Middlesex-London Health Unit

Identifying Priority Populations

Process, Recommendations, and Next Steps

September 2012

MIDDLESEX-LONDON HEALTH UNIT
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Table of Contents

Executive Summary

Introduction

This document outlines the process and steps used to determine priority populations, specifically for "Reproductive Health" in Middlesex-London. It also provides recommendations and next steps for programming based on the identified priority populations. Although this process was used for "Reproductive Health", it can be applied to any program or service area.

Goals of the Project

Primary Goals

1. To *determine a definition* of 'Priority Populations'
2. To *determine a process* for identifying priority populations
3. To *determine priority populations* in Middlesex-London in relation to reproductive health
4. To *make recommendations* for planning and implementing evidence-informed strategies, programs, and services

Secondary Goals

1. To *build the skills* of Reproductive Health team members in literature searching
2. To *develop relationships* within teams at the Middlesex-London Health Unit (MLHU) and between staff of different teams at MLHU to increase knowledge in identifying priority populations and readiness to participate in the process
3. To *explore and identify current and potential partnerships and collaborations* within the organization and community in an effort to better serve the identified populations
4. To *address and assess the capacity and readiness* for programming

Planning Process

In order to achieve the ultimate goal of determining priority populations and making recommendations for programming, the following steps were completed:

1. Reviewed priority population work done by other Health Units

2. Determined a definition of 'Priority Populations' through consultation with Reproductive Health team members and consideration of existing definitions from the Ontario Public Health Standards and the Sudbury & District Health Unit. The final definition is:

   Priority Populations in London-Middlesex County include those at-risk of poor reproductive health outcomes (based on evidence) for which preconception and prenatal public health interventions may be reasonably considered to have a positive impact.

3. Conducted a Situational Assessment

Situational Assessment

A situational assessment occurs during planning and consists of 6 major steps. The steps are:

1. Identify key questions to be answered
2. Develop a data gathering plan
3. Gather the data
4.
    a. Organize synthesize, and summarize the data to identify priority populations
    b. Assessment of the local context
    c. Review of potential strategies and evidence for their effectiveness
5. Communicate the information
6. Consider how to proceed with planning

Step 1: Identify key questions to be answered

Relevant local, regional, provincial, and national reports and literature were gathered that included information about health indicators, health status of the population, incidence of poor reproductive health outcomes, the relationship between poor health behaviours and reproductive health outcomes, and information about how the social determinants of health and health inequities impact reproductive health outcomes. Information about the current political, legal, and organizational environment pertaining to reproductive health was also collected.

Step 2: Develop a data gathering plan

Information came from a variety of reliable sources, such as Statistics Canada, Ministry of Health Promotion Guidance Documents, published journal articles, and grey literature and reports published by relevant organizations.

It is also important to identify key topic areas or key outcomes for programming prior to conducting this process in order to guide information collection. The Reproductive Health Team (RHT) at MLHU, using the Model for Evidence-Informed Decision Making in Public Health, had identified key topic areas for "Preconception Health" and "Healthy Pregnancies" that were in-line with the evidence and rationale for program areas presented in the Reproductive Health Guidance Document (Ministry of Health and Long-Term Care, 2010).

Step 3: Collect relevant documents and literature

A literature search was conducted. Approximately 30 relevant documents were collected and reviewed to answer questions that assessed the needs of the population, examined the local context in which programs and services operate, and determined the most evidence-informed strategies for reaching the intended population to effectively meet their needs.

Step 4: Synthesize the literature, conduct a needs assessment, assess the local context, and review potential strategies and evidence for their effectiveness

In order to succinctly organize all the information to answer questions, a chart was developed that addressed *Need, Impact, Capacity, and Partnerships and Collaboration,*

which are the four principles from the Ontario Public Health Standards (Ministry of Health and Long-Term Care, 2008). When reviewing the complied literature it became clear that certain populations were at-risk of poor reproductive health outcomes more than others. A column titled "Identified Groups" was included on the same chart to capture this information.

In assessing the local context, information about the Social Determinants of Health (SDOH) and local demographics were recorded on a separate document. It was felt that documenting this information was important to ensure it was available for use when planning and implementing future programming.

The next step was to review potential strategies and evidence for their effectiveness. It was an important point in the process to enhance team buy-in and support. To ensure that the team had the appropriate skills to effectively complete a literature search, the Public Health Librarian provided a team in-service. In order to consolidate and organize the information about strategies a separate chart for each topic area previously identified for "Preconception Health" and "Healthy Pregnancies" was designed. Each chart includes a column that lists all of the identified priority populations for that topic area. A column was then added for each different type of strategy. As the literature on strategies is reviewed, a separate chart is used to keep track of recommendations for specific strategies as well as any positive or negative unintended impacts of a recommended strategy.

Step 5: Outcomes

A number of populations were identified as being "at-risk" for poor reproductive health outcomes. Some populations were identified under more than one topic area for both "Preconception Health" and "Healthy Pregnancies".

Recommendations

The following are recommendations that can be applied to future programs and services in an effort to provide public health interventions that may be considered to have a positive impact:

1. One (or more) of the priority populations identified through this process should be selected as a target population.

2. Programs and services should be considered particularly to those populations which are identified as a priority under more than one topic area.

3. A topic area that is relevant to a significant (or the greatest) number of identified priority populations could become the focus of programs and services.

4. The evidence-informed strategies that have been identified through this work should be carefully considered and integrated into future program planning.

5. The information on SDOH and local demographics should be used to direct programs and services to certain sub-groups or neighbourhoods.

6. Universal programming to the general population is crucial and should be provided.

7. Priority populations identified as a focus for the team/service area should be engaged in program planning and implementation of strategies to increase community capacity and buy-in, and to enhance the likelihood that programs and services will meet community need.

8. Efforts to build and enhance the capacity of the staff to carry out literature searches, critically appraise evidence, and monitor surveillance data in order to detect changes in local priority populations and issues on an ongoing basis should be continued.

Implications

These recommendations have important implications for future programming. It may be best to provide a comprehensive program to a population that has been identified as "at-risk" under many topic areas, provide programming under a topic area where there are the most population groups identified as "at-risk", or target a population that no other organization in the community is targeting.

Step 6: Next Steps

The Reproductive Health Team will continue working to complete the following next steps:

1. Review strategies and their evidence for effectiveness for the identified populations and topic areas
2. Continue program planning and finalize planning decisions related to:
    a. Who targeted programming will be provided to
    b. What topic area(s) the programming will cover
    c. What strategy will be used to best reach and support the population

Opportunities Gained for Connections

Throughout this project, some important connections with other teams and organizations were made.

After reviewing the work the RHT has completed, the Early Years team at MLHU is currently carrying out the process outlined in this project.

The project leads were able to use some of the information from the Health Equity Impact Assessment (HEIA) Tool and Workbook recently released from the Ministry of Health and Long-Term Care to support their work.

Project co-leads also made a connection with the City and County Data Analysis Coordinators from the Ontario Early Years Centres. This partnership may facilitate collaborations in projects and knowledge exchange in the future.

Project Limitations

The Middlesex-London Health Unit had never formally defined or identified priority populations. A more prescriptive process was needed to determine local priority populations.

One of the co-leads was a Master of Public Health student completing a 4-month practicum placement at MLHU, which posed a natural deadline. Given the inherent deadline, it was a struggle to determine how much information was "enough". Although sincere effort was made to include as much and the most relevant information possible, it is important to acknowledge that some sources of information may not have been included.

Broadly, public health research is limited. Not a lot of evidence of effectiveness of strategies exists for certain population groups. More research and syntheses of both qualitative and quantitative evidence is needed in order to truly advance work towards evidence-informed practice.

Lessons Learned

A Program Evaluator provided expertise in needs assessment, program planning and evaluation, and situational analysis, and this support was invaluable.

It was important to engage other team members early in the process. Establishing colleague support from the beginning ensured support throughout the entire process and allowed team members to develop or enhance the skills and knowledge required to identify priority populations and use that information for programming.

This process required dedicated time. It was helpful to have co-leads, as they could problem-solve together and share the workload.

A reference manager program was useful to document data sources and keep information well-organized.

Conclusion

Identifying priority populations is a complex and essential process for planning and implementing public health programs. Through the completion of the process, the Reproductive Health Team at MLHU was able to identify those at-risk of poor reproductive health outcomes. The knowledge of who these populations are and how they can be best supported will help guide future program planning and implementation and will facilitate the use of targeted interventions, in an effort to reduce poor reproductive health outcomes.

Introduction

What is this document?

This document outlines the process and steps used to determine priority populations, specifically for "Reproductive Health" (RH) in Middlesex-London. Although this process was used for RH, it can be applied to any program or service area.

Purpose of Process to Define Priority Populations

Family Health Services at the Middlesex-London Health Unit (MLHU) underwent realignment in 2012 as a result of revised Ministry mandates and funding criteria for the Healthy Babies Healthy Children program, and gaps and/or needs for enhancement of other programs and services. This restructuring included the formation of a new team within Family Health Services known as the "Reproductive Health Team" (RHT). The focus of this new team is on "Preconception Health" (PH) and "Reproductive Health". The goal of this team is to enable individuals and families to achieve optimal preconception health, experience a healthy pregnancy, have the healthiest newborns possible, and be prepared for parenthood (Ministry of Health and Long-Term Care, 2008). The team's initial focus has been to examine current evidence to develop a more comprehensive reproductive health strategy for the Middlesex-London community.

Requirement #3 of the Foundational Standards in the Ontario Public Health Standards [OPHS] (2008) states, "The board of health shall use population health, determinants of health and health inequities information to assess the needs of the local population, including the identification of populations at risk, to determine those groups that would benefit from public health programs and services (i.e., priority populations)." In addition to population-based approaches and universal approaches to improve reproductive health outcomes, outreach to priority populations and targeted programs are important to address the specific needs of the most vulnerable populations (Ministry of Health and Long-Term Care, 2010).

It is known that population health outcomes are distributed disproportionately in sub-populations. In order to provide evidence-informed programs and services to these populations the team recognized the need to determine who exactly the priority populations are, and how their needs can be best met to improve RH outcomes in Middlesex-London. By completing this comprehensive process, strategic and evidence-informed decisions for planning of future programs and services can be made.

The Region of Waterloo Public Health had previously developed a process to determine priority populations (Region of Waterloo Public Health, 2009). Although this information was useful to guide our work, there was a need for a more prescriptive process to determine local priority populations.

Goals of Project

Primary Goals

1. To *determine a definition* of 'Priority Populations' for the Reproductive Health Team, that could potentially be adopted or adapted for use across the service area or the agency
2. To *determine a process* for identifying priority populations in Middlesex-London in relation to reproductive health, that could also be used to identify priority populations in relation to other areas, such as early years health or youth health
3. To *determine priority populations* in Middlesex-London in relation to reproductive health
4. To *make recommendations* for planning and implementing evidence-informed strategies, programs, and services for populations who are at an increased risk of poor reproductive health outcomes, while still providing universal programs and services to the broader population

Secondary Goals

1. To *build the skills* of Reproductive Health team members in literature searching in order to review potential strategies and evidence of their effectiveness for identified topic areas and populations
2. To *develop relationships* within teams at MLHU and between staff of different teams at MLHU to increase knowledge in identifying priority populations and readiness to share in the process
3. To *explore and identify current and potential partnerships and collaborations* within the organization and community in an effort to better serve the identified populations
4. To *address and assess the capacity and readiness* for programming

Planning Process

In order to achieve the ultimate goal of determining priority populations and making recommendations for programming, the following steps were completed:

1. Reviewed priority population work done by other Health Units

Work completed by other health units, including Sudbury & District Health Unit (SDHU) and Region of Waterloo Public Health (Region of Waterloo Public Health, 2009; Sudbury & District Health Unit, 2009) was reviewed. See **Appendix A** for the documents reviewed from the Region of Waterloo Public Health and SDHU.

2. Determined a definition of 'Priority Populations'

This step involved consulting with all members of the Reproductive Health Team at a team planning meeting to ensure that everyone provided input into the definition. It also served as a check-in to inform the team of the process. To determine a definition of priority populations:

a) 1. The team divided into smaller groups and brainstormed a preliminary definition for "priority populations"

b) 2. The group reconvened and discussed results of brainstorming

c) 3. Definitions of priority populations from the OPHS and Sudbury & District Health Unit were presented. The pros and cons of each definition were discussed. See **Appendix B** for the definitions.

d) 4. From this discussion it became clear that the team wanted to use an adapted OPHS definition as their framework because the OPHS definition was broad, flexible, and could be adapted based on different programs or service areas and geographic regions. The final definition is:

> *"Priority Populations in London and Middlesex County include those at-risk of poor reproductive health outcomes (based on evidence) for which preconception and prenatal public health interventions may be reasonably considered to have a positive impact"*

3. Situational Assessment

The next step in the process of identifying priority populations was to complete a situational assessment. A situational assessment occurs during planning and is the process of gathering and collecting relevant information to ensure that programs are evidence-based and meet the needs of the intended audience. It includes a needs assessment and also considers the broader political, legal, and organizational context (The Health Communication Unit, 2010). The steps to complete a situational assessment are:

Step 1: Identify key questions to be answered as a part of the situational assessment

Step 2: Develop a data gathering plan

Step 3: Gather the data

Step 4a: Organize, synthesize, and summarize the data to identify priority populations

Step 4b: Needs assessment

Step 4c: Assessment of the local context

Step 4d: Review of potential strategies and evidence for their effectiveness for the identified priority populations

Step 5: Communicate the information

Step 6: Consider how to proceed with planning

Step 1: Identify key questions to be answered as a part of the situational assessment

Relevant local, regional, provincial, and national information and literature was gathered that included information about:

- Current surveillance data about health indicators, health status of the population, and incidence of disease
- The relationship between socio-demographic factors and health outcomes, (e.g., teen pregnancy and small for gestational age babies)
- The prevalence of poor health behaviours (e.g., smoking)
- The incidence of poor reproductive health outcomes
- The relationship between poor health behaviours and poor health outcomes
- Information about how the social determinants of health and health inequities impact poor reproductive health outcomes
- The current political, legal, and organizational environment pertaining to the issue being addressed

Step 2: Develop a data gathering plan

Information came from a variety of reliable sources. Useful sources of information were:

- Statistics Canada Reports and Surveys (e.g., Canadian Community Health Survey, Health Status Reports)
- Ministry of Health Promotion Guidance Documents (e.g., Reproductive Health Guidance Document)
- Local, regional, provincial, or national surveillance data
- Published literature, such as systematic reviews and meta-analyses
- Grey literature, such as documents published by local, regional, provincial, or national organizations

It was also important to determine if there were any gaps in the information collected. There may be a need to do some additional data gathering, such as administering surveys or conducting focus groups, to obtain this information.

See **Appendix C** for complete list of documents reviewed in this project.

Prior to beginning the process of determining priority populations, the RHT had identified key topic areas within reproductive health (including both PH and "Healthy Pregnancies" (HP). To inform the process of identifying key topic areas, the team had reviewed the Reproductive Health Guidance Document (2010) and had considered the following, based on the Model for Evidence-Informed Decision-Making in Public Health from the National Collaborating Centre for Methods and Tools: 1) community health issues and local context; 2) community and political preferences and actions; 3) research; and 4) public health resources (National Collaborating Centre for Methods and Tools, 2012).

The topic areas identified for Preconception Health were:

- Healthy eating and active living
- Alcohol
- Smoking
- Preparation for parenthood
- General preconception health awareness, including maternal age
- Decision to breastfeed

The topic areas identified for Healthy Pregnancies were:

- Healthy eating and active living
- Alcohol
- Mental health/stress in pregnancy
- Smoking
- Preparation for parenthood, including maternal age
- Decision to breastfeed

It is important to note that the key topic areas identified by the team are in-line with the evidence and rationale for program areas presented in the Guidance Document. Also of note is the significant amount of overlap between HP and PH key topic areas, and the recognition that programs and services must be cohesive, complementary and coordinated.

Understandably, these topic areas will differ depending on the program or service area for which priority populations are being identified. It is helpful to have these topic areas identified when collecting and synthesizing the literature. Identification of key outcomes, such as reducing the smoking rate during pregnancy, that programming will address could be identified instead of topic areas. It would be helpful to review the program or service area's guidance document prior to initiating this process.

Step 3: Collect relevant documents and literature

Approximately 30 relevant documents were identified through team input, the Guidance Document, previous MLHU reports, conducting a literature search, and following up on relevant references from articles and reports read. When collecting journal articles, look for review articles first to save the need to critically appraise individual journal articles. Information gathered in this step should answer questions that:

1. Assess the needs of the population
2. Examine the local context in which programs and services operate
3. Determine the most evidence-based strategies for reaching the intended population to effectively meet their needs

Step 4a: Synthesize the literature

Once all of the documents were gathered, the challenge was to determine how to succinctly organize the information in a useful manner. A chart was developed that enabled the project leads to capture the key points from each individual document. Both project leads synthesized literature in the same way and used a standardized process to complete the chart. In completing this chart, the four principles from the Ontario Public Health Standards (Need, Impact, Capacity, and Partnerships and Collaboration) were considered. These principles underpin the Foundational and Program Standards and are meant to be used by boards of health to guide the assessment, planning, delivery, management, and evaluation of public health programs and services (Ministry of Health and Long-Term Care, 2008).

As previously mentioned, one of the primary goals was to determine priority populations for "Reproductive Health" in Middlesex-London. When reviewing the literature it became clear that certain populations were at-risk of poor reproductive health outcomes more than others. It was important to capture this information in the chart as well, and a column titled "Identified Groups" was included on the same chart.

After sorting through all the information and documents, project leads met together and critically reviewed the chart. The purpose of this review process was to ensure that all information was under the appropriate column. This process was repeated a number of

times to eliminate any unnecessary or duplicated information, and was completed together to reduce the influence of individual project lead bias.

It was essential to keep track of data sources as material was synthesized, as it will be important to consider the strength of the information when decisions are made about programming. Each document was numbered and referred to in the body of the chart after a point was pulled from the corresponding document.

The chart was used to document both Step 4b: Needs Assessment and Step 4c: Assessment of the Local Context.

> See **Appendix D** to review the chart that was developed to synthesize and organize the information based on needs, impact, capacity, and partnerships & collaborations. Note that a chart was developed for both "Preconception Health" and "Healthy Pregnancies". The chart in the appendix is the example for the topic of alcohol as it relates to preconception health.

Step 4b: Needs Assessment

Need is established by assessing and examining surveillance data concerning the demographics of the population, distribution of the determinants of health, health status, incidence of disease, and barriers to health (Ministry of Health and Long-Term Care, 2008).

The project leads conducted a needs assessment by reviewing the documents gathered and examining local surveillance data.

Impact involves determining the magnitude of change that can occur if any certain issue is addressed. It is important to consider modifiable factors or behaviours that contribute to poor health outcomes (Ministry of Health and Long-Term Care, 2008).

Step 4c: Assessment of the Local Context

While assessing the local context, existing organizational capacity, current and potential partnerships and collaboration, and readiness were three elements considered in the process.

Capacity refers to the resources available and required to achieve optimal outcomes. It is important to consider not only financial resources, but also issues such as strengths and weaknesses of the organization, space, time, organizational structure and skill-sets of those delivering programs (Ministry of Health and Long-Term Care, 2008).

Partnerships and Collaboration refer to any current or potential links with organizations in the health sector and community. Partnerships and collaboration can increase the capacity for organizations to deliver programming (Ministry of Health and Long-Term Care, 2008). An additional consideration would be to find out what other organizations are doing in the local community. Conducting an environmental scan is an essential part of the process to find out what other organizations are doing. The RHT is currently conducting an environmental scan of Reproductive Health programming for the Health

Units in MLHU's "peer group". Local programming will also be considered by the RHT. This will avoid any duplication of programs, help determine if certain populations are already being serviced, further identify gaps in programs and services not identified in the needs section, and identify any opportunities to work with organizations to deliver programming.

Readiness was also considered for each topic area and addressed position statements, mandates, policy, and provincial initiatives in that topic area. Readiness considers both the Middlesex-London Health Unit's preparedness and the broader context's preparedness to address and provide programming related to a topic area.

Another important aspect of assessing the local context was to consider demographics and information related to the social determinants of health (SDOH). Originally, the RHT had identified SDOH as a separate key topic area. However, after further consideration and document reviews, it was realized that the SDOH do not stand-alone but rather filter through, impact and inform work in all topic areas. Therefore, any information related to SDOH was included under the applicable topic area, unless it was not topic-specific. If it was not topic-specific, such as information regarding the neighbourhoods that receive Ontario Works, then it was compiled in a separate document. This document housed any information related to SDOH as well as local demographic information. It was felt that capturing this information was important to ensure it was available for use when planning and implementing future programming.

> See **Appendix E** for more information about the type of material collected on the SDOH and demographic document.

Step 4d: Review of Potential Strategies and Evidence for their Effectiveness

The purpose of this step was to identify strategies, initiatives, programs, or services that effectively met the needs of the populations identified.

Depending on the number of priority populations identified and the topic areas for programming, this step can be quite labour-intensive. It was recognized that this was an important point in the process to enhance team buy-in and support.

To ensure that the team had the appropriate skills to effectively complete a literature search, the Public Health Librarian provided a team in-service. The workshop-type presentation sought to familiarize the team with the Virtual Library Resource, a collection of online research databases and full text journals accessible to all staff in Ontario's Public Health Units, and to assist the team in searching for high-quality research evidence to inform public health decision-making and practice.

The Virtual Library Resource contains research databases, full text articles, live literature searches on topics covered by the OPHS, Gateway to Knowledge Ontario databases, and Ontario Public Health Libraries Association (OPHLA) resources.

Conducting a literature search

To conduct a literature search, the RHT completed the following steps (Tyml, 2012):

A. Defined the question
B. Developed the search strategy
C. Identified the sources
D. Tested the search
E. Modified the search strategy if necessary
F. Ran the search
G. Managed the results

See **Appendix F** for a detailed description of each step for conducting a literature search.

The RHT is in the process of conducting the literature search. Once the search is completed, results needed to be synthesized. In order to consolidate and organize the information about strategies a separate chart for each topic area previously identified for "Preconception Health" and "Healthy Pregnancies" was designed. Each chart includes a column that lists all of the identified priority populations for that topic area. A column was then added for each different type of strategy, including 1) Education/Awareness; 2) Advocacy/Policy; 3) Skill-Building; 4) Social Media; 5) Supportive Physical and Social Environments; and 6) Other. As the results of the literature search are reviewed, relevant information is being placed in the appropriate column and row depending on the population it applies to and the type of strategy it is.

As the literature on strategies is reviewed, a separate chart is used to keep track of recommendations for specific strategies. A coding system was created to rank strategies as follows: 1) Promising/effective strategy, but not feasible to undertake at this time; 2) Promising/effective strategy, but area is already being well-covered by someone in the community; 3) Promising/effective strategy, and is easily incorporated into our practice; 4) Promising/effective strategy, with potential to incorporate with some changes to our current practice; 5) May be a promising/effective strategy, but further investigation is needed; 6) Not a promising/effective strategy; 7) Other. The strategy recommendations process is currently underway as the team reviews the literature on strategies.

Both the chart used to organize information regarding strategies and the chart used to record recommendations are within the same document. This allows the information to be streamlined and centralized. References are listed at the bottom of this document as well.

Once strategy recommendations are made it will be crucial to consider any real unintended positive or negative impacts of the strategies that are recommended. A chart was created to document unintended impacts and is ready to be used once the literature on strategies is reviewed and recommendations are made.

Appendix G illustrates an example of the chart used to synthesize and organize the information related to strategies and the chart used to keep track of recommendations. The chart in the appendix is the example for the topic of smoking as it relates to preconception health. **Appendix G** also contains an example of the chart used to record any unintended impacts resulting from the recommended strategies.

Outcomes, Recommendations, and Implications

Step 5 of the Situational Assessment involves discussing outcomes and making recommendations. Implications of the outcomes and recommendations should also be reflected upon.

Outcomes

Because the information had been put into a chart, it was simple to review the results. The information was available for presentation in two ways. The first way looked at each topic area and identified priority populations relevant to those topic areas. The second method looked at each priority population and identified which topic areas needed to be addressed for the particular population groups. The results are presented both ways in **Appendix H**. They are presented separately for "Preconception Health" and "Healthy Pregnancies" to reflect the structure of the Reproductive Health Team.

Recommendations

The Population Health Assessment and Surveillance Protocol from the OPHS (2008) describes our responsibility for identifying priority populations, "The board of health shall identify priority populations to address the determinants of health, by considering those with health inequities or who are at increased risk for adverse health outcomes and/or those who may experience barriers in accessing public health or other health services." Through this process, the responsibility for identifying priority populations has been fulfilled. The following are recommendations that can be applied to future programs and services in an effort to provide public health interventions that may be considered to have a positive impact:

1. One (or more) of the priority populations identified through this process should be selected as a target population.

2. Programs and services should be considered particularly to those populations which are identified as a priority under more than one topic area.

3. A topic area that is relevant to a significant (or the greatest) number of identified priority populations could become the focus of programs and services.

4. The evidence-informed strategies that have been identified through this work should be carefully considered and integrated into future program planning.

5. The information on SDOH and local demographics should be used to direct programs and services to certain sub-groups or neighbourhoods.

6. Universal programming to the general population is crucial and should be provided.

7. Priority populations identified as a focus for the team/service area should be engaged in program planning and implementation of strategies to increase community capacity and buy-in, and to enhance the likelihood that programs and services will

meet community need.

8. Efforts to build and enhance the capacity of the staff to carry out literature searches, critically appraise evidence, and monitor surveillance data in order to detect changes in local priority populations and issues on an ongoing basis should be continued.

Implications

These recommendations have important implications for future programs and services provided by the Reproductive Health Team, as they should serve as a guide for planning and implementation.

Priority populations were identified separately for "Preconception Health" and "Healthy Pregnancies". This allows staff to target health promotion strategies to meet the unique needs of the population groups. It must be kept in mind, however, that programs and services provided by the team must be cohesive, complementary and coordinated within the home team, program team, and service area.

As a result of this process, difficult decisions will have to be made about team programming. There have been many population groups identified as being "at-risk for poor reproductive health outcomes" through this process, but unfortunately, due to factors such as resources and time, it is unrealistic to think that the team will be able to address all of the priorities initially. That is not to say that no programming will be provided to them at all, but the challenge will be to determine which populations and topic areas programs will be targeted to for the upcoming year. To ease this decision, it may be best to provide a comprehensive program to a population that has been identified as "at-risk" under many topic areas, provide programming under a topic area where there are the most population groups identified as "at-risk", or target a population that no other organization in the community is targeting. The Reproductive Health Team should bear in mind all the populations identified when determining longer-term strategic direction even if they will not be receiving targeted programming in the immediate future.

Next Steps

Step 6 in a Situational Assessment is "Consider how to proceed with planning". For poor reproductive health outcomes, "at-risk" populations have been identified, but further planning work is still required. The Reproductive Health Team will continue working to complete the following next steps:

1. Review strategies and their evidence for effectiveness for the identified populations and topic areas
2. Continue program planning and finalize planning decisions related to:
    a. Who targeted programming will be provided to
    b. What topic area(s) the programming will cover
    c. What strategy will be used to best reach and support the population

Opportunities Gained for Connections

Throughout this project, some important connections with other teams and projects in the Health Unit as well as external organizations were made.

At the start of the project, the Early Years Team at MLHU expressed that they would use the RHT outcomes and apply it to their programs. However, it was quite apparent that populations and priority topic areas may differ for the Early Years Team. After reviewing the work the RHT had completed, and meeting with the Early Years Team, it was decided that the Early Years team would take on the process of identifying priority populations for their particular home team as well.

During the time of this project, the Ministry of Health and Long-Term Care released the Healthy Equity Impact Assessment (HEIA) Tool and Workbook to support improved health equity, including the reduction of avoidable health disparities between population groups. Its goal is to have equitable delivery of a program, service, policy, etc. and is dependent on good evidence (Ministry of Health and Long-Term Care, 2012). The RHT was able to use some of the information from the HEIA tool to support this project.

A partnership between MLHU and the City and County Data Analysis Coordinators (DACs) from the Ontario Early Year Centres (OEYCs) has been established as a result of this project. This became an important partnership because it was one of the first times that the City and County DACs had worked together and also enabled a connection to form between the DACs and the Family Health Services Epidemiologist and other staff at MLHU. A pathway of open communication between the organizations was established and it has facilitated opportunities to work together, ask for help, or exchange knowledge and information as needed.

Project Limitations

The Middlesex-London Health Unit had never formally defined or identified priority populations; therefore there was not a solid framework to follow. The project was an excellent learning experience. A process for identifying priority populations has been developed through consultation, expansion and adaptation of the Region of Waterloo Public Health's process (Region of Waterloo Public Health, 2009) to meet the needs of MLHU.

It was also a struggle to determine how much information was "enough". There is a broad scope of literature, reports, and data available. It was challenging to decide when enough information was gathered to appropriately answer questions. Although a sincere attempt was made to include as much and the most relevant information as possible, it is important to acknowledge that some sources of information may have been missed.

Another limitation of this project was time. The Reproductive Health Team at the Middlesex-London Health Unit had a Master of Public Health student from Queen's University co-lead the project. The project was completed over the student's 4-month practicum placement which posed a natural deadline. One of the primary goals of the project was to make recommendations for planning and implementing evidence-based strategies, programs, and services for populations who are at an increased risk of poor reproductive health outcomes, while still providing universal programs and services to the broader population. Due to the deadline however, there was not enough time to complete the literature search on evidence-based strategies before the end of the 4-month time period, especially considering the need for team support in completing the search and the fact that the vacation rate of staff is high in the summer. However, the strategies portion will be completed in the few weeks following the end of the student's placement so this primary goal will be achieved and the strategies information could still be used.

Evidence of effectiveness of strategies may simply not exist for certain population groups. This might impact program planning because it could mean that some strategies that have not been proven effective are used. It could also mean that some strategies that may be effective are not used because we lack knowledge that they are, in fact, effective. Further research in the areas that lack evidence may be warranted to advance public health efforts broadly. Public Health needs more research and syntheses of both qualitative and quantitative evidence in order to truly work towards evidence-informed practice.

Lessons Learned

It was very helpful to meet with the Family Health Services Program Evaluator throughout the process. The Program Evaluator offered expertise in needs assessment, program planning and evaluation, and situational analysis, so the meetings served as a good check in and validation that the process being used was logical and thoughtful. Towards the end of the process, a meeting was held with the Evaluator who presented the Kingston, Frontenac, Lennox & Addington (KFLA) Public Health Program Planning Framework. The document outlines key stages in program planning and is useful for the creation of new programs, and for reviewing and modifying existing programs (KFL&A Public Health, 2011). In reality, the process completed above was very similar to the process outlined in part of the KFL&A framework. It was strong validation for the process completed by the RHT.

Initially, there was some anxiety from the RHT about conducting a literature search. However, after the presentation given by the Public Health Librarian, the team had the appropriate skills and confidence to conduct a literature search and critically appraise evidence and were motivated and excited to participate in the process.

As previously mentioned, time was a limitation to this project. This reinforced the need to allow the team to take time to go through this process. Additionally, due to the complex nature of the process, some temporary shifting of team work and priorities may be required in order to complete the process in an effective manner.

It was very valuable to have co-leads complete this project. The two co-leads were a Public Health Nurse and a Master of Public Health student. Pairing the two to complete the project brought together two unique perspectives. The experienced practice of the Public Health Nurse complemented the academic-focused practice of the student and allowed work to be shared and created synergies with ideas and knowledge for navigating this process to identify priority populations.

Using a reference manager program to keep track of data sources would have saved a lot of time formatting at the end of the project. It is another way to stay organized and refer back to information easily.

Conclusion

Although identifying priority populations is complex and time-consuming, it is an essential process. Through the completion of this process, the Reproductive Health team at MLHU was able to identify those at-risk of poor reproductive health outcomes in Middlesex-London for which preconception and prenatal public health interventions may be reasonably considered to have a positive impact. Knowledge of who these populations are and how we can best support them enable us to direct our efforts, while still providing universal programming, and work towards achieving the ultimate goal of Reproductive Health programs in Ontario: "To enable individuals and families to achieve optimal preconception health, experience a healthy pregnancy, have the healthiest newborn(s) possible, and be prepared for parenthood" (Ministry of Health and Long-Term Care, 2008).

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Appendices

Appendix A: Priority Population Work Completed by Other Health Units

1. Process to Determine Priority Populations from the Region of Waterloo Public Health can be found at: http://chd.region.waterloo.on.ca/en/researchResourcesPublications/resources/Link3.pdf

2. Priority Populations Primer: A few things you should know about social inequities in health in SDHU communities can be found at: http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds%5Cpdfs%5Cpriority_pop_primer.pdf

Appendix B: Definitions

Priority Populations: They are those populations at-risk for which public health interventions may be reasonably considered to have a substantial impact at the population level (Ministry of Health and Long-Term Care, 2008)

Priority Populations: They are those population groups at-risk of socially produced health inequities, where health inequities are judged to be unfair or unjust (Sudbury & District Health Unit, 2009)

Appendix C: Document List

1. Reproductive Health Guidance Document
2. Canadian Maternal Experiences Survey
3. SWPHR BORN Report
4. Action on Poverty Report
5. Child Health Guidance Document
6. Canadian Community Health Survey
7. Stats Canada 2006 Community Profile – Middlesex-London Health Unit
8. Ontario Public Health Standards – no additions to the chart
9. Discovery Report
10. Team Findings
11. Activities to Address the Social Determinants of Health in Ontario Local Public Health Units Summary Report, Dec. 2010
12. Comparison of Adolescent, Young Adult and Adult Women's Maternity Experiences and Practices
13. City of London Statistics (www.london.ca)
14. Breaking the Cycle The Third Progress Report Ontario's Poverty Reduction Strategy 2011 Annual Report
15. Culture Counts A Roadmap to Health Promotion
16. Health Not Health Care Changing the Conversation
17. Statistics Canada Health Profile June 2012
18. Health Equity Impact Assessment Workbook
19. Early Development Indicators 2006 & 2009
20. Preconception Health: Awareness and Behaviours in Ontario (2009)
21. Preconception Health: Physician Practices in Ontario (2009)
22. Canadian Public Health Association Position Paper on Alcohol
23. Preconception Health: Public Health Initiatives in Ontario
24. The Canadian Healthy Measures Survey (Stats Canada)(2009)
25. Obesity in Canada: A Joint Report from the Public Health Agency of Canada and the Canadian Institute for Health Information (2011)
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30. Statistics Canada website

Appendix D: Chart Developed to Document Need, Impact, Capacity, Partnerships & Collaborations, Readiness, and Identified Groups

PRECONCEPTION						
PRIORITY	**NEED or GAPS**	**IMPACT (consider modifiable factors)**	**CAPACITY**	**READINESS**	**PARTNERSHIPS**	**IDENTIFIED GROUPS**
Alcohol	• 61% of students grade 7-12 drink alcohol[5] • 26% of students grade 7-12 engage in binge drinking (at least 5 drinks on the same occasion)[5] • 15% of students report getting drunk or high at least once during the past year[5] • 3 months prior to pregnancy (or realizing they were pregnant) 58.8% of women in Ontario consumed alcohol (62.4% in Canada)[2] • The proportion of women living at or below LICO who reported drinking prior to pregnancy was 49.5% compared with 67.5% of those living above LICO[2] • As maternal age increases, the proportion of women who reported drinking in the 3 months prior to pregnancy increased, with the exception of those women 40 years and older, who reported the lowest proportion[2] • Women were significantly more likely to indicate that they drank alcohol prior to conception if they had higher income[20] • Only 8% respondents said their health professional talked with them about avoiding alcohol prior to conception[20] • Fewer than 50% health care providers in Canada discussed use of alcohol with women of childbearing years[21]	• Important to ask one simple screening question[10] • Early pregnancy exposure is a key time which reinforces efforts at preconception and prenatal messaging[10] • In addition to the evidence for the efficacy of screening and brief intervention, research indicates that many patients cut down on their drinking simply because they were asked by their doctor about their alcohol use[22]		• Canadian Public Health Association calls on the health systems to increase capacity for screening and counselling women of childbearing age and pregnant women according to The Society of Obstetricians and Gynaecologists (SOGC) evidence-based clinical practice guidelines[22] • In order to prevent FASD, a set of interventions is recommended to health care providers including screening for alcohol consumption before and during pregnancy and brief interventions for women who engage in at risk drinking.	• Healthy Living Partnership[9] – priority is alcohol misuse	• Youth grades 7-12 • Those living above LICO • Advanced maternal age (less than 40) • Health professionals

Appendix E: SDOH Information and Local Demographics

- People living in rural areas or small towns may be more likely to experience poorer health compared to urban dwellers[9]
    - 17% population live in small townships in Middlesex County (69,938) [9] – 83.4% - London
    - Newbury, North Middlesex and South West Middles have been identified as areas of higher socio economic risk[9]

- For all of London and Middlesex:
    - 21.5% of Middlesex-London's population are women between the ages of 15-44 years[7]
    - Average hourly rate is $22.05 (provincially 22.75)[13]
    - 16.6% of families are lone parent families[17]
    - ~ 80% of lone-parent families are female lone-parent families[7]

- Based on the 2006 & 2009 EDI results, Clinical Services Index scores were the highest for the following City of London Planning Districts:[19]
    - Argyle
    - Carling
    - Glen Cairn
    - Huron Heights
    - Southcrest
    - White Oaks

- Fastest growing neighborhoods include:[13]
    - Sunningdale(north)
    - Jackson (south east)
    - Hyde Park(west)
    - Downtown(central)

- Adverse neighbourhood conditions is cited as a key factor consistently related to poor reproductive health outcomes (preterm birth, SGA, still birth and higher infant mortality rates) and unhealthy maternal behaviours (smoking, second-hand smoke, low rates of breastfeeding, insufficient preconception folic acid supplementation)[1,13]

- Mothers with children under the age of 6 have seen their employment rate more than double since 1976, from 31.5% to 68.1% in 2007[30]

Appendix F: How to Conduct a Literature Search

To conduct a literature search, the following steps should be executed (Tyml, 2012):

A. Define the question

Determine your information need and formulate it into a question. The question needs to be specific and answerable. The PICO or PISCO format can be used to help develop the question and key concepts.

How to formulate a PICO/PISCO Question

Population – determine who the program should be targeted to (e.g., teens)
Intervention – determine the type of intervention information needs to be collected about (e.g., health communication)
Setting/Context – determine the context or setting of the intervention (e.g., Public Health)
Outcome – Often this field is left blank in public health because outcomes can be so varied or difficult to define. If looking for a particular behaviour change then it should be listed under outcome.

Boolean Operators

The operators that are used in Boolean logic are "AND", "OR", and "NOT". "AND" is used to find articles in which all of the concepts appear, "OR" is used to search for synonymous terms or concepts, and "NOT" is used when you want to eliminate a concept from your search results. If "AND" is used with the identified PICO words (i.e., teens AND public health AND health communication) then the results will only represent the literature where all 3 concepts are included in the article

B. Develop the search strategy

When developing a search strategy it is helpful to arrange key concepts in a table format with each main concept at the top of a column.

Teen (Population)	**Health Communication** (Intervention)	**Public Health** (Setting/Context)	**Behaviour Change** (Outcome)

Using the table as a template, synonyms can be added under each heading that may also occur in the literature. The concepts in each column are "OR'd" together and the columns are "AND'ed" across.

Teen (Population)	**Health Communication** (Intervention)	**Public Health** (Setting/Context)	**Behaviour Change** (Outcome)
- Adolescents - Youth	- Health messaging	- Primary prevention - Health promotion	

Once the search strategy has been developed in the table format, it is useful to create it in word format to allow it to be copied and pasted in the search database.

E.g., "Teen*" OR "adolescen*" OR "youth"

E.g., "health communication" OR "health messaging"

E.g., "public health" OR "primary prevention" OR "health promotion"

Some words can also be truncated with an asterisk, such as *teen** which will cue the database to search for words that have several different endings (e.g., teens, teenagers). This is also helpful when using words that have different American and Canadian spellings (e.g., behaviour vs. behavior).

For this project, some of the aspects of the PICO/PISCO question have already been determined. The *population* was determined from the IDENTIFIED GROUPS column in Step 4a of the Situational Assessment. It was also known that the *Setting/Context* for this project was Public Health. The *outcome* concept was the priority topic areas previously identified for "Preconception Health" and "Healthy Pregnancies" (e.g., folic acid, smoking, mental health, etc.). It is important to determine which interventions will effectively meet the need of the identified populations. In order to fulfill the *intervention* concept of the PICO/PISCO question, a search was completed in an attempt to identify evidence of effectiveness for a variety of strategies.

C. Identify the sources

It is essential to determine the databases or sources of information that are going to be used. Note that there are different "levels" of public health evidence. Figure 1 illustrates the levels of public health information.

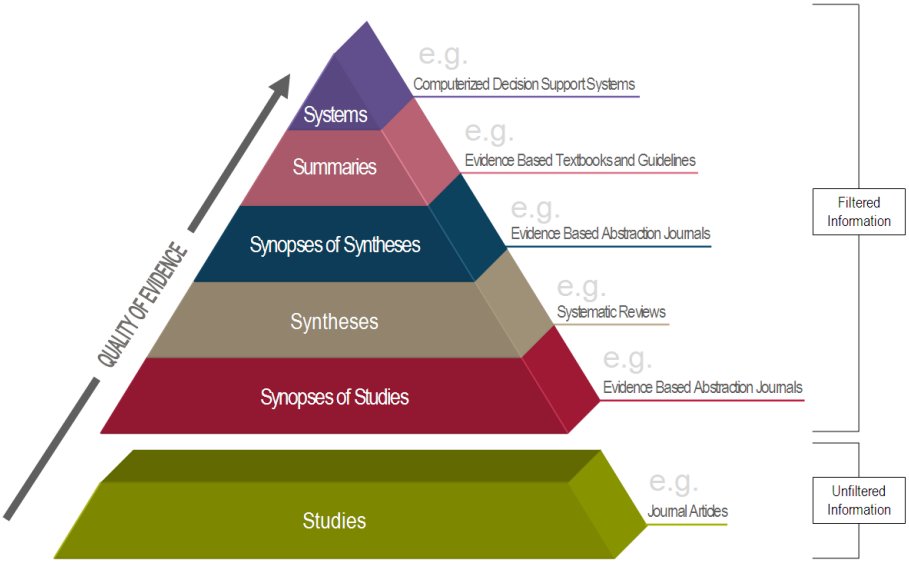

Figure 1: Adapted from: Dicenso, A., Bayley, L., & Haynes, R.B. (2009). Accessing pre-appraised evidence: fine-tuning the 5S model into a 6S model. *Evidence Based Nursing, 12*. 99-101.

At the bottom of the pyramid ("Studies") is the lowest level of evidence. It is the least synthesized evidence. An example of information at this level of the pyramid is journal articles, for example those obtained from databases such as PubMed or MEDLINE. Conversely, at the top of the pyramid ("Systems") is the highest level of evidence. It is the most synthesized evidence that has been reviewed for methodological rigour and summarized for conciseness. An example of information at this level of the pyramid is computerized decision support.

Unfortunately, there is not a lot of information available at the top 5 levels of the pyramid. Often information will be used from "Summaries" such as evidence-based guidelines, "Synopses of Syntheses" such as health-evidence.ca, and "Syntheses" such as systematic reviews. Where possible, the most synthesized evidence should be used.

D. Test the search

E. Modify the search strategy if necessary

If you do not get what you are looking for the first time, you may need to modify your search strategy or key concept words.

F. Run the search

G. Manage the results

Once the search has been successfully run, a number of documents relevant to the search question will be retrieved. Similar to **Step 4a: Synthesize the literature** in a situational assessment, all of the information gained from the search results needs to be organized. Organizing the information helps make it useful for informing planning. See **Appendix G** for the charts used to organize strategies information, recommendations, and unintended impacts.

Appendix G: Chart Used to Organize Strategies Information, Recommendations, and Unintended Impacts

PRECONCEPTION HEALTH		**Strategies**					
Priority	**Identified Population**	**Education/Awareness**	**Advocacy/Policy**	**Skill-Building**	**Social Media**	**Supportive Physical and Social Environment**	**Other**
Smoking	Women < 24 years old						
	Women with < high school						
	Women living ≤ LICO						
	Healthcare providers						
	Universal						

Coding Legend
Evidence-Based (black)
Practice-Based (blue): this will include strategies that other Health Units are using and any other strategies that are happening in the community

Recommendations for Identified Strategies

SMOKING				
Brief Strategy Description	**Type of Strategy** (e.g., advocacy/policy, education, etc.)	**PH or HP?**	**Identified Population** (if applicable)	**Recommendations (1, 2, 3, 4, 5, 6, 7)**

Coding Legend for Recommendations

1. Promising/effective strategy, but not feasible for us to undertake at this time
2. Promising/effective strategy, but area is already being well covered by someone else in our community
3. Promising/effective strategy, and is easily incorporated into our practice
4. Promising/effective strategy, with potential for us to incorporate with some changes to our current practice
5. May be a promising/effective strategy, but further investigation is needed
6. Not a promising/effective strategy
7. Other

Unintended Impacts for Recommended Strategies

Identified Population	Brief Description of Strategy Recommendation	Unintended Impacts

Appendix H: Results: Topic Areas and Identified Priority Populations

Preconception Health	***Priority***						
	Folic Acid Education	**Healthy Eating Active Living**	**Alcohol**	**Smoking**	**Preparation for Parenthood**	**Preconception/ Maternal Age**	**Decision to Breastfeed**
Identified Populations	• Women < 24 years old • Primiparous women • Women < high school education • Women living ≤ LICO	• Women < high school education • Women living ≤ LICO • Increasing age	• Youth grades 7-12 • Women > LICO • Advanced maternal age (but < 40) • Healthcare providers	• Women < 24 years old • Women < high school education • Women living ≤ LICO • Healthcare providers		• Women < 20 years • Women > 35 years • Women < high school education • Women living ≤ LICO • Health care providers re: preconception health information • Men	• Lower education levels • African Americans • U.S.-born Latinas, Asians, Pacific Islanders

Healthy Pregnancies	***Priority***						
	Healthy Eating Active Living	**Alcohol**	**Mental Health/Stress in Pregnancy**	**Smoking**	**Preparation for Parenthood**	**Preparation for Pregnancy/ Maternal Age**	**Decision to Breastfeed**

Identified Populations	• Women living ≤ LICO
	• Multiparous women
	• Women with < high school
	• Increasing age
		• Healthcare providers
		• College/ University graduates
		• Women living > LICO
		• Women > 20 years
			• Women living ≤ LICO
			• Multiparous women
			• Healthcare providers
			• Women with < high school education
			• Ethnocultural women
			• Women with pre-existing mental health concerns
			• Younger first-time parents
			• Single mothers
			• Intimate Partner Abuse
			  ○ Women 18-25 years
			  ○ In a relationship of < 2 years
				• Women living ≤ LICO
				• Multiparous women
				• Women with < high school education
				• Women < 24 years old
					• Women living ≤ LICO
					• Women 15-19 years old
					• Expectant fathers
					• Those with mental health issues
					• Healthcare providers
					• Part-time working mothers
					• Older parents
						• Teens
						• Women > 35 years
						• Women < high school
						• Women living ≤ LICO
							• Women 15 – 24 years old
							• Hospital staff
							• Lower education levels
							• African Americans
							• U.S.-born Latinas, Asians, and Pacific Islanders

Preconception Health	
Identified Priority Population	**Identified Priorities**
Women < 24 years old	• Folic acid education • Smoking • Preconception/maternal age
Primiparous women	• Folic acid education
Women with < high school education	• Folic acid education • Healthy Eating Active Living • Smoking • Preconception/maternal age • Decision to breastfeed
Youth grades 7-12	• Alcohol education
Women > LICO	• Alcohol education
Advanced maternal age (but < 40 years)	• Alcohol education
Women > 35 years	• Preconception/maternal age • Healthy Eating Active Living
Women living ≤ LICO	• Folic acid education • Healthy Eating Active Living • Preconception/maternal age • Smoking
Healthcare providers	• Preconception/maternal age • Alcohol • Smoking
Men	• Preconception
African Americans	• Decision to breastfeed
U.S.-born Latinas, Asians, Pacific Islanders	• Decision to breastfeed

Healthy Pregnancies	
Identified Priority Population	**Identified Priorities**
Women living ≤ LICO	• Low birth weight babies • Healthy Eating Active Living • Mental health/stress in pregnancy • Smoking • Preparation for Parenthood • Preparation for pregnancy/maternal age
Multiparous women	• Healthy Eating Active Living • Mental health/stress in pregnancy • Smoking
Healthcare providers	• Alcohol education • Mental health/stress in pregnancy • Preparation for Parenthood
College/University graduates	• Alcohol Education
Women living > LICO	• Alcohol Education
Women > 20 years old	• Alcohol Education
Women 15 – 19 years old	• Mental health/stress in pregnancy • Preparation for Parenthood • Preparation for pregnancy/maternal Age
Women with < high school education	• Mental health/stress in pregnancy • Smoking • Healthy Eating Active Living • Decision to breastfeed • Preparation for pregnancy/maternal age
Ethnocultural women • African Americans • U.S.-born Latinas, Asians, Pacific Islanders	• Mental Health in Pregnancy • Decision to breastfeed
Women with pre-existing mental health concerns	• Mental health/stress in pregnancy • Preparation for Parenthood
Women 15 – 24 years old	• Smoking • Decision to breastfeed • Intimate partner abuse
Expectant Fathers	• Preparation for Parenthood
Vulnerable Teens	• Predictor of other social, educational and employment barriers later in life
Hospital Staff	• Decision to breastfeed
Women > 35 years	• Preparation for pregnancy/maternal age • Preparation for Parenthood • Healthy Eating Active Living
Younger first-time parents	• Mental health/stress in pregnancy
In a relationship of < 2 years	• Intimate partner abuse