Whole-Person Integrated Care (WPIC) by Dr. Steve Beller

ABSTRACT

Whole-Person Integrated Care (WPIC) is a transformative healthcare strategy that incorporates care delivery models and health IT to increase value to patients (healthcare consumers). WPIC's care delivery models focus on: 1) integrating "well care" with "sick care" in order prevent illness and dysfunction through healthy lifestyles and effective self-management, and to delivery efficient, effective, affordable, personalized, coordinated care to patients in need; and 2) providing care for the whole person by addressing psychological, physiological, and mind-body issues. WPIC's health IT focuses on improving care processes and outcomes through widespread collaboration in loosely-coupled social networks that: 1) build, share, and implement evidence-based decision-support applications and 2) improve care coordination, make care more personalized, and foster greater patient engagement.

WPIC STRATEGY

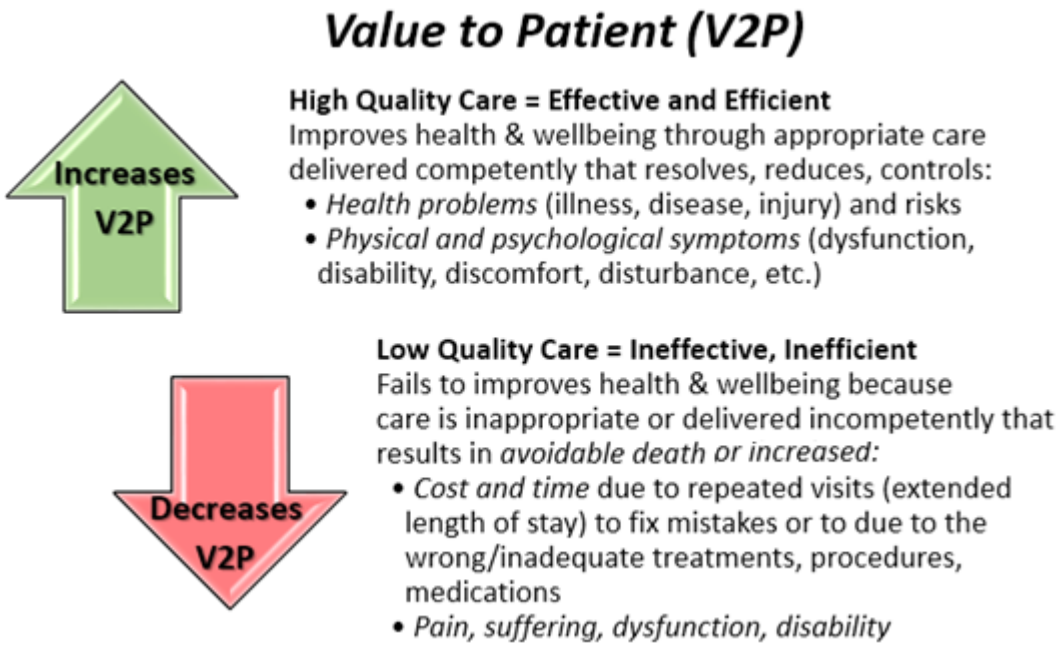

Figure 1

As a clinical psychologist turned software architect and developer, I have been focused for the past 35 years on realizing a vision of a healthcare system at uses health IT (HIT) to bring greater value to healthcare patients (consumers) as per Figure 1.[1]

This vision, called "Whole-Person Integrated Care" (WPIC)[2], is a transformative healthcare delivery strategy that uses novel HIT to spur lasting improvements health-related services by addressing long-standing problems including inadequate patient engagement, wide care cost variations not associated quality, and insufficient evidence-based decision support.[3] WPIC's goal is to improve people's health and wellbeing with three related tactics:

1. Integrate "well care" with "sick care"
2. Address the needs of the whole person
3. Use HIT to translate data into information that builds knowledge—through collaborative model development and research—which is used for evidence-based decision support, education, and continuous process improvement focused on efficient delivery of quality care.

Figure 2 depicts the interrelated WPIC tactics discussed in this paper.

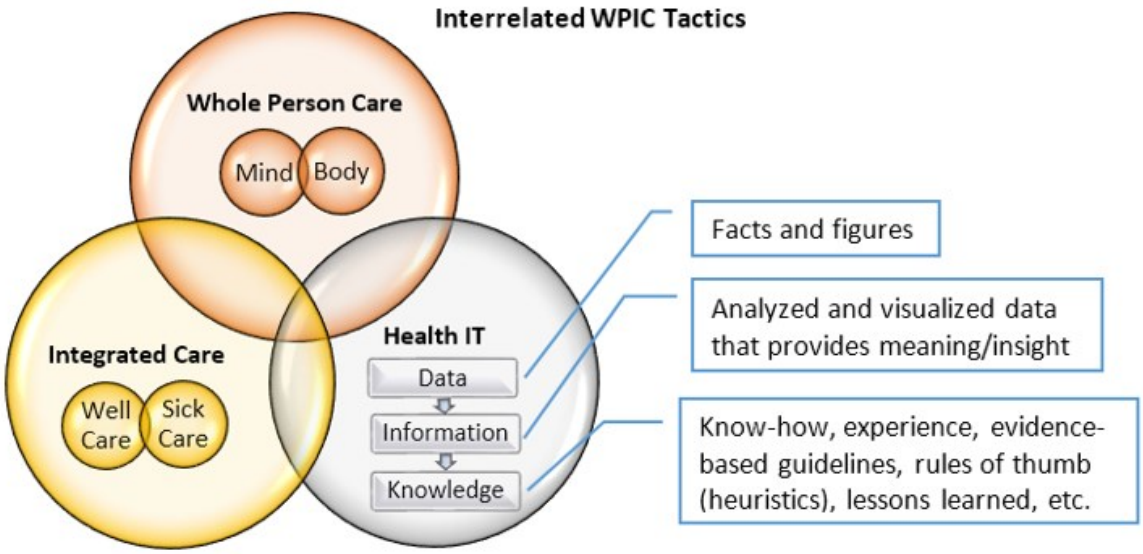

Figure 2

Tactic 1: Integrate "Well care" with "Sick care"

Well care focuses on preventing health problems from occurring or worsening through healthy living, wise decision-making, responsible action, and using effective coping strategies. Sick care focuses on treating health problems through conventional and/or complementary & alternative therapies, procedures, and medications.[4,5] Figure 3 depicts people, places, processes, and care delivery models involved in well-care/sick-care integration.

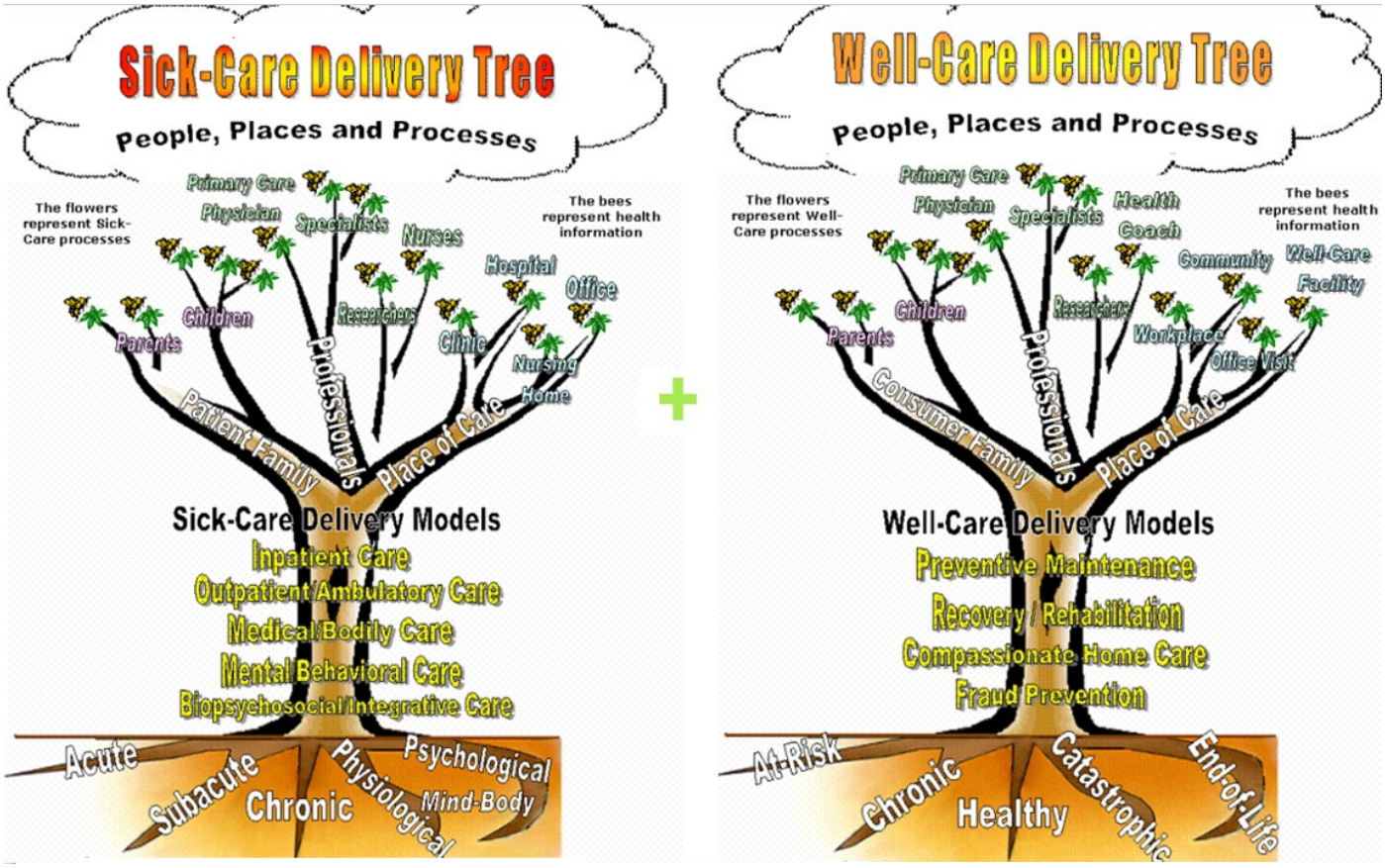

Figure 3

Tactic 2: Address the Needs of the Whole Person

Whole person care focuses on physical/body *and* mental/psychological (mind-body) health. It addresses the interplay between biomedical, psychological, and social factors in which there is a causal link between mental/psychological problems and many physical illnesses (see Figure 4).[6-10]

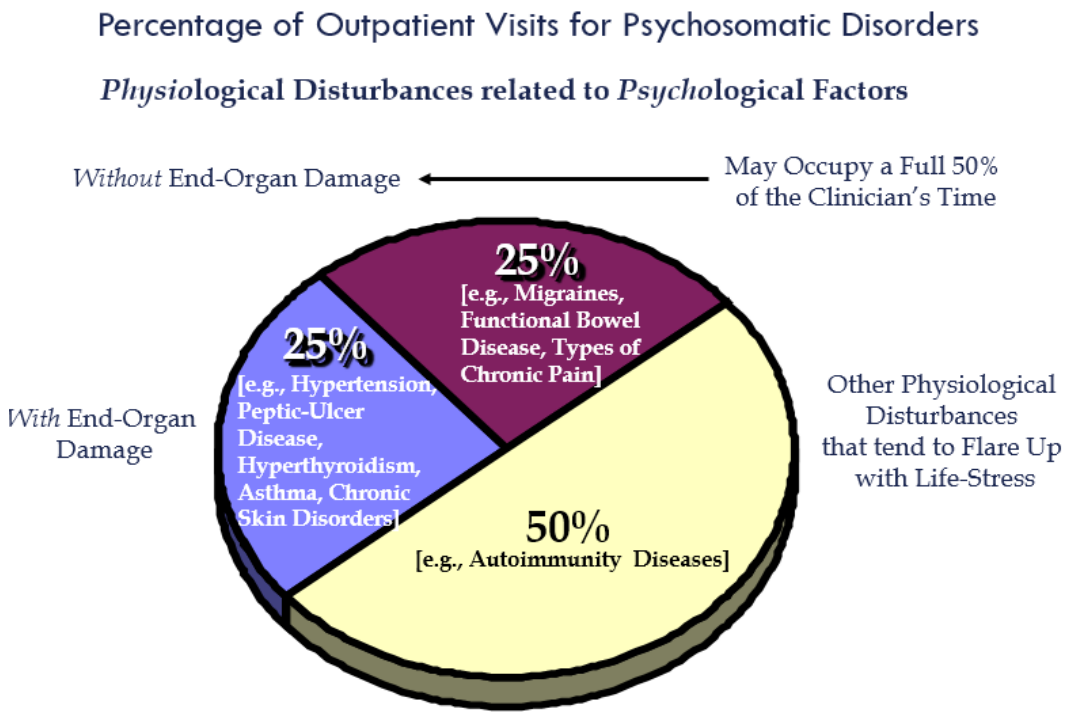

Figure 4

The whole person approach considers people's thoughts, emotions, behaviors, coping strategies, and knowledge, which reflect four patient types with characteristics that require different approaches to health management:

- *Activists* are motivated to deal with health issues actively. They seek knowledge and guidance to understand the pros and cons of different treatment options when ill, and when dealing with their health risks they seek to understand different prevention options and do what they can to stay healthy.
- *Wannabes* talk about improving their health, but never seem to act on it, or do so half-heartedly, because they lack confidence or are not ready to do what is necessary. They cope through avoidance, hoping for a miracle, or resign themselves as inadequate. However, since Wannabes think about improving their health, a health coach may modify their self-defeating cognitive and emotional blocks and promote responsible action.
- *Inactives* sometimes think about their health, but do not believe they should or can do anything to improve their health. They may lack self-confidence or view their illness as a punishment they deserve. Incentives and health coaching may increase their confidence and help change their negative beliefs.
- *Ignorers/Deniers* are not health conscious; they do not acknowledge, accept, or care about their health problems and risks. They ignore information about healthy living, deny problems, believe they are invincible, distrust doctors, or view getting help is a sign of weakness. Ignorers/Deniers pretend everything is all right, even when confronted with the probability of death. All this

makes them vulnerable to worsening health. Ways a health coach or psychotherapist might help them include:

- "Reframing" serious health issues to motivate them to change, e.g., instead of trying to break through their denial with threats they will die, reframe the issue by focusing on a vision of "joyful living" rather than a "fear of dying," since joy is a more powerful motivator than fear. This typically requires months of psychological counseling.
- When cultural influences create a "machismo" attitude, psychotherapy can help to reframe the situation from (a) getting help reveals weakness to (b) receiving help to improve one's life is a sign of wisdom and personal strength, whereas the refusing help is childish and self-destructive.
- To deal with lack of trust, a health coach must develop a close, positive relationship with Ignorers/Deniers to gain their confidence and promote a willingness to act responsibly.

Tactic 3: Use HIT

The third WPIC tactic is using HIT to enable the first two tactics. This HIT should be able to achieve three related objectives via worldwide knowledge feedback loops (see Figure 5):

1. Collect, share, consume, transform, integrate, aggregate, analyze, and visualize data to produce valid, useful information that emerges insights.
2. Enable the collaborative development, exchange, evaluation, continuous improvement, and implementation of computerized models that provide evidence-based decision support derived from on ongoing outcomes analysis, shared lessons learned, and validated research findings.
3. Foster patient engagement (participation) through a patient centric approach based on patient education, shared decision making, and use of patient generated data.[11,12]

Figure 5

WPIC SUPPORT HIT SYSTEM

WPIC is supported by a HIT system whose apps provide features and functions that provide numeric calculations and string manipulation; process automation and rules logic; data sorting, filtering, and grouping; table and list management; database queries; data transport, imports and exports; networking; data cleansing, validation, transformation and integration; data storage, retrieval, encryption and decryption; desktop and cloud computing; API access; user form creation and implementation; hyperlink use; information presentation; integration with third-party software; and more.

The apps we have developed include: 1) a comprehensive, whole-person, personal health encyclopedia designed to engage patients by providing self-management and problem-solving support that integrates patient-generated with clinician-obtained health data; 2) a simple, sensible and safe way for care teams to improve clinical processes and business operations through referral management, clinical messaging, and care coordination; 3) a clinical pathways tool that provides decision support and analysis of clinical and economic outcomes; 4) visual timeline depictions of associations between a person's health status, treatments, and significant life events; 5) query, analytics, advanced visualization, and collaboration tools; and 6) process improvement tools that use financial and operational data to provide operational insights.[13,14]

Loosely-Coupled Social Networks

Our apps have both sender and receiver transport capabilities that enable point-to-point information exchange, any place and any time without central authority imposed constraints, in "loosely coupled" social networks (LCNs). These LCNs enable diverse groups of people to communicate and collaborate through pre-established or impromptu network connections. Unlike strong ties in tightly coupled networks—characterized by homogeneity of experience and knowledge, access to the same redundant information and resources—the weak ties in LCNs supply diverse sets of data, experience, knowledge, ideas, and other relevant, non-redundant information and insights, which increase innovation and creativity and promote collaborative model-building.[15]

Our LCN communication architecture is an easy, low cost, and secure way to connect individuals anywhere in the world in networks through automated encrypted e-mail that cross organizational and national boundaries.

BENEFITS OF SUCCESSFUL WPIC IMPLEMENTATION

There is considerable evidence that integrated and whole person care, coupled with incentives for delivering high value care to patients and competent patient self-management, can lower healthcare costs while improving quality.[16,17]

Each app has an underlying multifaceted model that defines its capabilities. Each computerized model uses algorithms—comprised of mathematical, logical, formatting, and procedural rules—to obtain, analyze, present, and securely share data that builds knowledge for decision support. The models define what data to obtain, where and how to obtain them, what to do with them, where to store and send them, and how to present them, as well as how to structure data for storage, transport, and report generation.

Healthcare models support decisions by "…synthesiz[ing] evidence on…[outcomes]…and costs…[and use] a logical mathematical framework that permits the integration of facts and values and that links these data to outcomes that are of interest to…decision makers…[T]he end result of a model is often an estimate of…value." Models should also be "…subjected to thorough internal testing and

'debugging'…[and] peer review…If a model's outputs differ appreciably from published or publicly available results based on other models, the modeler should…explain the discrepancies…[and] cooperate with other modelers in comparing results and articulating the reasons for discrepancies…Models should be based on the best evidence available at the time they are built…[and] adapt to new evidence and scientific understanding…They should be repeatedly updated, and sometimes abandoned…as new evidence becomes available."[19]

Ideally, the data used by healthcare models should be integrated from disparate sources across a patient's entire lifetime and promote integrated, coordinated care and evidence-based judgments.[20]

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