

# Utilization of a new, proprietary molecular testing panel to guide anti-infective therapy at local wound care centers—research in process

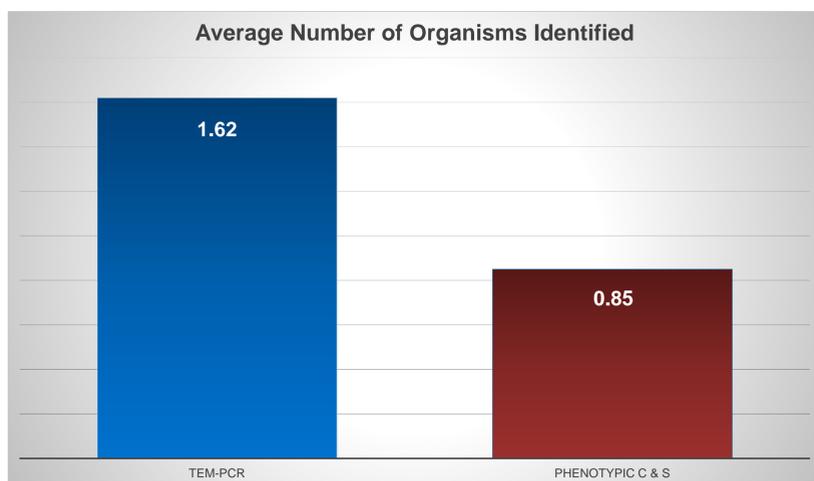
Ross Woods, PharmD; Bradley Gilchrist, PharmD; Vital Care of Meridian, Meridian, MS  
Ed Eiland, PharmD, MBA, BCPS-ID, FASHP; Vital Care, Inc., Meridian, MS

## Background

Target enriched multiplex polymerase chain reaction (TEM-PCR) is a unique technology involving rapid molecular testing allowing for identification of pathogens in urine, sputum, or other bodily fluids. Wound infections are challenging to treat and represent a significant healthcare concern due to antibiotic resistance and associated costs. TEM-PCR can be utilized to detect pathogens in the presence of antibiotics and offers one day results. Collaboration between medical laboratories utilizing TEM-PCR technology and outpatient pharmacies providing anti-infective recommendation services have not yet been studied to date.

## Purpose

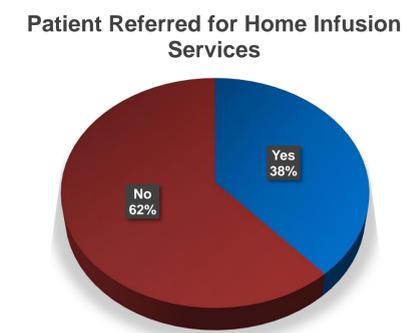
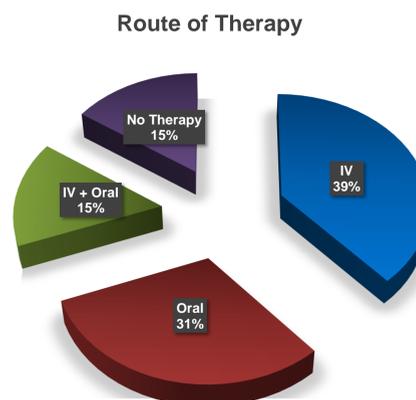
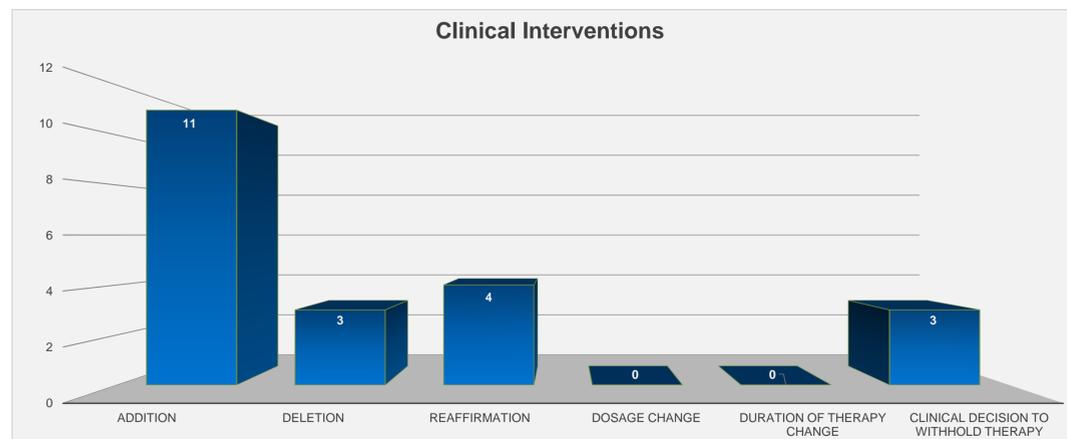
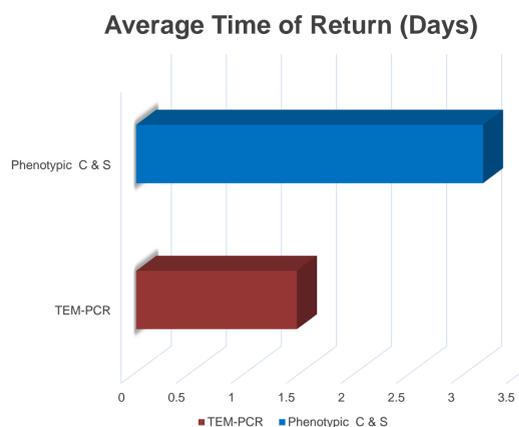
The purpose of this clinical research project is to establish a pharmacy consulting service and improve accuracy and timeliness of anti-infective recommendations provided through the use of TEM-PCR results. Additionally, this research seeks to evaluate the impact of the TEM-PCR panel in treatment of wound infections by comparing it to the standard phenotypic culture, timeliness of culture results for treatment guidance, anti-infective therapy changes due to TEM-PCR findings, clinical interventions resulting from the consulting service, and outcomes of therapy.



## Methods

Patients will undergo culture collection during admission or follow-up services at a wound care center between October 2015 and October 2016. A total of 25 TEM-PCR infectious disease panels will be utilized for this study and the program and data evaluated, retrospectively. All patients with wounds deemed clinically necessary to culture by the physician will be included, and those who are not candidates will be excluded. A standard phenotypic culture and sensitivity test and TEM-PCR panel will be conducted for each wound cultured. Upon return of the results, a pharmacist will utilize the results in conjunction with available medical records to provide clinical recommendations for anti-infective therapy. Clinicians will compare TEM-PCR panel and phenotypic culture and sensitivity results and adjust therapy when warranted. Patient charts will be reviewed to evaluate patient wound healing and clinical resolution.

## Results



## Results

Currently, 13 TEM-PCR panels have been utilized on 12 patients. Clinical consultations resulted in 21 clinical interventions and a 92.3% acceptance rate. TEM-PCR panels returned 1.69 days sooner and identified more microorganisms than the phenotypic method. Both the TEM-PCR and phenotypic culture and sensitivity identified at least one of the same microorganisms 38.46% of the time.

## Discussion

Thus far, TEM-PCR has allowed identification of microorganisms in the presence of antimicrobials and returned on average greater than 1 day faster than phenotypic culture and sensitivity. These components were useful in the treatment of long-term wounds and establishment of a pharmacy antimicrobial consultation program with wound care clinics. The consultation program aided quicker guidance of antimicrobials, aided antimicrobial stewardship, and resulted in numerous clinical interventions. Acceptance of the clinical program was better than expected due to speed of identification and consistent follow up by clinicians.

## Conclusions

Preliminary results indicate utilization of TEM-PCR offers more timely results for earlier guidance in antimicrobial therapy particularly in an outpatient wound care population. Overall, the established pharmacy consultation service in conjunction with the TEM-PCR panel offers a unique method of antimicrobial stewardship and collaboration of health care professionals. The consultation service had a high rate of physician acceptance.

## Disclosures

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject of this presentation:

Ross Woods: Nothing to disclose

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