What is Public Health Informatics?

**SYSTEMS**
1. Systematic application (of)
2. Knowledge about **systems** (that)
3. Capture, manage, analyze, use information
4. To improve **population health**

PHIFP definition
Public health informatics is defined as the systematic application of information and computer science and technology to public health practice, research, and learning. (Yasnoff et al. 2000)

Public health informatics is the systematic application of knowledge about systems that capture, manage, analyze and use information to improve population health. (APHIF, Project SHINE)
**Brief History**

**Definition of Informatics**
- Oxford Dict. 1957

**Computers in Health Care**
- 1988

**Public Health Informatics Institute**
- 1992

**CDC partnered with UW: Develop Training**
- 1995

**Expansion of the discipline beyond:**
- National electronic surveillance systems
- Immunization registries

**CDC working to:**
- Develop informatics job descriptions
- Work with states in developing informatics divisions and work plans
- Develop training opportunities
- 2014 developed surveillance strategy to update systems with an informatics framework
AN AGENCY THAT VALUES INFORMATION

- Increases program effectiveness
- Promotes data-driven decision making
- Promotes continuous system improvement
- Prevents downstream informatics problems
- Develops economies of scale and scope
- Increases effectiveness of information systems
- Reduces program costs
Just as architects plan buildings with the needs of a community in mind, informaticians plan data systems that produce the information professionals need to make sound public health decisions.

Public Health Knowledge Architects
Strategic Approach to Health Information Systems

1. Engage stakeholders
2. Think logically before physically
3. Plan for interoperability

PRINCIPLES

APPROACH

- Plan: How do we do our work now?
- Think: How should we do our work?
- Rethink: How can an information system support our work?
- Describe: How will success be measured?
- Evaluate: How can information systems infrastructure improve health outcomes?
An **Informatics-Savvy Health Department** is one that has an overall vision and strategy for how it uses information and information technology as strategic assets, supports a skilled workforce and has well-designed and effectively used information systems. (Public Health Informatics Institute)
July 2015 I-TIPP Fellowship (Nicole)

July 2016 I-TIPP Fellowship (Amy)

Conception of Informatics Team

- Assessment
- Team trainings and skill building
- Defining work plan
Mission

Advance local and state health departments’ involvement in health systems transformation by training the current and future public health workforce to use data to mobilize communities and improve health outcomes.
Collaborative Requirements Development Methodology

**Business Process Analysis**

**think**

*How do we do our work now?*

- Define goals and objectives
- Model context of work
- Identify business rules
- Describe tasks and workflow
- Identify common task sets

**Business Process Redesign**

**rethink**

*How should we do our work?*

- Examine tasks and workflow
- Identify inefficiencies
- Identify efficiencies with repeatable processes
- Refine business processes and business rules
- Remodel context of work
- Restructure tasks and workflow

**Requirements Definition**

**describe**

*How can an information system support our work?*

- Define specific tasks to be performed for optimized business processes
- Describe the implementation of business rules
- Describe in words and graphics how an information system must be structured
- Determine scope of next phase of activities
Collaborative Requirements Development Methodology

Tools

- Context Diagrams
- Business Process Matrix
- Issue Management Registers
# Business Process Matrix/Logic Model

## Program: Behavioral Health Promotion

### Program Goal:
Promote healthy children and families by decreasing the impact of substance use and mental health issues.

### Contribution to WCHD Population Results:
Children and adults are physically and mentally healthy. Families are strong and self-sufficient.

### Program Staffing:
FTE Program Specialist, Joe Fuller, Program Specialist, Amy Hockenberry, Program Supervisor, Perry Mowery

<table>
<thead>
<tr>
<th>Program Objectives</th>
<th>Key Business Process</th>
<th>Performance Standards (Business Rules)</th>
<th>Inputs</th>
<th>Activities (Task Set)</th>
<th>Outputs</th>
<th>Program Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work collaboratively to increase community access to effective behavioral health programs and services.</td>
<td>Delivery of Behavioral Health Promotion Programs &amp; Services</td>
<td>PHAB Standards: 4.1 Engage with community to identify &amp; address health problems 7.1 Assess service capacity and access to services 7.2 Identify and implement strategies to improve access to health care 10.1 Use Evidence-based practices</td>
<td>Resources: Community capacity to provide programs/services Youth barriers (ACEs, low SES, homelessness) Partnerships: Schools Youth-serving organizations Whatcom Family &amp; Community Network Law enforcement Civic &amp; volunteer groups Healthcare professionals Organizations involved in reducing SA/MH promotion Media Business Community Tribal government Parents Youth</td>
<td>1. Identify need for behavioral health programs/services 2. Assess community for resources and capacity 3. Develop (select) programs/services with community partners 4. Determine partner’s capacity to deliver selected programs 5. Build and finalize contracts with partner organizations 6. Support the coordination of and deliver community programs and services Monitor programs &amp; services for effectiveness 7. Support and coordinate the community’s capacity to manage any changes</td>
<td>• Contract Reporting  • Survey Input  • DBHR Strategic Plans  • Leadership Boards/Local Government Reports on services  • Develop and deliver consistent, accessible, and effective prevention services</td>
<td>Short Term/Process Outcome: Community In Schools (CIS)  • # of youth served  Strengthening Families  • # of families served  • # of programs delivered WFCN/NAMI/Coalitions  • # of events  • # of partners involved</td>
</tr>
<tr>
<td>Advisory Board: Behavioral Health Advisory Board</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Data Systems:
- HYS
- DSHS Data Books, Risk Profiles
- Minerva
- Community Survey Data
- CHAT
- NIDA

### Contract Requirements:
- DSHS/DBHR Prevention Services
- United General – Marijuana Prevention

### Professional Standards:
- Strategic Prevention Framework

### Laws/Other:
- HIPAA

### Advisory Board:
- Behavioral Health Advisory Board

### Medium Term/Results Outcome:
- Community In Schools (CIS)  • Increase student attendance  • Increase in grades  • Decrease in discipline
- Strengthening Families  • Pre- & posttest results
- WFCN/NAMI/Coalitions  • Increased partnerships  • Coalition Assessment Tool

### Long Term/Is anyone better off?
- Healthy Youth Survey  • 30-day use of alcohol  • 30-day use of marijuana  • Report of depression in last 12 months  • Report of anxiety over the last 2 weeks
## Issue Management Register

<table>
<thead>
<tr>
<th>#</th>
<th>Date Raised</th>
<th>Issue Description</th>
<th>Impact of Issue</th>
<th>Selected Solutions</th>
<th>Priority</th>
<th>Issue Owner</th>
<th>Due Date</th>
<th>Issue Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Business Process Matrix/Logic Model

<table>
<thead>
<tr>
<th>Program/Activity</th>
<th>The name of the program</th>
</tr>
</thead>
</table>

## Program/Activity Goal:
Explain how the program supports one or more of the directions of the public health organization. Use the Summary Purpose Statement from the 2017-2018 Budget Inventory of Services or write your own.

## Contribution to Coalition Results:
Select which Coalition Strategic Plan Desired Results does this program/activity, in conjunction with other public and private partners, contribute to?

## Program Staffing:
List positions and staff member names who are part of the program.

### Program Objectives
A concrete statement describing what the program seeks to achieve. A well-worded objective will be SMART: Specific, Measurable, Attainable/Achievable, Realistic, and Time Bound.

### Key Business Process
Name for the group of activities that support this objective. There may be more than one.

### Performance Standards (Business Rules)
A set of criteria that defines or constrains some aspect of the program. Business rules are intended to assert structure or to control or influence the behavior. Examples include:

- PHAB Standards:
- Contract Requirements:
- Professional Standards:
- Laws/Other:
- Advisory Board:

### Inputs
Information received by the program from external sources. Inputs are not generated within the program.

- Resources:
- Partnerships:
- Data Systems:

### Activities (Task Set)
The key set of activities that are carried out by program staff.

### Outputs
Information transferred out from a process.

### Program Measures

<table>
<thead>
<tr>
<th>Short Term/Process Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium Term/Results Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long Term/Health Status Indicator/Is anyone better off?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
</tr>
</tbody>
</table>
Examples

- Strengthening Families Program
- Coalition Sustainability
Resources

Questions & Thank You

Contact: Amy Hockenberry
ahockenb@co.Whatcom.wa.us