

PE Dx CDS implementation

The **Pulmonary Embolism (PE) Diagnosis (Dx) Clinical Decision Support** (i.e., **PE Dx CDS**) was implemented in the Emergency Department in December 2018. The PE Dx CDS combines two PE risk scoring algorithms, Wells' criteria and PERC rule, to support selecting the diagnostic pathway for a patient suspected of PE including supporting the ordering of tests and documentation.

This survey is part of an effort to evaluate the implementation and use of the PE Dx CDS in the ED. It is our hope that the information in this study will help inform design improvements of the CDS and future technology designs. Thank you for your consideration.

Q1 Please check your current job position:

- Intern (year1)
- Resident (year 2)
- Resident (year 3)
- Resident (year 4 or more)
- Fellow
- Attending physician
- Advanced practice provider (physician assistant/nurse practitioner)
- Other _____

Q2 How many years have you worked at this ED?

- 0-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- 31-35
- 36-40
- 41+

Q3 How old are you?

- 24 years or younger
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60 years or older

Q4 What is your gender?

- Male
- Female
- Other _____

Q5 Last March through June 2018, we conducted the **Emergency Medicine EHR pulmonary embolism decision aid (PE Dx) research study**, where some physicians were asked to use the PE Dx CDS in the HealthLink playground on a computer while completing different patient cases. Did you participate in the Emergency Medicine EHR pulmonary embolism decision aid (PE Dx) research study?

- Yes
- No
- I don't know

Q6 Please indicate how much you agree or disagree with the following statements:

	Completely disagree	Disagree	Neither agree, nor disagree	Agree	Completely agree
Choosing the incorrect diagnostic pathway choice among patients with suspected PE is a major problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to choose the appropriate clinical test (D-dimer, CT scan) when diagnosing a PE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk scoring algorithms help in choosing the correct diagnostic pathway for PE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A well-designed Clinical Decision Support (CDS) system could help a lot in choosing the correct clinical pathway for PE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 What do you think about the **information** you received about the PE Dx CDS during implementation? Select one for each:

	1	2	3	4	5	6	7	8	9	
Insufficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sufficient
Not timely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Timely
Useless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Useful

Q8 Have you **ever** used the PE Dx CDS tool in Epic when considering a diagnosis of PE in the ED?

- Yes
- No

Skip To: Q13 If Have you ever used the PE Dx CDS tool in Epic when considering a diagnosis of PE in the ED? = No

Q9 Do you **currently** use the PE Dx CDS tool in Epic when considering a diagnosis of PE in the ED?

- Yes
- No

Skip To: Q11 If Do you currently use the PE Dx CDS tool in Epic when considering a diagnosis of PE in the ED? = No

Q10 Out of all the patients you suspected of PE, for approximately what percent of those patients have you used the PE Dx CDS tool in the past month?

- 1-10% of patients suspected of PE
- 11-25% of patients suspected of PE
- 26-50% of patients suspected of PE
- 51-75% of patients suspected of PE
- 76-90% of patients suspected of PE
- 91-100% of patients suspected of PE

Q11 What number best reflects your acceptance of the PE Dx CDS? (check one)

	1	2	3	4	5	6	7	8	9	10	
Dislike very much and don't want to continue using at our hospital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like very much and eager to continue using at our hospital

Q12 The next questions are about your satisfaction with the PE Dx CDS system...

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
	1	2	3	4	5	6	7
Overall, I am satisfied with how easy it is to use this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was simple to use this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can effectively complete my work using this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to complete my work quickly using this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to efficiently complete my work using this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable using this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It was easy to learn to use this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I became productive quickly using this system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Whenever I make a mistake using the system, I recover easily and quickly

It is easy to find the information I needed

The information provided for the system is easy to understand

The information is effective in helping me complete tasks

The organization of information on the system screens is clear

The interface of this system is pleasant

I like using the interface of this system

This system has all the functions and capabilities I expect it to have

Overall, I am satisfied with this system

Q13 If you do **not** use the PE Dx for patients in which you suspect PE, why not? (check all that apply)

- I prefer another CDS such as MDCalc
- PE Dx doesn't fit in my workflow
- I do not need a CDS to diagnose a PE
- I have the Wells' criteria memorized
- I have the PERC criteria memorized
- I don't agree with the recommendations that PE Dx provides
- I cannot find the PE Dx in Epic
- I forget to use PE Dx
- PE Dx takes too much time
- PE Dx forces me to use Wells' before using PERC
- PE Dx forces me to respond to all the Wells' criteria before getting a Wells' score
- I do not like the ordering functionality in PE Dx
- I do not like the documentation functionality in PE Dx
- Other _____

Q14 Can you think of anything that could be **changed** or **added** to the PE Dx CDS that would make you want to use it more?
