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# ProvenCare-Psoriasis: A disease management model to optimize care

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## Abstract

There are a variety of evidence-based treatments available for psoriasis. The transition of this evidence into practice is challenging. In this article, we describe the design of our disease management approach for Psoriasis (ProvenCare<sup>®</sup>) and present preliminary evidence of the effect of its implementation. In designing our approach, we identified three barriers to optimal care: 1) lack of a standardized and discrete disease activity measure within the electronic health record, 2) lack of a system-wide, standardized approach to care, and 3) non-uniform financial access to appropriate non-pharmacologic treatments. We implemented several solutions, which collectively form our approach. We standardized the documentation of clinical data such as body surface area (BSA), created a disease management algorithm for psoriasis, and aligned incentives to facilitate the implementation of the algorithm. This approach provides more coordinated, cost effective care for psoriasis, while being acceptable to key stakeholders. Future work will examine the effect of the implementation of our approach on important clinical and patient outcomes.

*Keywords: care pathways, electronic health record, quality improvement, ProvenCare, psoriasis*

## Introduction

Healthcare spending in the United States is unsustainable from both health system and patient perspectives. Every year the United States (US) spends nearly 20% of its gross domestic product on healthcare [1]. Reimbursement for care is frequently bifurcated into medical and pharmaceutical groupings, with opposing capital forces and reimbursement practices weighing on each part of the system. This arrangement makes it difficult to guide patients to nonpharmacological treatments that may improve outcomes at a lower total cost of care. An example where this occurs is in psoriasis.

Psoriasis is a chronic dermatologic condition which affects approximately seven million Americans [2] and is associated with significant morbidity [3]. The cost of psoriasis management within the US is estimated at \$112 billion annually [4] with a large percentage of this cost attributed to the biologic therapy. Although biologics are effective at controlling this autoimmune condition, they are also expensive and have significant drug-associated adverse effects and downstream consequences. Other therapies such as phototherapy may provide similar levels of symptom control for some patients at lower cost [5]. Recognizing that there was an opportunity to provide better care at a lower cost,

Geisinger Health Plan endeavored to apply our previous disease management strategies to create a detailed, rational, coordinated care-plan for psoriasis management.

In this article, we describe the creation of this approach, review the barriers to optimal care and how they were addressed, and present preliminary implementation outcomes.

## **Methods**

### **Setting**

Geisinger Health Plan is an integrated health delivery system that serves nearly 3 million patients across Pennsylvania and New Jersey annually. Geisinger's health plan has over half a million members and offers a variety of plans including Medicaid, Medicare, marketplace, and commercial plans. Our approach to psoriasis management has been implemented within Geisinger's Pennsylvania based hospitals and clinics. Within Geisinger's Pennsylvania sites, Epic® has been implemented as an electronic health record (EHR) vendor in the ambulatory care setting since 1996 and in the inpatient setting since 2003.

### **ProvenCare®**

To facilitate the translation of evidenced-based care into practice Geisinger has developed ProvenCare® approaches for a variety of conditions [6-10]. These comprehensive disease management strategies have enabled Geisinger to rapidly and reliably implement evidence-based interventions into routine clinical care. Care pathways are developed and deployed within Geisinger through a five-step process. First, a clinical gap in care is identified using real-world data and clinical experience. Based on this data, an ideal clinical standard of care is proposed and an initial framework for care innovation is devised. We recruit an inter-professional workgroup composed of stakeholders from the clinical, payer, administrative, research, and information technology professions to design a disease management strategy that is evidence-based, integrated into clinical workflows, and mindful of patient and system resources. Finally, to ensure

continuous quality improvement, clinical and quality outcomes are continually collected and monitored, leveraging information technology. Data requirements for developing our comprehensive disease management strategies include problem list diagnoses, measures of disease progression, notes built using discrete data elements, and systems for recording and reporting patient reported data (see previously published information for details) [11].

## **Results**

Clinical and administrative leaders at Geisinger identified variations in the care of patients with psoriasis. To reduce this variation and provide the best care to the patients we embarked on developing a comprehensive disease management approach for psoriasis. In developing our approach, we had to overcome several barriers including: 1) lack of a standardized and discrete disease activity measure within the EHR, 2) lack of a system-wide, standardized approach to care, and 3) non-uniform financial access to appropriate non-pharmacologic treatments.

### **Standardizing Data Capture to allow for Patient and Population Level Outcome Assessment**

Initially, data useful for the care of patients with psoriasis was not captured in a way that was readily available or usable for patient care. To address this barrier and facilitate data tracking and processes of care we integrated smartsets, smart data elements, which allow for standardized and discrete measurement of disease processes within the EHR; the smartsets drive monitoring and reporting processes. These smartsets include a progress note template, which cues and facilitates the collection of joint involvement, target areas (palms, soles, etc.), body surface area (BSA), hypersensitivity to topical corticosteroids, location of psoriasis on the body (e.g. thin skin, face or infant skin), history of skin cancer or high risk of developing skin cancer, and factors that affect patients' access to care (e.g. transportation). The use of these smartsets has increased the collection and documentation of these factors. For example, the implementation of our approach was associated with a 30% absolute increase in BSA

documentation over a one-year period, increasing from 44% to 74%; these gains were sustained over the second year with the percentage of eligible encounters with documented BSA averaging 68% (Figure 1).

### Creating a Consistent and Evidence-Based Approach to Care

To address the variation in care that was being observed and to ensure our patients were receiving evidenced-based care we developed a treatment algorithm for psoriasis (Figure 2). This algorithm was based on the best available evidence and developed in consultation with clinical experts. Built into the algorithm, in addition to clinical considerations, are considerations around cost and access as well patient satisfaction with the outcome of treatment. To facilitate the implementation of this algorithm into care we created order sets, which streamlined the prescribing and monitoring of treatment for patients with psoriasis.

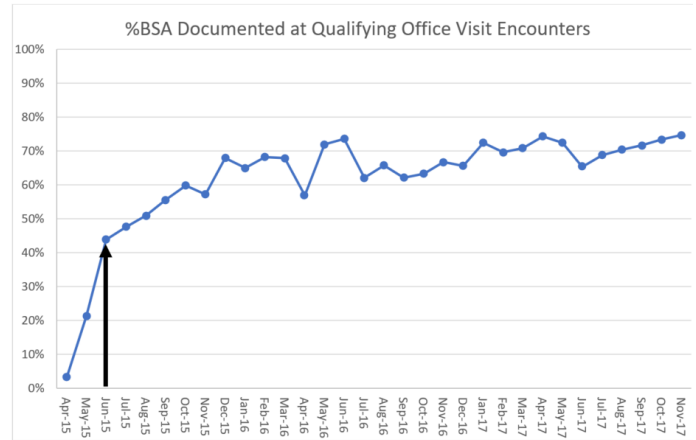


Figure 1. Body surface area tracking by providers following implementation of ProvenCare Psoriasis®. Arrow depicts date of implementation.

### Aligning Financial Coverage with Evidence-Based Care

We discovered that our health plan had processes in place that facilitated the ordering of high cost biologic agents, but lacked such a process for other

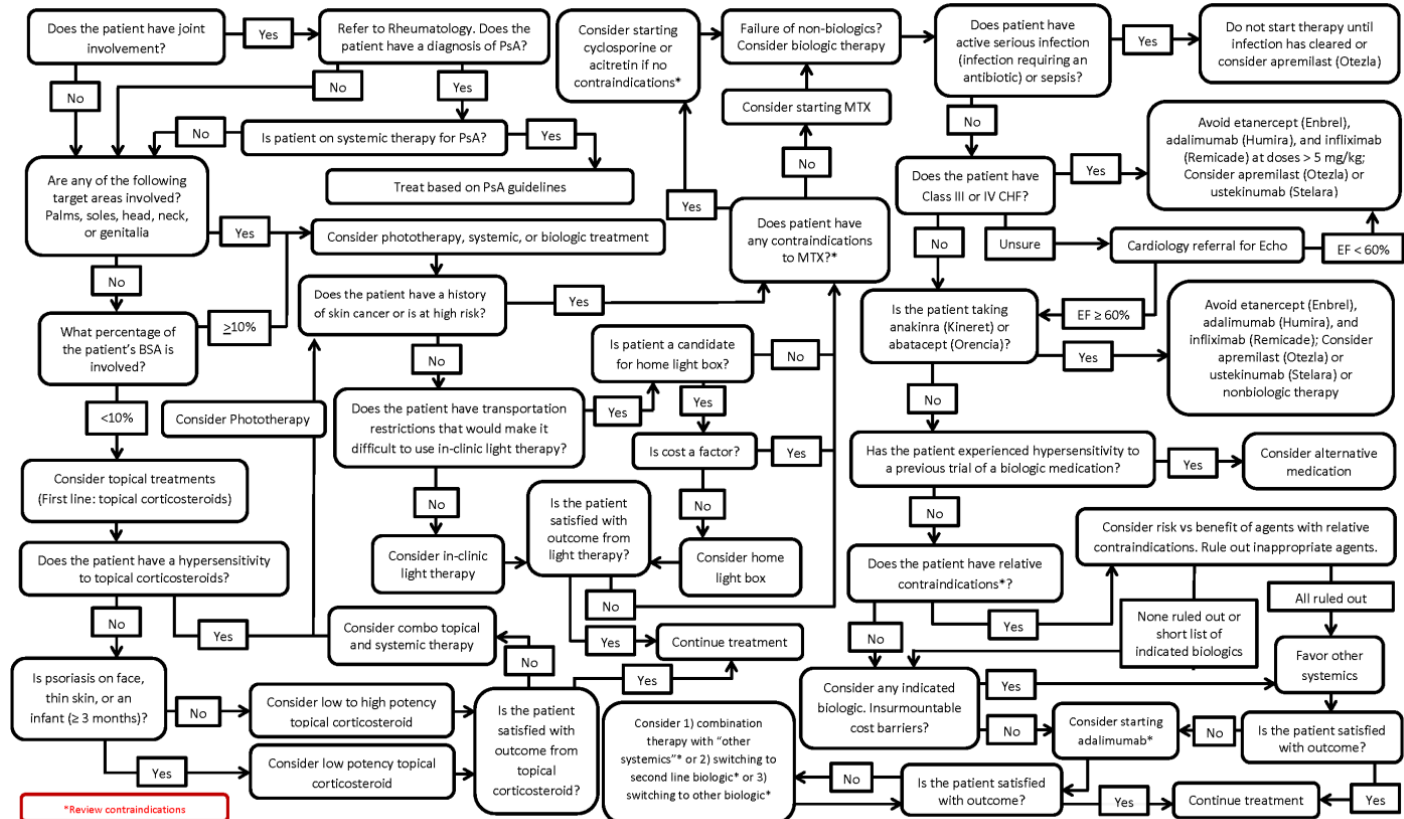


Figure 2. Psoriasis Disease Management Algorithm. BSA – Body Surface Area; CHF – Congestive Heart Failure; MTX – Methotrexate; PsA – Psoriatic arthritis.

evidence-based options such as home phototherapy. We addressed this problem by working with our health plan to remove barriers for access to home phototherapy and streamline the ordering process. We reduced the administrative burden of prior authorizations by contracting with a third party and facilitated the collection of data necessary for the prior authorizations. Home phototherapy was also added to the benefit design for all plans and certain prior authorization requirements were removed, such as having to show improvement with in-clinic phototherapy prior to home phototherapy approval. Implementation of this change has resulted in a cost savings of over \$2 million after one year [10].

## Discussion

Guidelines of care for psoriasis are rapidly changing. With newer, more effective treatments, the standards for success in psoriasis have become more stringent. The newer treatments, while revolutionary for patients, are also costly. Achieving optimal psoriasis treatment outcomes while controlling costs is a major, important hurdle that requires coordination and integration of a wide array of treatments, including both pharmaceutical and non-pharmacologic options. Generally, these disparate options are not coordinated in most US health systems, with separate control systems for medical, pharmacologic, and durable equipment benefits. With our approach, we attempted to directly address this limitation of care.

Creating such a system required buy-in from multiple stakeholders. Changing provider behavior and implementing evidence-based, guideline driven care is often difficult. The rate of adherence to

guideline recommendations varies and interventions to improve adherence to guideline recommendations have shown variable success [12]. The ProvenCare® approach is one promising approach to implementing patient-centered evidence-based care [10]. The implementation of this strategy was associated with improvements in the rate of documentation of BSA and increased utilization of home phototherapy; low hanging fruit for providing high quality care while reducing costs.

The strengths of our approach include the multi-disciplinary approach to development that includes stakeholders from across the organization. This collaboration facilitated coordination of benefits as well as integration within processes of care. Our disease management approach is evidence-based, but also considers patient preferences and important issues such as cost and transportation so that treatment could be personalized based upon the individual needs and situation of the patient.

## Conclusion

Psoriasis causes significant morbidity and cost burdens on both patients and healthcare systems [3, 4]. Disease management strategies, such as ProvenCare®, can ensure that evidence-based non-pharmacological therapies are applied in appropriate patient scenarios to improve overall resource utilization and reduce costs for patients and healthcare systems. Future work will examine specific clinical outcomes associated with implementing this strategy. In addition, exploring how this process can be applied not only to other disease states, but in other healthcare systems, should be initiated.

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