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A National Study of Expedited Partner Therapy Use in Emergency Departments: A Survey of Medical Director Knowledge, Attitudes, and Practices

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Abstract

Background: Emergency departments (EDs) are the primary source of health care for many patients diagnosed with sexually transmitted infections (STIs). Expedited partner therapy (EPT), treating the partner of patients with STIs, is an evidence-based practice for patients who might not otherwise seek care. Little is known about the use of EPT in the ED. In a national survey, we describe ED medical directors' knowledge, attitudes, and practices of EPT.

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Methods: A cross-sectional survey of medical directors from academic EDs was conducted from July to September 2020 using the Academy of Academic Administrators of Emergency Medicine Benchmarking Group. Primary outcomes were EPT awareness, support, and use. The survey also examined barriers and facilitators.

Results: Forty-eight of 70 medical directors (69%) responded. Seventy-three percent were aware of EPT, but fewer knew how to prescribe it (38%), and only 19% of EDs had implemented EPT. Seventy-nine percent supported EPT and were more likely to if they were aware of EPT (89% vs. 54%; $P=0.01$). Of nonimplementers, 41% thought EPT was feasible, and 56% thought departmental support would be likely. Emergency department directors were most concerned about legal liability, but a large proportion (44%) viewed preventing sequelae of untreated STIs as “extremely important.”

Conclusions: Emergency department medical directors expressed strong support for EPT and reasonable levels of feasibility for implementation but low utilization. Our findings highlight the need to identify mechanisms for EPT implementation in EDs.

Rates of sexually transmitted infections (STIs) in the United States have increased considerably in the past decade.¹ Cases of gonorrhea and syphilis continue to rise, contributing to a total of 2.4 million STIs in 2020.² As funding for sexual health clinics has decreased,³ emergency departments (EDs) have increasingly become a site of STI care, with the rise in STI-related ED visits outpacing the increase in general ED visits.⁴ Patients at highest risk for STIs are more likely to rely on the ED for care^{5–8} and are disproportionately from historically marginalized groups—those who are non-White, have Medicaid, or are uninsured.^{9–12} Given the societal structural factors contributing to health disparities experienced by marginalized groups, there is a need for system-based solutions to address these systematic sexual health inequities.

For chlamydia and most cases of gonorrhea infections, patients often have no public health or health system assistance in ensuring their partner receives treatment.^{13,14} However, partners are frequently not notified or treated,^{14,15} exposing the patient to reinfection or recurring infection.

A strategy to prevent a patient’s reinfection from STIs is expedited partner therapy (EPT). Expedited partner therapy is the practice of treating the sex partners of patients with certain STIs without an examination of the partner.¹⁶ It is recommended by the Centers for Disease Control and Prevention (CDC) when the partner is unlikely to receive timely care as a harm-reduction approach.¹⁷ Meta-analysis of randomized control trials have shown EPT to be effective in reducing chlamydia reinfection and increasing partner treatment compared with unassisted patient referrals.^{18,19} Despite the potential for EPT to aid in the STI epidemic via the ED—a care setting of especially high patient needs—little is known about current EPT use in adult EDs at the national level. One national study of providers from diverse specialties treating STIs found that only 13% of responding emergency medicine (EM) providers consistently used EPT.²⁰

The use of EPT in the high-need setting of the ED is increasingly crucial as STI cases increase and health disparities in STIs remain a problem of health equity. Social

determinants of health impact STI epidemiology, and there is an extensive history of STI disparities associated with gender, sexual orientation, age, income, and race/ethnicity.^{6,9,12,21–25} In 2019, gonorrhea rates were 42 times higher among men who have sex with men and bisexual men compared with heterosexual men.²⁶ Young women account for 43% of reported cases of chlamydia and risk severe consequences such as pelvic inflammatory disease and infertility.²⁷ The ED's awareness of these disparities and increased use of strategies such as EPT could help combat worse sexual and reproductive health outcomes among historically disadvantaged populations.

Thus, we conduct a national survey of academic ED medical directors evaluating the knowledge, attitudes, and practices regarding EPT use, as well as an examination of barriers and facilitators to its practice. Our primary outcomes were medical directors' awareness and support of EPT and whether EPT had been implemented. We further examine how ED medical director' support for EPT varies by their level of EPT awareness, hypothesizing that increasing awareness is linked with increased support. We also investigate how ED medical director EPT awareness varies by state and ED characteristics, hypothesizing that factors suggestive of an increased patient need for EPT—higher state chlamydia rates, earlier year of the state adopting EPT laws, higher ED Medicaid payer population, and patient volume—would be associated with increased EPT awareness.

MATERIALS AND METHODS

This cross-sectional online survey was emailed to ED medical directors or emergency physicians in similar operational leadership positions using the Academy of Academic Administrators of Emergency Medicine (AAEM)/Association of Academic Chairs of Emergency Medicine (AACEM) distribution list. Where multiple sites were listed per academic department, we used the primary teaching ED. The AAEM/AACEM group maintains a benchmarking survey collecting departmental characteristics such as the proportion of patients using Medicaid insurance. We linked these benchmarking survey departmental variables to the individual responses by the ED site reported.

Survey Distribution

Medical director names and emails were obtained through publicly available information from ED websites and information collected from emailing or telephone calling departmental administrators. The survey invitation was emailed to the medical directors thrice between July 2020 and September 2020. Respondents were randomized to 1 of 2 incentive levels on the first invitation round: one Amazon gift card worth \$20 or a raffle to win one Amazon gift card worth \$100. The incentive was changed to a \$100 gift card raffle for the remaining 2 email invitations. Nonresponders were followed up by emailing and calling department administrators and research faculty at the institution using publicly available email addresses, requesting the administrator's or faculty's assistance. Survey responses were anonymous. The University of Michigan institutional review board approved the study. This study is reported following the Strengthening of the Reporting of Observational Studies in Epidemiology statement²⁸ and previously established guidelines for EM survey research.²⁹

Survey Development

We developed a 21-item survey instrument (Appendix, <http://links.lww.com/OLQ/A994>) following a published framework for developing questionnaires.³⁰ We began with discussions with EPT content experts alongside a literature review of EPT implementation,^{31s–34s} after which new questions were developed as necessary. We refined the survey in an iterative process after each step: (1) a discussion with a survey methodologist expert; (2) a cognitive interview with one ED medical director assessing for clarity and comprehension using the “think-aloud”²¹ approach, verbalizing his interpretations of the questions; and (3) pilot testing with one other ED medical director who provided written feedback to correct any technical issues and ensure questions were appropriate and complete. The survey was designed to take less than 5 minutes.

Survey Content

The primary outcomes were EPT awareness, support, and practices. Awareness was assessed by knowledge of EPT’s definition, departmental to state-level guidelines, and STI-specific indications. Medical directors’ support and perceptions of support from other ED stakeholders were rated on a 5-point Likert scale. Perception of departmental support was asked on a 5-point Likert scale assessing likelihood. Perceived feasibility for instituting EPT was evaluated on a 4-point Likert scale. For past practices, respondents were asked if they had personally prescribed EPT and if it was implemented at their ED. We used a single question to assess the implementation status for EPT in an effort to balance the variety of potential mechanisms for EPT and manifestations of implementation (i.e., policy, training, EHR systems) with the need for survey brevity.

We further analyzed whether EPT awareness varied by predetermined state- and departmental-level variables. For state variables, we examined early versus late adopters of EPT permissible laws and state-level chlamydia rates. Expedited partner therapy law adoption status classified from previous research^{34s} and updated according to the CDC,^{35s} early adopters were from 2001 to 2014, and late adopters were from 2015 to 2019. Chlamydia rates were based on data from the CDC,^{36s} and states were categorized based on the 2015 median case rate of 447 cases per 100,000 people. For departmental variables, we used the benchmarking survey for the ED patient volume and the proportion of Medicaid-insured patients. Survey invitation links were associated with an institution-specific code to allow linkage of known state and departmental variables.

To assess barriers and facilitators of EPT, respondents first rated their level of concern for potential barriers on a 5-point Likert scale (not at all–extremely concerned) for the following topics: adverse reaction, missed diagnoses, concern for intimate partner violence, legal liabilities, affordability of EPT medications, and the ability for the pharmacy to fill prescriptions. Respondents then rated the importance of potential benefits on a 5-point Likert similar to the one discussed previously; instead, they used “important” in place of “concerned” for the following topics: preventing STI reinfection, increasing access to treatment among vulnerable populations, addressing untreated STIs, and preventing sequela of STIs.

Statistical Analysis

Descriptive statistics included proportions to report demographic characteristics and main outcome variables. We conducted a bivariate analysis using the Fisher exact test to assess whether awareness of EPT was associated with attitudes and practice or departmental and state characteristics. The top-box approach was used for the analysis of barriers and facilitators. The top-box score indicates the proportion of respondents who selected the highest response category and is commonly used by hospital patient experience surveys.^{37s,38s}

The response rate was calculated via the proportion of those contacted who completed the survey. As a nonresponse bias analysis,^{39s} respondents were compared with nonrespondents by available ED sites and respondent characteristics. The survey was administered via Qualtrics (Provo, UT), and data were analyzed via R statistical computing (R Foundation for Statistical Computing, Vienna, Austria) for analysis. A *P* value < 0.05 was considered statistically significant.

RESULTS

Of 70 potential respondents, 48 submitted complete surveys (response rate of 69%); demographics, ED, and state characteristics are described in Table 1. Surveyed EDs were geographically distributed nationwide, with most from the Northeast (33%). Less than half (42%) were in states with high chlamydial incidence. Comparing nonresponders with responders, we observed no significant differences across key characteristics for which data were available (eTable 1, <http://links.lww.com/OLQ/A994>).

EPT Awareness

Most medical directors (73%) were aware of EPT (Table 2). Of those reportedly aware, most (66%) could correctly identify that EPT was used for chlamydia in their state. Less than half (48%) of medical directors were aware of guidelines from the CDC, and fewer (31%) had previously prescribed it. Only 19% reported that their ED had implemented EPT at the departmental level.

EPT Support

Table 3 shows medical director support and perceived institutional support of EPT stratified by awareness level of EPT. There was high support from medical directors toward EPT (79%). Conversely, respondents felt that nurses would have lower support (50%). When respondents were aware of EPT, their support of EPT support was significantly higher (*P* < 0.001), as was their perception of nurses' support (*P* < 0.04). Regarding departmental factors, 41% of participants expected the implementation of EPT at their site to be "very feasible" (18%) or "feasible" (23%). Only 5% reported that it was "not at all feasible." More than half (56%) of respondents anticipated that their ED would be supportive at "Somewhat likely" (49%) or "Extremely likely" (8%) levels. Approximately two-thirds (67%) of respondents felt that their perception of EPT would be influenced if peer institutions were already implementing it.

Variation With State and ED Characteristics

We examined whether medical director awareness of EPT varied by state or departmental characteristics (eTable 2, <http://links.lww.com/OLQ/A994>). Respondent awareness of EPT varied significantly by state chlamydia incidence level (Fisher exact test, $P < 0.05$), such that most respondents who were unaware of EPT were from states of low chlamydia incidence (85% [11 of 13]) versus only a minority of respondents unaware of EPT was from a state of high chlamydia incidence (15% [2 of 13]). Although states with earlier years of EPT law adoption had higher rates of awareness (76% [29 of 38]) compared with those with later years (60% [6 of 10]), there was no significant difference ($P = 0.43$). There was also no statistically significant difference in respondent awareness based on high versus low ED patient volume (77% vs. 73%, respectively) and high versus low levels of ED Medicaid payer proportion (77% vs. 68%, respectively).

Barriers and Facilitators to EPT

The EPT barriers and facilitators showed only slight variation in their ranking. The perceived barriers to EPT are presented ranked in order of highest percentage of most concerned (eTable 3, <http://links.lww.com/OLQ/A994>): legal liability (25%), intimate partner violence (21%), affordability of EPT medication (21%), potential missed medical diagnoses (19%), ability for the pharmacy to fill prescriptions (17%), and adverse reactions to the antibiotics (13%). Benefits were all rated highly, with the highest rated viewed as most important by 79% to 81% of respondents: increasing access to treatment among vulnerable populations, addressing untreated STIs, preventing sequela of STIs, and preventing STI reinfection.

DISCUSSION

This study represents the first national evaluation of knowledge and support for EPT among adult ED medical directors. Although most medical directors were aware of EPT, only some knew how to prescribe it, and even fewer had written prescriptions. Together with their high ranking of the benefits of EPT, this gap between interest and practice highlights the role that more macrolevel factors, such as institutional or cultural, may play in the low use of EPT.

Potential explanations for the EPT implementation gap have been explored in past research interviewing ED clinicians: professional—liability related to medication allergies, lack of patient relationship, lack of awareness of institutional support; cognitive and attitudinal—discomfort due to lack of familiarity; and resources—perception of not wanting to duplicate STI clinic duties because of a heavy ED patient load and inability to prescribe through the electronic health record (EHR).^{33s} This current study similarly found concern for potential barriers such as legal liability, the potential for misdiagnosis, affordability of medication, and intimate partner violence. These barriers may shift given a recent institutional embrace of the ED's role in the social safety net, with the development of Social Emergency Medicine sections in major EM clinician organizations.^{40s}

Despite concern for these barriers, most medical directors still espoused high degrees of support for EPT benefits, including increasing access to treatment among vulnerable

populations, preventing STI reinfection, preventing sequela of STIs, and addressing untreated STIs. Medical directors' perception of comparatively lower support from their EDs and nurses suggests a tension between personal preferences for patient management and organizational realities of barriers such as lack of resources or ability to prescribe in the EHR.^{33s}

Legal concerns remain of high importance to medical directors. Despite EPT^{35s} being permissible or potentially allowable in all US states, 25% of ED directors stated that legal concerns were an "extreme concern." This concern may be partly due to a lack of awareness of institutional policies to support ETP's use— only 15% knew of hospital-level policies. There has been little to no national research on this topic in adult EDs. This unfamiliarity with EPT in research, policy, and practice contributes to decreased comfort. This may change in the coming years as ED organizations have adopted policies supporting EPT.^{41s} It is important to note that, in many states, there are already explicit liability protections for providers to use EPT, and there have been no reported medical malpractice cases involving EPT.^{42s} In addition, no adverse reactions were recorded in randomized control trials¹⁸ or from an EPT hotline in California.^{43s} Increased awareness of supportive policies and legal protections may help alleviate medical director's concerns and in turn improve ETP uptake.

This survey's findings of low EPT policy awareness point to the potential benefit of educational campaigns for EM clinicians. In recent years, several states in which EPT was previously prohibited have adopted EPT laws.^{35s} As past research has illustrated, state legislative variability challenges nationwide implementation.^{44s} Emergency department clinicians, faced with overcrowding,^{45s} may be unlikely to seek clarification of a changing EPT legal landscape without the impetus of customized guidance. Local public health authorities' outreach to state EM clinician organizations could provide education through newsletters and regional conferences. Public health encouragement of EPT as normative ED practice may allay medicolegal concerns, especially considering two-thirds of respondents in this study would be influenced if peer institutions were already implementing EPT. Guidance may include protocols offering EPT during telephone follow-ups for STIs, implementation of electronic prescribing, and funding of take-home medication based on ED case studies.³¹

Other ED-EPT barriers are related to medical directors' concerns about misdiagnosis. A systematic review found possible ED overtreatment in up to 32% of female patients and as high as 87% among male patients.^{46s} Overtreatment is a greater concern for the ED because of the nonlongitudinal, episodic nature of the ED compared with other practice settings where the patient may return once STI laboratory results have been processed. In most US EDs, rapid STI tests are unavailable, and so the CDC guidelines recommend presumptive treatment based on clinical presentation when follow-up cannot be ensured.¹⁶ However, presumptive treatment risks management inaccuracies^{47s} due to the low sensitivity and specificity of clinician judgment for STI infection (68% and 55%,^{48s} respectively). Moreover, past literature has cited the potential harms of overtreatment— relationship problems, unnecessary emotional distress from STI stigma, and medication adverse effects.^{49s} With increasing antibiotic use and associated resistance, the current CDC-recommended oral option for EPT treatment of gonorrhea—cefixime—is no longer first

line, because the preferred medication, ceftriaxone, is only available as an injection.^{50s} Past EPT research^{33s} has also identified ED concern with antibiotic overuse and the suggestion of implementing point-of-care testing to address it. Rapid STI testing could improve the accuracy of ED STI care^{51s} and pave the way for the adoption of ED-EPT use when STI-confirmed. Future studies should examine the impact of rapid STI testing on clinician acceptance of EPT and mechanisms for offering ceftriaxone injections.

Past work has similarly identified low levels of EPT use among health care providers, particularly in EM. A survey of physician members of the American Academy of Pediatrics Section of EM found that only 30% of physicians were aware of state EPT laws,^{52s} similar to our finding that 31% stated awareness of their state laws. Previous surveys comparing EPT across specialties found that EPT uptake in the ED was lower than in other specialties—most (56%) of ED physicians had never used EPT, and only 13% used partner therapy “half or more” of the time.²⁰ One study within the Indian Health Service found lower rates of EPT use in urgent care or EDs compared with outpatient settings.^{53s} In contrast to our finding of 19% of EDs reporting EPT use, a qualitative study in an urban safety net institution in Georgia found that, although ED providers were willing to consider EPT, none were using it.^{33s}

Although not covered in this study, EPT should be conducted in conjunction with discussing sexual health, including topics such as partner notification and avoiding reinfection. In a survey of youths, most respondents were interested in asking their provider about EPT.^{54s} Similarly, pediatric ED directors reported that they were comfortable in personally providing reproductive health care and were willing to offer expanded STI screening and pregnancy-prevention services.^{55s} Conversely, in a systematic review of sexual health discussions, multiple studies cited unmet needs of patients, with patients infrequently receiving sexual health information and providers frequently noting they did not have these discussions even when they thought it was important.^{56s} Further research is needed into how ED clinicians can accomplish sexual health discussions in a feasible time frame and the effectiveness of non-provider-driven strategies for EPT counseling, such as computer-assisted or video-assisted mechanisms.

Limitations

Our study has limitations. This study had a relatively small sample size, and we only surveyed medical directors in academic EDs. These results may not be generalizable to a broader spectrum of EDs, especially those in a community setting. Although we use state-level chlamydia infection rates as a potential predictor of EPT support and awareness, state-level rates of STI infections may not reflect local prevalence or community resources, which are more likely to influence ED practices. Moreover, we only included medical directors because of the administrative and operations focus of instituting new departmental workflows and policies. However, medical directors may have incomplete knowledge of EPT feasibility because of unfamiliarity with specific legal liability protections. Their support for EPT may be less valuable for the implementation of the process than a departmental physician champion who could take ownership of the process. In addition, survey collection occurred during the COVID-19 pandemic, which caused significant

administrative stressors on EDs, especially medical directors. This would have limited their ability to respond to a voluntary survey, further impacting the selection of respondents.

Lastly, this survey provides a broad overview of EPT implementation in EDs and does not offer details on how EDs have been implemented. Future research should investigate EPT implementations such as a written EPT policy, a training program for clinicians, and EHR processes. Moreover, it would be beneficial to learn if EDs use electronic versus paper partner prescriptions versus take-home medication kits versus double-dose prescriptions to the index patient. Understanding which local practices lead to successful ED-EPT programs can facilitate the dissemination of functional pathways.

Strengths of the study included a high overall response rate (69%) and the inclusion of EDs from a range of US geographical areas and areas with varying STI prevalence. We analyzed EPT across important metrics such as the proportion of Medicaid patients and ED volume using SAEM Benchmarking survey group data. To investigate response bias, we compared these ED metrics and geographical variables, observing no statistically significant differences between respondents and nonrespondents.

CONCLUSIONS

A national study of academic EDs found that 79% of medical directors supported EPT; however, only 19% reported that their department had implemented EPT, indicating a significant opportunity to increase the adoption of this evidence-based practice. The ED can play a critical public health role in stemming the spread of curable STIs, which disproportionately impact historically marginalized groups.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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TABLE 1.

Demographic and ED Characteristics of Respondents

	Total No. (n = 48)	Response (%)
Medical director characteristic		
Female	15	31
Year in practice		
0–5 y	1	2
6–10 y	12	25
11–20 y	24	50
21+ y	11	23
Year in role		
0–5 y	23	48
6–10 y	14	29
11–15 y	7	15
16+ y	4	8
ED characteristic		
Region		
Midwest	8	17
Northeast	16	33
South	14	29
West	10	21
Proportion of patients with Medicaid insurance		
Mean		28
Median		26
IQR		20
Annual visits to the ED		
Mean		74,699
Median		67,840
IQR		25,183
State characteristic		
Timing of EPT laws *		
Early adopter	38	79
Later adopter	10	21
Chlamydia incidence †		
Low incidence	28	58
High incidence	20	42

* Timing of EPT laws is classified as follows: earlier adopters (2001–2014) or late (2015–2019).

† Chlamydia incidence is classified as follows: low (233–445/100,000 population) or high (455–768/100,000 population).

TABLE 2.

Emergency Department Medical Director Knowledge and Implementation of EPT

	Total (n = 48)	%
EPT knowledge		
Awareness of EPT	35	73
Correctly identify that EPT is used for chlamydia*	23	66
Knowledge of EPT written guidance		
CDC	23	48
State law	15	31
Local health department	10	21
Local hospital	7	15
EPT practices		
Knowledge of how to prescribe	18	38
Previously prescribed [†]	15	31
ED has implemented	9	19

* Correctly identify that EPT is used for chlamydia was asked of those aware of EPT (n = 35).

[†] Previously prescribed was asked of those who knew how to prescribe (n = 18).

TABLE 3.

Medical Director Attitudes and Perceptions of EPT

	Total (n)	EPT Awareness Status				Fisher
		%	Yes (n = 35)	%	No (n = 13)	
Medical director perceived support (n = 48)						
Medical director						
Oppose (1)	2	4	1	3	1	8 <0.001
Neutral (2)	4	8	3	9	1	8
Support (3)	38	79	31	89	7	54
Unknown/unsure	4	8	0	0	4	31
Average	2.82		2.86			2.67
Prescribers						
Oppose (1)	2	4	2	6	0	0 0.01
Neutral (2)	4	8	3	9	1	8
Support (3)	34	71	28	80	6	46
Unknown/unsure	8	17	2	6	6	46
Average	2.80		2.79			2.86
Nurses						
Oppose (1)	3	6	1	3	2	15 0.04
Neutral (2)	9	19	7	20	2	15
Support (3)	24	50	21	60	3	23
Unknown/unsure	12	25	6	17	6	46
Average	2.58		2.69			2.14
Departmental factors (n = 39)*						
Feasible						
Not at all feasible (1)	2	5	2	8	0	0 0.11
Somewhat feasible (2)	20	51	11	42	9	69
Feasible (3)	16	41	13	50	3	23
Unknown/unsure	1	3	0	0	1	8
Average	2.37		2.42			2.25
Department support						

	Total (n)	EPT Awareness Status				Fisher	
		%	Yes (n = 35)	%	No (n = 13)		
Unlikely (1)	12	31	8	31	4	31	0.07
Neither likely nor unlikely (2)	5	13	1	4	4	31	
Likely (3)	22	56	17	65	5	39	
Average	2.26		2.35		2.08		
Peer influence							
Impact (1)	26	67	17	65	9	69	0.7
Neutral (2)	6	15	5	19	1	8	
Probably wouldn't impact (3)	7	18	4	15	3	23	
Average	1.51		1.50		1.54		

Medical director perceived support and departmental support score calculated from collapsed Likert scales from (1–5) to (1–3). Feasibility was collapsed by combining feasible and very feasible (3, 4) into feasible (3). Unknowns not included in average.

* Departmental factors asked of nonimplementers (n = 39).