

# OUTCOME MAPPING AND QUALITY OF COMMUNITY HEALTH PROGRAMS MONITORING AND EVALUATION SEMINAR PAPER

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## ABSTRACT

**Purpose** – This paper aimed at critically analyzing, five journal articles that have focused on the use of different outcome mapping which have arguably influenced the quality of community health programs, the study is premised on the fact that quality community health programs falls under social protection and safety nets programs, the use of outcome mapping influences the quality of health programs.

**Design/methodology/approach** – Tsisis, Evans, Forrest and Jones (2013) uses complex adaptive system (CASs). Maturity model that requires an iterative design, Tucker and Blake (2008) employed a modified action research approach. Domlyn et al. (2021) used the participatory M&E tool Outcome Mapping (OM) to evaluate the development of our system in conjunction with other tools. Cronin et al. (2021) used exploratory Outcomes Partnership data model. Lastly, Landa-Avila et al., (2021) used novel mapping method.

**Findings** - All the five articles agree that Outcome mapping may be used by leaders and managers as a tool for building the prerequisites to integrated care defined in the literature as a shared vision and a common understanding of how the vision will be realized. Indeed Domlyn et al. (2021) agrees that Coalitions saw value in the CTM's productive dialogue and the shared understanding it created, but reported perceived burden in conducting repeated administration.

**Research limitations/implications** – This research paper helps the researchers to recognize that there is a need and limitations in this area which need to look at in-depth way to generate knowledge which the end users like hospital managers can benefit how they could improve the quality of community health systems. So far, little critical analysis has outlined the ways which can improve the quality of community health programs.

**Originality/value** – Due to non-uniformity of the research methods used in the five articles and the variation in the study topics and population, the results cannot be used universally in terms of outcome mapping and quality of community health programs

**Keywords:** Outcome mapping, Quality, Community, Health programs, Integrated care

## INTRODUCTION

Outcome mapping is an iterative technique that assists teams in designing and planning for the outcomes they want to achieve via cooperation with other actors. Outcome mapping is intended to function in complicated situations and focuses on the contribution to change rather than attributing change to a single player (Scott et al., 2018). The Rapid Outcome Mapping Approach (ROMA) entails mapping and identifying important stakeholders (referred to as boundary partners) inside an organization's sphere of influence. Then, project teams create outcome challenges, which are statements that describe the greatest potential degree of change from each boundary partner group. These are followed by a series of progress indicators that describe the visible steps toward transformation – expect to see, like to see, and love to see. Changes in behaviour, attitudes, relationships, or policies from boundary partners who implementers want to impact are examples of progress indicators. Following that, teams create appropriate tactics to contribute to this transformation. Progress markers are tracked and may be modified if the steps toward change are incorrect or to account for unpredictability (O'Donovan et al., 2018).

International Creation Research Centre (IDRC) Canada pioneered the development of Outcome Mapping. The method has developed and been modified for use by companies and consultant training teams in planning, monitoring, evaluation, review, and reflection. It focuses on individuals as change agents and recipients (Scott et al., 2018). The methodology's originality stems from its shift from assessing a program's development impact, which is defined as changes in state - for example, policy and influence, poverty alleviation, or reduced conflict - to changes in the behaviours, relationships, actions, or activities of people, groups, and organizations working directly with development programs. This change has a major impact on how a program understands its objectives and evaluates its performance and outcomes.

Community health programmes are essential for bringing critical services to the hardest-to-reach children. As trusted members of society, community health workers help families make informed decisions about their health and well-being, and educate them on available services. Community health programmes also provide a critical channel for emergency response teams (UNICEF, 2021).

### Justification of the Study

Mapping community-based activities captures, organizes and communicates knowledge about the community program or the community within its geographic context. In the health sector, such maps can identify and communicate service availability in relation to the community's health needs. Through the community engagement process, programs can promote awareness of

local health issues and build community ownership of health resources. Maps of existing reach can empower health workers and program planners to effectively deliver health services to those who need them most. They also allow managers to review gaps in coverage or areas with duplication of efforts, and to link community-based health activities with formalized health infrastructures.

There is a growing body of work on the unique challenges of using research to engage policymakers in low- and middle-income countries. These challenges include understanding the local political context, the (sometimes disproportionate) influence of external actors such as donors, and the changing role of civil society organisations. This paper adds to that discussion by documenting experiences from four East and Southern African countries.

## **CRITICAL REVIEW OF THE JOURNALS**

This seminar paper has critically reviewed 5 journal articles that relate to outcome mapping and quality of community health programs in many research articles.

### **JOURNAL ARTICLES ANALYSIS**

The aim of this section is to present an in-depth look at each of the five articles in a structured manner. For each article a critical examination has been done from the article's abstract, introduction, methodology and the results/findings of the article and conclusion.

#### **Journal Article One**

**Landa-Avila, I. C., Escobar-Tello, C., Jun, G. T., & Cain, R. (2021). Multiple outcome interactions in healthcare systems: a participatory outcome mapping approach. *Ergonomics*, 1-22.**

#### **Introduction**

The author indicates those outcomes, which are the result state or condition from a process or intervention, are essential elements of healthcare system design and an important indicator of performance. They are included in well-known system analysis frameworks such as the Systems Engineering Initiative for Patient Safety (SEIPS) and Cognitive Work Analysis (CWA). However, fewer practical approaches exist for understanding and communicating interactions among healthcare outcomes. The author further details the study design and the study output in the abstract. It is well elaborate and well structured.

#### **Statement of the Problem**

The author did not give direct statement of the problem; however, the problem of the study indicates that there are fewer practical approaches exist for understanding and communicating interactions among healthcare outcomes which the author was intending to address in the article.

### **Study Objectives**

The specific objective is to develop and apply a participatory mapping method as a practical approach to collect, aggregate and visualize interrelations among multiple healthcare outcomes. The author has failed to specifically list the objectives of the study and not to make the reader look or guess what could be the objective.

### **Research design**

This study applies a novel mapping method as a practical approach to collect, aggregate and visualise interrelations among multiple healthcare outcomes. Graphic facilitation mapping sessions with eleven healthcare providers and ten patients with chronic conditions were conducted. The novel mapping is important aspect on the research of the integrated circuit and the author as correctly explained the aspect and areas of concern.

### **Target population**

The target population in this study was healthcare providers and patients with chronic conditions. However, there is need for the author to clearly state the population of interest before narrowing down on specific target population.

### **Sample and Sampling procedure**

Participants were recruited using purposive sampling to ensure representativeness from specific roles and chronic conditions. The participants were recruited from the East Midlands region in the UK, where the research team was based. The author has clearly stated the sampling procedure and sample size from the article.

### **Data Collection Procedure**

The data collection process followed bespoke six-step process in collecting and organizing data. The author failed to clearly demonstrate how data was gathered.

### **Data Analysis**

The individual outcome maps were synthesized applying network analysis, which uses two basic elements: nodes (also called vertex) and their edges (also called links). According to the type of network, nodes can represent people (social networks), papers (information networks) and metabolic products (biological networks), among others.

### **Study Findings**

The finding as per the author showed that the outcome-based participatory mapping in combination with aggregated network visualisation and network analysis can provide in-depth insights into which outcomes matter to whom, how outcomes are interrelated, and how critical

they are collectively. The findings further demonstrated the practicality of the outcome-based mapping approach in collecting, visualising and analysing interrelations among multiple healthcare outcomes. This approach allowed stakeholders to discuss meaningful outcomes and to put together a visual representation of how those priorities interact with and impact others. The aggregated network visualisation and network analysis provided comprehensive information to identify critical outcomes such as wellbeing that influence and connect with other outcomes among both groups of stakeholders

### Article two

**Cronin, R. M., Halvorson, A. E., Springer, C., Feng, X., Sulieman, L., Loperena-Cortes, R., & Ramirez, A. H. (2021). Comparison of family health history in surveys vs. electronic health record data mapped to the observational medical outcomes partnership data model in the All of Us Research Program. *Journal of the American Medical Informatics Association*, 28(4), 695-703.**

### Introduction

The study gives details background of the topic in the article stating that the family health history is important to clinical care and precision medicine. Prior studies show gaps in data collected from patient surveys and electronic health records (EHRs). The All of Us Research Program collects family history from participants via surveys and HER. The study design and methodology are well elaborated in the study concluding the abstract with the study findings.

### Statement of the problem

Prior studies show gaps in data from electronic health record (EHR) structured fields that are moderately assisted by free text extraction; however, there are significant limitations in routine acquisition of family health history from HER's. Family health history can also be collected through patient surveys. Patient surveys or questionnaires show promise in obtaining family history.

### Study objectives

Family health history is important to clinical care and precision medicine. Prior studies show gaps in data collected from patient surveys and electronic health records (EHRs). The All of Us Research Program collects family history from participants via surveys and EHRs. This Demonstration Project aims to evaluate availability of family health history information within the publicly available data from All of Us and to characterize the data from both sources. The author has clearly stated the objective of the study and elaborates on the intended purpose of the study.

## Research design

Surveys were completed by participants on an electronic portal. EHR data was mapped to the Observational Medical Outcomes Partnership data model. We used descriptive statistics to perform exploratory analysis of the data, including evaluating a list of medically actionable genetic disorders. We performed a sub-analysis on participants who had both survey and EHR data. The outcome partnership data model was clearly explained and how the exploratory study will be conducted using descriptive analysis.

## Data Collection Procedure

Data was collected online through survey design through a participant portal which can be accessed through the Internet on a desktop computer, or via a downloadable app on a tablet or Smartphone. The author outlined how data was collected in the study and how reliability and validity of the data collected would be protected.

## Data Analysis

To compare family health history from surveys and EHRs, each survey question response or OMOP concept code was considered an observation. Each observation describes a positive or negative family history and may or may not have an associated relative or disease.

## Study findings

This Demonstration Project describes and compares family health history data in surveys and EHRs mapped to OMOP from the All of Us Research Program. We discovered a large population of participants with data sourced from surveys or EHRs. There have been other registries with large populations of family health history, but they tend to focus on a specific disease or set of diseases and are usually from a single data source.

## Article three

**Tucker, W. D., & Blake, E. H. (2008). The role of outcome mapping in developing a rural telemedicine system.**

## Introduction

The abstract of the article is too brief with only objective and statement of the problem listed in the abstract. This is below academic article standards which dictates the an abstract should be a snapshot of what is contained in the article. The study design, data collection process and study findings should be contained in the abstract.

### **Statement of the problem**

While Outcome Mapping was not primarily intended to guide design, we show that it tied in well with a cyclical participatory design method for an Information and Communication Technology for Development project.

### **Study objectives**

The overall aim of our various ICT4D projects was to investigate methods of creating useful systems for socio-economic development in deprived areas. One aspect of our strategy was to experiment with Monitoring and Evaluation (M&E) tools in ICT4D design, but this is not their intended use.

### **Research design**

The author employed a modified action research approach to learn how to develop an appropriate technical system and also to learn how to support the stakeholders to participate in the system's design and deployment. The author paid a great deal of attention to the human computer interface with a user-centred development approach. We used the participatory M&E tool Outcome Mapping (OM) to evaluate the development of our system in conjunction with other tools. OM, our focus here, recognizes that "development is essentially about people relating to each other and their environment.

### **Target population**

The target population were the local community leaders both regional and provincial Department of Health managers. However, the author failed to give limitation of the target population. It was rather left open as community leaders.

### **Sample and Sampling procedure**

The study adopted the terms First Mile and First Inch as a battle cry to place the users first and to think firstly of how they actually use the system. The author ought to have indicated the specific sampling procedure whether purposive sampling or random sampling technique.

### **Data Collection Procedure**

The study mostly focuses on the end users and the problem affecting the rural community as failed to give clear way of collecting the data. However, from the reading, direct interaction with the end users of the technology, like doctors and nurses were the main mode of collecting data.

### Data Analysis

The data was analyzed by introduces to rural telehealth by the CSIR who had built a real-time voice system over a rural Wi-Fi network and installed PCs and VoIP handsets in a hospital, clinic, school and police station.

### Study findings

From Outcome Mapping data collection, we found that for the most part the users preferred to use real-time voice or VoIP. The second most used function was real-time video. Since we only recently introduced MUTI v3 on the Wi-Fi handhelds, we must wait and see what happens. The system was designed in an exploratory fashion employing monitoring and evaluation tools such as Outcome Mapping to help in the design process. This was instrumental in focusing our attention on all of the partners whose cooperation was needed to make the project successful. The engagement of the partners brought them into the design loop. Software design is normally concerned with the more immediate users of the system but even there one has to have the backing of all boundary partners for the system to be effective. In that way, Outcome Mapping encouraged a wider perspective on the design aspects of the rural telemedicine system.

### Article four

**Domlyn, A. M., Scaccia, J., Lewis, N., Ebony Coleman, S., Parry, G., Saha, S., ... & Ramaswamy, R. (2021). The community transformation map: A maturity tool for planning change in community health improvement for equity and well-being. *American Journal of Orthopsychiatry*, 91(3), 322-367.**

### Introduction

Transforming communities to be healthier and more equitable present a systemic challenge best addressed by those with native knowledge of the system. Community coalitions are a promising structure for tackling local health inequities, if they approach the change process with multiple local stakeholders and with systemic change in mind. The author gives the study background with elaborate emphasis. The abstract further gives the objective of the study, design and the findings. However, it omits the problem statement and only gives elaborate background.

### Statement of the problem

Maturity models offer a framework for system assessment by defining sequential stages toward ideal development. Providing coalitions with a structure for self-assessing community change, the Community Transformation Map (CTM) is a maturity model that operationalizes concepts hypothesized to foster systemic change.



### **Study objectives**

The objective of the CTM was for community coalitions taking part in 100MHL to chart a path of growth across multiple domains of community capacity.

### **Research design**

The study used a maturity model that requires an iterative design process targeting the specific purpose of the model. The author used thematic analysis in giving out the results. However, in the discussion of the results, the author has used a more of mixed model as opposed to thematic which has been indicated in the article.

### **Target population**

The CTM was created and applied with 18 community coalitions participating in the 100 Million Healthier Lives initiative. It was iteratively drafted with representatives from across the initiative.

### **Sample and Sampling procedure**

The author did not clearly indicate the sample size and sampling procedure in the research article. However, the study targets 18 communities using the CTM.

### **Data Collection Procedure**

The CTM was created and applied with 18 community coalitions participating in the 100 Million Healthier Lives initiative. It was iteratively drafted with representatives from across the initiative. These coalitions self-administered the CTM four times over 24 months. Coalitions used the CTM to reconcile perspectives, identify priorities, and create transformation action plans Data Analysis. The data was analyzed through the transcription process and content analysis. Transcription was done for the phone calls which was done during data collection.

### **Study findings**

Thematic analysis revealed good contextual validity. Coalitions saw value in the CTM's productive dialogue and the shared understanding it created, but reported perceived burden in conducting repeated administration. The CTM's value is in structuring community members' reflection on complex, systemic problems. The CTM is rooted in international improvement and change principles and continues to be adapted for other change initiatives.

## Article Five

**Tsasis, P., Evans, J. M., Forrest, D., & Jones, R. K. (2013). Outcome mapping for health system integration. *Journal of multidisciplinary healthcare*, 6, 99.**

### Introduction

Health systems aiming to deliver integrated patient care face myriad multilevel and context-specific challenges. Integrated care can be defined broadly as care that is coordinated across multiple health care professionals, organizations, and sectors and that is attuned to patient needs and preferences. The abstract is well structured and begins with the background of the study. Statement of the problem is well presented on the abstract followed by study objective, study design and findings of the study.

### Statement of the problem

Health systems around the world are implementing integrated care strategies to improve quality, reduce or maintain costs, and improve the patient experience. Yet few practical tools exist to aid leaders and managers in building the prerequisites to integrated care, namely a shared vision, clear roles and responsibilities, and a common understanding of how the vision will be realized. Outcome mapping may facilitate stakeholder alignment on the vision, roles, and processes of integrated care delivery via participative and focused dialogue among diverse stakeholders on desired outcomes and enabling actions.

### Study objectives

The study aims to describe an outcome mapping exercise we conducted at a Local Health Integration Network in Ontario, Canada, using consensus development conferences.

### Research design

The study used complex adaptive system (CASs). Complex adaptive systems (CASs) are open systems with fuzzy boundaries comprised of numerous, diverse, highly interactive agents. In CASs, patterns of interaction and continuous adaptation contribute to innovative and unpredictable behaviors and events; these systems are thus characterized as emergent and self-organizing. The author has well presented the design and explained the steps to be used.

### Target Population

The target population of this study included professionals who have multiple years of experience in integrated care settings and or knowledge based on research and implementations.

### **Sample and Sampling Procedure**

Participants were selected from organizations within the Central LHIN using purposive sampling, and consisted of professionals with multiple years of experience in integrated care settings and/or knowledge based on research and implementation of integrated care initiative.

### **Data Collection Procedure**

Data was collected through structured interview schedule. A semi structured interview guide was used to facilitate dialogue among the participants at the first CDC, using questions focused on health system goals, indicators of success, and barriers to and enablers of goal attainment.

### **Data Analysis**

Through content analysis of the transcripts, the themes generated at the CDC were further refined and categorized into outcomes and activities for inclusion in the map. This data was used in the development of the first draft of the outcome map for review by the steering committee and for respondent validation in our next CDC.

### **Study Findings**

Outcome mapping may be used by leaders and managers as a tool for building the prerequisites to integrated care defined in the literature as a shared vision and a common understanding of how the vision will be realized. Outcome mapping via CDCs may also help stakeholders make sense of a complex system and foster collaborative capital, a resource that can support information sharing, trust, and coordinated change toward integration across organizational and professional boundaries. The concepts of CASs theory and collaborative capital also suggest ways in which current outcome-mapping methods may be enhanced, particularly in the context of efforts to integrate care. The participative approach to outcome mapping described in this paper may be used to identify and link outcomes with actions and to study the boundaries, gaps, and ties of social networks across the continuum of care as we move toward an integrated health care system.

## **CONVERGENCE AND DIVERGENCE VIEW**

### **Convergence Analysis**

#### **Conceptualization of the Problem**

From the conceptualization of the problem, (Cronin et al., 2021; Domlyn et al., 2021; Tucker & Blake, 2008) give similar approach to the problem conceptualization where Outcome Mapping was not primarily intended to guide design, they have explained and indicated that it can be used.

### **Methodology**

From journal 1-journal 5, all have used different research methodology which does not give any convergence in the approach. The only concept which converge the methodology is element of outcome mapping in the five articles.

### **Findings**

All the five articles agree that Outcome mapping may be used by leaders and managers as a tool for building the prerequisites to integrated care defined in the literature as a shared vision and a common understanding of how the vision will be realized. Indeed Domlyn et al., (2021) agrees that Coalitions saw value in the CTM's productive dialogue and the shared understanding it created, but reported perceived burden in conducting repeated administration.

### **Divergence Analysis**

#### **Conceptualization of the problem**

In the five articles tackled the elements of Outcome mapping and quality of community health programs. Other expects are totally different giving the results a divergent view.

### **Methodology**

Tsasis et al. (2013) uses complex adaptive system (CASs). Maturity model that requires an iterative design, Tucker & Blake (2008) employed a modified action research approach to learn how to develop an appropriate technical system and also to learn how to support the stakeholders to participate in the system's design and deployment Domlyn et al. (2021) used the participatory M&E tool Outcome Mapping (OM) to evaluate the development of our system in conjunction with other tools. Cronin et al., (2021) used exploratory Outcomes Partnership data model. Lastly, Landa-Avila et al. (2021) used novel mapping method as a practical approach to collect, aggregate and visualize interrelations among multiple healthcare outcomes.

### **Findings**

Tsasis et al. (2013) included the elements of outcome mapping which is the main focus of discussion. Tucker and Blake (2008) concentrated only on the data collection processes and procedure of the outcome mapping. Domlyn et al. (2021) discussed on the validity of the outcome mapping aspect something which is lacking on other articles. Cronin et al. (2021) discussed the OMP importance and application of findings giving it divergent view. Lastly, Landa-Avila et al. (2021) concentrated on the benefits of the outcome and how it can help the stakeholders.

## SUMMARY OF THE GAPS

Due to non-uniformity of the research methods used in the five articles and the variation in the study topics and population, the results cannot be used universally in terms of outcome mapping and quality of community health programs.

## CONCLUSION

This paper concludes that Outcome mapping may be used by leaders and managers as a tool for building the basics to integrated care defined in the literature as a shared vision and a common understanding of how the vision will be realized.

The outcome map provides insight into the interrelated factors that facilitate integration from the perspectives of local stakeholders. The outcome map also emphasizes the interdependence of varied processes in achieving the desired outcomes in a way that simplifies the complexity of the health program while maintaining a holistic, rather than a narrow and divided, view of health system functioning.

## RECOMMENDATIONS

In terms of healthcare mapping and performance outcome, this paper recommends the outcome mapping approach as the tool in improving the healthcare outcome. It's suggesting to take the initiative locally to improve how quality is measured and monitored.

To take advantage of opportunities to compare and learn from others, including outside the community services sector.

To continue developing provider-led initiatives to benchmark data and develop shared indicators across the community health sector.

To Prioritize engaging community services staff in quality and motivating them to take responsibility for accurate reporting and supporting them with tools and skills in quality improvement and leadership for quality and to focus on strengthening community health systems and integrating community health workers in formal health systems.

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