Choosing Wisely Trinidad and Tobago: Top 5 Recommendations for Emergency Medicine

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ABSTRACT

Objective: To identify the top five Choosing Wisely recommendations for the Trinidad and Tobago Emergency Medicine Association (TTEMA)

Methods: A modified Delphi process was used. An initial list of 27 recommendations was compiled from all Choosing Wisely Emergency Medicine recommendations from existing international campaigns. This was distributed to an expert panel from the TTEMA. To generate the final list of five, each panel member voted on each recommendation based on: action-ability, effectiveness, safety, economic burden, and frequency of use.

Results: The top five recommendations were: 1) Avoid instituting intravenous (IV) fluids before doing a trial of oral rehydration therapy in uncomplicated emergency department cases of mild to moderate dehydration in children; 2) Don't order CT head scans in adult patients with simple syncope in the absence of high-risk predictors; 3) Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule; 4) Don't order CT pulmonary angiograms or VQ scans in patients with suspected pulmonary embolism until risk stratification with decision rule has been applied and when indicated, D-dimer biomarker results are obtained; and 5) Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation.

Conclusion: This is the first Choosing Wisely initiative in the Caribbean. Next steps include creating awareness, developing working groups for each recommendation and strategies for implementation.

INTRODUCTION

Choosing Wisely is an international campaign that encourages patients and clinicians to discuss and choose care that is evidence based, necessary and does not cause harm.[1] The campaign was first launched in the United States in 2012 by the American Board of Internal Medicine and has been adopted by more than 30 countries including both developed and developing nations.[2] The campaigns are physician led and patient focused, partnering with national clinician medical associations or societies who produce lists of commonly ordered tests or procedures which may not be medically necessary and whose use is not supported by scientific medical evidence.[2] These recommendations do not replace clinical judgement but rather support shared decision making between clinicians and patients to choose the best option for the individual patient.

Choosing Wisely recommendations are often relevant across multiple clinical specialties which promotes collaboration and unity. Furthermore, addressing medically unnecessary care has implications for the impact of health systems on climate change and creating environmentally sustainable health systems.[3,4] Reducing medically unnecessary care and promoting appropriate clinical care can lead to climate co-benefits such as reducing the carbon footprint of healthcare while maximising high value care for patients and saving resources.[3,4] The international Choosing Wisely campaign directly supports this since it targets common areas of overuse including laboratory testing, medication use and imaging, all of which contribute to carbon emissions in healthcare.[3] Reducing medically unnecessary care is one way in which health professionals can take action against climate change in their daily clinical practice.

Choosing Wisely Canada oversees the international campaigns and there are now campaigns in several developing countries including in Latin America.[4,5] However, there are currently no formal campaigns in the Caribbean region. A Choosing Wisely Trinidad and Tobago (T&T) initiative was introduced in 2022 in partnership with the Trinidad and Tobago Emergency Medicine Association (TTEMA). Unnecessary care and overuse of tests can vary across specialties. Emergency departments are often the first point of care for patients with a health system and thus improvements in the use of resources may be particularly effective. Given the volume of patients seen in emergency departments, the importance of waiting times and the time sensitive nature of conditions, ensuring efficient and effective use of resources is important, particularly in resource limited settings.

This short report presents the first Choosing Wisely T&T initiative. This TTEMA led quality improvement initiative describes the process of identifying and selecting the top five recommendations of tests and treatment that emergency physicians in Trinidad and Tobago should practice.

METHODS

Design and Consensus process

1. Selection of the expert panel

The expert panel comprised ten professionals who were all members of the Trinidad and Tobago Emergency Medicine Association. In order to ensure adequate representation of emergency departments in the country, the panel consisted of a mix of physicians from hospital and community-based emergency departments and included male and female physicians. Participants were registered as specialist emergency physicians or occupied senior medical officer posts. Additionally, since Choosing Wisely promotes collaboration amongst different health professionals, one representative from each of the fields of nursing and prehospital care was included. A Choosing Wisely Committee for Emergency Medicine in Trinidad and Tobago proposed names of potential members for the expert panel. This committee consisted of three experienced emergency medicine consultants and the two Choosing Wisely coordinators for Trinidad and Tobago. The potential members were sent invitations via email (through the TTEMA) asking them to participate in the expert panel.

This was an internal quality improvement initiative within the Trinidad and Tobago Emergency Medicine Association. Permission was granted by the association to participate in the initiative and external support provided by Choosing Wisely International.

2. Selection of recommendations

Participating associations have the option of developing recommendations de novo or adopting recommendations from existing Choosing Wisely campaigns. Upon reviewing existing recommendations, the latter option was chosen for this initial phase, given similarities in practice. The initial list of recommendations was compiled from all existing Choosing Wisely Emergency Medicine Recommendations campaigns internationally (UK, US, Australia, Canada).[6-9] The selection process was adopted from the Choosing Wisely Canada Emergency Medicine consensus process.[10]

Using an online platform (Google Forms), a modified Delphi process consisting of two rounds was used to select the top five recommendations. In the first round, each member of the expert panel was asked if each recommendation should be included in the T&T emergency medicine list. Members responded with a 'yes' or 'no' vote for each recommendation. Any recommendations receiving a vote of at least 50% 'yes' progressed to the second round. In the second round, the expert panel rated each recommendation on a scale ranging from not at all confident to extremely confident based on five guiding principles (Table 1).[10]

Each form was emailed to the expert panel through the TTEMA. Identifying information such as emails, IP addresses or the names of panelists were not collected. All the responses were anonymous and only accessible to the Choosing Wisely coordinators. Reminder emails were sent after one week to all panelists.

Recommendations with the highest ten median scores were identified and recommendations with median scores of five or less in any of the five questions based on the guiding principles were then eliminated. From the remaining items, the top five were selected based on highest median scores (and narrowest interquartile range) in the five questions based on guiding principles in the following order (from highest to lowest order of importance): action-ability, effectiveness, safety, economic burden, and frequency of use.

Table 1. Guiding principles

Guiding principle	Explanation
Action ability	Recommendations should be investigations, treatments, and procedure that are within the control of the emergency physician
Effectiveness	Recommendations should be supported by evidence
Safety	Recommendations should aim to reduce potential harm to patients (i.e. pain, exposure to radiation, time in the ED, etc.)
Economic burden	Recommendations should aim to reduce costs and/or economic burden on the health care system
Frequency	Recommendations should be based on investigations or procedures that are commonly used in the ED in the local setting

RESULTS

Top five list of recommendations

There were 36 existing recommendations from the Canadian (n=10), United States (n=10), Australian (n=6) and United Kingdom (n=10) Choosing Wisely campaigns. Of these, 17 recommendations were similar across the 4 campaigns and duplicate recommendations were removed. The final list included 27 recommendations. At the end of the first round of voting, 1 recommendation was excluded. Thus 26 recommendations moved to the second round of voting. At the end of the second round of voting, 13 recommendations were excluded; 9 recommendations had median scores of 30 and four had median scores of 29- all 13 recommendations were included (Figure 1). The final list of the top 5 recommendations is presented in Table 2.

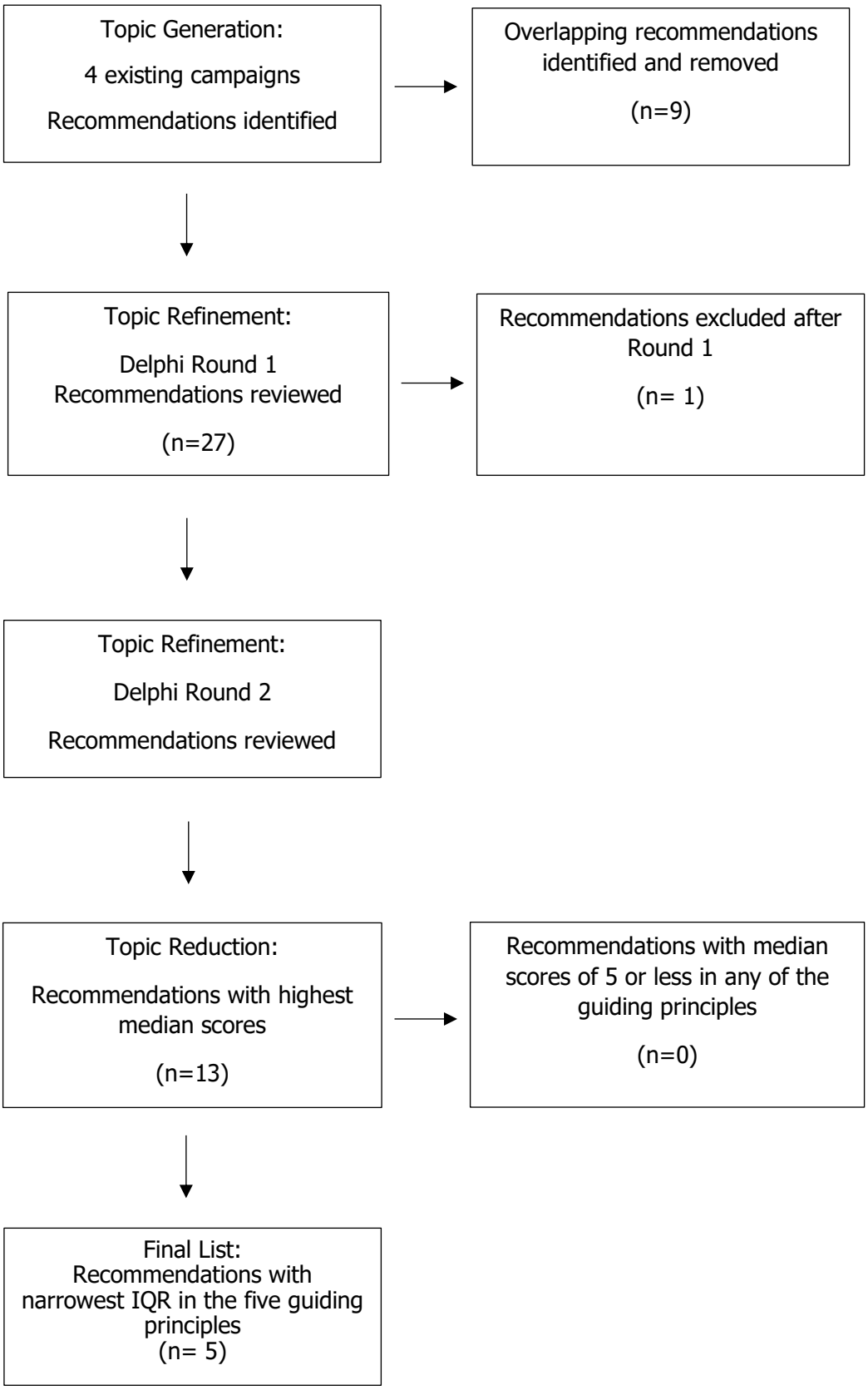
Table 2. Choosing Wisely T&T Top 5 Recommendations for emergency medicine

	Recommendation
1	Avoid instituting intravenous (IV) fluids before doing a trial of oral rehydration therapy in uncomplicated emergency department cases of mild to moderate dehydration in children
2	Don't order CT head scans in adult patients with simple syncope in the absence of high-risk predictors
3	Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule
4	Don't order CT pulmonary angiograms or VQ scans in patients with suspected pulmonary embolism until risk stratification with decision rule has been applied and when indicated, D-dimer biomarker results are obtained
5	Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation

DISCUSSION

The top 5 recommendations for Emergency Medicine in Trinidad and Tobago and the evidence for its proposal are shown below. The identified recommendations are not a substitute for clinical judgement but rather provide

Figure 1. Flowchart of selection process



evidence-based guidance to inform clinical judgement and help decision making.

Recommendation #1: Avoid instituting intravenous fluids (IVF) before doing a trial of oral rehydration therapy (ORT) in uncomplicated emergency department cases of mild to moderate dehydration in children.

The World Health Organization and the American Academy of Paediatrics recommend ORT as the initial therapy in mild to moderate dehydration.[11,12] Spandorfer et al. in a randomized controlled trial (RCT), demonstrated that ORT was as successful as intravenous fluids for hydration in mild to moderate cases of dehydration in children presenting to the ED with gastroenteritis.[13] The inherent benefits included less time to start treatment, avoidance of placement of IV access and fewer hospitalizations.[13] Another RCT found that ORT was superior when compared with IVF in the treatment of acute gastroenteritis with moderate dehydration and that patients who were discharged from the ED had no relapses.[14] That study also noted that reported barriers to ORT such as increased length of stay in ED, additional staff time and training and parents' dissatisfaction to ORT were not supported. Gastroenteritis remains a significant source of morbidity in Trinidad and the implementation of this guideline is likely to have a marked impact on reducing unnecessary IV therapy in these children.

Recommendation #2: Don't order CT head scans in adult patients with simple syncope in the absence of high-risk predictors.

In 2006, Goyal et al. concluded that CT Head scans did not result in any useful information in patients with syncope especially without focal neurological findings.[15] This was supported by Grossman et al. who conducted a pilot study which questioned the utility and benefit of CT Head scan in patients with syncope.[16] The authors concluded that derivation of a predictive rule would reduce the use of routine CT head scans in syncope patients presenting to the ED. Other studies noted benefits such as lack of radiation exposure to patients, reduced cost, decreased length of ED stay and avoidance of overtreatment of patients.[16-18] Examples of risk prediction rules for patients with syncope include San Francisco Syncope Rule, Boston Syncope Rule, ROSE rule and OSEIL RISK Score, which can help identify high risk predictors.[19] In Trinidad, access to CT scans for head injuries is relatively easy, and this has, anecdotally, led to the overuse of this investigation. The strict implementation of a standardised decision rule would reduce the unnecessary use of CT scanning in patients with minor head injuries, saving resources and reducing exposure to radiation.

Recommendation #3: Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule.

Externally validated rules such as Canadian C- Spine rules and Nexus criteria to image the cervical spine in trauma patients assist with the prevention of acquiring imaging which has no clinical benefit.[20, 21] Advantages of utilization of the C-spine clearance guidelines include avoidance of unnecessary radiation to those patients with extremely low probability of injury and reduce imaging cost.[22] In addition, routine adherence to these guidelines will also reduce length of time trauma patients will remain in cervical collars. Anecdotally, cervical spine X-rays are often used inappropriately in patients with minor neck trauma in Trinidad, partly driven by patient demand. The education of emergency department doctors on the use of decision rules for C-spine imaging should contribute to the reduction in demand.

Recommendation #4: Don't order CT pulmonary angiograms or VQ scans in patients with suspected pulmonary embolism until risk stratification with decision rule has been applied and when indicated, D-dimer biomarker results are obtained.

The utilization of external validated predictive tools such as Modified Wells score, the Geneva Score and the PERC (pulmonary embolism rule out criteria) rule have proven beneficial to predict or risk stratify patients with suspected pulmonary embolism.[23,24] These pre-test probability and risk stratification tools assist the clinician in selecting the appropriate diagnostic modalities in a stepwise approach. Crichlow at al. showed that with the application of PERC and use of the pre-test probability of the Wells score, the percentage of CTPAs which could have been avoided was 9.2% and 13.8% respectively.[25] Therefore, if a patient has a low risk Wells score, a D-Dimer or the PERC rule is negative, ionization radiation, risk of contrast complications (e.g. extravasation and nephropathy), length of ED stay, cost and availability of this imaging modalities, can all be reduced and unnecessary CTPA avoided.[25,26]

Recommendation #5: Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with

suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation.

Routine coagulations studies in the emergency department are not considered useful nor do the results change management.[27] Measuring coagulation before administering anticoagulation in chest pain patients, perioperative assessment or even screening before admission all have shown to be of little benefit.[27,28] In patients with epistaxis, there is also no benefit except those with coagulopathy and/or severe liver disease.[30] The uncoupling of these tests along with emergency physician education and implementation of protocols may assist with reducing the utilization of routine coagulation tests.[30] As in many settings, epistaxis is a common minor presentation in the ED in Trinidad. Reducing the use of blood investigations would reduce both resource usage and waiting times for these patients.

Next steps

In order to promote and support implementation and use of the recommendations, working groups have been established with each group assigned to one of the five recommendations. Each group will lead small quality improvement projects in the regional health authorities collecting data related to each recommendation, sensitising staff on the recommendations and reauditing to determine any improvements. Regular follow up meetings between the working groups and the Choosing Wisely committee will be maintained.

CONCLUSION

This is the first formal Choosing Wisely initiative in Trinidad and Tobago and the Caribbean. This initiative is a starting point for addressing unnecessary care and developing environmentally sustainable emergency departments and health systems in general. Potential challenges to sustaining the initiative include a lack of awareness and interest in reducing unnecessary care, high staff turnover rates in emergency settings and resistance to change. Selection of recommendations does not automatically lead to implementation and translation into clinical practice. In order to promote uptake, next steps include establishing working groups for each recommendation, continuing to create awareness through educational activities and conducting audits of performance to support translation of the recommendations into daily clinical practice.

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