ACRA →

An effective algorithm that identifies patients susceptible to get complications that cause readmissions in Intensive Care Units

The need

Unscheduled re-entry of the patient in the ICU is an adverse event that causes an increase in morbidity, mortality and consumption of hospital resources. A recent meta-analysis has reported an average re-entry rate between 4 and 7%, although it can reach up to 14%. The average mortality of patients with unintended readmission in the 72 hours after discharge from the ICU is 33%.

The solution

The solution consists of a supervised learning model where each patient with unintended readmission in the 72 hours after discharge from the ICU are predicted as TRUE or FALSE. Additionally, reports with field importance are included (e.g. related complications, oxygen saturation level, text from the discharge summary, among others). The aim is to identify which factors have more influence in readmission helping ICU professionals to better understand what triggers readmission and enabling early detection of risk factors.

Impact

73.5% accuracy of the tool

ROC Area Under the Curve = 0.7602 in a fusion as a combination of nine ensembles (Higher AUC values indicate a better classifier performance)

#BigData

#PredictiveCare

#IntesiveCare

Co-creation and Business Support

Pilot region: Murcia (Spain) | Period: May-Dec 2018

Challenger	Solver	Users	Supporter	Funder
SMS	BigML	Healthcare Professionals	Ticbiomed	INFO
1 Intensive Care Professional	1 Lead Data Wrangle 1 Partner Development Manager	1 Intensive Care Professional 4 IT Personnel	2 business supporters	2 experts

Hear the stories!

I see a change of paradigm in terms of our healthcare practice. There are other types of procedures, technologies and methodologies to do things that are innovative and that aren't incompatible with our current practice

Juan Alfonso Soler, Intensive Care Professional at SMS

One of the advantages is to have a solution to solve professionals' real problems; defined by them and for them

Jaime Boscá, Partner Development Manager BigML

About inDemand

inDemand boosts digital health solutions proposed and co-created with healthcare profesionals

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