

Impact of AI Clinical Trial Program on Screening, Matching, and Enrollment of Patients Over a 6 Month Period

Dale Shepard, MD, PhD

Cleveland Clinic Cleveland, Ohio, United States



Declaration of Interests

Dale Shepard

Aadi, Advisory Board, Personal Daiichi, Advisory Board, Personal Deciphera, Advisory Board, Personal Sanofi, Advisory Board, Personal Springworks, Invited Speaker, Personal Aadi, Local PI, Institutional, Financial interest Cogent, Local PI, Institutional, Financial interest Compugen, Local PI, Institutional, Financial interest Conjupro, Local PI, Institutional, Financial interest Deciphera, Local PI, Institutional, Financial interest Inhibrx, Local PI, Institutional, Financial interest Kinnate, Local PI, Institutional, Financial interest Novartis, Local PI, Institutional, Financial interest NucMito, Local PI, Institutional, Financial interest Pfizer, Local PI, Institutional, Financial interest Prelude, Local PI, Institutional, Financial interest Seagen, Local PI, Institutional, Financial interest



Tempus Al is Data-Driven Precision Medicine

Improving Patient Care



High-quality testing



Deep research data



Clinical trial matching



de-identified research records to power scientific discovery to improve patient outcomes

5,000+

oncologists rely on Tempus as their precision medicine partner

2,000+

employees worldwide

160+

biopharma partnerships

50%

of Academic Medical Centers are connected to Tempus across sequencing and data collection



The Tempus Al TIME Program

- Pre-screening support via technology and research nurse navigators
- Standardized trial startup process eases administrative burden
- Rapid activation allows providers to open trials in response to patient need
- Program highlights:
 - Patients identified for trial match 20,000+
 - Trial activations completed 200+
 - Biopharma partnerships 160+
 - Clinical sites active 110+

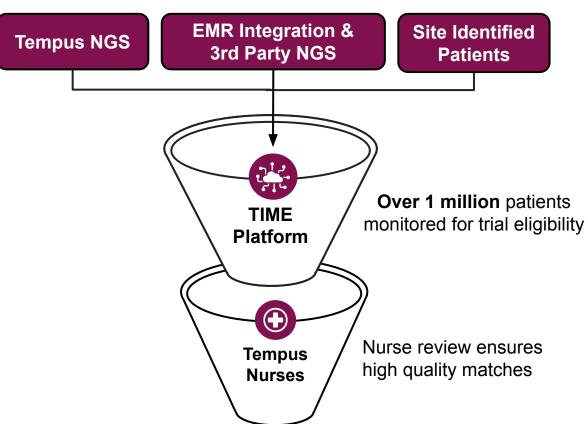


*Testing with Tempus is not required to participate in the TIME program



Patient Matching with Al Assistance

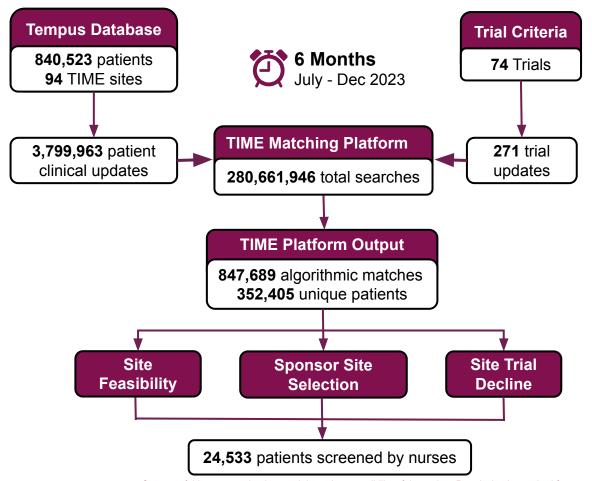
- NGS & EMR data ingested into TIME platform
- Trial eligibility criteria coded into platform & deploy
 Natural Language Processing
- 3 Algorithmic matches identified
- Tempus Nurses confirm matches
- High-quality matches sent to clinical site





Tempus Al TIME Program Patient Matching

- Continuously receiving data
- Searches any new patients and re-searches any patients with updated medical data
- Searches as new trials are on-boarded and when trial criteria amendments occur





Tempus Al TIME Program Patients Screened & Consented

Screening and Enrollments					
Nurse Screened Patients	24,533				
Interventional Matches	4,443				
Interventional Consents	120				
Observational Consents	69				
Total Consents	189				

- ~18% of patients passed nursing review and were sent to clinical sites
- Patients were either ready to enroll immediately or monitored on a watchlist
- Tempus LINK is a portal that enables longitudinal following of patients





Nurse Screening

Tempus AI TIME Program Clinical Trial Activation

Activation Type	Total Activations	Activation Time		
Just in Time	44	14.4 days		
Prospective	27	38.8 days		



Rate Card with pre-negotiated costs



Clinical Trial Agreement for all sites, eliminating repetitive, prolonged negotiations



Standardized ICF & Central IRB to streamline regulatory submissions

Just in Time: Occurs when the patient identified needs to be immediately enrolled on the trial **Prospective**: Patient(s) are not yet found but clinical site opens trial with expectations to enroll subjects



Just in TIME Trial Activation

Example Timeline of Patient Enrollment

Day 0	Day 1	Day 2	Day 4	Day 5	Day 6	Day 7	Day 10
•	•	•	•	•	•	•	
PI signs Rapid Activation	Essential Documents collected and	Budget, contract, and rider fully	Lab kits Delivered	ECG machine delivered	Remote SIV completed	Patient consented	Patient enrolled and successfully
Request Form	provided to sponsor	executed IRB	IRB approval complete		Green light letter received	Screening procedures started	dosed
		submission complete			Patient picked up ICF		



Al facilitates large-scale clinical trial enrollment overall

Tempus Al Time Next Steps Program JIT & Prospective Used patient data & activations Employing LLMs to trial criteria to Achieving 1+ demonstrated rapid identify patients & generate matches consents daily trial initiation improve matching over 6 months quality Tempus AI TIME Rapid **Platform Activation**





Authors:

Dale Shepard (Cleveland Clinic)

Matthias Weiss (ThedaCare)

Bert O'Neil (Community Health Network)

Amol Rao (MemorialCare)

Nihal Abdulla (Cancer and Blood Research Center)

Ahmad Zarzour (The Toledo Clinic)

Kamalesh Kumar Sankhala (NextGen Oncology)

Mark Goldstein (The Center for Cancer and Blood Disorders)

Benjamin Parsons (Gundersen Health System)

Paul La Porte (TOI Clinical Research)

Samantha Mallahan, Chelsea Osterman, Danielle Skelly, Emily Patnaude, Amy Gordon Franzen, Ezra Cohen,

Matthew Cooney (Tempus)

Acknowledgment:

Amrita Iyer (Tempus)

European Society for Medical Oncology (ESMO)

Via Ginevra 4, CH-6900 Lugano

T. +41 (0)91 973 19 00

esmo@esmo.org

