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Medical Legal Partnerships the First Step: Standardized Screening and Education

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Abstract

BACKGROUND: Research has long supported the implication that the environment in which people live can have a dramatic impact on the outcomes of their health. Examples of health outcomes that are linked to social determinants include increased hospitalizations, low birth weight, impacts on development, and overall worse health including decreased life expectancy and higher prevalence of chronic disease.

PROBLEM: Before the implementation of this project in the DCH NICU, there were no standardized screenings for social determinants of health (SDH) for neonatal admissions nor staff trainings on the health harming social and legal needs of families. The intervention is the implementation of an educational module for providers and staff and a standardized SDH screening tool that will launch alongside a pilot Medical Legal Partnership in the DCH NICU. The educational module and screening tool were both adapted from previously developed materials. The module focus is on educating healthcare members on how to screen for and identify SDH, what MLPs are and how they function, and the scope of impact of MLPs.

METHODS: The planned outcome measures were frequency of screenings, prevalence of legal needs as identified by screening tool and provider reported attitudes and belief around screening for social determinants of health. Providers' attitudes and beliefs will be measured using pre & post intervention surveys. Outcome measures are currently incomplete as this project is in process. Preliminary data include pre-survey data from the pilot education group that showed 100% of providers believe social needs are important for patients health and patients should be screened for these needs. The standardized SDH screening tool has also been finalized in both English and Spanish, and is ready for launch.

CONCLUSIONS: The expected outcomes and conclusions of this project include alterations in provider beliefs and attitudes around impacts of social needs on patients health and implementation of a standardized SDH screening tool in a Neonatal Intensive Care Unit at a major academic medical center in the Pacific Northwest.

Medical Legal Partnerships the First Step: Screening & Education

Problem Description

Currently in the United States it is estimated that over 60% of adverse health outcomes occur due to forces outside of healthcare (Paul, Curran, & Tyler, 2017). Much of the literature links the cause of these adverse outcomes to the impact of social determinants of health (SDH). Examples of these health risks and outcomes include increased hospitalizations, low birth weight, negative impacts on development and overall worse health (Sege, et al., 2015; Taylor, et al., 2015). Additionally, around 15% of premature deaths in the United States are credited to SDH (Dejong, et al., 2015). It is important to understand what classifies as SDH. The CDC defines social determinants of health as, "conditions in the places where people live, learn, work and play (that) affect a wide range of health risks and outcomes", this can include the impact of housing, income, race, food and healthcare access (Center for Disease Control, 2018). The Oregon's State Health Assessment remarks that "social determinants of health affect how healthy people can be" (Oregon health authority, n.d.). When examining the prevalence and impact of SDH locally, the Oregon's State Health Assessment during 2016 stated over 17% of children were living below the poverty line, with over 14,000 people experiencing homelessness (Oregon health authority, n.d.)'. Additionally, Oregon ranked 22nd out of 51 states for income inequality and 44th in food insecurity, highlighting within the assessment the direct connection between these numbers and poor health (Oregon health authority, n.d.). The data within the Oregon Health Assessment highlights the need for interventions to help decrease the occurrence of these SDH and support better health outcomes for the population of Oregon.

This leads to the overarching problem that lead to the development of this project: the Neonatal Intensive Care Unit at a major academic medical center in the Pacific Northwest has no current structure for standardized SDH screening or formal education on how to screen and is without adequate medical-legal resources to support identified social needs. This is leading to gaps in care that could be contributing to adverse health outcomes of patients and their families.

Available Knowledge

Extensive literature exists that examines Social Determinants of Health in relation to different populations, with a PubMed search resulting in over 8,000 publications in the last year alone. Much of the current literature concludes that SDH has a negative impact on the health of the general population. Examples listed in literature link SDH, like housing instability, food insecurity, lack of health insurance, energy insecurity and transportation issues to increased frequency of hospitalizations, higher prevalence of developmental concerns and reportedly poorer overall health in children (Taylor et al., 2015; Fierman, et al., 2016).

Yet, despite this research, SDH are not routinely evaluated in all healthcare settings (Theiss & Regenstein, 2017). A systematic review of observational studies found that 85% of primary care providers identify that unmet social and legal needs directly lead to worse health for all populations (Martinez, et al., 2017). However, 80% of those same providers do not feel confident in addressing these needs in their patient populations (Martinez, et al., 2017). There are many possible reasons regular screening does not occur, including provider time constraints, comfort in screening, to providers being concerned they will not be able to provide resources for concerns that become identified (Theiss & Regenstein, 2017). Yet, this same research shows that

when screening occurs, patients have both improved health and more connection to community resources.

Rationale

The development of this intervention was guided by the Plan-Do-Study-Act (PDSA) cycle. This was used as it was anticipated that both the implementation of the screening, as well as the provider and staff education would require alterations after initial launch. This method is ideal, as integral to PDSA is modifications. In addition, according to the Institute of Healthcare Improvement (IHI) PDSA is a useful tool for documenting the test of a change. This method allows for evaluation of two changes, screening and education that are occurring alongside each other.

The first phase was focused on development of the change, specifically selection and alteration of the SDH screening tool, and the development of the education module. This led to modifications to both the screening tool and the education module. The second phase was meant to focus on the launching of the screening tool, alongside the first pilot of providers doing the educational module. However, given restrictions created by current quarantine measures, only the pilot provider group occurred. The third phase would focus on monitoring frequency of screening, gathering prevalence data, and running the second pilot group of provider education following modifications to both the education module and the measurement tools used to assess provider beliefs and confidence.

Specific aims

1) To implement a SDH Screening tool to be completed by 100% of mothers/guardians whose infants are admitted to the neonatal intensive care unit (NICU) at a children's hospital, and 2) To increase provider confidence surrounding screening for SDH by 70%.

Methods

Context

The Neonatal Intensive Care Unit is a 46 bed level III NICU in an academic health center in the Pacific Northwest. Patient population includes premature and term newborns who are either critically ill or convalescing. Over half of the patient population has Medicaid insurance. The unit is set up in an open pod format with one to six neonates per pod, which does not allow for parents to room in and currently requires all screening to be done at bedside. The context of the physical environment of the NICU went into the development and selection of the SDH screening tool, as selecting a tool that was simple and relatively quick was thought to increase the likelihood families would feel comfortable responding in an environment that does not allow much privacy. The diverse population of families who are in the NICU was also considered in the development and plan for implementation of the screening tool.

The cultural context was considered as the unit employs over 150 registered nurses and two licensed clinical social workers (LCSW), 14 attendings, six fellows, nine Neonatal Nurse Practitioners, one case manager and rotating pediatric and family medicine residents, medical students and nursing students. The large amount of both staff and providers went into consideration of the development of both the education module and the screening tool, as both would require buy-in from all parties to be successful. As residents and medical students are

expected to participate in regular blocks of education following rounds daily, they were selected as the pilot group for education.

Intervention

The intervention was to implement a standardized Social Determinants of Health (SDH) screening tool that the NICU social workers would use to identify families with social needs that could impact the health of the patient, alongside the launching of a Medical Legal Partnership (ML). The MLP is a pilot program that is used to address social needs through legal solution, the impact and evaluation of this program will be discussed elsewhere, however education surrounding the intervention was included in the educational module on SDH for providers and staff.

The screening tool was based on a previously developed tool by a Health Leads toolkit licensed under Creative Commons CC BY-SA 4.0, and was adapted to meet the needs of the NICU populations. The screening tool, “Patient & Family Support Survey”, was made available in both English and Spanish. Once the screening tool is launched every family admitted to the NICU will be screened by a social worker within 48 hours of admission using the “Patient & Family Support Survey”. The screening tool includes assessment of social needs through questions on: access to child care, food and utility insecurity, housing habitability and accessibility, transportation, safety in the home, employment insecurity, state or federal benefit assistance and concerns regarding other family members in the home (sibling with complex health needs or older adult). All questions were written in Yes/No format. The tool will also collect data on monthly income, as it is an exclusionary factor for eligibility of other programs in the NICU, and other demographic data (relationship to patient, primary language, contact

information and date form was filled out). There is also a space on the form where the family member is asked if they would like assistance with any box that is marked, “yes”. Families will fill out the screening tool with an LCSW both at the start of their admission and again with every maternal depression screening while admitted to the NICU. The LCSW will review the screening tool with families.

The second intervention was to develop and use an educational module to educate medical providers and staff in the NICU on how to screen for and identify SDH, what Medical Legal Partnerships are, how they are used and the benefits of screening for SDH, as well as the positive impact of MLPs. This was intended to occur alongside the launching of a pilot MLP in the NICU. The educational module was presented in a didactic format, as a powerpoint that included two videos created by the Cincinnati Children’s Hospital that showed a positive and negative example of screening for SDH. The module was presented over 30 minutes in an interactive format where participants are asked to both answer and ask questions throughout.

The initial steps of the intervention included the development of the screening tool, “Patient & Family Support Survey”, and the development of a provider and staff education module on SDH and MLPs. The next steps of the intervention led to translation of the screening tool into Spanish, with the intent of making it accessible to a wider volume of families. As the screening tool has not yet launched, there is no data currently to report on prevalence of social needs.

Using the PDSA cycle, an initial cycle was completed. The first PDSA cycle included finalizing and editing the screening tool that would be used to identify SDH in the NICU, creating and launching an educational module with a pilot group of providers and selection of the

survey tool that would be used to measure outcomes for providers doing the educational module. Learnings from the first PDSA cycle included developing the SDH screening tool into both English and Spanish, discovering that the thirty minute teaching block for residents was limiting when it came to completing the entire educational module and finally that the survey tool used to measure provider beliefs did not fully capture the outcomes the project was looking at. The last two discoveries will lead to further alterations in future PDSA cycles.

Study of Intervention

Measures

The outcome measures of focus will be provider and staff reported beliefs in screening for social determinants of health and frequency of screening as noted in patients chart. Initially, individual LCSW will include in their note in the patient Electronic Health Record (EHR) whether or not the screening was performed, however, eventually the screening tool will be transitioned into an electronic version that will be documented within that patients EHR. Both data on if the screening tool was performed, as well as prevalence of reported social needs on the screening tool will be collected. Data will be collected through surveys and chart review. The measurement tool to assess providers and staff beliefs surrounding screening for SDH was based on a previously developed survey tool by AAMC AHEAD, called Medical Legal Partnership Learning Survey. Participants are asked to fill out the Learning Survey before education is provided and will be asked to do a follow up post education survey a month after receiving education. The data is collected anonymously, as the survey requires participants to create a unique personal identification code that is anonymous to the reviewer, with the last digit of the code reflecting if it is a pre or post survey (0 or 1). Responses on the Learning Survey were

based on a Likert 5-point scale. The measurement tool for provider confidence has yet to be determined, however it will also be included in the same pre/post survey in future pilot groups.

Analysis

Quantitative methods: the survey data measuring provider and staff beliefs surrounding screening for SDH was collected for analysis using a Likert 5-point scale. As the pilot group is small, responses to the questions will be presented as a percentile. In future cycles, when the sample size is larger and both pre/post data has been collected, the data will be analyzed using a t-test. The tool for measuring provider confidence in screening has yet to be determined and will be addressed in future PDSA cycles. Additional data that will be collected and analyzed will include more demographic data including gender and years in practice. The current survey tool includes the healthcare role. Once SDH screening has launched, percent of patients screened will be tracked through chart review and analyzed through use of a control chart. The control chart will be used to collect data on both changes in prevalence of specific social needs over time, as well as changes in frequency of screenings.

Ethical Considerations

This author has no conflicts of interest to disclose. This QI project was reviewed by IRB and deemed not to be human research.

Results

The results from the pilot education group included six participants. The demographic data collected during the initial pilot education group was provider role in the NICU (see table 1). Future additional demographic data collected will include: number of years in practice (post-residency for physicians), sex, and age. The answers to the pre-education survey questions are

represented as the percentile of the six participant responses for each question (Figure 1 & 2). Questions were listed in a 1-5 Likert scale from strongly agree to strongly disagree. Only options that were selected are represented on the graphs. The last question gathered data on self reported frequency of screening.

One of the biggest impacts to the development of this project was the impact of the quarantine required due to the community virus pandemic that was occurring during the intervention period. This prevented the author from returning to do additional teaching sessions, gather additional post-education data and has stalled the launching of the MLP that was supposed to occur alongside both teaching and screening. The quarantine also prevented the launch of the standardized screening tool, due to attempts to limit in person interactions for social distancing measures. This event has caused a stall in both the progression to the next PDSA cycle and in the collection of additional data for evaluation. As such, at this time without post intervention data from the provider education module, it is impossible to evaluate associations between education and changes in beliefs or confidence in screening for SDH. Additionally, without the ability to launch the SDH screening tool, at this time this author is unable to analyze impact of screening tool on the population, prevalence of needs or changes in practice. This will be included in futures areas of study once the project is able to move forward.

However, the data that was collected from the pilot group showed that all participants either Strongly Agreed or Agreed that screening for various social needs is important. All participants also answered they Strongly Agreed or Agree that social needs directly impact their patients health. For self reported frequency of screening patients for SDH, 33.3% of participants

reported having screened a patient zero times, 33.3% reported having screened between 1-24 patients and 33.3% reported having screened between 50-99 patients for social needs.

Discussion

Summary

The aims of this project were to implement a standardized SDH screening tool and to increase provider confidence in screening for SDH through an educational module. This data both contribute toward achieving the original aims of the project as a standardized screening tool was selected and an educational module was both developed and launched that focused on increasing provider confidence in screening for SDH. Preliminary data showed that providers view social needs as impactful on patient health and that it is important that they are screened for in patients. Strengths of the project include the interdisciplinary focus and development, as there were representatives of multiple staff and providers involved in the development of the project. External factors, the quarantine required to mitigate the spread of community virus, had large impacts on the progress and trajectory of the project and limited additional PDSA cycles from moving forward.

Interpretation

The pilot group pre-survey data showed that without additional education providers already believe social needs both impact patient health and healthcare settings should be screening for these social needs. The data also shows that as providers progress through training they screen more patients. This could be due to more exposure to opportunities to screen the longer they are in practice or training, or an increase in confidence in screening the longer they are in training or practice. The data collection for this project focused on different measures than other

currently published literature. The results of this project found that 100% of providers identified that social needs are directly tied to health as compared to 89% of providers in the literature (Martinez, et al., 2017). This discrepancy could be related to small sample size, as this project focused on a pilot group. Compared to the literature, the educational module used is the shortest in duration, with other programs requiring multiple hours, multiple training sessions or even full course dedication (Klein & Vaughn, 2010; Klein, et al., 2013; Tobin-Tyler & Teitelbaum, 2016). The impact this could have on the results compared to the-literature will need to be examined more in the future. This project, as it continues into the next PDSA cycle, has the possibility of having tremendous impact on the patient's in the NICU, as well as the practice of providers and staff. The extent of this impact will be seen with time and further evaluation, however, hopefully it will be a positive impact.

Limitations

At this point in the process of this quality improvement project there are many limitations in its generalizability as currently the data is solely from a single small pilot group, and as the screening tool has not been launched there is little data yet to assess its effectiveness at identifying social needs in the NICU, let alone the general population. However, given that the majority of the screening tool comes from prior designed questions that have been shown to reliably identify social needs when asked, it is probable to estimate that the survey tool would be effective in other populations as well.

Another limitation of this project is that in using PDSA method there is an increased likelihood that modifications are being made with each cycle that have not been supported by robust data. There is also a level of observer bias, as those in the work group evaluating the

changes and interventions are also deciding if changes need to occur with each PDSA cycle. In the future, to protect against this once both the screening tool is launched and the educational module has moved past pilot phase, it will be important to hold steady without any changes for a duration of time to gather more data before altering either process. This will allow more accurate assessment of the effectiveness of each intervention without basing need for change solely on observers of the process.

Conclusions

This initiative has the opportunity, once fully launched, to not only gain insight into social needs of NICU families, but also empower providers to have more conversations with their families around these issues that are impacting their lives. As the interventions continue to progress, screening will become more sustainable as it is integrated into normal workflow and as more of the staff and provider teams become comfortable having screening conversations with families. The education module is at risk of becoming unsustainable unless an attending makes it a regular teaching block that they manage with each cycle, as they do with other topics like sepsis, or it becomes integrated into the pilot MLP. During this pilot cycle the instruction was completed as part of scholarly inquiry without funding, and is therefore not guaranteed to be perpetually available.

The screening tool and the educational module has the ability to be applicable and transferrable to many different setting, as the presence of social needs are not isolated to one population group. Therefore, all healthcare setting would benefit from both a standardized screening tool, as well as, adequate staff and provider education to occur alongside it.

There are many next steps for this project, especially given that much of the project was halted due to current quarantine restrictions in the community. As stated previously, moving into the next PDSA cycle would include launching the SDH screening tool, begin collection of prevalence of social needs in the NICU based on screening results, launch second pilot education group with modified questionnaires, gather post-education data on initial pilot group and perform additional analysis.

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Table 1

Pilot education group demographics

Role	n	%
Medical Student	3	50
PGY1 Resident	1	16.67
PGY2 Resident	1	16.67
PGY3 Resident	1	16.67

Note. The only demographic data collected for the pilot was the health care role.

Figure 1

AAMC AHEAD Medical Legal Partnership Learning Survey

Question: To what extent do you agree that the following issues may impact the health of patients

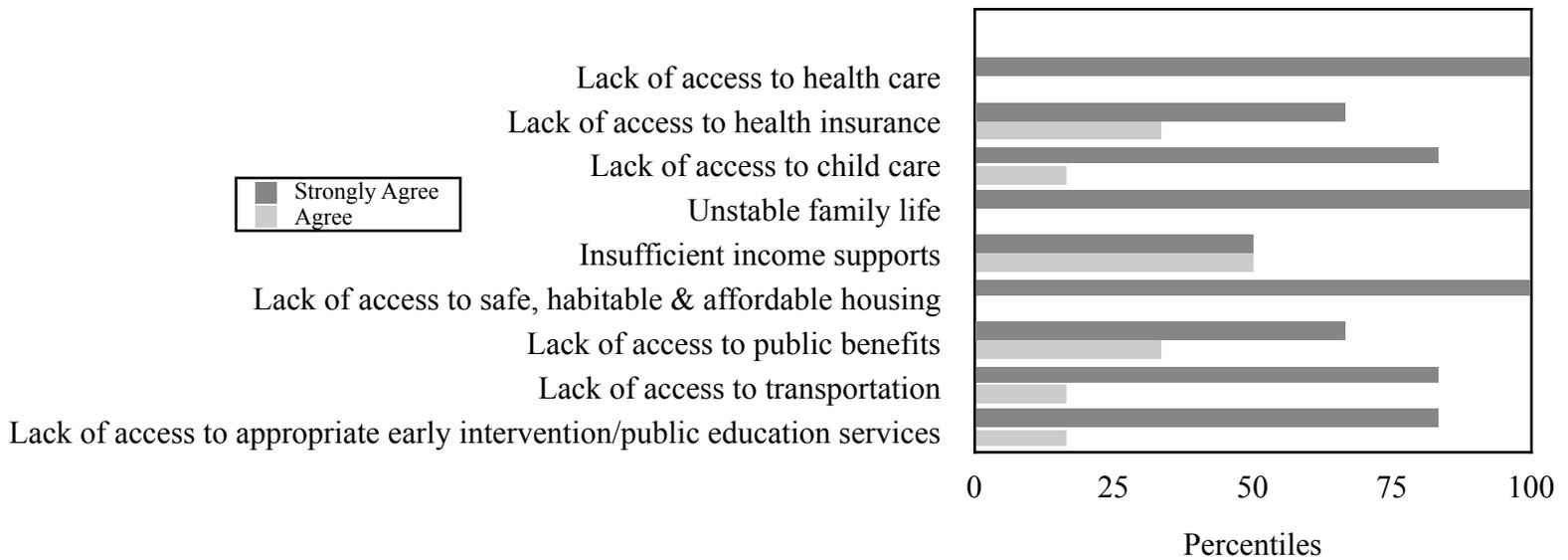


Figure 2

AAMC AHEAD Medical Legal Partnership Learning Survey

Question: How important do you believe it is for patients to be screened for the following issues

