

A Conceptual Framework for Omni-Channel Enabled Patient Pathway Activation in an NCD Setting

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ABSTRACT

Patient activation is a key intervention for NCDs (Non-communicable disease) management; patient activation seeks to empower patients by enhancing their knowledge, and thereby enabling patients to manage efficiently in non-provider setting. Majority of current patient activation programs focus on therapy initiation, adherence, and compliance. In addition, these programs are administered through multiple disaggregated channels which constraints scaling up and transferability of patient skills.

Patient journey in a NCD setting has many steps and the requisite skills for these varied steps are different; there is a need to expand the patient activation program across the entire patient pathway and not just restrict at the therapy stage. To deliver patient activation across the entire pathway and leverage the emerging digital technologies there is a need to integrate the services and enhance the patient experience. In Omni-channel driven methods also necessitate close collaboration among various stakeholders including public health, Healthcare companies, Payers, Providers, and patient advocacy groups. We are proposing a conceptual framework to deliver patient pathway wide patient activation by leveraging an omni-channel approach. The intent of this approach is to build and transfer skills across the entire patient pathway, with emphasis on safeguarding patient data and anonymity and also ensuring all the critical stakeholders are engaged and managed in an appropriate manner.

Keywords: Patient Activation; Omnic hannel; Patient Pathway; NCD; Diabetes; Patient education

INTRODUCTION

According to WHO, non-communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally. Almost 35% of these deaths occur between the age of 30 and 69 years, and 85% of these deaths occur in low and middle-income countries [1]; underlining the urgent need to manage NCDs effectively. Along with numerous therapeutic and preventive interventions for NCDs, one of the key interventions which can impact NCDs outcomes are patient activation methods [2,3]. The term Patient activation was introduced by Hibbard in 2004 [4]; it is defined as "The state in which an individual possesses the knowledge, skills, and confidence to take independent actions to manage their health and care."

Patient activation methods primarily focus on enhancing patient knowledge and empowering them to manage care efficiently. Studies suggest that an optimal stimulus towards patient activation leads to improved health outcomes and cost-efficiencies [5]. Patient activation has been successfully employed both in primary and

advanced care setup; illustrating the fact that this intervention has relevance across health systems [4, 6].

Currently, most of the patient activation programs are point in care interventions and focused on specific therapy initiation points within the care continuum. Patient activation programs which are targeted towards therapy initiation delve into therapy adherence, side effects recognition, post-operative management, and risk mitigation. Patient activation programs are commonly used in NCDs such as diabetes, cardiac care, metabolic syndrome and have been successful in enhancing therapy adherence and improved self-care. This approach of patient activation although deliver outcomes on the therapy side but deliver limited impact on the overall care-pathway especially in LMIC set up. Impact across the Care-pathway should be one of the primary objectives to deliver health system gains. Care pathway is an encompassing approach that includes patients, clinicians, and health system entities. Care-pathway is broadly defined as "complex intervention for the mutual decision-making and organization of care processes for a well-defined group of patients during a well-defined period" [7,8].

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Care-pathway by its definition not only incorporates patients and clinicians but also includes clinical process and journey; to further elaborate care-pathway can be sub-categorized into the patient pathway and clinical pathway. Patient pathway being the journey patient undertakes right from risk development, symptom recognition, and the natural course of the disease, whereas clinical pathway constitutes the evidence-based management of the patients. Any large-scale patient activation program should be designed to impact the care-pathway to deliver sustainable and long-lasting impact. There is mounting evidence that interventions in patient and clinical pathway management is important in delivering critical outcomes [9].

Current Patient Activation Approach in NCD setting

NCDs have a long-drawn natural course of disease with significant time-lapse from risk exposure, symptom development, and end-organ effect [10]. NCD's long temporal course also provides an opportunity to undertake measures for patient activation. Majority of current patient activation programs are primarily post-diagnosis of disease and during therapy initiation. Patient activation interventions have employed methods to enhance patients' knowledge about the disease and therapy; and is administered by providing an empowering environment wherein patients proactively understand and manage health conditions. These interventions are provided by various stakeholders ranging from public health workers, private providers, healthcare companies, patient advocacy groups, and payers [11-13].

Most patient activation programs attempt to intervene at a specific point of care in the continuum and lay emphasis on therapy initiation, self-monitoring, or adherence. This has led to a situation where intervention being successful at a patient-level but there is limited evidence of broader positive impact on the health-system. For illustration, patient activation for diabetic therapy adherence might not be enabling the patient to seek timely help on eyesight, podiatrist, sexual health, and mental health. One of the reasons for this limitation is the way the patient activation has been designed and incentivized, while numerous stakeholders are engaged in patient activation, they are focused on the local optima which in this case is therapy adherence. There is a definitive need to expand the intervention across the care continuum, including risk identification, healthcare access seeking, therapy initiation, and post-care (including post-operative) and accordingly incentivize for right behavior.

Literature review on self-management of diabetes care indicated

that most of the patient activation was delivered through multi-channels varying from telemedicine, self-care tool, digital app, and questionnaire or through counselors [14]. Below is an illustrative example of the typical multichannel therapy focus-driven patient activation methods (Figure 1).

A common challenge with methods that focus on the therapeutic intervention is that it undermines the fact that the patient journey has many intermediary steps before reaching the therapeutic intervention. A review paper by *Devi et al 2020* suggests that the patient journey can be broken into phases of awareness, screening, diagnosis, treatment, and adherence. *Devi et al* further argue that the patient journey for NCDs starts way before care initiation and that the patient journey has numerous entries and exit points [15]. This would imply that patient activation is needed right at the start of the patient journey and approaches which deliver "treatment-in-silos" negatively impact compliance and outcomes as they are operating only at the part of the patient journey (Figure 2).

Patient pathway driven activation approach helps us identify numerous instances for patient education and empowerment. That draws us to the question, what are the key capabilities and skills that patients need to acquire to gain the most. Lévesque et al in 2013, formulated a comprehensive framework connecting the dimension of healthcare accessibility to the ability required by patients to access healthcare [16]. Lévesque cogently argues that five corresponding abilities of populations interact with the dimensions of accessibility to generate access, the dimensions of abilities include: 1) Ability to perceive; 2) Ability to seek; 3) Ability to reach; 4) Ability to pay; and 5) Ability to engage. Evaluation of Levesque principles suggests that patient activation program should focus not just on enabling patient abilities towards self-care but also help with abilities to seek and interact with healthcare effectively at various points (Figure 3).

Pathway driven patient activation is an approach which overlays patient activation interventions across the entire patient pathway with an objective to enable patients in the continuum of care. This conceptual approach equips the patients across the entire pathway the ability to access and manage care with the appropriate patient activation method. Patient pathway-wide patient activation works on the principle that there is a need to skill patients across the care continuum, and support skill retention as the patient progresses through the pathway with periodic stimulus

Omnichannel Ideal for Pathway Driven Patient Activation

One of the most critical aspects of Patient Pathway Driven

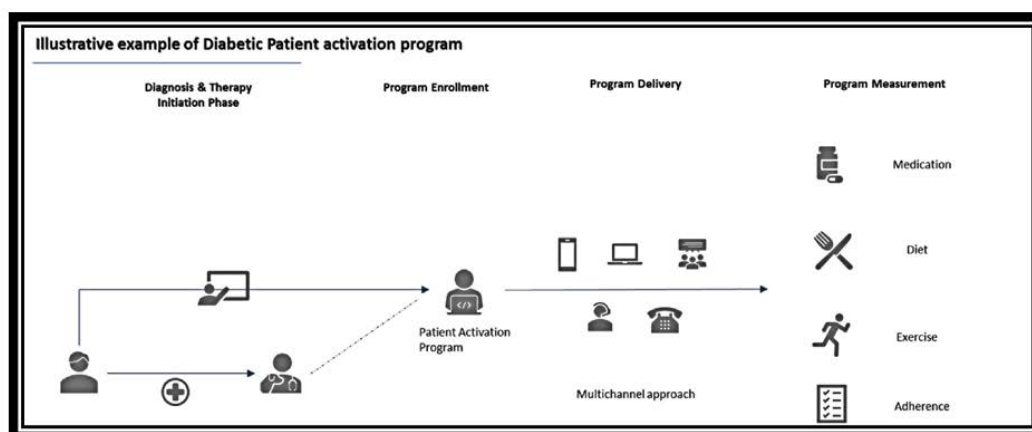


Figure 1: Case for holistic patient pathway intervention for NCDS management.

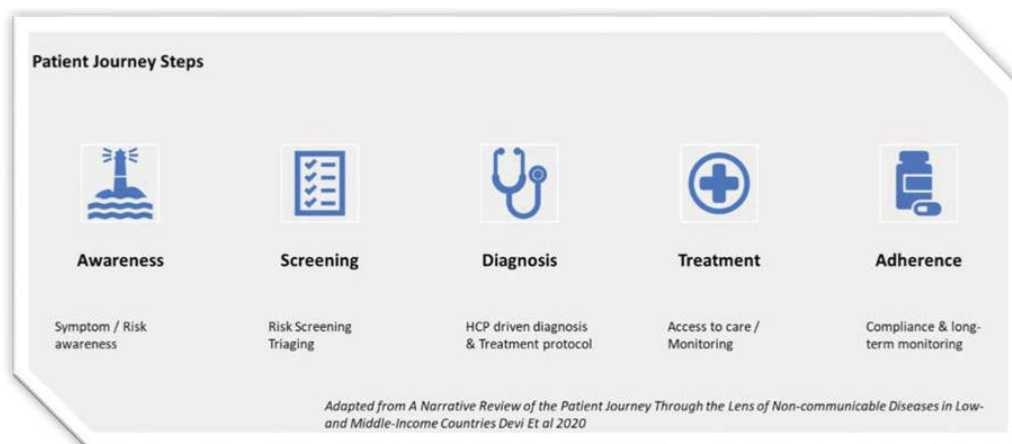


Figure 2: Patient journey steps.



Figure 3: Patient pathway-driven patient activation.

Patient Activation is the channel choice to provide the stimulus and the intervention. Many patient activation programs leverage a multichannel approach of using numerous but disaggregated mediums such as telemedicine, questionnaires, face-to-face counseling, digital health tools to deliver education and follow-up. While multichannel provides great flexibility to deliver the material and engage the patient, it has constraints when you need to scale up and integrate the mechanisms. This can be attributed to multichannel constraints in the transferability of data, personalization, skill-building, and limited interconnectedness.

Omnichannel approach of Pathway Patient Activation

The rise of digitally enabled integrated platforms has enabled an innovative approach termed "Omnichannel", the term Omnichannel is a recent introduction and stems from the field of marketing. Omnichannel as defined by (Verhoef et al. 2015) is synergetic management of the numerous available channels and customer touchpoints, to optimize the customer experience [17]. The core premise of Omnichannel is integration and enable synergies. The omnichannel approach places emphasis on user experience and goes beyond the traditional approach of facilitating transactional exchanges, the expected endpoint of Omnichannel approach is a seamless and consistent experience for users [17-19].

If we extrapolate Omnichannel principles to the Pathway driven patient activation, it will entail the integration of the patient activation medium across the various steps of the patient journey and thereby enhancing the patient experience. To illustrate, the patient could seek information at any part of the journey through their preferred means (face to face, tele mentoring, or a digital

health application), the stimulus is towards skill enhancement with transferability across the pathway.

The omnichannel proposition is based on the key concept that patient activation and empowerment is a sequential, incremental, and reiterative process. Hibbard et al, in 2004 put forth the patient activation measure (PAM) framework elaborating that patient activation is a four-stage process starting from the patient belief that their role is important in disease management, imbibe confidence and knowledge necessary to act, to taking action to maintain and improve one's health, and finally staying compliant on the therapy. To achieve the objectives as laid out by Hibbard, the stimulus must be channel agnostic and consistent, in addition, the learning and information are transferable. The conceptual framework of the omnichannel approach of Pathway Patient Activation has four critical components:

- Where the patient is situated in the care pathway and what are the key requirements in that stage of the journey
- The channel used to impart knowledge and skills, and the interconnectivity with other mediums
- The key abilities deployed through these channels in synchrony with the patient stage and needs
- Transferability of information across the stages, mediums thereby enhance the patient experience to deliver the goals and health-system gains (Figure 4).

One of the critical This conceptual model of leveraging omnichannel methods to deliver skills across the pathway is expected to provide health-system gains through data integration, skill enhancement

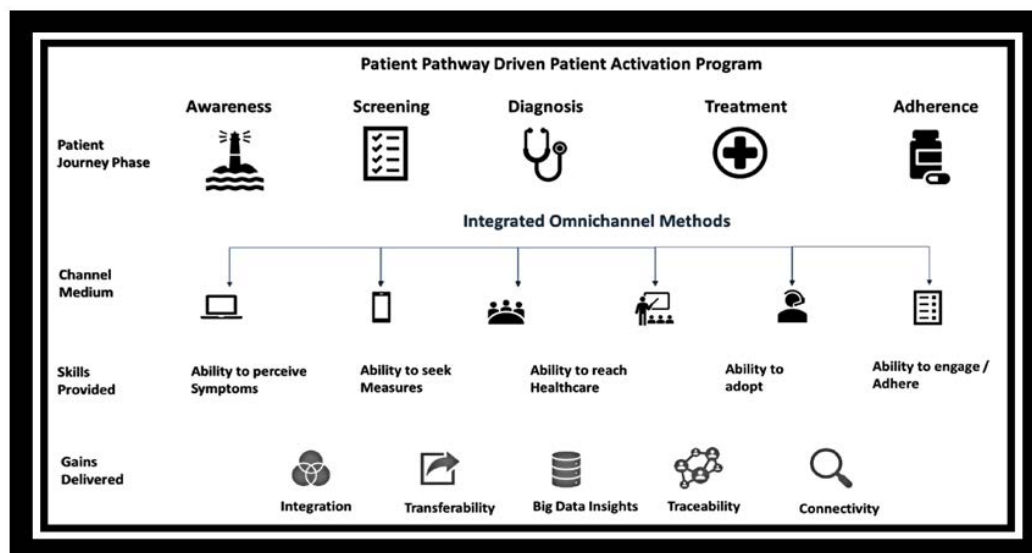


Figure 4: Patient pathway driven patient activation program.

and transferability of skills across the patient journey, ability to trace the interventions provided, and inter-connectivity.

There are nascent attempts to explore a pathway-wide omnichannel approach to deliver patient activation, notably the Singapore Ministry of health in 2017- 2018 in collaboration with the Institute of Policy Studies (IPS), embarked on the Citizens' Jury (CJ) for the War on Diabetes [20] to mobilize citizens to raise awareness about diabetes, the recommendations pointed to the fact of numerous interventions across channels, spanning the entire patient pathway and building skills. This laudable attempt can be further enhanced by bringing the stimulus under omnichannel and integrating the data and insights for health system gain.

Private enterprise has also explored the idea of patient pathway-wide activation, portals such as <https://www.teamingupfordiabetes.com/> (Sanofi) [21] and <https://www.getrealaboutdiabetes.com/> (Novonordisk) [22] attempt to provide holistic information but there is a larger emphasis towards therapy initiation and adherence. There is a need for public health specialists, policymakers, private partners, and payers to collaborate and drive the omnichannel pathway-wide patient activation.

DISCUSSION

Since the 1990s patient intervention programs deployed by the public and private sector have been active in delivering patient education for NCDs. In 2004, Hibbard's work led to the formal conceptualization of the patient activation framework and laid the groundwork to measure patient activation. There is ample evidence to suggest that the implementation of patient activation programs has led to immediate discernible gains. However, long term and health systemwide impact of patient activation programs need to be deeply evaluated. It is in this context we are proposing that patient activation must be viewed in the broader care pathway with an emphasis beyond therapy initiation and compliance. Patients need support and enablement not just at the therapy side but across the entire patient pathway.

Numerous patient activation program focuses on to deliver the stimulus with an underlying assumption that for other issues patient will reach out and seek redressal. As an illustrative example, a diabetic patient activation program would focus on diet and therapy adherence but might not be educating them on the

appropriate care of feet and seek podiatrist support when needed. The assumption here is for such need, the patient will be educated by the health care provider. Such siloed approach will only limit the gains made by the patient. The other challenge is the lack of data transferability when needed, for example, if the diabetic patient on a particular therapy needs emergency services, there is limited data that can be made available for the resident who is providing emergency care.

One of the key reasons why patient activation program has found it difficult to implement broad-based programs is the multi-channel approach, where the stimulus is provided through varied non-integrated channels thereby compromising on the interconnectedness, data integration, and scalability. To address this; the Omnichannel approach is ideal, as it brings together various modes of stimulus provided by various stakeholders at different times under one umbrella, this will address the challenges posed and aid the broad-based pathway approach.

There are nascent programs that have attempted to deliver patient activation through Omnichannel methods; most of these programs are driven by Healthcare companies and the focus still is heavily on the therapy aspect. The lessons learnt from these programs can be used to extend into a comprehensive program.

CONCLUSION

Patient activation is a key instrument in creating an ideal patient care pathway, a pathway that optimally responds and caters to all the facets in a patient journey. Any patient activation program needs to support patients right from symptom recognition, seeking access to screening methods, reaching healthcare provider for diagnosis, early and appropriate therapy initiation, therapy adherence and return to health. While numerous studies are evaluating the patient activation tools, there has been limited work on care pathway-wide patient activation. Our conceptual framework provides a reference to use omnichannel driven pathway-based patient activation which will lead to health system gain and cost efficiencies.

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