
Bladder Cancer Decision Support Tool User MANUAL

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USER'S MANUAL

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1.0 GENERAL INFORMATION

1.1 Project Overview

For this project we used past data from the physicians and statisticians at University of Pennsylvania Perelman School of Medicine to provide insight to a user about recommended treatment given certain characteristics of their health condition. To make it easier for a patient to interpret the information, we show how the preference for Chemo-RT treatment over Surgery change over time by drawing a graph of the sum of the differences between the survival rates of two treatments. The point where the graph reaches zero is where the advantages of surgery break even with the advantages of Chemo-RT. The graph also includes two benchmarks for decision-making, which are the median survival time for patients with similar characteristics of each type of treatments. Based on the graph, we provide a recommended treatment and a detailed interpretation of the graph supporting this recommendation.

2.0 SYSTEM SUMMARY

2.1 System Configuration

In order to run our application, Python must be installed. If you do not have Python already installed already you can download it [here](#). The version we used is Python 2.7.13.

You will also have to install some Python libraries after downloading Python. Follow the instructions in the links for installing the following libraries.

Install [rp2](#).

Install [plotly](#).

Install [Flask](#).

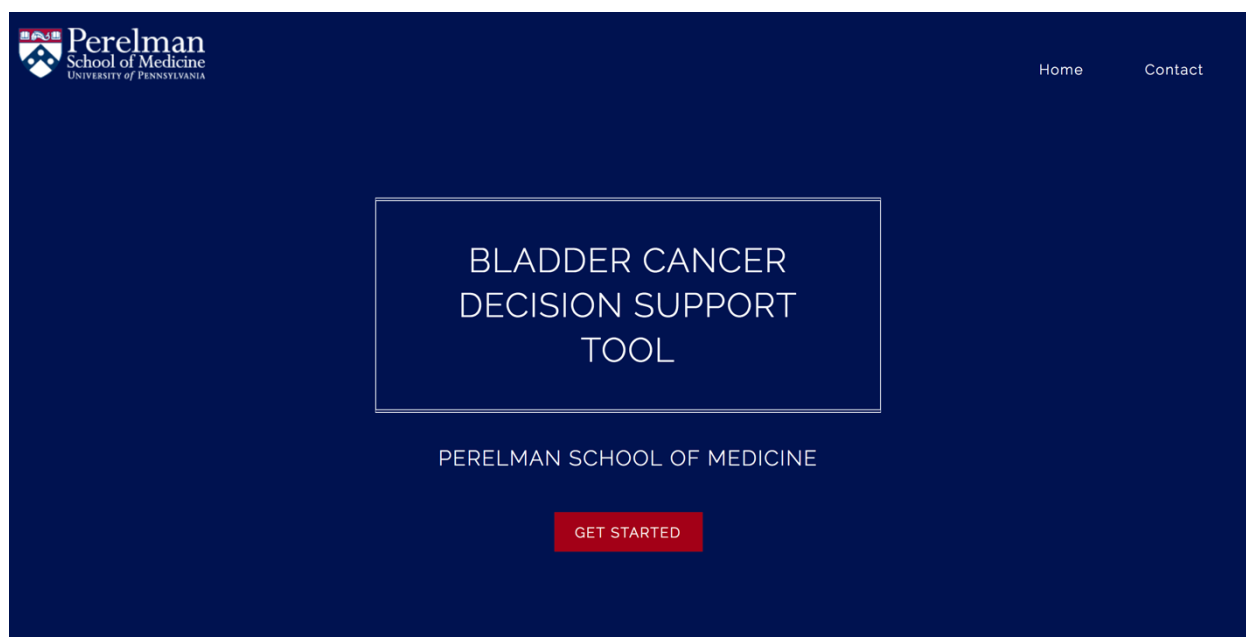
Install [numpy](#).

Once Python and other necessary packages are installed, make sure you have downloaded our project folder.

3.0 USING THE APPLICATION

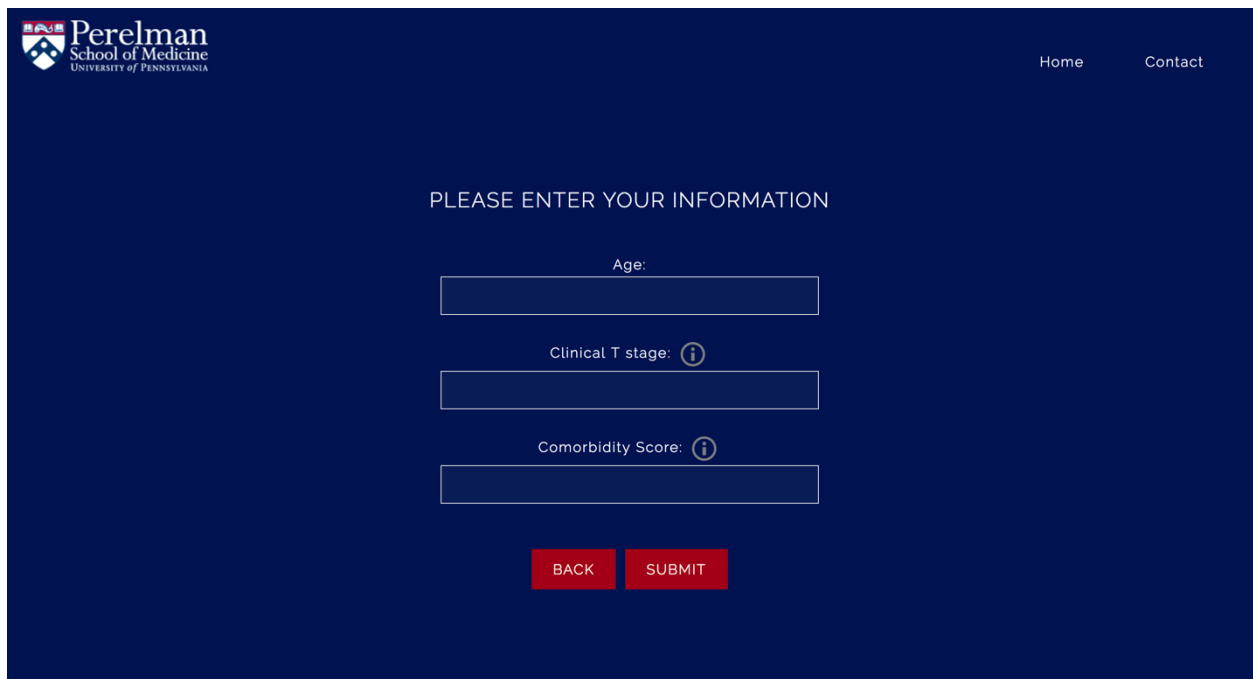
3.1 Home Screen

Below is the homepage when you go to the website. You can click on “Get Started” to use the tool.



3.2 Form Page

Below is the page where you fill out the form about patient information. You can put in information regarding the age of the patient (from 65 and above), the clinicalT stage (2 or 3), and the comorbidity score (1: no comorbidity, 2: one comorbidity, 3: more than one comorbidity). After filling out the form, you can click submit to get the graph.



The screenshot shows a web form on a dark blue background. In the top left corner is the Perelman School of Medicine logo. In the top right corner are links for 'Home' and 'Contact'. The main heading in the center is 'PLEASE ENTER YOUR INFORMATION'. Below this are three input fields: 'Age:', 'Clinical T stage: ⓘ', and 'Comorbidity Score: ⓘ'. At the bottom are two red buttons labeled 'BACK' and 'SUBMIT'.

DISCLAIMER

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When you hover the cursor over this icon ⓘ you can see information regarding what you should put in for each box.

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UNIVERSITY of PENNSYLVANIA

Home Contact

PLEASE ENTER YOUR INFORMATION

Age: 65

Clinical T stage: ⓘ

Comorbidity Score: ⓘ

2

2

BACK SUBMIT

Clinical Stage 2 or Stage 3. Sed tempus feugiat adipiscing nisl cursus aliquam dolore.Sed tempus feugiat adipiscing nisl cursus aliquam dolore.

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Home Contact

PLEASE ENTER YOUR INFORMATION

Age: 65

Clinical T stage: ⓘ

Comorbidity Score: ⓘ

2


2

BACK SUBMIT

Comorbidity Score 1 ~ 3. Sed tempus feugiat adipiscing nisl cursus aliquam dolore.Sed tempus feugiat adipiscing nisl cursus aliquam dolore.

3.3 Result Graph

Once you click “Submit”, it will redirect you to this page with a result graph and interpretation.


Home Contact

YOUR INFORMATION

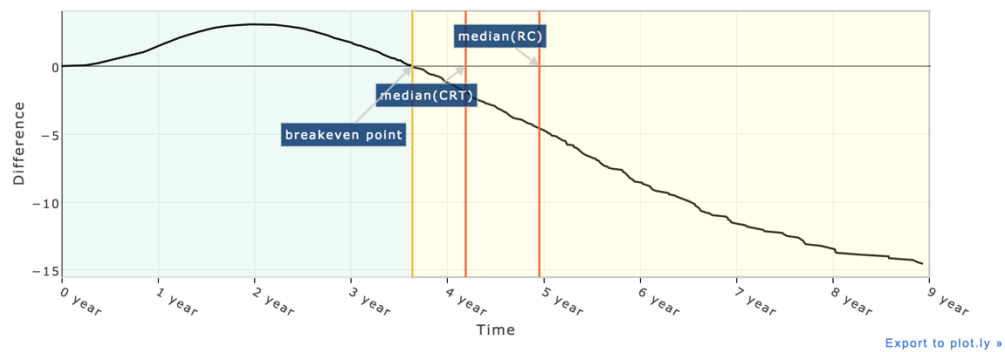
Age : 65
 Clinical T Stage : 2
 Comorbidity Score : 2

BACK

YOUR RESULTS

WE RECOMMEND SHARED DECISION-MAKING

Break Even : 3 years 8 months
 Median Survival : 4 years 2 months



INTERPRETING THE GRAPH:

Median survival: median survival based on age, clinical T stage, and comorbidity score.

Break-even: point when there is equivalence between surgery vs. chemo plus radiation.

If break-even is shown at the right edge of the graph, chemo is always recommended for the shown time range.

For patients where the median survival is on or before the break-even point, we would suggest chemo-RT. For patients where the median survival occurs after the break-even point, but the difference is less than 1 year, we would recommend shared decision-making. For patients with a median survival that is more than 1 year after the break even point, we would recommend surgery.