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Overview

From January 2016 to March 2016, Washington Health System (WHS) engaged Washington County Health Partners (WCHP) to complete their Community Health Needs Assessment (CHNA) for the Washington Hospital and WHS-Greene facilities. During that process, a 2020 Healthy Community Logic Model™ was created to show logical linkages between health factor indicators and final outcomes. This implementation plan completes the logic model by providing the inputs and resources; process goals and objectives; and expected process measures (outcomes) for the two identified, prioritized health needs: diabetes and breast cancer (See Figure 1).

Since some of the identified needs are interrelated to the two priority ones, they will be addressed to a certain extent by addressing the latter. These include: adult obesity; fruit and vegetable consumption; meeting physical activity recommendations; tobacco use; and excessive drinking. The rest of the identified health needs will not be addressed in this plan. Reasons why include:

1. Lung cancer—lack of evidenced-based interventions to decrease mortality after it has been diagnosed.
2. Suicide—relative low priority assigned to need due to low number of deaths (even though rate is high).
3. Colorectal cancer/invasive colorectal cancer—Not enough resources to address need along with the other two prioritized needs
4. COPD—Not enough resources to address need along with the other two prioritized needs
5. Stroke—Not enough resources to address need along with the other two prioritized needs
6. Coronary heart disease—relatively low priority due to the death rate decreasing.
7. Dental visits—need is better addressed by community partners whose focus includes these services.
8. Access to health foods—lack of evidenced-based interventions to increase access and lack of expertise/control to accomplish progress (measure was ratio between grocery stores versus convenience stores).
9. Access to fast foods—lack of evidenced-based interventions to decrease access and lack of expertise/control to accomplish progress (measure was ratio between fast food restaurants stores non-fast food ones).

Public health looks at populations, and is not used to clinically manage individual patients. This plan is designed with formative evaluation, not summative. This means that the information measured is used to compare where the intervention population is in relation to a "standard;" to investigate reasons behind variation from the "standard;" and to continue to revise the plan and/or interventions based on quality improvement processes.

This plan will detail for each of the prioritized health needs:
- Inputs and resources
- Goals, process objectives and process activities with time line
- Expected process outcomes and measurements
- How each measure will be collected and by whom
- Into what database the collected information will be entered and who will enter
- How the information will be analyzed and who will perform the analysis
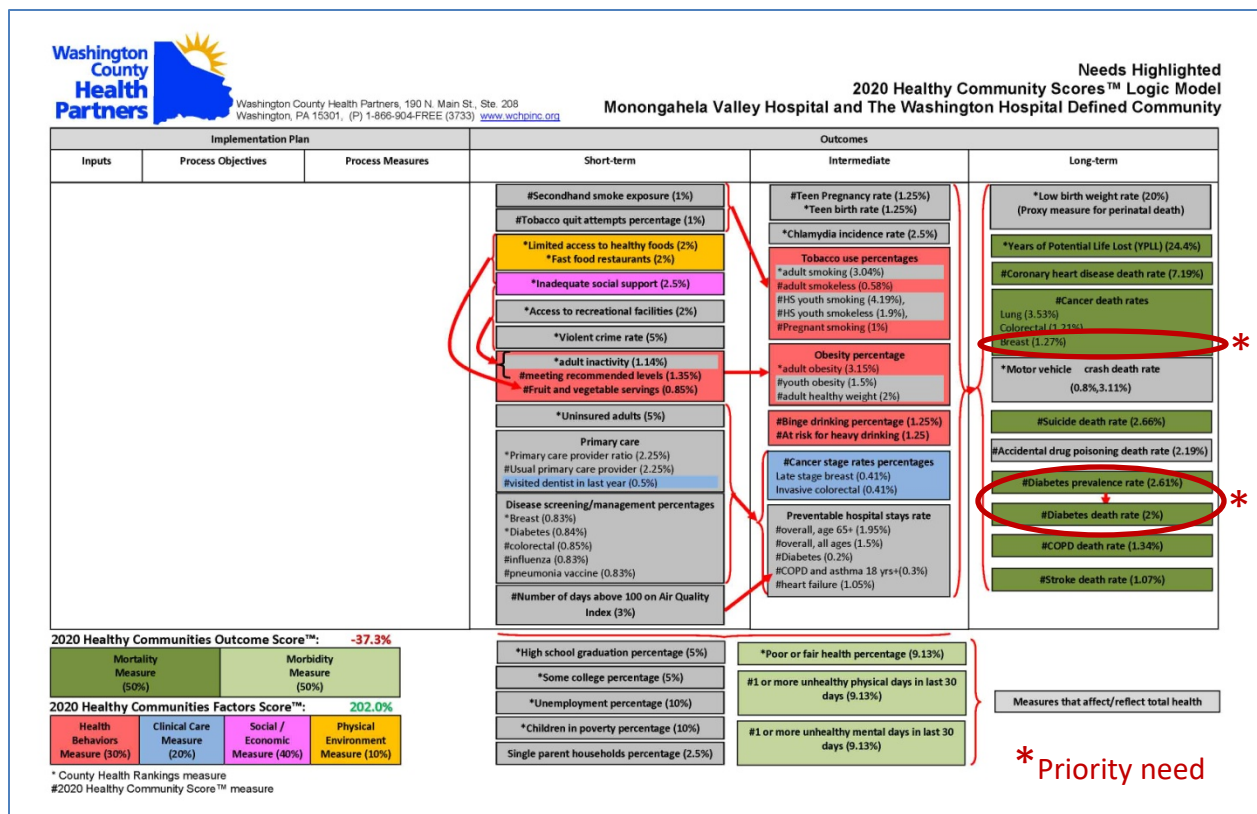- How and who will communicate the results with timeline

Figure 1. 2020 Healthy Community Logic Model™ with highlighted needs.

Inputs and resources

Inputs and resources are the raw materials that are needed to implement the plan. They are determined by the plan's goals and objectives and include: people; funding; and organizations.

Expected inputs include:

1. Funding from WHS to implement the plan
2. Funding from other entities to implement interventions
3. Appropriate WHS staff to work on the implementation of the plan, including:
   a. Stakeholders (in-patient and out-patient staff (Nurses (RN), Physicians (MD), Physician Assistants (PA), Certified Nurse Practitioners (CRNP), Outreach Coordinator, etc.)
   b. Database administrators for inpatient medical records and in/outpatient medical offices
   c. Diabetes care medical director, Diabetes educator managers and educators
   d. case managers
   e. dietitians
   f. Women's center director, Women's center medical director and Breast cancer RN navigator
4. Community organizations such as:
   a. Washington Physician Hospital Organization
   b. American Diabetes Association

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   c. American cancer society,

   d. Pharmacists

   e. private physician practices

   f. employers

   g. health insurance plans

   h. pharmaceutical companies

   i. Federally Qualified Health Centers (FQHC)

   j. Healthy Women sites

   k. faith community and community health workers

5. PA Department of Health representative
6. people with diagnosed diabetes and their social supports
7. people with diagnosed pre-diabetes and their social supports
8. people at risk of pre-diabetes/diabetes and their social supports
9. women with late stage breast cancer
10. women at risk of late stage breast cancer
11. Patient Family Center Care Advisors
12. Evaluation and implementation coordinator (WCHP)
13. Health care affordability act mandates
14. Evidenced-based interventions for diabetes and breast cancer
15. Community health assessment results

Goals, process objectives and process activities

Goals identify what is to be accomplished by the end of a specific time period while process objectives specify what is to be accomplished during mile posts within the goals' timeframes. Process activities map how the objectives will be achieved and are contained within the objective's time period. An important piece of the activities include how and who will communicate the results.

Goal #1: To continue the implementation of an evidenced-based intervention designed to increase the percentage of people with diabetes whose most recent Hemoglobin A1c test value is under a value to be determined in the Washington Physician Hospital Group population by 3% as of June 30, 2018.

Process Objective 1: To assess current priority diabetic interventions by January 31, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Identify work group members to represent all stakeholders (in-patient and out-patient staff (RNs, MDs, PAs, CRNPs, etc.), people with diabetes and their social supports, American diabetes association, pharmacists, case managers, private physician practices, diabetes educators, health insurance plans, pharmaceutical companies, FQHCs, faith community, dietitians, social workers, and community health	WHS	7-31-16

workers, etc.		

Process Objective 1: To assess current priority diabetic interventions by January 31, 2017. (cont.)

Process Activities:	Responsible Party:	Timeline for completion:
2. Convene work group to: respond to community health needs assessment results on diabetes; and indentify and prioritize current interventions on agreed criteria	WHS, WCHP and Work group	9-30-16
3. Determine which priority intervention(s) to assess	WHS	10-31-16
4. Assess priority intervention(s) for: evidenced-based structure; data collection method; and current database used. Gather baseline data (past three years) and identify gaps.	Evaluator with help from work group	12-31-16
5. Determine what Hemoglobin A1c value should be considered as "under control."	Work group	1-31-17
6. Compare priority intervention(s) structures to evidence-base and identify gaps	Evaluator (e.g. WCHP)	1-31-17

Process Objective 2: To design modifications of existing diabetic intervention(s) (or design new ones) to comply with evidenced-base by June 30, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Present baseline data, comparison and gaps in evidence-base for priority intervention(s) to work group	Evaluator (e.g. WCHP)	2-28-18
2. Create work group subcommittees for each priority intervention that include representation from the staff who will be implementing the intervention(s)	Evaluator (e.g. WCHP) and work group	3-31-18
3. Determine pilot sites for modification of existing priority intervention(s) (or design new ones) to close gaps.	Evaluator (e.g. WCHP) and work group subcommittees	4-30-18
4. Determine modifications (or new ones) needed and design intervention, data collection, analysis and reporting.	Evaluator (e.g. WCHP) and work group subcommittees	6-30-18

Process Objective 3: To monitor modified or new diabetic intervention(s) to check for correct implementation by June 30, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Modify existing data collection methods to incorporate needed measures as needed	Evaluator (e.g. WCHP) and work group sub-committee	8-31-17
2. Present collection methods to staff responsible for the program implementation and collect feedback for improvement	Evaluator (e.g. WCHP), staff and work group subcommittee	9-30-17
3. Modify existing database (or design new ones) to accept data on needed measures and/or to ex-	Evaluator (e.g. WCHP) and database administra-	10-31-17

tract/report the data already collected.	tor(s)	

Process Objective 3: To monitor modified or new diabetic interventions to check for correct implementation by June 30, 2017. (cont.)

Process Activities:	**Responsible Party:**	**Timeline for completion:**
4. Train data collectors on modified or new collection methods and modified or new databases.	Evaluator (e.g. WCHP), staff and work group sub-committee	1-31-18
5. Review quarterly data collected (or extracted) and reported to check for accuracy and completeness	Evaluator (e.g. WCHP)	4-30-18
6. Present quarterly data to staff responsible for the program implementation and collect feedback for improvement	Evaluator (e.g. WCHP) and staff	4-30-18
7. Present quarterly data to work group sub-committee and collect feedback for improvement	Evaluator (e.g. WCHP) and work group subcommittee	4-30-18
8. Make changes as necessary to data collection, input (or extraction) and reporting processes to optimize and correct deficiencies.	Evaluator and database administrator(s)	On-going from 1-31-17 to 6-30-18

Process Objective 4: To determine if modified or new diabetic intervention(s) are effecting positive change in indicators by June 30, 2017.

Process Activities:	**Responsible Party:**	**Timeline for completion:**
1. Review data collected (or extracted) from and reported to check data trends	Evaluator	7-31-17, 10-31-17, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)
2. Issue report for each quarter's data to staff responsible for the program implementation	Evaluator and staff	7-31-17, 10-31-18, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)
3. Make changes as necessary to data collection, input (or extraction) and reporting processes to optimize and correct deficiencies.	Evaluator staff and database administrator(s)	On-going from 7-31-17 to 6-30-18
4. Issue quarterly report to work group subcommittee	Evaluator and work group subcommittee	7-31-17, 10-31-17, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)
5. Issue annual report to work group	Evaluator staff and database administrator(s)	6-30-17

Goal #2: To implement an evidenced-based intervention designed to increase the number and percentage of women aged 42-69 years who are screened at least once for breast cancer in the past 24 months in the Washington Physician Hospital Group population by 3% as of June 30, 2017.

Process Objective 1: To assess current priority breast cancer interventions by January 31, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Identify work group members to represent all stakeholders (in-patient and out-patient staff (RNs, MDs, PAs, CRNPs, etc.), women at risk of late stage breast cancer, women with late stage breast cancer, Patient Family Center Care Advisors (PFCC), American cancer society, private physician practices, women/breast health care navigators, health insurance plans, FQHCs, faith community, pharmaceutical companies, and Healthy Women sites, etc.	WHS	7-31-17
2. Convene work group to: respond to community health needs assessment results on breast cancer; and indentify and prioritize current interventions on agreed criteria	WHS, Work group	9-30-17
3. Determine which priority intervention(s) to assess	WHS	10-31-17
4. Assess priority intervention(s) for: evidenced-based structure; data collection method; and current database used. Gather baseline data (past three years) and identify gaps.	Evaluator with help from work group	12-31-17
5. Compare priority intervention(s) structures to evidence-base and identify gaps	Evaluator	1-31-18

Process Objective 2: To design modifications of existing breast cancer intervention(s) (or design new ones) to comply with evidenced-base by June 30, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Present baseline data, comparison and gaps in evidence-base for priority intervention(s) to work group	Evaluator	2-28-18
2. Create work group subcommittees for each priority intervention that include representation from the staff who will be implementing the intervention(s)	Evaluator and work group	3-31-18
3. Determine pilot sites for modification of existing priority intervention(s) (or design new ones) to close gaps.	Evaluator and work group subcommittees	4-30-18
4. Determine modifications (or new ones) needed and design intervention, data collection, analysis and reporting.	Evaluator and work group subcommittees	6-30-18

Process Objective 3: To monitor modified or new breast cancer interventions to check for correct implementation by June 30, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Modify existing data collection methods to incorporate needed measures as needed	Evaluator and work group subcommittee	8-31-17
2. Present collection methods to staff responsible for the program implementation and collect feedback for improvement	Evaluator staff and work group subcommittee	9-30-17
3. Modify existing database (or design new ones) to accept data on needed measures and/or to extract/report the data already collected.	Evaluator and database administrator(s)	10-31-17
4. Train data collectors on modified or new collection methods and modified or new databases.	Evaluator staff and work group subcommittee	1-31-18
5. Review quarterly data collected (or extracted) and reported to check for accuracy and completeness	Evaluator	4-30-18
6. Present quarterly data to staff responsible for the program implementation and collect feedback for improvement	Evaluator and staff	5-30-18
7. Present quarterly data to work group subcommittee and collect feedback for improvement	Evaluator and work group subcommittee	5-30-18
8. Make changes as necessary to data collection, input (or extraction) and reporting processes to optimize and correct deficiencies.	Evaluator staff and database administrator(s)	On-going from 1-31-17 to 6-30-18

Process Objective 4: To determine if modified or new breast cancer intervention(s) are effecting positive change in indicators by June 30, 2017.

Process Activities:	Responsible Party:	Timeline for completion:
1. Review data collected (or extracted) from and reported to check data trends	Evaluator	7-31-17, 10-31-17, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)
2. Issue report for each quarter's data to staff responsible for the program implementation	Evaluator and staff	7-31-17, 10-31-17, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)

Process Objective 4: To determine if modified or new breast cancer intervention(s) are effecting positive change in indicators by June 30, 2017. (cont)

Process Activities:	Responsible Party:	Timeline for completion:
3. Make changes as necessary to data collection, input (or extraction) and reporting processes to optimize and correct deficiencies.	Evaluator staff and database administrator(s)	On-going from 7-31-17 to 6-30-18
4. Issue quarterly report to work group subcommittee	Evaluator and work group subcommittee	7-31-17, 10-31-17, 1-31-18, 4-30-18 (By the end of the next month after the quarter has ended for the prior quarter's data)
5. Issue annual report to work group	Evaluator staff and database administrator(s)	6-30-18

Expected process outcomes and measurements

Tables 1 and 2 present the recommended process measures for each priority health need (diabetes and breast cancer) that should be collected and analyzed before, during and after the priority interventions. It also identifies how the measure data are collected, who collects it, into what database it is put and who enters or extracts the data for reporting purposes.

Figure 2 illustrates the diabetic intervention population and where areas for policy change and intervention are located[1]. It also provides a framework for defining many of the diabetic process measures. Abbreviations used include:

- CHNA=Community health needs assessment
- WCHP=Washington County Health Partners
- PASW=Statistical database used by WCHP to store data
- WHS=The Washington Hospital
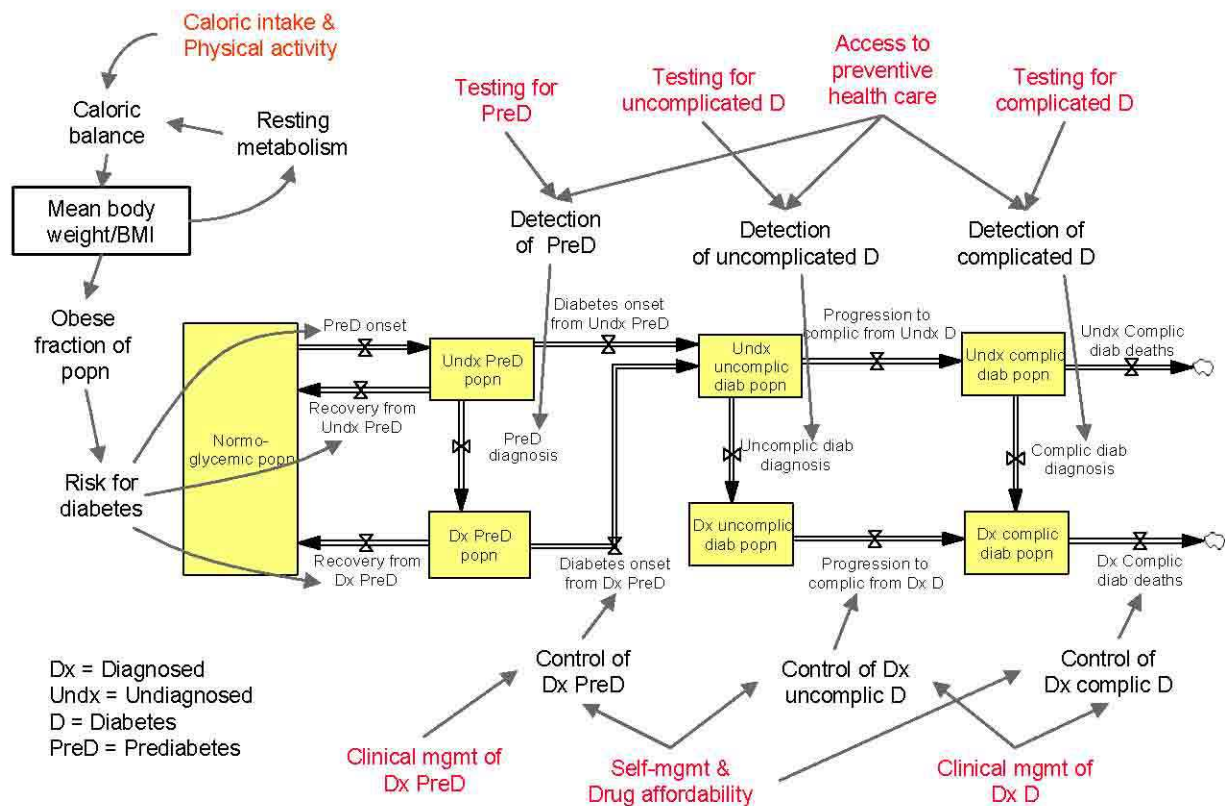- EMR=electronic medical record
- HBCBS=Highmark Blue Cross Blue Shield

Figure 2. Diabetic population model.

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[1]*Jones AP, Homer JB, Murphy DL, Essien JD, Milstein B, Seville DA. Understanding diabetes population dynamics through simulation modeling and experimentation. Am J Pub Health 2006;96(3):488-94. Available at: http://sustainer.org/pubs/Diabetes_System(ISDC04).pdf*

Table 1: Recommended diabetes intervention process measures

Diabetes process measures	How collected	Who collect	What data base	Who enters or extracts in-formation
1. Number/percent of people with diag-nosed diabetes;	CHNA	WCHP	PASW	WCHP
2. Number/percent of people with diag-nosed diabetes;	Historical in-patient, out-patient, profes-sional encoun-ters, pharmacy claims. ICD-9-CM, CPT, CPTII, HCPCS, Reve-nue codes, DRG, NDC	Health insur-ance plans	Health insur-ance plans' pay for perfor-mance	Health insur-ance plans
a. number/percent of those who have received health care provider visits:				
i. once				
ii. twice (to be added)				
b. number/percent of those who have received A1cs testing in the past 12 months;				
i. once				
c. number/percent who had a foot exam				
d. number/percent who have re-ceived an eye exam in the past 12 months				
e. number/percent screened for hy-perlipidemia (LDL);				
f. number/percent who have re-ceived at least one pneumococcal vaccine; (? to be added)				
g. number/percent of those who have received A1cs testing in the past 12 months whose value was under a percentage to be deter-mined	physician or-der/lab data results and meaningful use certification process	WHS/ physi-cian office	Sun-rise, Or-chard, and/or EMRs	Health infor-mation ex-change coor-dinator, WHS database ad-ministrator and/or physi-cian office
h. number/percent who have been referred to /received formal diabe-tes education;	To be deter-mined (TBD)	TBD	TBD	TBD
i. Number/percent/rate of diabetic-related possibly preventable hos-pitalizations	Hospital dis-charge data	WHS	Hospi-tal dis-charge data	WHS data-base adminis-trator

Figure 3 illustrates the comprehensive model for chronic disease prevention and control[2]. It also provides a framework for defining many of the breast cancer process measures.
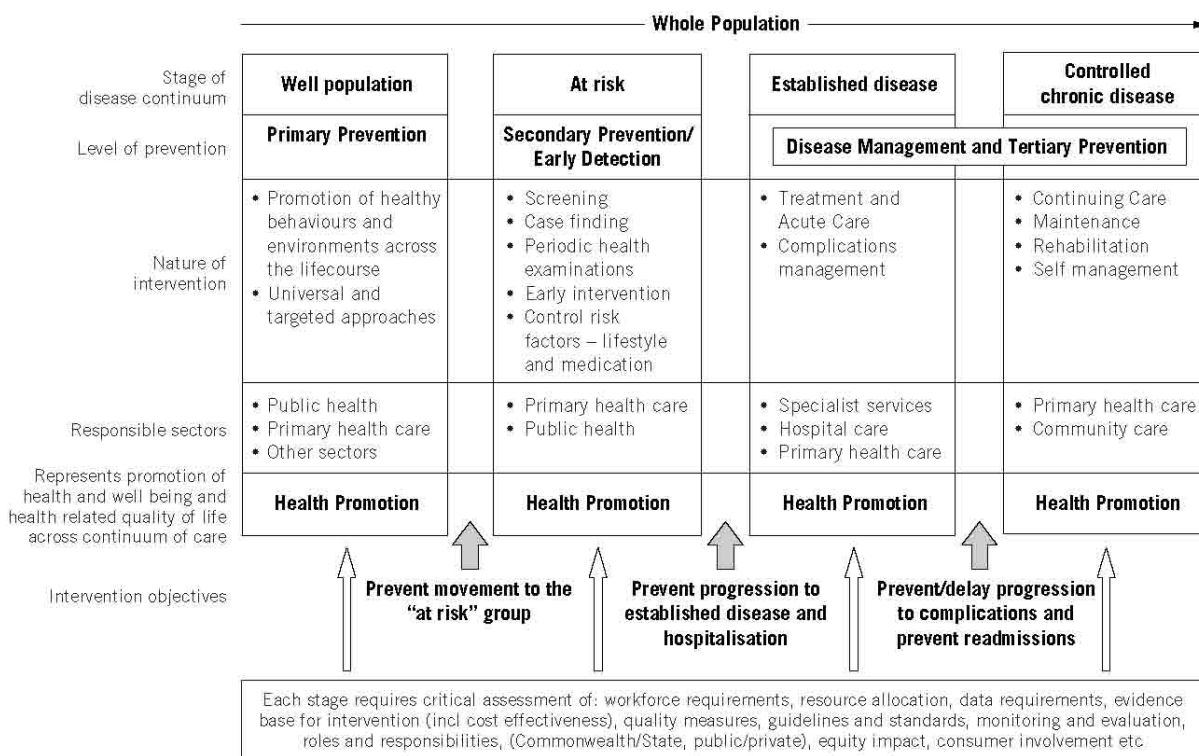

Figure 3. Comprehensive model for chronic disease prevention and control[2].

Table 2: Recommended breast cancer intervention process measures

Breast cancer process measures	How collect-ed	Who collect	What data-base	Who enters or extracts infor-mation
1. Number/percent of women by age group (18-39, 40-49, 42-69, 50-74 and 75+) in hospital defined community	WHS	WHS	PACW	WHS
2. Number/percent of women identified with certain known modifiable risk factors (obesity; excessive drinking; and/or physically inactive) by age group in hospital defined community				
3. Number/percent of women aged 50-74 years who have been screened in the past 24 months for breast cancer by mammography (USPSTF)				
4. Number/percent of women aged 42-69 years who have been screened in the past 24 months for breast cancer by mammography (HBCBS))				

[2] *National Public Health Partnership. Preventing Chronic Disease: A Strategic Framework. October 2001 available at: http://www.nphp.gov.au/publications/strategies/chrondis-bgpaper.pdf*

Table 2: Recommended breast cancer intervention process measures, continued

Breast cancer process measures	How collected	Who collect	What data-base	Who enters or ex-tracts infor-mation
5. Number/percent of women by age group in WPHO's population 6. Number/percent of women aged 42-69 years who have been screened in the past 24 months for breast cancer by mammog-raphy (HBCBS))	Historical in-patient, out-patient, profes-sional encoun-ters, pharmacy claims. ICD-9-CM, CPT, CPTII, HCPCS, Reve-nue codes, DRG, NDC. Number of healthy women vouchers re-deemed	Health insur-ance plans WHS busi-ness office	Health insur-ance plans' pay for perfor-mance WHS billing	Health insur-ance plans WHS business office

Data Analysis

Specifying how the data will be analyzed is important to show why each piece of information is collected and how it will be used to improve and/or evaluate programs. Indentifying who will perform the data analysis defines and clarifies roles. Table 3 summarizes this for each priority's need.

Table 3: Recommended data analyses

Analysis	Time periods	Why	Who analyses
Baseline data compared with collected program data	quarterly and annually	To identify if and when improvements are occurring	WHS
Trends in measured lab values	quarterly and annually	To clarify whether or not clinical progress is being made	WHS
Comparisons between different intervention sites and/or health care providers	quarterly and annually	To provide feedback for improvement and/or encourage compliance	WHS
Population data compared with program data	Annually	To identify how much impact is being made	WHS