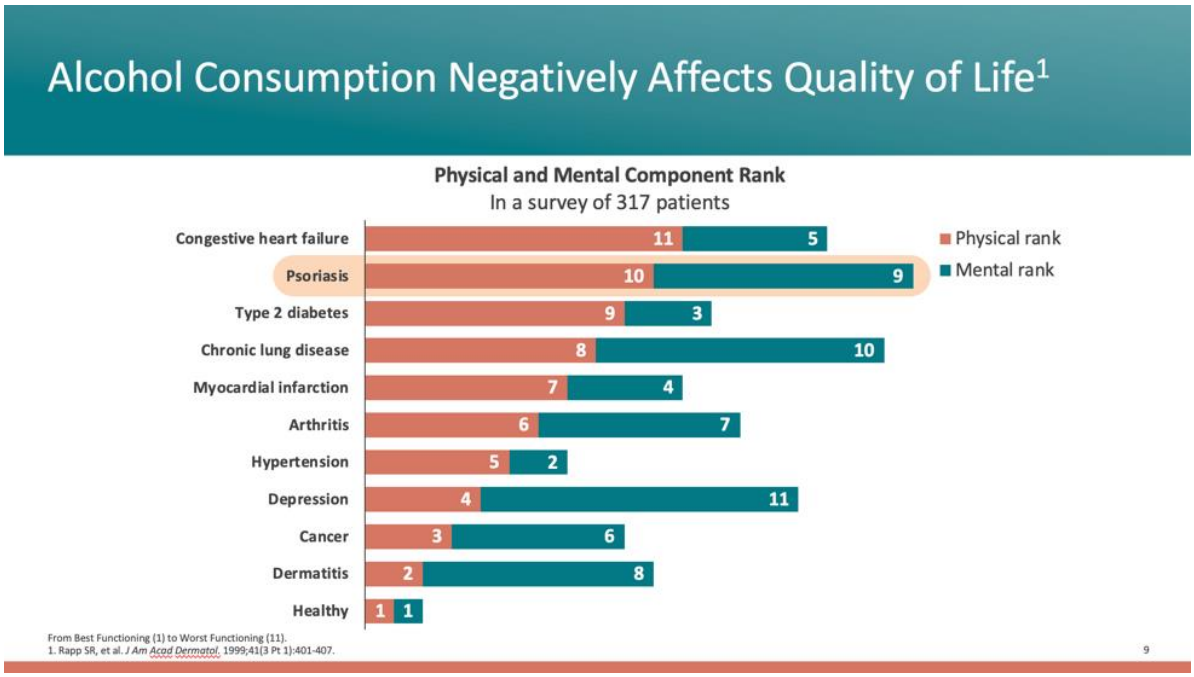
substance use/misuse. **Syra Health team will arrange and conduct these meetings in a 3-phase approach (baseline, midway, and final phase) and will be develop agenda, moderator guide, topline summary, and executive summary after each interaction**. These findings will help inform decision-making and policy related to substance use/misuse.

## Presentation of the SEOW findings

Syra Health will hold 6 meetings (every 2 months) annually to facilitate discussion, and work with SEOW members appointed by the State in interpreting data and report. The **medical writers and epidemiology core team** will prepare summary documents regarding decisions and recommendations made to the Division of Mental Health and Addiction.

- The format of these data findings will be Microsoft Word, Microsoft PowerPoint**, Adobe InDesign files for user interactivity and hyperlinks to various sources,** or printable adobe files based on the complexity of the piece.
- **SAMPLE SUMMARY PRESENTATION DESIGN: POWERPOINT SLIDES**

Visuals and templates allow the findings to come life is an impactful and meaningful manner.




**= Syra Health differentiator factor**

### 2.4.2 Please describe your company's experience in collecting and interpreting data in the areas of alcohol, tobacco, tobacco related products, other substances, and mental health.

- **Syra Health core team along with sub-contractors (Bingle Research Group and IT Transformers), have a combined experience of working on 75+ projects from data collection, data interpretation and reporting the consequences in areas mentioned above.**

Our team has provided collecting and interpreting data for supporting in the areas of alcohol, tobacco, tobacco related products, other substances, and mental health. Overall, our teams have supported comprehensive efforts including data deidentification, aggregation and cross-linking with other programs.

## Relevant experiences from team members in data collection and interpretation

Our team from **IT Transformers** was an integral part of the FSSA data scientist team and has considerable experience in identification and analysis of the data related to alcohol, tobacco, other substances, and mental health data.

- One of the major sources of for **tobacco information** was through collection of information from **social service benefits database** was self-declared by the individual at the time of applying for benefits. The source was based on diagnosis codes (ICD10) present on the medical claims through the Medicaid program. **Medicaid claims** were the major source of data for **alcohol and other substances**.

Our team supports reporting for **the Department of Mental Health and Addiction primarily from the Data Assessment Registry Mental Health and Addiction System (DARMHA). The primary reporting is for Substance Abuse & Mental Health Administration (SAMHSA). The reporting covers various categories of service that is provided for various episodes and includes various demographics and variables from the National Outcome Measures (NOMS).**

- **Bingle Research Group, Inc. (BRG) has extensive experience in these areas having done work for Indiana TPC since 2000 and recently working on several SUD and mental health evaluation projects.** Some examples are:
    - **The Indiana Tobacco Prevention and Cessation Agency (ITPCA)** was created in the spring of 2000. From 2000 to 2008, Bingle Research Group, working with the ITPCA and their ad agency, conducted a comprehensive, state-wide research program. This research program consisted of numerous qualitative focus groups among adults and teens for initial and ongoing creative development and quantitative phone surveys among adults and teens to determine current tobacco use behavior, knowledge/ understanding and attitudes toward smoking and smoking prevention efforts, and evaluation of the several advertising platforms of the campaign in changing those attitudes and subsequently, smoking incidence among adults and teens in Indiana and attitudes toward second-hand smoke

- In 2011, the **Indiana Tobacco Prevention and Cessation Agency (ITPC)** wanted to assess the minority business owners' attitudes and beliefs about secondhand smoke **(SHS) policy**. However, before developing and fine-tuning an overall program strategy, ITPC wanted to better understand the current SHS policy situation, attitudes toward such policies and barriers to implementation of a SHS policy. To accomplish these objectives, **BRG conducted a two-phase qualitative research program for TPC consisting of one-on-one interviews and eight focus groups in Ft. Wayne, Indianapolis, Evansville and Gary.**

From 2017 on, BRG has conducted research for **TPC mainly for the Quitline**. This consists of:

  - The Quitline Creative Focus Group study in 2017 in Indianapolis which targeted the three types of hardcore smokers.
  - The Quitline Marketing Data Playbook in 2017 which summarized available smoking and healthcare data for Indiana
  - Employer Healthcare – Key Informant Interviews in 2018, in which BRG interviewed 12 leaders representing corporations, hospitals and manufacturers. The key informant interviews (KII) clearly highlighted the need and opportunities for aggressive, comprehensive, and robust partnerships with employers and health systems.
  - The research on the Women of Child Bearing Age (WOBCA) Pregnancy and Smoking Campaign in 2019. This research consisted of two focus groups and tow online discussion boards among women 18-34, both pregnant and not pregnant and smokers and non-smokers
  - School Social Services Program – Evaluator for Hamilton Center, Inc.
  - Quantitative data collection, analysis and reporting to evaluate EBPs for Hamilton Center
- **Program Evaluation Services** – SAPT Block Grant - T.P. Miller & Associates
  - **In-depth interviews with agency leaders on program evaluation**
- **Marion County Anti-stigma Campaign** – Marion County Public Health Department
  - **Quantitative, 600 telephone interviews**, pre- and post-campaign study to evaluate the impact and success of the Anti-stigma campaign
- **CICARC Concept study** – Eskenazi Midtown Community Health and Community Behavioral Health
  - Online study among 300 general public to determine acceptance and usage of a new CICARC in Indianapolis
- **Indiana 1115 Substance Use Disorder Waiver Mid-Point Assessment – Burns & Associates**
  - Qualitative, in-depth interviews with SUD providers on the impact of and possible changes to the SUD Waiver program.

- Our core team members, from **Ball State University,** has worked on identifying whether the change in **state-level mobility is associated with the change in individuals reported psychological distress during the early COVID-19 pandemic and whether the intensity of the association varies by older individuals, females, and nonwhites.** This research uses individual-level longitudinal survey data from Understanding America Study and mobility data was obtained from Google. Ordinary Least Squares estimation method were used to estimate the impact of reduced mobility on psychological distress. This study provided a preliminary estimation of the effects of reduced mobility and its heterogeneity with individual demographic characteristics during the early COVID-19 pandemic on mental health using novel approaches. [*Devaraj, S. & Patel, P.C. (in-press). Change in psychological distress in response to changes in reduced mobility during the early 2020 COVID-19 pandemic: Evidence of modest effects from the US. Social Science and Medicine, doi: 10.1016/j.socscimed.2020.113615]*

Another research project that our team has worked on has demonstrated that **creative destruction is negatively associated with the share of fair/poor health, the share of frequent physical distress, the share of frequent mental distress, and age-adjusted mortality**. The study results further show that creative destruction tamps the negative effects of unemployment, income inequality, and rural areas on health and mortality. This research uses data from county health rankings, US census Bureau and Quarterly workforce indicators and uses a county-level panel regression specification to estimate the results. This is the first study that establishes a direct link between creative destruction and regional health. *[Devaraj, S., Wolfe, M.T., & Patel, P.C. (in-press). Creative destruction and regional health: Evidence from the United States. Journal of Evolutionary Economics, doi: 10.1007/s00191-020-00663-x]*

Our team has also investigated the **county-level association between prevalence of workers in jobs exposed to automation risk and general, physical, and mental health outcomes.** Using data from General Social Survey, county health rankings and American Community Survey, the study uses a two-stage least squares estimation methodology to find the causal effects. This is the first study that establishes the relationship between automation risk and poorer health. *[Patel, P.C., Devaraj, S., Hicks, M.J., & Wornell, E.J. (2018) County-level job automation risk and health: Evidence from the United States. Social Science & Medicine, 202, 54-60.]*

- **Summary of Team Syra Health Experience:**

Team Syra Health has decades of combined proven experience working with collecting primary, secondary data and provide inferences by various demographic characteristics and region. We have done **75+ combined projects several policy analysis and research in the areas of alcohol, tobacco, tobacco related products, other substances, and mental health**.

- **= Syra Health differentiator factor**

### 2.4.3 Please describe your company's familiarity with concepts of substance misuse prevention, including social determinants of health, risk and protective factors, consequence data, etc.

Several factors contribute to a person's chance of developing a mental and/or substance use disorder. Understanding and assessing the key risk and protective factors that contribute to substance use disorders helps practitioners and prevention specialists select timely and appropriate therapeutic and non-therapeutic interventions. Effective prevention focuses on reducing those risk factors, and strengthening protective factors, that are most closely related to the problem being addressed.

- Our team has worked on the **methods of estimating price elasticity of alcohol demand.** That study estimated elasticity of alcohol demand by **providing a new method that accommodates both the extensive margin (whether or not individual decide to drink) and also is causally interpretable.**

Using longitudinal data from National Epidemiological Survey of Alcohol and Related Conditionals survey and American Chamber of Commerce Research Association, the study using **a novel estimation strategy** finds the price elasticity of alcohol demand to be -0.983. *[Specification and estimation of price responsiveness of alcohol demand: A policy analytic perspective (https://scholarworks.iupui.edu/bitstream/handle/1805/8884/Devaraj_iupui_0104D_10069.pdf?sequence=1&isAllowed=y)]*

- Another research project from our team demonstrated that at a county-level, **increase in American Recovery and Reinvestment Act expenditures per-capita was negatively associated with fair to poor health, number of physically or mentally unhealthy days in a month, premature death rate and adjusted mortality.**

Using data from National Bureau of Economic Research, county health rankings and US Census, the study uses **instrumental variable approach** to estimate the impact of expenditures on county health. This study helps policy makers to know the effect of fiscal spending and how that affects health of the community. *[Patel, P.C., & Devaraj, S. (2019) American Recovery and Reinvestment Act and county-level health outcomes. Applied Economics Letters, 26(21), 1770-1773.]*

- Our team leads, Srikanth Devraj, PhD and Deepika Vuppalanchi, PhD, along with Malaz Boustani, MD, MPH, a public health expert and physician at Indiana University, have done research on **COVID-19 vaccination delivery to vulnerable population in Indiana and provided recommendations for prioritization**.

For this research we looked at some of the best practices on prioritizing vaccine population, reviewed CDC guidelines, and estimated the share and regional distribution of vulnerable population in Indiana to help focus on the last mile effort. *[Srikant D et al. COVID-19 Vaccination Delivery to Vulnerable*

*Population in Indiana. https://www.radcube.com/wp-content/uploads/2020/09/COVID-19-vaccination-delivery-White-Paper-1.pdf]*

Syra Health's medical and technical writers, **possesses advanced scientific degrees such as PhDs and PharmDs,** are deeply entrenched in scientific literature pertaining to social determinants of health. We have worked with hospital systems and pharmaceutical manufacturers to develop strategic prevention frameworks and educational resources to help prevention professionals identify factors having the greatest impact on their target population.

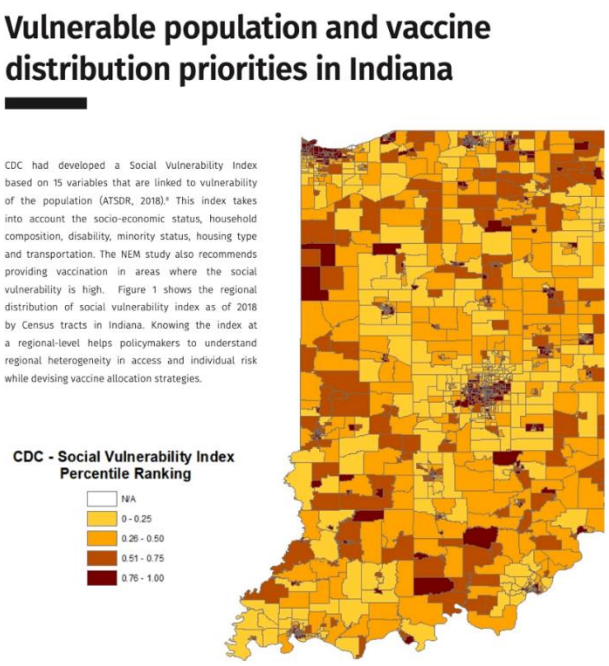
Our team also has experience with educational projects pertaining to **social determinants of health in various disease states.** We are currently working on a project to help us understand the consequences of COVID-19 pandemic on the mental health of US population.

**= Syra Health differentiator factor**

**2.4.4 Please describe your company's experience in collecting and interpreting data among the following priority populations: college, students, Native Americans, rural populations, underserved high- need geographic areas in Indiana, underserved racial and ethnic minorities, including LGBTQ+.**

**Syra Health core team has the ability to interpret data across various population demographics.** By applying appropriate survey weights, we will be able to estimate the data points across specific categories.

- Based on the availability of identifiers from the primary/secondary datasets, **we will be able to analyze and present data by sub-groups based on individual characteristics such as age, race, ethnicity, rurality of location and other characteristics.** We will be able to superimpose CDC's vulnerability index on regional estimates to determine the clusters of vulnerable population in Indiana. Based on the data availability, we will also be able to provide trend analysis of outcomes by these sub-groups. We had worked on estimating the share and regional distribution of vulnerable population for COVID-19 vaccine allocation and delivery.
- An example of heat map generated from CDC's social vulnerability index developed by Syra Health (please see the image on the right).




- **Bingle Research Group, Inc. will be assisting Syra Health in collecting and interpreting data in the areas of alcohol, tobacco, tobacco related products, other substances and mental health.** BRG has extensive experience in these areas having done work for Indiana TPC since 2000 and recently working on several SUD and mental health evaluation projects. Some examples are
  - The Indiana Tobacco Prevention and Cessation Agency (ITPCA) was created in the spring of 2000. From 2000 to 2008, Bingle Research Group, working with the ITPCA and their ad agency, conducted a comprehensive, state-wide research program. This research program consisted of numerous qualitative focus groups among adults and teens for initial and ongoing creative development and quantitative phone surveys among adults and teens to determine current tobacco use behavior, knowledge/ understanding and attitudes toward smoking and smoking prevention efforts, and evaluation of the several advertising platforms of the campaign in changing those attitudes and subsequently, smoking incidence among adults and teens in Indiana and attitudes toward second-hand smoke.

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    - Quantitative data collection, analysis and reporting to evaluate EBPs for Hamilton Center
- Evaluation Services – SAPT Block Grant - T.P. Miller & Associates
    - In-depth interviews with agency leaders on program evaluation
- Statewide Behavioral Health Gap Analysis – KSM Consulting
    - Online survey among SUD and Mental Health providers and community stakeholders
- Marion County Anti-stigma Campaign – Marion County Public Health Department
    - Quantitative, 600 telephone interviews, pre- and post-campaign study to evaluate the impact and success of the Anti-stigma campaign
- CICARC Concept study – Eskenazi Midtown Community Health and Community Behavioral Health
    - Online study among 300 general public to determine acceptance and usage of a new CICARC in Indianapolis
- Indiana 1115 Substance Use Disorder Waiver Mid-Point Assessment – Burns & Associates
    - Qualitative, in-depth interviews with SUD providers on the impact of and possible changes to the SUD Waiver program.

**= Syra Health differentiator factor**

**2.4.5 Please detail how your company will subcontract with an entity that has the experience to evaluate the DMHA Prevention Regional Model. This would include a review of the overall system measures which includes but is not limited to the Client Consultation Boards and Regional Councils for ten regions. Please identify the subcontractor and describe their experience with this type of system evaluation.**

**Syra Health will subcontract with Bingle Research Group, Inc. to assist in evaluating the DMHA Prevention Regional Model**. The DMHA has begun to change the state's prevention infrastructure from a local to a regional model. This project is to assist in evaluating the impact of the system change on local communities/counties as well as the ten regions and the state.

- **This will include a review of the overall system measures which include but is not limited to the Client Consultation Boards and Regional Councils for the ten regions and, in addition, a three-phase online survey and in-depth interviews research program among the 100+ stakeholders that will consist of Baseline, Midpoint and Final measurements.**

Bingle Research Group, Inc. (BRG) is an IVOSB market research consultant that has conducted numerous quantitative and qualitative studies over 40+ years of research experience. In the past couple of years, BRG has been involved in several DMHA projects requiring both qualitative and quantitative evaluation capabilities. Some examples are:

- School Social Services Program – Evaluator for Hamilton Center, Inc.
  - Quantitative data collection, analysis and reporting to evaluate EBPs for Hamilton Center
- Evaluation Services – SAPT Block Grant - T.P. Miller & Associates
  - In-depth interviews with agency leaders on program evaluation
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- Indiana 1115 Substance Use Disorder Waiver Mid-Point Assessment – Burns & Associates
  - Qualitative, in-depth interviews with SUD providers on the impact of and possible changes to the SUD Waiver program.

As mentioned, in addition to the overall system measures review, BRG and Syra Health will conduct a three-phase online survey among the targeted stakeholders. These stakeholders will consist of the

Regional coordinators, Client Consultation Boards, Regional Councils and selected providers in the 92 counties and their local communities.

- The **three phases will be a Baseline, Midpoint and Final survey, along with 15 stakeholder in-depth interviews at each of the three time points. The survey is estimated to be 12 minutes in length and the in-depth interview is estimated to be around 30 minutes in length. There will be a topline report after the Baseline and Midpoint evaluations and a final report after the final survey and in-depth interviews, followed by a presentation to DMHA.**

The scope of work for this evaluation process covers a 2-year period from July 1, 2021 to June 30, 2023.

So, a possible timeline is:

- Baseline September 2021
- Midpoint September 2022
- Final April 2023

- Syra Health will also sub-contract with **Certified Fraud & Forensic Investigation** to supplement and help customize client communications and written reports in a mutually agreeable format. Past examples have included:
  - Customer engagement letters
  - Formal written reports with Executive Summary, Scope, Limitations, Findings, and Conclusions summarizing an entire engagement
  - Weekly activity reports specifying significant updates, procedures, and circumstances as they occur
  - Periodic, ad hoc, or annual formal briefings using professional PowerPoint presentations
  - Weekly and monthly reports of time and expenses

- **= Syra Health differentiator factor**

### 2.4.6 Please describe your company's ability to hold at least five meetings annually, facilitate discussion, and work with members appointed by the State in interpreting data and report. Include capacity for hosting virtual meetings.

Our team has experience in establishing, fostering, cultivating and maintaining relationships with key stakeholders across wide variety of personnel including state government and private entities. Our team will serve as a liaison for accurate and updated clinical, epidemiological, scientific and medical information exchange between the SEOW and other organizations.

- **We have 10+ years of experience in organizing and participating in clinical and commercial advisory boards and organizing meeting with key stakeholders is within our core capabilities as a company.**

Our program manager will **utilize project management tools** and Gantt charts to create timelines for optimal meetings throughout the year. We are aiming for 1 meeting every 2 months – leading up to atleast 5 or more annual meetings. **Proactive calendar scheduling** and timely reminders via text and emails will be enforced to ensure maximum participation in the meetings. Logistical parameters such a venue and timing will be discussed upfront for scheduling purposes.

- Our team also has **extensive experience hosting virtual meetings** via Zoom and Microsoft platforms which are further **supported by 24/7 IT technical support**. Furthermore, our core team member, Deepika Vuppalanchi has served as organizers of one of **Indiana's largest virtual conferences** (www.innovationdigi.com) which hosted about 2000 audiences – proving the virtual meeting capabilities of Syra Health.

## Sample Agenda

# Agenda

### Wednesday, June 19, 8:00 am – 4:30 pm

| TIME | | TOPIC | PRESENTER(S) | LOCATION |
|---|---|---|---|---|
| 8:00 am | 60 minutes | Breakfast | N/A | Florida C |
| 9:00 am | 15 minutes | Leadership Welcome | Missy Shaw & Aanan Misra/Mark Reisenauer, Shontelle Dodson & Chip Romp | Florida AB |
| | | KOL Perspective | Sales Training/KOL | |
| 10:15 am | 20 minutes | Break | | |
| | | EV Knowledge Quiz – split by teams | Missy Shaw & Aanan Misra | Florida AB |
| | | Medical Perspective on EV and mUC Landscape | Medical/Brand Team | |
| | | Medical and Marketing Q&A | Medical/Brand Team | |
| | | ARS – announcing winning team based on EV knowledge from CL&D modules | Missy Shaw & Aanan Misra | |
| 12:25 pm | 50 minutes | Lunch | | |
| | | Appropriate PIE Conduct | Compliance | Florida AB |
| | | Bio Blitz – teams intermingled | Missy Shaw & Aanan Misra | |
| | | EV PIE Resources | Missy Shaw & Aanan Misra | |
| 3:05 pm | 15 minutes | Break | | |
| | | EV PIE Presentation FAQs | Missy Shaw & Aanan Misra | Florida AB |
| 4:15 pm | 15 minutes | Wrap-up | Missy Shaw & Aanan Misra | |
| 4:30 pm | | Adjourn | | |

### Wednesday Evening, June 20, 6:00 pm – 8:00 pm

| TIME | | | LOCATION |
|---|---|---|---|
| 6:00 pm | 30 minutes | SeaGen Reception | Florida C |
| 6:30 pm | 90 minutes | SeaGen Dinner Buffet | Florida C |

### Thursday, June 20, 8:30 am – 12:00 pm

| TIME | | TOPIC | PRESENTER(S) | LOCATION |
|---|---|---|---|---|
| 8:30 am | 45 minutes | Breakfast | N/A | Florida C |
| 9:30 am | 15 minutes | Welcome and Day 1 Recap | Missy Shaw & Aanan Misra | Florida AB |
| 9:45 am | 120 minutes | Preparing for PIE Success | | |
| 11:45 am | 15 minutes | Leadership Closing Remarks | Missy Shaw & Aanan Misra | |
| 12:00 pm | | Adjourn | | |

ARS, Audience Response System; DMs, Division Managers; GVAP, Global Value Access and Pricing; HSM, Health Systems Marketing; KOL, Key Opinion Leader; RSMs, Regional Sales Managers.

**= Syra Health differentiator factor**

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### 2.4.7 Please describe your company's experience in the preparation of summary documents regarding decisions and recommendations.

- Our team comprises of **PhD technical writers, applied econometrician, and publication editors, who have several years of hands-on experience in development of exceptionally high-quality medical and scientific content across multiple therapeutic areas.**

Some of the common deliverables include scientific dossiers, white papers, journal publications, conference abstracts and posters, and executive summary reports. Our core team publications in high-impact journals that are publicly available further substantiate the scientific caliber and writing expertise.

The summary documents are well organized to tell **a medical and epidemiology story** starting with latest insights and trends to disease burden, data consequences and finally recommendations and call to action items to policymakers, state agencies, community organizations, and the general public.

- **Summary documents can be digitally enhanced to incorporated InDesign files that will allow for seamless hyperlinking within the document. The creative uplift and clickable menu bar are definitely going to incrementally enhance the user experience.**

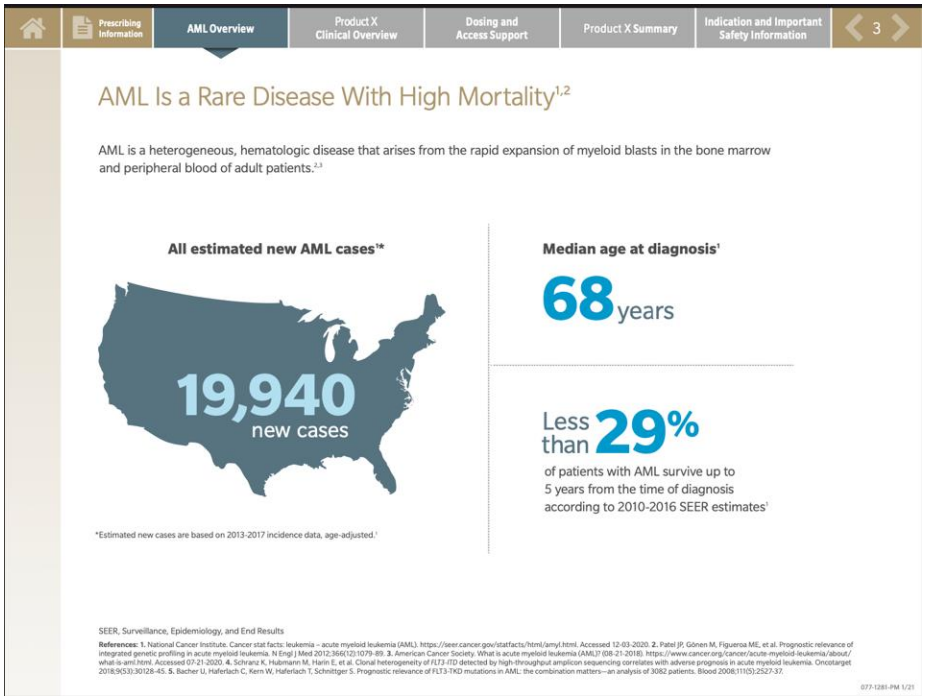
Sample references from our core team

- **Book chapter:** Vuppalanchi D, Willis DE, Twiss JL. Regulation of mRNA transport and translation in axons. Results Probl Cell Differ. 2009;48:193-224. doi: 10.1007/400_2009_16. PMID: 19582411.
- **Journal article:** Vuppalanchi D, Merianda TT, Donnelly C, Pacheco A, Williams G, Yoo S, Ratan RR, Willis DE, Twiss JL. Lysophosphatidic acid differentially regulates axonal mRNA translation through 5'UTR elements. Mol Cell Neurosci. 2012 Jun;50(2):136-46. doi: 10.1016/j.mcn.2012.04.001. Epub 2012 Apr 10. PMID: 22522146; PMCID: PMC4610731.
- **White paper:** Srikant D, Vuppalanchi D et al. COVID-19 Vaccination Delivery to Vulnerable Population in Indiana. https://www.radcube.com/wp-content/uploads/2020/09/COVID-19-vaccination-delivery-White-Paper-1.pdf
- **Abstract:** Vuppalanchi D, Yamamoto W, Peper C, Cumbay M, Oxford GS (2012) Conserved residues in the transmembrane domains of the dopamine D2 receptor impart a role in its functional selectivity. 42nd Annual Society for Neuroscience Meeting, New Orleans, Louisiana.

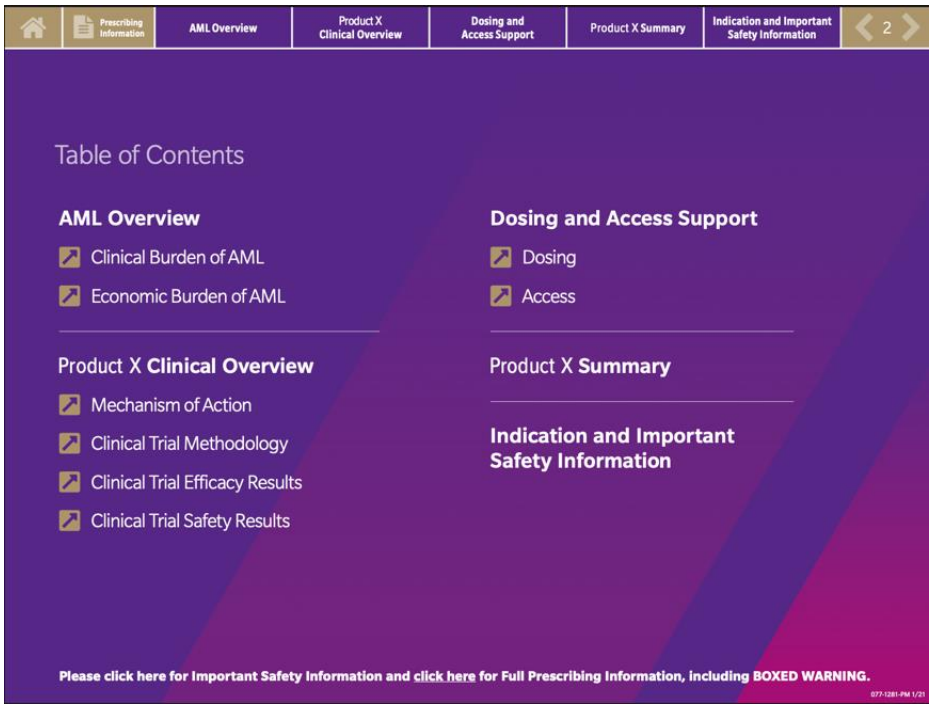
*Please see resume screenshots of core team members for comprehensive lists of references.*

**SAMPLE Summary Reports - Few Screenshots to provide you an idea of how our deliverables will look.**

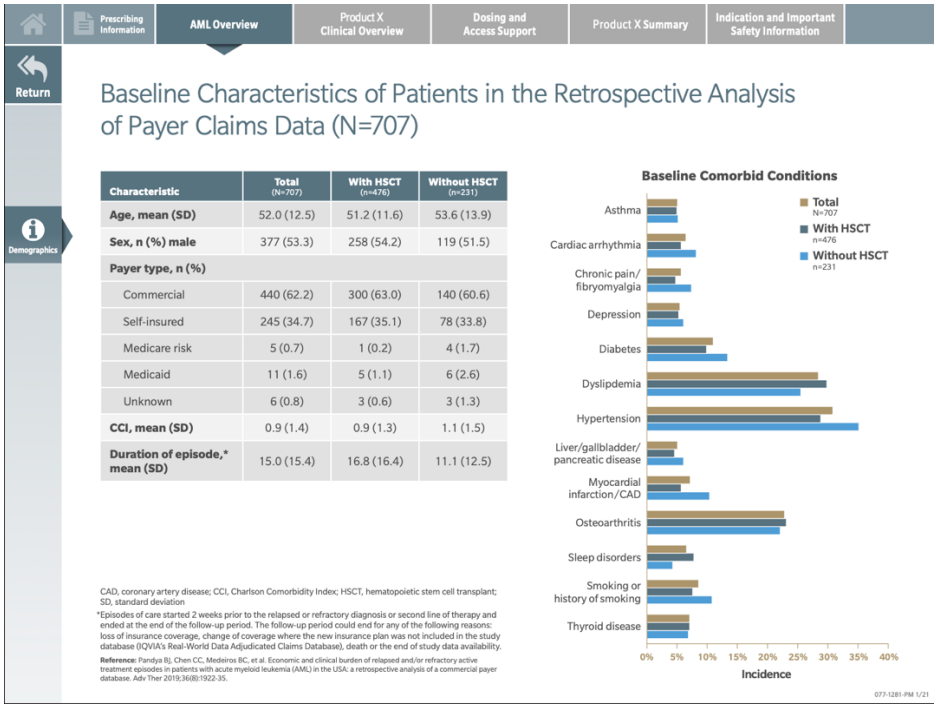
The summary documents will consist of many infographics and graphical elements to bring life to the story.




Note that in the interactive pdf we will have hyperlinked tabs/links on the page that will allow the user to navigate any topic of interest easily



The color templates and graphical illustrations will be refreshing and visually appealing to all audience. These representations will help to bring the content to life, while maintaining accuracy and scientific integrity.




| Characteristic | Total (N=707) | With HSCT (n=476) | Without HSCT (n=231) |
|---|---|---|---|
| **Age, mean (SD)** | 52.0 (12.5) | 51.2 (11.6) | 53.6 (13.9) |
| **Sex, n (%) male** | 377 (53.3) | 258 (54.2) | 119 (51.5) |
| **Payer type, n (%)** | | | |
| Commercial | 440 (62.2) | 300 (63.0) | 140 (60.6) |
| Self-insured | 245 (34.7) | 167 (35.1) | 78 (33.8) |
| Medicare risk | 5 (0.7) | 1 (0.2) | 4 (1.7) |
| Medicaid | 11 (1.6) | 5 (1.1) | 6 (2.6) |
| Unknown | 6 (0.8) | 3 (0.6) | 3 (1.3) |
| **CCI, mean (SD)** | 0.9 (1.4) | 0.9 (1.3) | 1.1 (1.5) |
| **Duration of episode,* mean (SD)** | 15.0 (15.4) | 16.8 (16.4) | 11.1 (12.5) |

CAD, coronary artery disease; CCI, Charlson Comorbidity Index; HSCT, hematopoietic stem cell transplant; SD, standard deviation

*Episodes of care started 2 weeks prior to the relapsed or refractory diagnosis or second line of therapy and ended at the end of the follow-up period. The follow-up period could end for any of the following reasons: loss of insurance coverage, change of coverage where the new insurance plan was not included in the study database (IQVIA's Real-World Data Adjudicated Claims Database), death or the end of study data availability.

**Reference:** Pandya BJ, Chen CC, Medeiros BC, et al. Economic and clinical burden of relapsed and/or refractory active treatment episodes in patients with acute myeloid leukemia (AML) in the USA: a retrospective analysis of a commercial payer database. Adv Ther 2019;36(8):1922-35.

**= Syra Health differentiator factor**

**2.4.8 Please detail your company's experience utilizing existing or archival data from various academic, federal, and state sources as well as experience collating and analyzing continuously to document current needs and monitor changes in need. Please include a list of relevant data sets your company has utilized in the past.**

- Our team has used secondary health data from CDC's – BRFSS, Census, Indiana State Department of Health data reports, National cancer institute, County Health Rankings. We also have expertise in collecting economic and social datasets that are used for various projects. We also

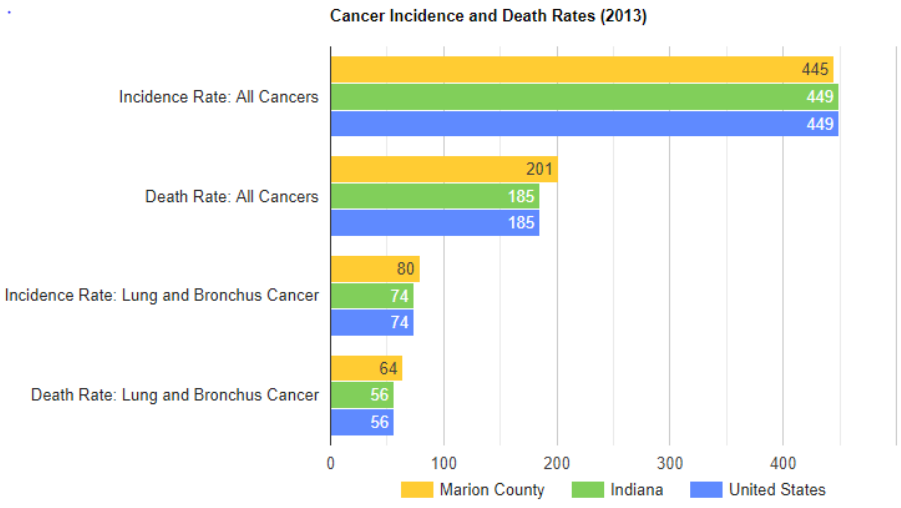
Examples of studies/data used for various reports:

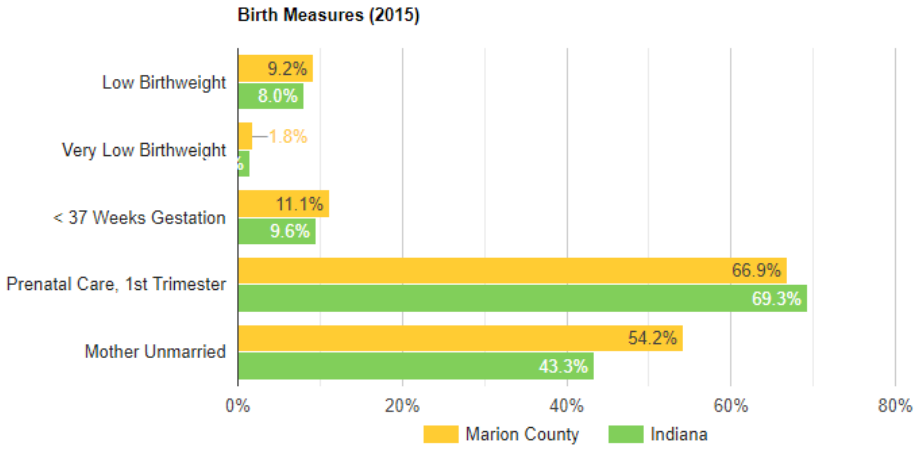
- County-level data compiled and managed by **Ball State University** - https://brownfield.cberdata.org/

- **Researchers at Ball State University (headed by our team member Srikant Devaraj) compiled data at a county-level from various sources and presented the trends and comparative analysis (county vs. state vs. nation).** Data were obtained from various sources such as Indiana state department of health, Kids count data center, County health rankings, US Census, Bureau of Economic Analysis and more. The goal of this project was to put together and track pertinent **county-level data along with comparative analytics**. This could be used by various stakeholders such as local government officials, policy makers, grant writers, community organizers, county commissioners, planners, etc.

Here is a sample of analytics developed by researchers for **Marion county** - https://brownfield.cberdata.org/in/marion/all_charts

The graphics from this database on selective health outcomes are shown below:

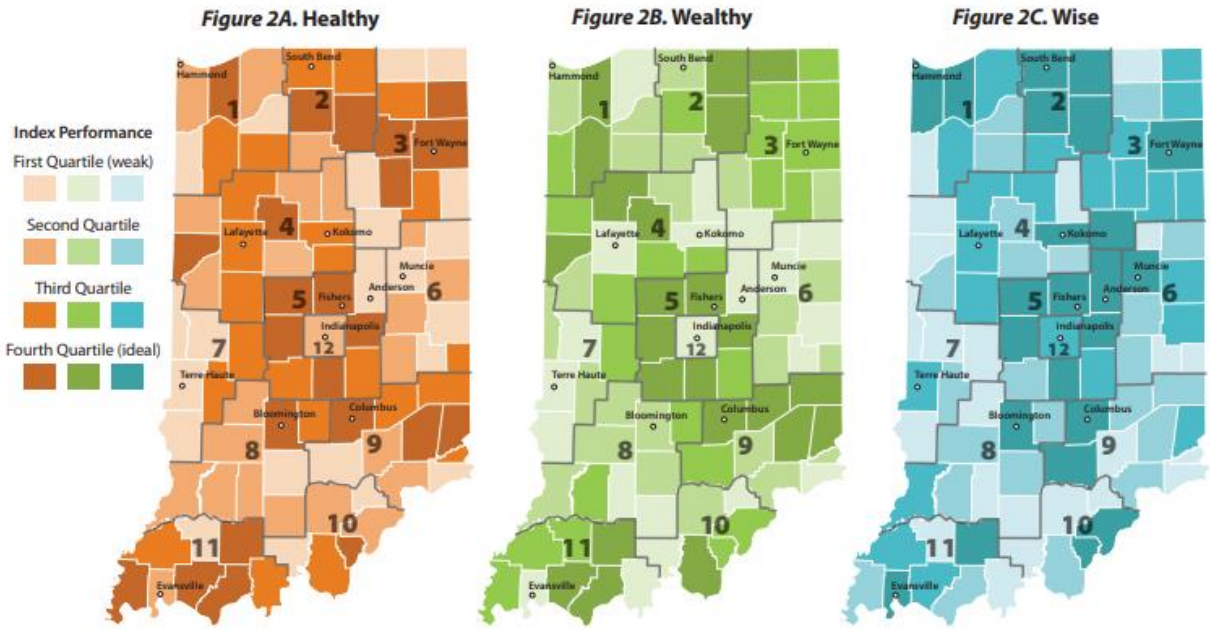





Devaraj, S., Hicks. M.J., & Shamsi, S (2016) Indiana Healthy, Wealthy, Wise Index https://projects.cberdata.org/reports/HealthyWealthyWise_Dec05.pdf

- In this research our team has built a healthy, wealthy, wise index to provide businesses and policy makers the data needed to assess wellness of Indiana counties. **The study uses 15 indicators to construct health index of a county, six measures for wealth index and nine indicators for wise index. Data from County health rankings, Bureau of Economic Analysis, and US Census were used to create the indexes.**

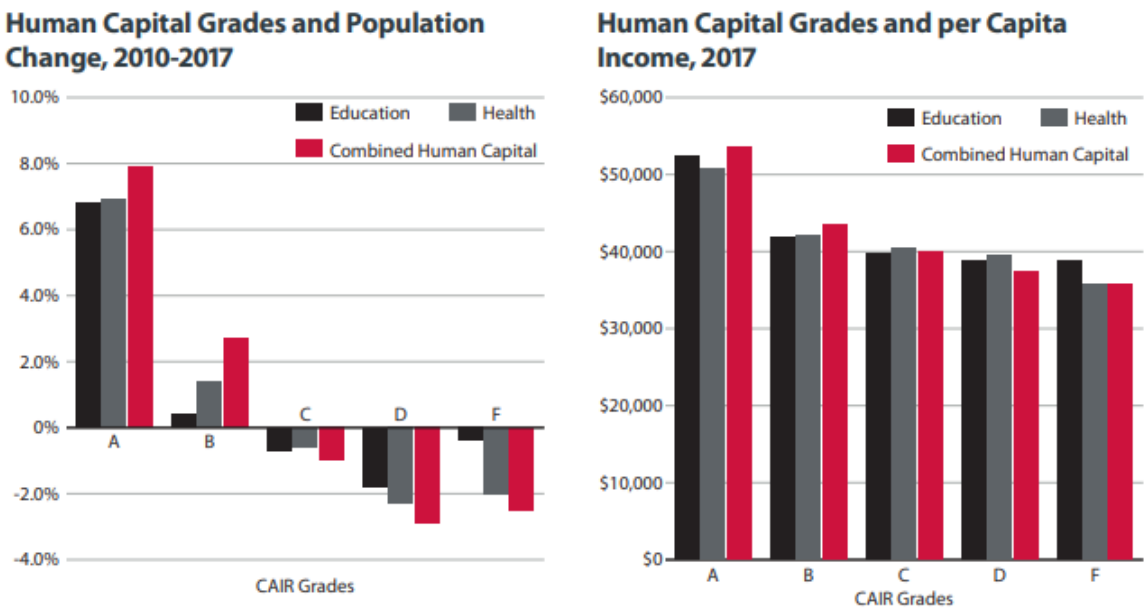
The below graphic shows the distribution of healthy, wealthy, wise index across Indiana counties.



Hicks, M.J., Devaraj, S., & Terrell, D. (2019). Community asset inventory rankings: changes in Indiana Counties. https://cair.cberdata.org/files/CAIR%20Report%202019.pdf

- This research performed our team developed a **community asset inventory and rankings to assess the quality of life and economic conditions within each Indiana County.** Using data available from public sources (**such as American Lung Association, Bureau of Economic Analysis, Bureau of Labor Statistics, County Health Rankings, Geographical Information Systems data, Indiana Department of Education, Indiana State Department of Health, National Cancer institute, US Census Bureau),** the study assigned rank for each county under seven major categories – people, health, education, government impact, arts/entertainment/recreation, changeable and static amenities.

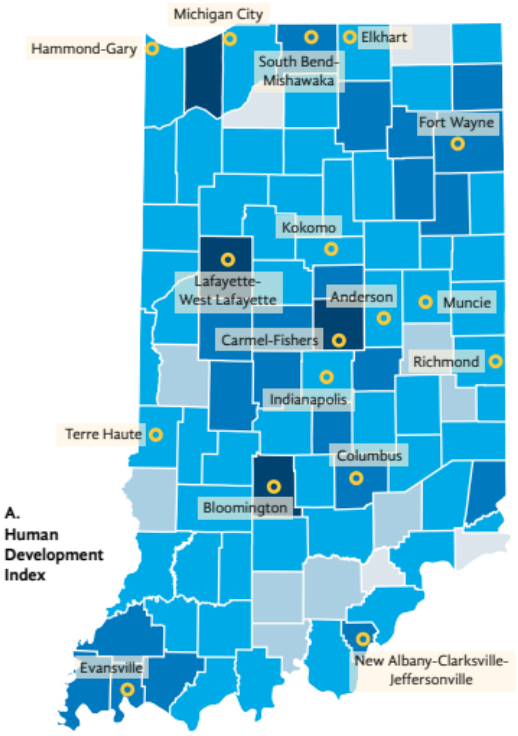
The below example graphic shows the relationship between community asset inventory rankings of counties with population change and per-capita income.




Devaraj, S., Sharma, S., Hicks, M.J., & Faulk, D.G. (2015) The Human Development Index of Indiana Counties: A policy perspective https://projects.cberdata.org/reports/HumanDevtIndex-100515-web.pdf

In this research our team investigated a model that explains the **wellbeing of community at a local level.** The study develops a human development index for Indiana counties by focusing on health, education and living standards, using data from county health rankings, American community survey, and US Census. The study then **provides recommendations on policies that could be established at a local level that improves wellbeing of communities**. The below example graphic shows the regional distribution of human development index.

**= Syra Health differentiator factor**



## 2.4.9 How will your company assure that the SEOW maintains a surveillance program consistent with the federal guidelines regarding the National Outcome Measures (NOMs) initiative?

DMHA maintains performance-based contracting with organizations responsible for ensuring a community-based continuum of care for adults and youth with mental illnesses or addictions who meet established criteria. Assessments and reassessments are performed using the Child and Adolescent Needs and Strengths (CANS) comprehensive assessment for youth and the Adult Needs and Strengths Assessment (ANSA) for persons aged 18 and over. In addition to these assessment tools, DMHA requires reporting of the National Outcome Measures (NOMs) at admission, approximately every six months and at discharge. NOMs represents state-level reporting system that will help with the creation an accurate and current national picture of substance-abuse and mental-health services.

### Monitor NOM Guidelines

Syra Health **closely monitor and review the federal guidelines and mandates** regarding the NOMs and inform the SEOW committee on any updates and changes that needs to implemented. The federal guidelines will be available here
https://spars.samhsa.gov/sites/default/files/CMHSNOMSAdultTool_0.pdf

### Implement NOM Guidelines

Syra Health will work closely with the SEOW to help

- Standardize operational definitions and outcome measures, and link records to support pre-/post-service comparisons
- Implement strategies to determine acceptable levels of outcomes
- Produce routine management reports to direct SAMHSA's technical assistance and science-to-services program to implement interventions designed to result in improved outcomes

- Syra Health team deep experience in working with NOMs data. Our team **has first-hand experience (sub-contractor: IT Transformers) reporting** for the DMHA primarily from the Data Assessment Registry Mental Health and Addiction System (DARMHA). The primary reporting was a service provided for Substance Abuse & Mental Health Administration (SAMHSA) and utilizing data from various episodes, demographics and other domains from NOMS.

### Assessments based NOM Guidelines

- As deemed necessary, Syra Health team with conduct surveys and collect data **(sub-contractor Bingle Research Grp.)** and perform surveillance using experts' evaluators in this space (**Certified Fraud & Forensic Investigation),** to assure that the SEOW maintains a surveillance program consistent with the federal guidelines regarding the NOMs.
- **= Syra Health differentiator factor**

## 2.4.10 Please identify project staff and detail their relevant statistical and epidemiological expertise.

**Srikant Devaraj, PhD,** is a researcher in the area of **public policy, applied econometrics, and health** and currently work as ***Research Economist and Research Assistant Professor*** **at Ball State University**. He earned his doctoral degree in Economics from Indiana University, Indianapolis and have been conducting research at Ball State University for the past eleven years. As a researcher, his research has influenced the economic policy making for the state of Indiana and beyond. **He has a strong publication record of 35 peer-reviewed publications, 26 policy briefs, 15 technical reports with a total of 417 citations.** He has made major presentations at recognized international peer-reviewed conferences and have been a reviewer for several journals.

Srikant research focuses on public policies focusing on economic growth and health/healthcare fields by using advanced statistical techniques. He uses software such as STATA and SAS for most of his analytical work. His research has been cited by several media outlets such as NPR, WSJ, Washington Post, Chicago Tribune, Fortune, NY Times, CNN, Forbes, CNBC, IndyStar, US News, Fox News, TIME, LA Times, Financial Times, and many national and international news outlets around the world. He has studies published in high impact factor journals and also have received awards for his research work.

Letter of Recommendation from Ball State University in support of Srikant Devaraj.

BALL STATE UNIVERSITY

February 17, 2021

From: Michael J. Hicks, Ph.D.

To: Indiana Department of Administration

Subject: Letter of recommendation, Dr. Srikant Devaraj

I am the director of the Center for Business and Economic Research and the George & Frances Ball Distinguished Professor of Economics at Ball State University. I have held this position for almost 14 years, following faculty positions at the Air Force Institute of Technology, Marshall University and the University of Tennessee.

The Center for Business and Economic Research at Ball State University, Indiana conducts timely research on relevant economic and public policy issues. The Center's research primarily focuses on regional economics, economic development, manufacturing, quality of place, health, public finance, labor economics, etc. The research is primarily conducted by three Ph.D. economists and a Sociologist. We also testify at various committees at the Indiana legislature.

Srikant Devaraj has been working at the Center as Research Economist and Research Assistant Professor since August 2015. Prior to that he has worked as a Research Associate (2009 to 2010) and Senior Research Associate and Project Manager (2010 to 2015) for the center. He is extensivly trained in empirical research design and in econometric modeling. His career publications already extend the envelope of empirical modeling of a variety of issues related to health, healthcare provision and labor market analysis.

During his tenure working at the Center, Srikant Devaraj was involved in doing research for Federal/State/Local policymakers on pressing issues, various State/Federal agencies [such as Indiana Economic Development Corporation; Indiana Office of Community and Rural Affairs; Indiana Chamber of Commerce; Indiana Department of Child Services; US Department of Defense; US Environmental Protection Agency], and several organizations within and outside the State of Indiana.

Srikant Devaraj has experience and skills needed to perform both statistical and policy analysis part of the Indiana Department of Administration's request for proposal 21-66776.

**Miller College of Business**
**Center for Business and Economic Research**
Muncie, Indiana 47306-0340 | Phone: 765-285-55926 | cber@bsu.edu | bsu.edu/cber

**SRIKANT DEVARAJ, Ph.D., PMP®**

Ball State University
2000 W University Ave, Muncie, IN 46037

+1 (765)-285-4304
sdevaraj@bsu.edu

**Date prepared: February 17, 2021**

## EDUCATION

**PhD** in Economics, Indiana University, Indianapolis (Feb 2016)
**Dissertation Chair:** Dr. Joseph V. Terza
**Dissertation Title:** *Specification and Estimation of the Price Responsiveness of Alcohol Demand: A Policy Analytic Perspective*

**Certificate in Business of Life Sciences**, Kelly School of Business, IU Bloomington (2014)

**Project Management Professional (PMP)** from Project Management Institute (2009)

**M.B.A.**, with concentration in Finance and Operations, Ball State University, Muncie, IN (2009)

**M.S.**, Information and Communication Sciences, Ball State University, Muncie, IN (2008)

**B.E.**, Mechanical Engineering, University of Madras, Tamil Nadu, India (2004)

## RESEARCH INTERESTS

Applied Econometrics (field), Public Policy, Business and Economics, Health Economics (field), Health Services and Outcomes, Regional Economics, Health Informatics (minor)

## RESEARCH EXPERIENCE

Research Economist & Research Assistant Professor, Center for Business and Economic Research, Ball State University, Indiana (Aug 2015 – present)

Senior Research Associate & Project Manager, Center for Business and Economic Research, Ball State University, Indiana (Jul 2010 – Aug 2015)

Research Associate, Center for Business and Economic Research, Ball State University, Indiana (May 2009 – Jun 2010)

Graduate Research Assistant, Insight & Research, Center for Media Design, Ball State University, Indiana (Jan 2008 – May 2009)

Business Fellows, Building Better Communities, Ball State University (Sep 2007 – Dec 2007)

## INDUSTRY EXPERIENCE

Senior Project Engineer, M/s VA Tech Wabag Ltd, Chennai, India (Apr 2007 – Jul 2007)

Project Engineer, M/s VA Tech Wabag Ltd, Chennai, India (Apr 2006 – Mar2007)

Graduate Engineer Trainee, M/s VA Tech Wabag Ltd, Chennai, India (Jun 2004 – Mar 2006)

## PUBLICATIONS / RESEARCH OUTPUTS

**Peer-Reviewed Journal Articles**

1. Patel, P.C., & **Devaraj, S.** (in-press), The state-level exemption changes in Chapter 7 protection and entrepreneurial activity in the US. *Managerial and Decision Economics, (forthcoming)*
2. **Devaraj, S.** & Patel, P.C. (in-press). Change in psychological distress in response to changes in reduced mobility during the early 2020 COVID-19 pandemic: Evidence of modest effects from the US. *Social Science and Medicine*, doi: 10.1016/j.socscimed.2020.113615
3. Patel, P.C., & **Devaraj, S.** (in-press). Non-employer establishments and economic development in counties: Evidence from cross-border neighbor county-pairs in the US. *Small Business Economics*, (forthcoming) doi: 10.1007/s11187-020-00399-9
4. Chakrabarti., S.K., **Devaraj, S.,** & Patel, P.C. (in-press). Minimum wage and restaurant hygiene violations: Evidence from Seattle. *Managerial and Decision Economics*, (forthcoming) doi: 10.1002/mde.3215
   ***[Media citations:** NPR Morning edition (also syndicated by AP), Marginal Revolution blog, WSJ, The Hindu, The daily signal, Fox news and many national news outlets]*

5. **Devaraj, S.**, Patel, P.C., & Hicks, M.J. (in-press). Must access laws for opioid prescription and county gross domestic product: Evidence from the US. *Applied Economics Letters*, doi: 10.1080/13504851.2020.1740155
6. **Devaraj, S.**, Wolfe, M.T., & Patel, P.C. (in-press). Creative destruction and regional health: Evidence from the United States. *Journal of Evolutionary Economics,* doi: 10.1007/s00191-020-00663-x
7. **Devaraj, S.**, & Patel, P.C. (2020). Student debt, income-based repayment, and self-employment: Evidence from NLSY 1997 and NFCS 2015. *Applied Economics*, 52(35), 3809-3829
8. Patel, P.C., **Devaraj, S**., Quigley, N.R., & Oghazi, P. (2020). The influence of sunlight on taxi driver productivity. *Journal of Business Research,* 115, 456-468
9. Hicks, M.J, Faulk, D.G., & **Devaraj, S**. (2019) Tax increment financing: Capturing or creating growth. *Growth and Change: A Journal of Urban and Regional Policy*, doi: 10.1111/grow.12296.
10. **Devaraj, S.**, & Patel, P.C. (2019) The association between participation in Mahatma Gandhi National Rural Employment Guarantee Program and smoking in India. *Nicotine & Tobacco Research*, doi: 10.1093/ntr/ntz166
11. Patel, P.C., & **Devaraj, S**. (2019) American Recovery and Reinvestment Act and county-level health outcomes. *Applied Economics Letters*, 26(21), 1770-1773.
12. **Devaraj, S**., Faulk, D.G., & Hicks, M.J. (2018) School district size and student performance. *Journal of Regional Analysis and Policy*, 48(4), 25-37.
13. Patel, P.C., Kim, K.Y., **Devaraj, S.**, & Li, M. (2018) Family ties that b(l)ind: Do family-owned franchisees have lower financial performance than nonfamily-owned franchisees? *Journal of Retailing*, 94(2), 231-245.
14. Patel, PC., **Devaraj, S**., Hicks, M.J., & Wornell, E.J. (2018) County-level job automation risk and health: Evidence from the United States. *Social Science & Medicine*, 202, 54-60.
15. **Devaraj, S.**, Quigley, N.R., & Patel, P.C. (2018). The effects of skin tone, height, and gender on earnings. *PLOS One* 13(1): https://doi.org/10.1371/journal.pone.0190640
16. Patel, P.C., & **Devaraj, S.** (2018). Height-income association in developing countries: Evidence from 14 countries. *American Journal of Human Biology*, 30(3), e23093
17. **Devaraj, S.**, & Patel, P.C. (2018). An Examination of the effects of 2014 Concealed Weapons Law in Illinois on Property Crimes in Chicago. *Applied Economic Letters.*, 25(16), 1125-1129.
18. Chrisman, J., **Devaraj, S**., & Patel, P.C. (2017). The influence of employee profit sharing on firm performance in family and non-family firms. *Family Business Review*, 30(2), 119-136.
19. **Devaraj, S.,** & Patel, P.C. (2017). Health Insurance and employee productivity: Findings from 2007 survey of business owners. *Economics Bulletin*, 37(2),1351-1364.
20. **Devaraj, S.,** & Patel, P.C. (2017). Skin tone and self-employment: Is there an intra-group variation among Blacks? *Review of Black Political Economy,* 44(1-2). 137-166.
21. **Devaraj, S.,** & Patel, P.C. (2017). Taxicab tipping and sunlight. *PLOS One,* 12(6): https://doi.org/10.1371/journal.pone.0179193. ***[Media citations:** Science Magazine]*
22. **Devaraj, S.,** & Patel, P.C. (2016). Gas prices and traffic violations in Chicago. *Economics Bulletin*, 36(3), 1844-1853.
23. Hicks, M.J., LaFaive, M., & **Devaraj, S.** (2016). New evidence of right-to-work laws on productivity and population growth. *Cato Journal*, 36(1), 101-120.
24. **Devaraj, S.,** & Patel, P.C. (2016). Influence of number of backers, goal amount, and project duration on meeting funding goals of crowdfunding projects. *Economics Bulletin*, 36(2), 1242-1249.
25. **Devaraj, S**., Sharma, S., Hicks, M.J., & Faulk, D,G. (2014). The human development index of Indiana counties – An exploratory study. *International Journal of Business and Economic Development*, 2(1), 1-15.
26. Bott, J., Faulk, D., Guntupalli, A., **Devaraj, S**., & Holmes, M. (2011). An examination of generational differences and media exposure. *The Journal of Applied Management and Entrepreneurship*, 16(4), 78-100.

***Health Services and Outcomes Research:***

27. Ajam, T., **Devaraj, S**., Fudim, M., Ajam, S., Soleimani T., & Masoor, K. (in-press). Lower post myocardial mortality among women treated at Veterans Affairs hospitals compared to men. *The American Journal of the Medical Sciences*, https://doi.org/10.1016/j.amjms.2019.12.005
28. Fudim, M., Carlisle, M.A., **Devaraj, S**., Ajam, A., Ambrosy, A.P., Pokorney, S.D., Al-Khatib, S.M., and Kamalesh, M. . (2020). One-year mortality after Implantable Cardioverter-Defibrillator placement within the Veterans Affairs Health System. *European Journal of Heart Failure*, 22(5), 859-867.

29. Ajam, T., Ajam, S., **Devaraj, S**., Masoor, K. & Fudim, M. (2018) Effect on mortality of higher vs lower Beta Blocker (Metoprolol Succinate or Carvedilol) dose in patients with heart failure. *The American Journal of Cardiology*, 122(6), 994-998.
30. Fudim, M., Cerbin, L., **Devaraj, S**. Ajam, T., Rao, S.V., Kamalesh, M. (2018) Post-traumatic stress disorder and heart failure within the veteran affairs health system. *The American Journal of Cardiology*, 122(2), 275-278.
31. Ajam, T., Ajam, S., **Devaraj, S**., Sawada, S., & Masoor, K. (2018) Effect of Carvedilol vs Metoprolol Succinate on mortality in Heart Failure with reduced ejection fraction. *American Heart Journal*, 199, 1-6.
32. **Devaraj, S**., & Patel, P.C. (2018). Negative association of hospital efficiency under increasing geographic elevation on Acute Myocardial Infarction in-patient mortality. *Journal of Healthcare Quality*, 40(1), 9-18.
33. Beg, F., Wang, R., Saeed, Z., **Devaraj, S**., Masoor, K., & Nakshatri, H. (2017). Inflammation-Associated microRNA changes in Circulating Exosomes of Heart Failure Patients. *BMC Research Note* 10:751
34. **Devaraj, S.,** & Patel, P.C. (2016). Attributing responsibility: Hospitals account for 20% of variance in Acute Myocardial Infarction patient mortality. *Journal of Healthcare Quality*, 38(1), 52-61.
35. **Devaraj, S.**, Sharma, S, Fausto,D., Viernes, S., & Kharrazi, H. (2014). Barriers and facilitators to clinical decision support systems adoption: A systematic review. *Journal of Business Administration Research*, 3(2), 36-53.

**Book Chapters**

**Devaraj S**., Wornell E.J., Faulk D., Hicks M. (2020) Rural Job Loss to Offshoring and Automation. In: Glick J., McHale S., King V. (eds) Rural Families and Communities in the United States. National Symposium on Family Issues, vol 10. Springer, Cham

**Working Papers/Current Research/Under Review**

- State bans on pay secrecy and wages: Evidence from the National Longitudinal Survey of Youth 1997. (*Revise and resubmit*)
- Does "ban-the-box" law lower the state parolee population growth? Evidence from state-to-state variation in ban-the-box laws in the US. (*Under review*)
- Beta-blocker dose versus heart rate in heart failure with reduced ejection fraction with Atrial Fibrillation. (*Under review*)
- Effectiveness of stay-in-place-orders during COVID-19 Pandemic: Evidence from US Border Counties. (*Under review*)
- Specification, identification and estimation of own price elasticity of two-part alcohol demand from the potential outcomes perspective (*working paper*).
- Impact of Health Savings Account-type plans on healthcare utilization among low-income adults: Evidence from Indiana

**Public Policy and Selected Business Briefs**

- How many school-age children lack internet access in Indiana? (July 2020, with Faulk, Hicks, and Zhang)
- COVID-19 effects on Indiana's state and local taxes. (June 2020, with Faulk and Hicks)
- Preliminary Fiscal Effects of COVID-19 on Indiana's Local Tax Revenues (April 2020, with Hicks and Faulk)
- What Will the Next Three Months Look Like? Simulating the Impact of Social Distancing on GDP and Employment (March 2020, with Hicks and Faulk)
- Occupational Exposure to Social Distancing: A Preliminary Analysis Using O*NET Data (March 2020, with Hicks and Faulk)
- Do Indiana residents spend too much on healthcare? (Dec 2019, with Hicks)
- Community asset inventory rankings: changes in Indiana Counties (May 2019, with Hicks and Terrell)
- Assessing e-readiness and the human development and technology index (Oct 2017, with Sharma, Hicks and Wornell)
- School corporation size and Student performance: Evidence from Indiana (Aug 2017, with Faulk and Hicks)
- How vulnerable are American communities to Automation, Trade and Urbanization? (Jun 2017, with Hicks, Wornell, and Faulk)

- Manufacturing & Logistics: A Generation of Volatility & Growth (Jun 2017, with Hicks)
- Indiana Healthy, Wealthy, Wise Index (Dec 2016, with Hicks and Shamsi)
- Indiana Economic Outlook Forecast for US and Indiana (Dec 2016, with Hicks)
- Potential Impact of Share of Amish Population on Medicaid Share in Adams County, Indiana (Oct 2016, with Hicks)
- Advanced manufacturing in the United States: A shift towards diversified industries and an educated workforce (Jun 2016, with Hicks)
- The fiscal impact of tax increment financing in Indiana (Jan 2016, with Hicks and Faulk).
- A long-term forecast for the United States and Indiana, 2016-2030 (Dec 2015, with Hicks)
- The Human Development Index of Indiana Counties: A policy perspective (Oct 2015, with Sharma, Hicks, and Faulk)
- The myth and the reality of manufacturing in America (Jun 2015, with Hicks)
  ***[Media citations:*** *Washington Post, Chicago Tribune, Fortune, NY Times, CNN, Forbes, CNBC, IndyStar, US News, Fox News, TIME, LA Times, Financial times, and many national and international news outlets]*
- A cost-benefit analysis of pseudoephedrine drug policy in Indiana (Mar 2015, with Hicks, and Balaji).
- Determine key economic sectors that should be emphasized by the state and by local economic development organizations within geographic regions in Indiana (Jul 2014, and Nov 2014, with Hicks).
- Individual market premium variations under the Patient Protection and Affordable Care Act: Evidence from Indiana (Apr 2014, with Lewis, and Hicks).
- The causes of state differences in per capita income: how much does Indiana fare? (Aug 2013, with Hicks, Faulk, Heupel, and Canaday).
- A technical analysis of the economic impact of U.S. Department of Defense contracts in Indiana. (Oct 2011, with Hicks, and Salimova).
- Indiana's manufacturing employment trends. (Aug 2010).

**Selected Technical Reports**

- Annual Manufacturing and Logistics Report Card for all the states in US (Jun 2010 to June 2019 with Hicks).
- Economic and Community Benefit of Health and Hospital Corporation of Marion County (Jun 2019, with Hicks and Garza)
- Economic impact of health and hospital corporation of Marion County and its facilities for *Health and Hospital Corporation of Marion County* (Mar 2018, with Reynolds and Hicks)
- Economic Impact, community benefits, preventable hospitalizations and place-based policies and programs at *Community Hospital East* (Apr 2018, with Reynolds, Hicks, and Greenstreet Ltd.)
- Macroeconomic impact, trends, technical analysis and policy recommendations for Indiana's 21st Century Research and Technology fund (Nov 2016, with Hicks).
- Potential impact of share of Amish population on Medicaid share in Adams County, Indiana for *Adams Memorial Hospital* (Oct 2016, with Hicks).
- Key economic sectors in Indiana – State and regions (Jul 2015, with Hicks et al.)
- Workshare Questions and Answers for *Indiana Chamber of Commerce Foundation and the Indiana Department of Workforce Development* (Jan 2016, with Hicks and Faulk).
- Indiana economic outlook forecast (Dec 2013, with Hicks, and Lewis).
- The economic impact and community benefits (through uncompensated care) of *Community Health Network* at *Community Hospital East*, Indiana. (Dec 2012, with McGeary).
- Economic Prioritization of Projects Model for *Indiana Office of Community and Rural Affairs.* (May 2012, with Hicks).
- Community Asset Inventory Rankings for 92 Indiana counties for the *Office of Indiana's Lieutenant governor* – 2012 University of Economic Development Association award finalist. (Apr 2012, with Hicks, and Fichter).
- Home Health Care Industry Growth in Indiana for *Indiana Association for Home and Hospice Care*. (Jan 2012, with Hicks, and Ravula).
- Foster Care Cost Survey of Indiana - Memorandum of Survey Methodology, Memorandum of Findings and a payment model calculator for *Indiana Department of Child Services*. (Aug 2011, with Hicks et al.).
- Comprehensive Examination of the Performance of the 21st Century Research and Technology Fund for *Indiana Economic Development Corporation* (Aug 2010, with Hicks).

**TEACHING EXPERIENCE**

Econ 201 – Principles of Microeconomics – 2016 to present
Econ 202 – Principles of Macroeconomics – 2016

**RESEARCH GRANTS/CONTRACTS**

- Principal Investigator: Heath and Hospital Corporation of Marion County, Amount funded: $70,000, Years: 2018 to 2020; "Estimate economic and neighborhood impact of healthcare providers"
- Principal Investigator: Community Hospital East, Amount funded: $25,000, Years: 2017 to 2018; "Estimate economic impact and place-based policies"
- Co-Principal Investigator: Conexus Indiana, Amount funded: $25,000 per year, Years: 2010 to 2018; "Develop and update Manufacturing and Logistics Report Card"
- Co-Principal Investigator: Indiana Economic Development Corporation, Amount funded: $180,000, Year: 2010 and 2016; "Comprehensive evaluation of 21st Century Research and Technology Funds"
- Co-Principal Investigator: Indiana Economic Development Corporation, Amount funded: $180,000, Years: 2014 to 2015; "Identifying key economic sectors in Indiana and its regions"
- Co-Principal Investigator: Office of Community and Rural Affairs, Amount funded: $450,000, Years: 2016 to 2018; "Implement two economic development initiatives – Stellar Communities Program and Community Readiness Initiative"
- Co-Principal Investigator: Office of Community and Rural Affairs, Amount funded: $300,000, Years: 2011 to 2012; "Develop community asset inventory rankings"

**CONFERENCES & SELECTED PRESENTATIONS**

- Invited speaker at Association for University Business and Economic Research (AUBER) Roundtable examining stay-in-place orders and social distancing behavior during the COVID-19 pandemic, Jul 2020
- Discussant at American Society of Health Economists' (ASHECON) Annual Conference, Washington, DC, Jun 2019
- Community Asset Index and Ranking Report, Mayors Institute, Indiana Association of Cities and Towns, Mar 2019.
- The effects of employment guaranteed programs on smoking.
  - Health Economics Seminar at IUPUI, Apr 2017
  - International Health Economics Association (iHEA) Congress Biennial Conference, Boston University. Boston, MA, Jul 2017
- How various health and wellness rankings can impact economic development, and quality of place, Mayors Institute, Indiana Association of Cities and Towns, Aug 2016.
- Minimum wage and restaurant hygiene violation: Evidence from food establishments in Seattle –
  - Research Colloquium at Ball State University, Feb 2016
  - Health Economics Seminar at IUPUI, Apr 2016
  - American Society of Health Economists' (ASHECON) Biennial Conference, University of Pennsylvania, Philadelphia, PA, Jun 2016.
- Specification and Estimation of the Price Responsiveness of Alcohol Demand: A Policy Analytic Perspective, IUPUI, Jan 2016.
- Exploring sources of bias in the specification and estimation of own-price elasticity in parametric models of alcohol demand, Health Economics Seminar at IUPUI, Dec 2015.
- Potential Outcome and Conventional Estimators of Own Price Alcohol Demand Elasticity in the Two-Part Modeling Context: A Comparison, IUPUI, Dec 2014.
- Comparing human development index with community asset inventory rankings and its impact on income, poverty and employment in Indiana. In *International conference on business and economic development*, Mar 2014.

**PROFESSIONAL SOCIETIES**

Member of Project Management Institute, American Economic Association, American Society of Health Economists, Agricultural Economics Society, Southern Economic Association, Western Economic Association International

**AWARDS & HONORS**

- Paul Polzin Prize for Best Paper Award, Association for University Business and Economic Research (AUBER) (Oct 2019).
- Miller College of Business Extraordinary Year Award, Ball State University (Aug 2017).
- Best Unpublished Research Paper Award, Family Firms Institute (Oct 2016).
- Graduate Professional Scholarship (Tuition/fees) at IUPUI (Aug 2011 to Feb 2016).
- Project Management Institute's Project Management Professional (PMP) (Apr 2009).
- Service Learning Award from Center for Information and Communication Sciences, Ball State University (Jul 2008).
- Graduate Assistantship (Tuition/fees/stipend) at Ball State University (2008 to 2009).
- Star Performer Award from M/s VA Tech Wabag Ltd, India (Feb 2007).
- Scholarship for securing top position in the department for bachelors degree (May 2004).

**JOURNAL REFEREE**

Journal of Operations Management, International Regional Science Review, The American Economist, Journal of Healthcare Quality, Economics Bulletin, American Journal of Business, International Journal of Environmental Research and Public Health, Journal of Small Business Management, International Review of Finance

**EDITORIAL ACTIVITIES**

Academic Editor, *PLOS ONE*, 2018 - Present

**ADVISING**

Ph.D. dissertation committee member for Zhuang Hao (2018), Economics, Indiana University Purdue University of Indianapolis. Initial placement: Associate Analyst at Congressional Budget Office

- **Deepika Vuppalanchi, PhD, CEO of Syra Health**, possesses a doctoral degree in Molecular Neuroscience and Drug Pharmacology and has **10+ years of providing impactful medical storytelling and scientific information for a wide variety of audience (physicians, patients, payers, policy decision makers, local, state, and federal government officials) using multiple dissemination channels.** Deepika has led teams of medical writers with advanced degrees and guided them on techniques of simplifying complex sciences to digestible bite-wise information to allow easy readability and understanding for broader and general audience.

Prior to taking on several years of leadership role as a Senior Medical Director on the medical communication front, Deepika has worked as molecular biology research scientist at several prestigious research institutions including the STARK neuroscience center at IUPUI and Center for Translations Science Institute (CTSI). Deepika has published extensively in various therapeutic areas in **high impact factor journals including book chapters.** Deepika has employed several statistical tools in her research career and is also well-experiences in network meta-analyses, systemic literature analyses, and real-world population health outcomes analyses, and cost-effective analyses.

Deepika also serves on the scientific advisory board of Indy Big Data Conference (renamed to Innovation Digi - https://innovationdigi.com/ ) and actively participates in the organization of this data sciences-driven conference for 2000+ attendees every year. Deepika has be instrumental in the organization of the **Hack the Kidney, Hackathon national event which utilizes genomic data sources from National Institute of Health.** (https://www.kaggle.com/c/hubmap-kidney-segmentation/overview/organizers-and-sponsors )

## Deepika Vuppalanchi, PhD

13756 Monique Dr, Carmel, IN 46074 • (317) 798 8565 • deepikav@syrahealth.com

**PhD Molecular Neuroscience and Drug Pharmacology** with broad strategic medical communications and scientific research experience

- Therapeutic expertise: Behavioral and Mental Health, (substance abuse disorder, major depressive disorder) Oncology (Immuno oncology: lung, CNS, and hematologic cancers), immunology (psoriasis, psoriatic arthritis, hidradenitis suppurativa, rheumatoid arthritis, Crohn's disease and ulcerative colitis), cardiology, metabolic disorders, osteoporosis, women's health (uterine fibroids and endometriosis)
- Research experience: cardiovascular, oncology and neuroscience (neurodegenerative diseases, pain and neuropsychiatric disorders)
- In-depth knowledge of drug pharmacology, molecular and cellular biology, and protein biochemistry
- Strong scientific publication record
- Strategic planning and business development experience
- Excellent leadership and organizational skills
- Management of a team of medical writers and freelancers

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### Chief Executive Officer
**Syra Health** (November 2020 – Current)

- Lead all core verticals of Syra Health – medical communications, healthcare IT, and healthcare staffing
- Manage the business operations and development providing oversight of all active projects
- Manage medical writers, data scientists, creative personnel, all support staff
- Lead R&D for several behavioral and mental health products and platforms

### Senior Medical Director
**Precision Value Health (Precision Medicine Group)** (August 2017 – November 2020)

- Leadership on clinical aspects during strategic planning and project meetings with internal and client teams, gathering information and assessing client expectations on assigned initiatives
- Responsible for ownership of client relationship, partnering with account teams to build confidence in clinical service offerings
- Involvement in strategic discussions and business development efforts, attending live pitches to showcase clinical capabilities
- Ensuring scientific caliber and quality of medical communication resources

### Medical Director
**Symbiotix (HAVAS Network)** (May 2016 – August 2017)

- Responsible for planning and developing promotional medical educational materials
- Supervise in-house and contract medical writing resources
- Collaborate with internal teams and clients to help identify creative solutions, and to constantly improve the level of fulfillment of client vision
- Significant involvement in clinical timeline development and resource planning to meet deliverable milestones

### Medical Director
**DWA Healthcare Communications (AVANT Healthcare Marketing)** (Feb 2013 – April 2016)

- Provide strategic direction and hands-on development of exceptionally high-quality medical and scientific content across multiple therapeutic areas
- Responsible for development of medical content to ensure clinical accuracy and validity, while maintaining full compliance with legal, regulatory, and company requirements, as well as, US laws and regulations
- Apply practice guidelines, performance measures, quality improvement, and other relevant, evidence-based data sources to establish and attain desired outcomes of educational interventions
- Responsible for establishing, fostering, cultivating and maintaining relationships with key opinion leaders (KOLs) and serve as a liaison between KOLs, commercial teams, and the company's medical affairs group

- Organize and participate in clinical and commercial advisory boards and partner with medical affairs and brand teams to gain insights from KOLs on strategic clinical and marketing recommendations
- Collaborate with project leads to manage scope of project within budget and according to timelines/deadlines as well as identification of risks and development of mitigation strategies
- Manage and provide leadership to a team of medical writers
- Championed the 'medical storytelling' concept through partnering closely with medical, creative and marketing, as well as with regulatory staff and KOLs to build compelling, evidence-based narratives that are scientifically robust, innovative and compliant
- Wrote promotional and disease state peer-to-peer slide kits, and supporting materials such as speaker notes, moderator guides, and leave behinds
- Collaborated and worked closely with internal marketing teams for business development strategy and business opportunity development
- Collaborated with multimedia personnel on illustrations, animations, and creative applications of medical and scientific information

## RESEARCH EXPERIENCE

- **Post-Doctoral Research Scientist**, Indiana University School of Medicine, Indianapolis, IN (March 2010 to Feb 2013)
- **Research Assistant,** Ph.D. dissertation, Al DuPont Hospital for Children, University of Delaware, Newark, DE (Feb 2005 to Jan 2010)
- **Research Assistant**, MS thesis, Cancer and Cardiovascular laboratory, University of Delaware, Newark, DE (Aug 2002 to Nov 2004)

## TEACHING EXPERIENCE

- Teaching Assistant (University of Delaware, Delaware) Microbiology, Responsible for planning and delivering lecture to undergraduate class, grading lab reports and supervising lab experiments (Aug 2002- May 2005)
- Mentored fellow post-doctoral colleagues, graduate students and undergraduates in extensive molecular biology and imaging practices (Stark Neuroscience Research Institute, Indiana School of Medicine) (March 2010 to Feb 2012)

## EDUCATION

- Molecular Biology and Genetics, **PhD, University of Delaware** (Feb 2005 – Jan 2010)
- Molecular Biology and Genetics, **MS, University of Delaware** (Aug 2002 – Nov 2004)
- Microbiology, Chemistry, **BS, Osmania University,** Hyderabad, India (Aug 1997 – April 2000)

## SELECTED PUBLICATIONS

- Merianda TT, Gomes C, Yoo S, **Vuppalanchi D**, Twiss JL. (2013) Axonal localization of neuritin/CPG15 mRNA in neuronal populations through distinct 5' and 3' UTR elements. J Neurosci. Aug 21;33(34):13735-42.
- Yoo S, Kim H, Donnelly CJ, **Vuppalanchi D**, Kim P, Park M, Lee SJ, Merianda TT, Perrone-Bizzozero N, Twiss JL. (2013) A HuD-ZBP1 ribonucleoprotein complex localizes GAP-43 mRNA into axons through its 3' untranslated region AU-rich regulatory element. *Journal of Neurochemistry* Sep;126(6):792-804.
- Donnelly CJ, Park M, Spillane M, Yoo S, Pacheco A, Gomes C, **Vuppalanchi D**, Kim HK, Merianda T, Gallo G, Twiss JL. (2013) Axonally synthesized beta-actin and GAP-43 proteins support distinct modes of axonal growth. *Journal of Neuroscience* Feb 20;33(8):3311-22.
- Merianda TT, **Vuppalanchi D,** Yoo S, Blesch A, Twiss JL.(2013) Axonal Transport of Neural Membrane Protein 35 mRNA Increases Axon Growth. *Journal of Cell Science* Jan 1;126(Pt 1):90-102.
- **Vuppalanchi D,** Yoo S, Williams G, Merianda TT, Donnelley C, Willis DE, R Ratan, Twiss JL.(2012) Translational regulation of axonal chaperone protein mRNAs in response to stress. Molecular and Cellular Neuroscience Jun;50(2):136-46.
- Yaakov K, Dagan S, Segal-Ruder Y, Shalem O,**Vuppalanchi D**, Willis DE, Yudin D, Rishal I, Blesch A, Pilpel Y,Twiss JL, Fainzilber M. Axonal transcription factors signal retrogradely in lesioned peripheral nerve. (2012) EMBO Journal 13 31(6):1350-63.

- **Vuppalanchi D**, Coleman J, Yoo S, Merianda TT, Yadhati A, Blesch A,Willis DE, Twiss JL (2010) Conserved 3' UTR sequences direct subcellular localization of chaperone protein mRNAs in neurons**.** Journal of Biological Chemistry Jun 4;285(23):18025-38.
- **Vuppalanchi D,** Willis DE and Twiss JL (2009) mRNAs and protein expression in axons. Cell Biology of the Axon**,** Results Probl Cell Differ. 2009 Jul.
- Merianda TT, Lin AC, Lam JS, **Vuppalanchi D**, Willis DE, Karin N, Holt CE, Twiss JL (2009) A functional equivalent of endoplasmic reticulum and Golgi in axons for secretion of locally synthesized proteins. Molecular and Cellular Neuroscience: 40(2):128-42.
- Yudin D, Hanz S, Yoo S, Iavnilovitch E, Willis D, Gradus T, **Vuppalanchi D**, Segal Ruder Y, Ben-Yaakov K, Hieda M, Yoneda Y, Twiss JL, Fainzilber M (2008) Localized regulation of axonal RanGTPase controls retrograde injury signaling in peripheral nerve. Neuron 59(2):241-52.
- Chang JH, **Vuppalanchi D**, van Niekerk E, Trepel JB, Schanen NC, Twiss JL (2006) PC12 cells regulate inducible cyclic AMP (cAMP) element repressor expression to differentially control cAMP response element-dependent transcription in response to nerve growth factor and cAMP. Journal of Neurochemistry 99(6):1517-30.
- Naik MU, **Vuppalanchi D**, Naik UP (2003) Essential role of junctional adhesion molecule-1 in basic fibroblast growth factor-induced endothelial cell migration. Arteriosclerosis, Thrombosis and Vascular Biology 23(12):2165-71.

## POSTER PRESENTATIONS

- **Vuppalanchi D**, Yamamoto W, Peper C, Cumbay M, Oxford GS (2012) Conserved residues in the transmembrane domains of the dopamine D2 receptor impart a role in its functional selectivity. 42nd Annual Society for Neuroscience Meeting, New Orleans, Louisiana.
- **Vuppalanchi D**, Yamamoto W, Cumbay M, Oxford GS (2011) Functional selectivity of agonist signaling through D2-like receptors is modulated by key residues in specific transmembrane domains. 41st Annual Society for Neuroscience Meeting, Washington DC.
- Yoo S**,** Donnelly CJ, **Vuppalanchi D**, Perrone-Bizzozero NI,Twiss JL (2011) Axonal GAP-43 mRNA shows dual modes of post-transcriptional regulation in injury conditioned neurons. 41st Annual Society for Neuroscience Meeting, Washington DC.
- Yoo S**, Vuppalanchi D**, Merianda TT, Willis DE, Perrone-Bizzozero NI,Twiss JL (2008) GAP-43 UTR containing the HuD-binding site are needed for axonal mRNA transport and modulate axonal outgrowth: 38th Annual Society for Neuroscience Meeting, Washington DC.
- Merianda TT, **Vuppalanchi D**, Yoo S, Willis DE, Colemen JK, Twiss JL (2008) Axonal translation of NMP35 and Neuritin mRNAs contributes to intrinsic neuronal growth capacity: 38th Annual Society for Neuroscience Meeting, Washington DC.
- **Vuppalanchi D,** Willis DE, Merianda TT, Twiss JL (2007) Localized translation of axonal calreticulin mRNA upon ER stress: 37th Annual Society for Neuroscience Meeting, San Diego, California.
- Coleman JK, **Vuppalanchi D**, Merianda TT, Willis DE, Twiss JL (2007) Determinants for localization of calreticulin and amphoterin (HMGB1) mRNAs into axons: 37th Annual Society for Neuroscience Meeting, San Diego, California.
- Merianda TT, **Vuppalanchi D**, Willis DE, Zheng JQ, and Twiss JL (2006) Regulation of membrane protein synthesis in regenerating axons: 36th Annual Society for Neuroscience Meeting, Atlanta, Georgia.
- **Vuppalanchi D**, Willis DE, Merianda TT, Twiss JL (2005) Axonal chaperone mRNAs are translationally regulated by ER stress: International Symposium of Neural Regeneration, Monterey Bay, California.
- **Vuppalanchi D** and Naik UP (2003) CIB is involved in cellular adhesion and migration of human breast cancer cells on collagen: 23rd Annual meeting of American Society of Cell Biology, San Francisco, California.

## SELECTED AWARDS

- AVANT- Annual Award for Team of The Year 2014,2015
- Client Preferred Award – 2014 – Annual Award for Recognition of Strategic and Medical Partnership (AVANT)
- Cold Spring Harbor Laboratory - Axon Guidance Meeting - Travel Award (2008)

- **Fred Bingle has over 40+ years of experience in the marketing and marketing research business** and founded the Bingle Research Group in 1999. Mr. Bingle's **depth of experience in marketing research design, data retrieval methodologies and marketing consulting services** has been the fundamental cornerstone for growth of the firm. His understanding of consumers/customers has been a major factor in positioning the organization as a high-quality provider of marketing consulting services supported by custom designed primary research.

**Selected few State of Indiana projects** –that Fred has done or currently working on:

- **ITPC Anti-tobacco campaign** – State-wide qualitative creative development focus groups and Campaign evaluation telephone studies among adults and youth
- **Indiana Teen Sexual Abstinence program** - State-wide qualitative creative development focus groups and campaign evaluation telephone studies among adults and youth on teen sexual abstinence
- **ICJI Indiana Anti-Drinking and Driving Campaigns** – State-wide qualitative creative development focus groups and campaign evaluation telephone studies among adults.
- **FSSA HIP (Health Indiana Plan) Public Education Campaign** – McFarland PR & Public Affairs and Asher Agency- focus groups and campaign evaluation online study
- **ITPC Indiana Tobacco Quitline** – Optum – Focus groups, in-depth interviews with employer and health system executives
- **ITPC Indiana Tobacco Quitline** – Optum – Women of Child Bearing Age campaign - Focus groups, online discussion boards and in-depth interviews with stakeholder

# Frederick J. Bingle

**4721 N. Pennsylvania St., Indianapolis IN 46205**
**(T) 317-927-7004 (M) 317-696-6394 (E) fbingle@binglerg.com**

## Professional Summary

Results-oriented, strategic-thinking marketing research and database professional. Uses marketing research, brand positioning, market and competitive intelligence and consumer insights to build company's and clients' businesses. Extensive expertise in all areas of marketing research plan development, analysis and evaluation of programs and communication tools with significant experience in consumer research. Specific expertise in developing brands and positionings, providing insights into consumer behaviors and influential messages and identifying and advising on new business and communication opportunities.

## Skill Highlights

- 30+ years of market research and marketing experience with corporations, ad agencies and research firms
- Extensive experience with consumer marketing research
- Analytical skills and strategic thinking
- Proven ability to conduct in-depth research and analyze relevant customer and market intelligence to identify market opportunities and develop business recommendations based on the findings
- Utilize market and consumer insights to develop actionable communication messages and marketing tactics
- Branding and positioning
- Evaluating effectiveness of marketing/advertising programs and communication tools
- Developing strong working relationships with management and other groups
- Developing new business proposals and market analyzes
- Experience using databases to identify and qualify business or gift prospects

## Career Accomplishments

- Founded and successfully managed marketing research consulting firm
- Managed and implemented research and developed consumer insights for several consumer companies, including Kimberly Clark, O.M. Scotts, S.C. Johnson, Dow Brands, Kroger and Holiday Inn.
- Responsible for new business for financial services firm. Used financial databases and public information to identify, evaluating and qualifying the best prospects.
- Developed program for qualitative focus groups on the women's healthcare and OB market for several hospitals
- Designed and managed research program for Hoosier Lottery leading to development of marketing and advertising strategies
- Designed and managed research program that led to successful new advertising campaign for Cardinal Health System
- Helped ad agency secure Indiana smoking prevention (ITPC) account through extensive market and policy research in Indiana and other states. Then, designed and implemented research program to identify communication opportunities and evaluate the impact of the successful campaign
- Developed advertising effectiveness evaluation program that can identify impact of the overall campaign and the various communication tools
- Helped ad agency obtain new accounts through use of market and competitive research, in-depth personal branding interviews, consumer insights and strategy recommendations
- Conducted in-depth personal interviews, analyzed, reported and presented international branding and positioning study for cellphone distributor

**Professional Experience**

06/1999 - Present

**Bingle Research Group, Inc. Indianapolis, IN**

**President**

Founded and successfully managed marketing research consulting firm.

- Accountable for business development, profitability, client interaction and satisfaction, design, set-up and implementation of studies, and reporting and presentation of findings and strategic implications
- Organized and managed the implementation of Patient Satisfaction program at St. Vincent Health
- Worked for one year in marketing department at St. Vincent Health on Occupational Health, St. Vincent Carmel and Physicians Network
- Developed and conducted annual market and advertising evaluation study for community hospital that led to improved brand image in the market
- Designed and managed research program that led to successful new advertising campaign for Cardinal Health System
- Conducted employee focus groups for Roche's Accu-Chek Customer Care that resulted in new employee programs and improved work environment and employee morale
- Developed and conducted donor research program for blood center client that included client/donor profiling, geographical and psychological segmentation and qualitative focus groups and in-depth interviews. This program resulted in new marketing and communication strategies and increased donors

10/2010 – 10/2013

**Benefit Solutions, Indianapolis, IN**

**Registered Representative**

Responsible for developing and implementing retirement plans for both companies and individuals. Design and manage employer-sponsored retirement plans and 401k's. Work with individuals to plan for their financial future through proactive, personal attention. Licensed life and health insurance and Series 6 and 63 agent.

06/2008 - 08/2010

**Beltrame Leffler Advertising, Indianapolis, IN**

**Director of Research & Strategy**

Developed and managed all aspects of market research and marketing strategy needs of clients including design, analysis, report preparation and presentations to management.

- Developed and implemented Brand Machine, a comprehensive, branding process that created new business for the agency. This process involves personal in-depth interviews with management, customers and prospects
- Utilized market, customer, prospect and management information to develop branding and new product marketing program for health benefits company
- Conducted branding studies resulting in differentiated positionings/messages for several clients
- Developed and implemented marketing initiatives for agency and clients

06/1994 - 07/1999

**Strategic Marketing & Research, Inc. Indianapolis, IN**

**Consultant**

Consulted and conducted marketing research for clients in diverse industries that increased market penetration, sales and profitability.

- Designed, implemented, analyzed and reported on multiple city market study for food store chain which included customer profiling and segmentation, and led to a new branding strategy for the company
- Implemented a multi-year research study of communications for Indiana State Department of Health on Teen Sexual Abstinence program in Indiana that led to decrease in sexual activity among teens

01/1988 - 06/1994 **MZD Advertising Indianapolis, IN**

**Vice President, Director, MARKETSearch**

Generated and managed all marketing research studies for clients and secondary data searches to profile new businesses and their markets.

- Designed and conducted research for agency that helped win the Hoosier Lottery account and successfully launch the Lottery in Indiana
- Researched and developed all market and competitive intelligence and market trends overviews for inclusion in RFPs/proposals

06/1983 - 11/1988 **Walker Information Indianapolis, IN**

**Senior Account Executive**

Managed and grew consumer goods and retail clients in Midwest area.

- Conducted national and market-specific research for Fortune 500 companies
- Planned and implemented new product evaluation programs for several clients

| | | |
|---|---|---|
| 02/1978 - 05/1983 | **The Scotts Company** | Associate Marketing Research Manager |
| 09/1976 – 02/1978 | **Kimberly Clark Corporation** | Marketing Research Analyst |
| 07/1973 – 09/1976 | **National Family Opinion** | Project Manager/Service Representative |

**Education**

| | | |
|---|---|---|
| 1973 | The Ohio State University M.B.A. | Marketing |
| 1970 | University of Notre Dame | Marketing |

**Professional Affiliations**

American Marketing Association Notre Dame Club of Indianapolis

## 2.4.11 How will your company develop and implement a comprehensive and systematic strategy for monitoring substance use and abuse across the state?

Syra Health will implement a comprehensive and systemic strategy for monitoring substance use and abuse across the state by looking at **key indicators from micro level to macro levels** describing the magnitude and distribution of:

- **Substance use consumption patterns** (alcohol, tobacco, and other drugs), as well as their negative consequences across the lifespan
- **Potential risk and protective factors** associated with substance use and mental illness
- **Behavioral health outcomes** across the State of Indiana

**Databases at-a-glance:**

**Alcohol**: NSDUH, BRFSS, YRBSS, INYS, MTF, TEDS, ARIES, ARDI, ISDH, and CDC

**Tobacco**: NSDUH, BRFSS, YRBSS, INYS, IATS

**Marijuana**: NSDUH, YRBSS, INYS, MTF, TEDS

**Cocaine**: NSDUH, YRBSS, INYS, MTF, TEDS

**Heroin**: NSDUH, YRBSS, INYS, TEDS

**Methamphetamine**: NSDUH, YRBSS, INYS, MTF, TEDS, ISP Meth Lab Seizures

**Prescription Drugs:** NSDUH, INYS, INSPECT, TEDS, ISDH, CDC

ARDI = Alcohol-Related Disease Impact database; ARIES = Automated Reporting Information Exchange System; BRFSS = Behavioral Risk Factor Surveillance System; CDC = Centers for Disease Control and Prevention; IATS = Indiana Adult Tobacco Survey; INSPECT = Indiana Scheduled Prescription Drug Electronic Collection and Tracking system; INYS = Indiana Youth Survey; ISDH = Indiana State Department of Health; ISP = Indiana State Police; IYTS = Indiana Youth Tobacco Survey; MTF = Monitoring the Future Survey; NSDUH = National Survey on Drug Use and Health; TEDS = Treatment Episode Data Set; YRBSS = Youth Risk Behavior Surveillance System.

- Health's team of **health economists and data scientists** will additionally purview the **hospitalization rates, morbidity and mortality rates, overdose consequences, impacts on long-term health outcomes, and legal consequences.**

Furthermore, Syra Health will collaborate with the SEOW committee closely to help

- **Evaluate the capacity of the state's prevention workforce** and provide recommendations

- **Support key stakeholders, prevention providers, and policy makers** to understand, promote and work towards preventing and reducing substance use across the lifespan
- **Create an integrated prevention service delivery system** which incorporates a broader behavioral health approach

Syra Health with work with SEOW to hold a series of **five strategic planning sessions** during late 2021 and early 2023 to help inform this plan.

= **Syra Health differentiator factor**

### 2.4.12 Please describe your company's ability to produce both regular statistical reports and special studies/report briefs.

- Our team comprises of **PhD technical writers, applied econometrician, and publication editors, who will be able to analyze the data and provide required reports/briefs.**

We would use statistical software such as **STATA, SAS, or SPSS to derive research output needed for the reports.** For surveys that do not have publicly available data sets,

statistical analyses will be conducted by using online analysis software and/or analysis tables provided by the agencies that conducted the data collection.

Based on data availability, we will also be performing trend and comparative analysis and present them in appropriate meaningful graphics (such as **trend lines, pie charts, bar charts, tables, cluster analysis, regional heatmaps**).

- A **statewide cluster analysis** will be used to determine the drug combinations that are most frequently used by polysubstance users who are in treatment
- **Statistical comparisons across sub-populations** gender, racial/ethnic, and age groups for both drug-consumption behaviors and drug-use consequences will be made
- For all comparisons, a P value of .05 or less, or the 95 percent Confidence Interval (CI) was used to determine statistical significance
- Limitations will be presented for all study data and methodologies used

Wherever applicable, we will **be citing the references** in the text and providing a bibliography of the works cited.

- For quality purposes, we will also be comparing our findings with past studies that have done similar work. We will also be **developing a template report** that would be acceptable by DMHA and would be working on updating the data and periodically.

The team also has expertise in creating reports with less technical jargon that helps with policy making decisions.

- = **Syra Health differentiator factor**

### 2.4.13 How will your company assure that all data is stored on secure computers and servers in accordance with HIPAA and other state and federal regulations governing the protection of human subjects in research?

- **Syra Health is fully compliant with the HIPAA Standards for Privacy, Electronic Transactions and Security (including the HITECH Act and the Omnibus Rule of 2013) and will meet DMHA specified security requirements**.

We have worked with many state, regulatory, hospital systems and payors that require security assessments and questionnaires to be completed and provided. **Syra Health will meet any data security requirements set forth by State of Indiana and DMHA, as well as provide any required documentation**. The integration and data provided to and received from DMHA will fall under these security guidelines.

All services, including that of our, Data storages, Applications platforms, are hosted in our Virtual Private Cloud in Amazon Web Services (AWS) data centers. AWS enables covered entities and their business associates subject to the U.S. Health Insurance Portability and Accountability Act of 1996 (HIPAA) to use the secure AWS environment to process, maintain, and store protected health information.

Detailed information about AWS processing and storage of health information & Architecting for HIPAA Security and Compliance on Amazon Web Services can be found at:https://aws.amazon.com/compliance/hipaa-compliance/

- Our sub-contractor **IT Transformers** brings in **decades of data security and compliance experience for HIPAA/HITECH, MARS-E, SOC, FERPA, NIST and others**.
- = **Syra Health differentiator factor**

## 2.4.14 Please describe how your company will evaluate the functioning of the SEOW group and provide recommendations for improvement in the group and in the data reported.

- Syra Health along with Bingle Research Group, Inc. can assist in evaluating the functioning of the SEOW group through **a combination of qualitative and quantitative research among the key group members and providers**. This could **include in-depth interviews** with the 10 Regional Coordinators and in-depth interviews or **online discussion boards** with selected Regional Council and Client Consultation Board members, and County Providers, along with semi-annual online surveys among the Regional Coordinators, Regional Council members, Consultation Board members and the 25 County Providers.
- Bingle Research Group can also assist, if needed in the **development and implementation of the Mental Health Statistics Improvement Program surveys** that are used in evaluating the performance of the County Providers in their assigned counties. Syra Health will use these research initiatives to develop and provide insights and recommendations for improvement in the group and in the data reported.
- Syra Health will **perform case studies by doing research on similar SEOW groups from other states**. We will then compare the existing structure, operations and functions of the Indiana SEOW group with peers from other states. We will then provide recommendations based on our comparisons.
- = **Syra Health differentiator factor**

### 2.4.15 Please detail your company's experience providing consultation on data interpretation and data application. What are your typical response and data turn-around times?

Based on the area of research, our team will be able to interpret the data, apply necessary analytics and provide recommendations.

- Our team has experience presenting research findings to various groups such as **academic, national and regional conferences, Mayors institute, invited speakers/panelists and clients from funded research**.

On case-by-case basis, we can provide consultation services to other local epidemiological outcomes workgroups or local providers as requested by DMHA. Our typical response and data turn-around times range from 3 to 8 weeks, depending on type and nature of consultation request.

- Our sub-contractor **IT Transformers team** brings in **decades of data security and compliance experience for HIPAA/HITECH, MARS-E, SOC, FERPA, NIST and others**. Our analytics and BI experts can bring your data to life using any analytics tool like Excel or SSRS and SSAS, Cloud services like PowerBI and AWS Athena. Data Visualizations with Tableau or Cognos.
- = **Syra Health differentiator factor**

## 2.4.16 Please describe your company's experience in, and process for, providing technical assistance to groups and/or providers at the county or regional level.

- Our team has expertise in performing county-level analysis and provide recommendations for local use. Our team has more than 10 years of experience working on data analysis and providing policy recommendations both at local/state-level.

Upon completion of our preliminary analysis, we will be presenting our initial findings to groups identified by DMHA, gather feedback and finalize our final reports.

The reports will have relevant information that could be used by groups/providers at county or region.

Wherever applicable, we will be **creating heatmaps that could be used for regional analysis and comparison.**

Our reports will also provide recommendations on policies that would benefit regions/state.

- = **Syra Health differentiator factor**

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