



Cloud-based Wound Healing Network in Hualien and Taitung

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In 2006, the ninth year of my career as Wound, Ostomy, and Continence Nurse, I was dispatched to Korea to acquire an international certificate. Upon my return to Taiwan, a home care nurse requested my assistance for a home visit. This visit left an indelible impression on me.

The emaciated patient lying in bed had over 20 pressure sores and countless bruises all over his body. 16 of these sores were deep to the bone and oozed pus intermittently. The air was filled with a foul, musty, repugnant odor. The home care nurse seemed to be oblivious to the bad smell. She kneeled down and bent over the patient to clean the reeking wound in the dim light. I still have a fresh memory of this scene, which marks the starting point of my transition from in-hospital to home care.

10 years have gone by since that experience in 2006. Our wound care team has provided medical care to countless suffering families deep in our communities. However, the wounds of patients like the case described above are still festering 10 years later. This can be explained by several factors: the high number of chronic patients in the Hualien/Taitung area coupled with the rising incidence of complicated wounds, shrinking family size coupled with the rising number of small and single-person households, rising extent of family dispersal, senior relatives, non-family members, or foreign migrant workers serving as caregivers, and the elongated

shape of the county coupled with inconvenient traffic conditions. The combined impact of these factors turns every visit to a home care patient into a daunting challenge.

There are only seven plastic surgeons and six wound, ostomy, and continence nurses in the Hualien/Taitung area who possess the expertise and skills to provide professional wound care. The provision of such professional care therefore represents a heavy burden. What can we do to meet the huge demand for in-home wound care?

Successful Application for Subsidies Through Perseverance

In 2019, the Ministry of Health and Welfare launched the Smart Health Care and Joint Regional Defense Pilot Program in 2019. Tele-wound care represents one link of this program. This program sparked a glimmer of hope in my heart, and I decided to grasp this opportunity. I planned to utilize the subsidies provided in the context of this program to build a smart tele-wound care service model for the transition to home care after discharge from the hospital.



Wound, Ostomy, and Continence Nurse Hsu Mei-Yu provides guidance in wound care to home care personnel and family members in the patient's home.



傷口 APP 使用說明手冊

東區風險款計畫 / 無破無傷



傷口 APP 操作流程

登入

- 點選開啟傷口 APP
- 輸入使用者帳號及密碼
- 點選登入時效設定
- 按下 **登入** 進入主畫面

輸入個案資訊

- 點選左上角 **訊息編號**
- 選擇 **新增**、**新增**、**新增** 輸入個案資訊
- 點選左上角 **患部位置**
- 點選傷口部位
- 檢視主畫面左上角輸入資訊是否正確

功能簡介

- 病患編號輸入
- 傷口部位選擇
- 所知此類傷患之處理
 - 選擇歷史病案查詢
 - 雙向即時通訊
 - 臨床資訊管理系統
 - 退出APP
 - 上傳以輔助處理之傷患
 - 點點查詢功能
 - 增加醫患
 - 閃光提醒功能
- 點選填寫一按即可上傳處理傷口角度之照片之照片
- 使用者登入密碼輸入
- 目前未上傳照片則無資訊
- 拍照按鈕
- 傷口照片辨識功能
 - 可進行傷口範圍辨識
 - 與相關數據分析

- 各式操作功能區
 - 放棄(左)
 - 放棄傷口應選及數據存取
 - 完成(右)
 - 確認數據無誤並儲存
- 傷口圈選區域
 - 保留
 - 為紅色圈線，用於圈選醫界的傷口範圍
 - 排除
 - 為藍色圈線，用於排除多數的傷口應選範圍
 - AI圈選
 - 執行AI輔助圈選傷口範圍
 - 傷口史/歷史填寫
 - 針對目前傷口狀況填寫粉

• 點中傷口於主畫面(黃、藍、藍圈特)
• 點中傷口範圍資訊(上、下、左、右)及(其他特)



Members of the wound and ostomy task force of Hualien Tzu Chi Hospital meticulously create an operating manual for the wound APP to assist families with relevant needs in the Hualien/Taitung regions and enhance the overall quality of wound care. In the image on the left, instructions are provided on how to upload wound photographs to the smartphone APP in a home setting.

Under guidance by Ms. Hui-Chun Chung and Ms. Shu-Chen Wang, Director and Vice-Director of the Department of Nursing, we developed a program to apply for subsidies. Despite our deep disappointment after failure of this initiative, we were not willing to give up easily and decided to persevere in our efforts. We therefore submitted another application and were finally granted a subsidy in the context of the Total Hospital Risk Adjustment Transfer Funding Scheme for hospitals in eastern Taiwan. I thought to myself: “You will succeed if you never forget your original ideals and aspirations.”

From Clinical Services to Cloud-Based Consultation

My firm commitment to the development of a tele-wound consultation model probably stems from my deep awareness of the difficulties and needs of patients and family members in the area of wound and ostomy care in remote townships that I have gained in the course of my over 20-year career in the field of wound healing as a professional and family member of a chronic patient.

We adopted the consultation program for the transition from long-term care to tele-wound consultation in the Hualien/Taitung region in 2020. We have further established a joint management channel spanning wound care in hospitals, communities, and home settings in cooperation with the Service Section of National Health Insurance Administration – Eastern Division and the Industrial Technology Research Institute by enlisting discharge planning nurses, home health nurses, wound, ostomy, and continence experts, and information engineers of 12 medical care institutions in the Hualien/Taitung region. Available chronic care models have been integrated into this wound case management system which is aided by e-Health technology equipment. The system relies on local home health care nurses who take instant photographs of wounds with the aid of the App, assess the physical status and wound history of patients, and upload relevant information to the cloud-based tele-wound management platform. Experts provide overall wound assessments and treatment advice to remote home health nurses. The system also relies on regular visits, measurements, tracking, and monitoring. Wound recovery times and rehospitalization rates have been successfully reduced through this program in the first year of its implementation.

I view my almost 30-year career in the field of wound healing not only as a profession but rather as a lifelong calling. Whenever a patient with a wound calls for help, a wound healing team responds to the call. We jointly forge ahead on the path toward “no harm, no injury” with the aid of digital technologies. I am deeply grateful for the joint contributions of all involved teams and to all the patients we have encountered on this journey.