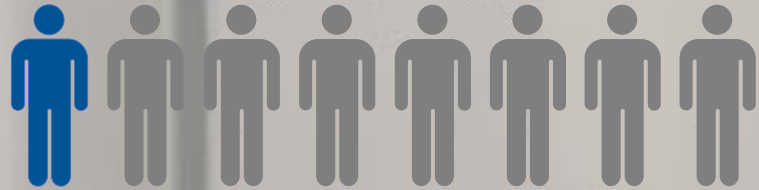# Improves quality and save time of lung function tests interpretation and lung disease diagnosis

RIS, Dallas 2019

How AI Will Impact Respiratory Diagnosis and Treatment

General Problem

Respiratory diseases are a **major** health challenge (500 million patients)

 deaths Worldwide

Pulmonary function tests (PFT) are **main tool** for evaluation of respiratory system

PFT care path

Patient
Cough, difficulties to breathe

Hospital

General Practitioner

Pharma
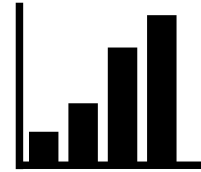
Complete PFTs

Spirometry

Clinical Trials

Problem

Time consuming

Expert dependent

Highly variable

Not specific for diagnosis

Misdiagnosis

Redundant additional tests

Increased costs

Solution

"ArtiQ developed an AI software to help doctors interpret lung function tests and diagnose diseases by generating highly accurate and time saving automated reports "
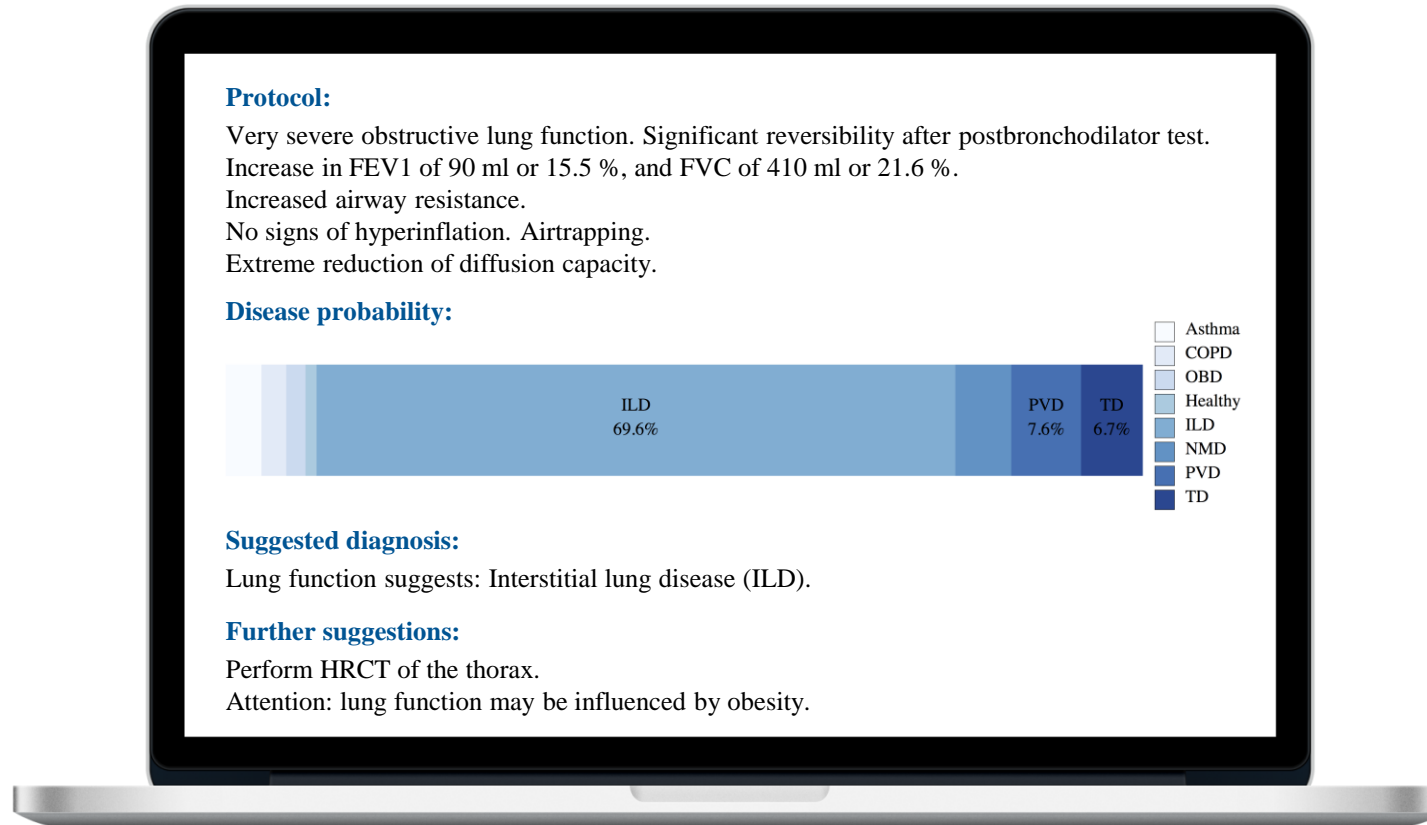
Standardized and unbiased

Time and cost saving

Accurate decision support

Diagnostic optimization

Solution

AI-based software that **automatically process** PFT data – cloud sync with machines and EPRs

Topalovic et al. European Respiratory Journal. 2019
Topalovic et al. Respiration. 2017
Topalovic et al. ERS 2017, 2018
Topalovic et al. ATS 2017, ATS 2018

Study

To explore the **accuracy** and **variability** of pulmonologists when:

1. **Interpreting** PFTs (*Obstructive, Restrictive, Mixed, Normal*)

2. Suggesting a **diagnosis** based on clinical information and complete PFT measurements (*Healthy, COPD, Asthma, ILD, NMD, PVD, TD, OBD*)

To **compare scores of experts** with those provided by the **AI-based software** for automated interpretation of PFTs
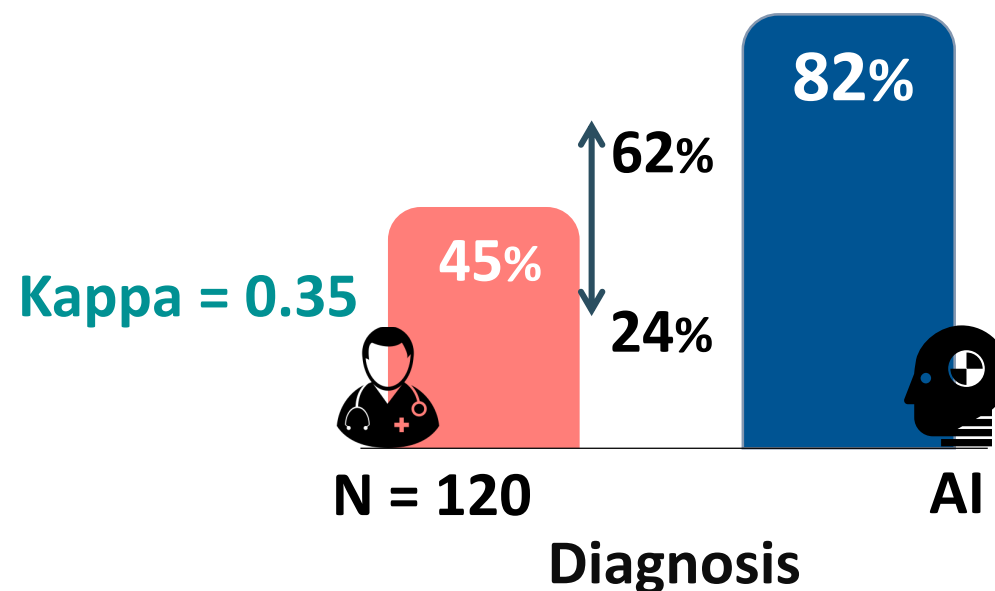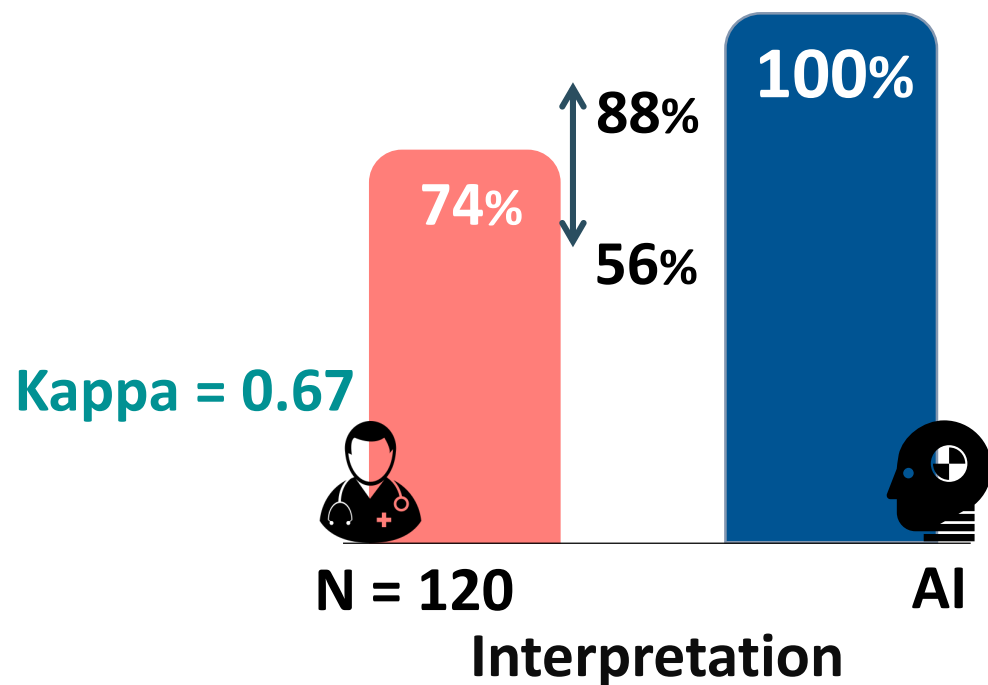
Topalovic et al. European Respiratory Journal. 2019

Conclusions

Artificial intelligence can be used to **reliably interpret** pulmonary function test & **accurately detect** different lung diseases.

Due to AI superiority and work consistency, such software will provide a **powerful decision support system** in daily primary and secondary setting routine.

Using such software may **decrease costs** to hospitals, clinics & healthcare system, while securing **more time** for patient care.

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