# Evidence Based Medicine
## Part I

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### Introduction

In the past, variation in patient care was considered to be the "Art of Medicine" (Brown, 2009). With the approach of the 21st century, and as healthcare was becoming more complex, patients' treatments and decisions regarding their course of illness has evolved from being opinion-based to sound scientific evidence, and from being individually based to cohort or group-based (Hudson et al, 2008). According to the Institute of Medicine, physicians must provide safe, efficient and consistent care to patients, based on the best scientific evidence. Clinical pathways, protocols and guidelines have been proven to serve this purpose, through facilitating decision making, especially with the variety of choices offered by the healthcare system (Mead, 2000).

### Difference and Commonalities between Clinical Pathways, Protocols and Practice Guidelines

When the performance improvement tools were introduced to health care professionals, the difference between clinical pathways (CP), protocols or practice guidelines was not well understood. In fact, CP, protocols and practice guidelines are "quality design activities" serving the same purpose of minimizing the unjustified variation in care and guiding in the decision making on a particular clinical condition (Romero et al, 2010). In other terms, clinical pathways, protocols and practice guidelines provide the best available clinical practice and standardize care processes, leading to better patient outcomes for similar group of patients (Brown, 2009). They all have a critical role in delivering safe, equitable, and efficient care. Clinical pathways are structured, multidisciplinary plans of care designed to support the implementation of clinical guidelines and protocols. Clinical pathways show daily plan of care from admission till discharge, since they are a documented sequence of clinical interventions that help a patient with a specific condition to move gradually across the continuum of care and reach the desired outcome. They are known as "road map" to improve documentation and communication, promote utilization of resources efficiently, reduce length of stay resulting from inefficiencies, and decrease readmissions and hospital costs (Brown, 2009). Clinical pathways differ from practice guidelines, protocols and algorithms as they include a timeline for providing interventions. They are utilized by a multidisciplinary team and have a focus on the quality and co-ordination of care.

Protocols are orders that prescribe a diagnosis or procedure specific activities that have traditionally required a written order in the medical record. They do not require a sequencing timeline.

Clinical practice guidelines are algorithms that represent a resource efficient, evidence based approach to the diagnosis and management of a clinical condition. They define practice questions and explicitly identify all decisions options and outcomes. They summarize the best evidence about prevention, diagnosis, prognosis, therapy and cost effectiveness. They also identify a range of potential decisions and provide the physician with the best evidence which, when added to individual clinical judgment and patients' value and expectations, will guide their decision to the best interest of the patient.

"High quality care" is the care delivered in a timely fashion, safely, efficiently, appropriately, and fairly, in a patient centered approach (Kurtin &Stucky, 2009). Clinical pathways, protocols and practice guidelines have been proven to ensure this high quality of care and promote patient safety by eliminating unnecessary process variations resulting from the clinical care provided to patients, through standardizing care, hence resulting in good patient outcomes and containing costs. Recently, increase in healthcare costs has been uncontrollable in the US and globally with increase in overutilization, underutilization, and misuse of healthcare resources in the delivery of care; thus, representing around two trillion USD of healthcare costs (Catlin et al, 2008). This reality has accordingly highlighted the need and demand to implement clinical pathways, protocols and use of practice guidelines.


Recently, the Joint Commission International (JCI) and the Institute of Medicine (IOM) have urged hospitals to focus on patient safety through the delivery of high quality care. Moreover, the Lebanese Ministry of Public Health (MOPH) has introduced a national accreditation program for hospitals that aim at assessing the quality of care delivered to patients by developing standards that each healthcare institute should abide by and measure its performance against (Maroun, 2010). The MOPH and the Joint commission require the development of clinical pathways and protocols in order to deliver high quality care (Joint Commission standard in Governance, leadership and Direction chapter GLD 11.2, 2013 stating "Department/service leaders select and implement clinical practice guidelines, and related clinical pathways, and/or clinical protocols, to guide clinical care").

### Challenges and Barriers

Standardizing the care among physicians may eliminate several challenges in delivering effective, safe, efficient, and high quality care.

- The first challenge is the variation in practice among physicians for the same diagnosis in a homogenous group, leading to inefficiencies in the use of resources mainly under and overuse and decrease in the care quality. However, when the care is based on sound scientific evidence, this variation will be eliminated and patient outcome will improve (Sobo & Kurtin, 2003).
- The second challenge is the gap existing between practice and knowledge. In order to reduce this gap, clinical

pathways or protocols have to always be updated to integrate the best available evidence based on research and experts consensus. This in turn ensures that care delivered to patients is always updated (Kurtin, 2009).

- The third challenge is physicians' failure to adhere to clinical pathways, because it interferes with their decision making and decreases their autonomy in deciding care provided to patients. However, when clinical pathways are developed based on multidisciplinary approach; that is, including members with different expertise and knowledge, collaboration in delivering the care will increase along with improving the communication needed to deliver high quality patient care (ABP citation, December 2011).
- The fourth barrier stems from the need to deliver care in a safe environment with minimum harm and cost to the patient. This has received tremendous attention in healthcare ever since the publication of "To Err is Human" by the Institute of Medicine (Kohn et al, 1999). Since then, patient safety and risk reduction has been the center of attention to third party payers, policy makers, patients and their families, and clinicians. Clinical pathways or protocols eliminate and reduce harm to patients because they standardize the process of care and eliminate variations among healthcare providers (Kurtin, 2009).
- The fifth barrier is lack of leadership support and absence of strategic planning, resulting in slow acceptance of these clinical pathways by providers. Culture change is crucial, when it comes to implementing clinical pathways because it entails change in practice. In addition, when leadership is truly committed to improve patient outcome, this change becomes inevitable and requires acceptance of pathways by medical staff (Kurtin, 2009).

A key issue that encourages the use of clinical pathways, protocols and practice guidelines is the belief that physicians can deviate from the pathway/protocol to accommodate to individual needs, provided that they document reason behind the deviation in the medical record (Bate et al, 2007). These variances from the expected care are monitored to determine whether the pathways need to be modified to include always the best practice. Moreover, sharing the results of audits on regular basis and being transparent with physicians about the outcome of their patients increases confidence and provides physicians with a feeling of reassurance and comfort while using the pathway (Bate et al, 2007).

Selection and prioritization of clinical pathways and protocols development is mainly based on a variety of factors mainly volume of cases, high risk, high cost and problem prone. However, if the volume of cases is low, a clinical pathway or protocol can be developed based on physician's request (Kurtin, 2009).

## Infos

### Calculez votre Espérance de Vie

Une étude de scientifiques de l'université de Zurich en Suisse propose aux personnes âgées de 75 ans de calculer leur pourcentage de chances de vivre une autre décennie en fonction de leur mode de vie. **La cigarette serait le premier facteur de risque de mortalité; les fumeurs ont 57% de risques de plus de mourir prématurément que les non-fumeurs.** Les autres risques (alcool, absence de pratique sportive, mauvaise alimentation) représentent chacun 15% de risques de mort prématurée. Est-ce avéré? Pourquoi la cigarette est-elle plus néfaste que les autres facteurs?

Christophe de Jaeger: Nous pouvons calculer plusieurs types d'espérance de vie (espérance de vie à la naissance, espérance de vie en bonne santé, espérance de vie résiduelle à 50 ans, 60 ans, 75 ans, etc…). Cette espérance de vie peut ensuite être modulée en fonction de facteurs de risque (tabac, obésité, sédentarité…). On peut donc au final, à un âge donné, par exemple 75 ans, calculer en fonction de différents paramètres, une probabilité de survie. Mais il ne s'agit que d'une probabilité, rien de plus!

La cigarette prend dans ce travail de l'université de Zurich en Suisse, une très grande importance et cela ne me surprend pas, car il s'agit d'un important toxique chez des gens qui la plupart du temps fument depuis l'adolescence, sans filtres et parfois de façon importante (plus d'un paquet par jour). Dans cette population, l'intoxication tabagique fait des ravages bien plus importants que les autres facteurs de risque étudiés. La cigarette va augmenter le risque broncho-pulmonaire (cancer, bronchite chronique, insuffisance…).