

Using Omaha System to Track Public Health Outcomes in Home Visitation Services to Families in Pierce County, WA

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Background

- Public Health Nurses (PHNs) and Family Support Workers (FSWs) provide home visits to high-risk individuals and families to assist them with health needs and concerns. Nurses can answer health questions, assess needs and help clients access no cost / low cost community services. Family support workers provide emotional and practical help and advice to families who are experiencing long- or short-term difficulties. They aim to help children (who may otherwise be taken into care) stay with their families.

- Most individuals and families referred for home visitations are identified through the Department of Health and Social Services and through Child Protection Services.

- PHNs and FSWs deliver socially complex interventions in diverse and uncontrolled settings which makes it difficult to understand family health services and their outcomes.

- In 2008, PHNs and FSWs within the Strengthening Families Program at the Tacoma Pierce County Health Department (TPCHD) adopted the Omaha System – a standardized classification system for nursing documentation.[1] This system is based on standardized definitions and consists of nursing diagnoses known as the Problem Classification Scheme; categories and targets known as the Intervention Scheme; and client knowledge, behavior, and status ratings known as the Problem Rating Scale for Outcomes.

Objectives

- To identify the most frequent problems addressed among TPCHD clients in 2008.

- To measure clients admission and discharge knowledge, behavior and status outcomes related to the top identified client problems.

- To make quality improvement recommendations based on data findings.

Methods

- Computerized clinical data coded at time of client visit using Nightingale Tracker [2] - an automated point-of-care information system that uses a client-server architecture.

- Outcome measurements generated by the use of the Omaha System's Problem Rating Scale for Outcomes. This scale provides a method to measure client's knowledge, behavior, and status using a Likert scale ranging from a low rating of 1 to a high rating of 5. Public health nurses record these measurements at the beginning and end of services for each of the problems they address with a client.

- Database imported into a SPSS database

- Descriptive and inferential statistical methods

- Paired samples t-test on changes in knowledge, behavior and status

Results & Discussion

Sample

- 1822 documented client problems where cases closed in 2008
- Clients who had their cases opened for less than 14 days were excluded from the analysis
- Clients who had the highest outcome rating of 5 at admission and at discharge were also excluded from the analysis

Use of the Omaha System provided documentation of patient problems, and a rating of patient outcomes. To the right, a list of the top 10 most common health problems cited from the 1822 client records is seen in descending order.

Outcome Measurements

Caretaking / Parenting

One quarter of the clients (27%, n=493) were diagnosed with the problem caretaking / parenting, the definition of which is "providing support, nurturance, stimulation, and physical care for dependent child". [3] Signs and symptoms of a deficit include difficulty providing physical care / safety, neglectful, abusive, and difficulty providing emotional nurturance. A paired samples t test revealed significant positive changes in knowledge ($t=-3.560, p \leq .001$), behavior ($t=-1.821, p \leq .001$), and status ($t=-1.462, p \leq .001$) upon discharge of services.

Income

Income is the second common problem diagnosed among TPCHD home visitation clients. Signs and symptoms of a deficit include low / no income, uninsured medical expenses, inadequate money management, able to buy only necessities, and difficulty buying necessities. There were no significant changes in client knowledge, behavior, nor status upon discharge. Income is usually not considered a nursing problem, however the Omaha system suggests eight nursing interventions related to income to use with clients.

Family Planning / Pregnancy

Both the family planning problem and pregnancy problem are two other common health related problems that have shown significant positive changes in knowledge, behavior, and status. A paired samples t test revealed significant positive changes in family planning knowledge ($t=-4.961, p \leq .001$), behavior ($t=-3.845, p \leq .001$), and status ($t=-5.621, p \leq .001$) upon discharge of services. A paired samples t test revealed significant positive changes in pregnancy knowledge ($t=-5.780, p \leq .001$), behavior ($t=-4.892, p \leq .001$), and status ($t=-3.886, p \leq .001$) upon discharge of services.

Mental Health

Mental Health is another common problem that has shown significant improvement in status ($t=-4.478, p \leq .001$), but not in knowledge or behavior. It is possible that clients diagnosed with a mental health problem are being referred at times of a heightened level of crisis which could explain their significant improvement in status.

This assessment showed that PHNs and FSWs address many serious health-related problems with high risk families in Pierce County. It confirmed that caretaking/parenting, income, and growth & development are the most common family health problems addressed. It shows that clients are receiving assistance and support for serious health concerns such as abuse, substance use, family planning and mental health.

The assessment also demonstrated that significant improvement occurs for caretaking, family planning and pregnancy problems addressed by PHNs and FSWs.

Problem	# of client problems identified	% Improved in Knowledge	% Improved in Behavior	% Improved in Status
Caretaking / Parenting	493	24.7%*	18.5%*	18.3%*
Income	252	10.7%	13.1%	14.7%
Growth and Development	218	15.6%*	9.2%	8.7%
Abuse	151	17.0%*	16.6%	10.6%
Substance Use	146	16.4%*	13.7%	14.4%
Family Planning	140	25.0%*	23.6%*	30.0%*
Mental Health	120	16.7%	10.0%	18.3%*
Pregnancy	110	33.6%*	29.1%*	31.8%*
Neglect	108	25.0%*	12.0%	13.9%
Interpersonal Relationships	84	21.4%*	22.6%	22.6%

* $p \leq .001$ significant difference between admission and discharge scores

Limitations

- Reliability results depend partially on the skills and abilities of the raters. Some PHNs and FSWs may have more experience than others.
- Interventions, population demographics, and number of home visits were not linked to patient outcomes.
- Data for individuals (children and adults) were not linked by family unit.

Recommendations

- Test the reliability of clinical data collected by the PHNs and FSWs.
- Develop benchmarks in order to guide future quality improvement efforts, evaluations, and redirection as necessary.
- Obtain raw data to do more detailed analyses not currently available.
- Research involving the outcomes of nursing interventions related to selected client problems.



References

- Martin, KS. 2005. The Omaha system: A key to practice, documentation, and information management. 2nd Ed. St. Louis: Elsevier Saunders.
- Lowery, LW, Martin KS. Organizing frameworks applied to community health nursing. In: Stanhope M, Lancaster J, eds. Community and Public Health Nursing. 5th ed. St. Louis: Mosby; 2000:202-225.