



ANSWERS



Nasal Swab Classifier Investor Presentation

October 22, 2019

Forward-Looking Statements

This presentation contains statements that are not historical and that are based on our beliefs and assumptions and on information currently available to us. These statements constitute forward-looking statements within the meaning of the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions, and other factors that could cause actual results to differ materially from our expectations.

Forward-looking statements can be identified by words such as: "anticipate," "intend," "plan," "expect," "believe," "should," "may," "will" and similar references to future periods. Examples of forward-looking statements include, among others, statements we make regarding the ability of our nasal swab test to allow early detection of lung cancer; the reliability of our nasal swab test compared to other methods of diagnosis; the total addressable market for our nasal swab test; our ability to achieve milestones under the collaboration agreement with Johnson & Johnson; our ability to achieve and maintain Medicare coverage for our tests; the benefits of our tests and the applicability of clinical results to actual outcomes; the size of our addressable market; the laws and regulations applicable to our business, including potential regulation by the Food and Drug Administration or other regulatory bodies; our ability to successfully achieve and maintain adoption of and reimbursement for our products; the amount by which use of our products are able to reduce invasive procedures and misdiagnosis, and reduce healthcare costs; the occurrence and outcomes of clinical studies; the timing and publication of study results; the applicability of clinical results to actual outcomes; the continued application of clinical guidelines to our products and their inclusion in such clinical practice guidelines; our ability to compete; our ability to obtain capital when needed; and other risks set forth in our filings with the Securities and Exchange Commission, including the risks set forth in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019. These forward-looking statements speak only as of the date hereof and Veracyte specifically disclaims any obligation to update these forward-looking statements.

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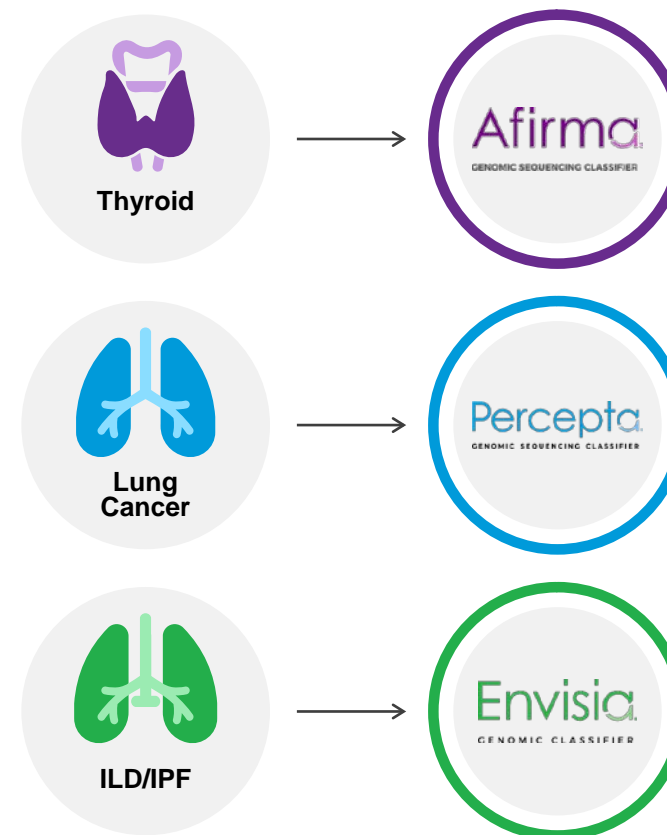


We are a leading
genomic diagnostics
company transforming
care throughout the
patient journey.

WHERE WE STARTED

Founded with a mission to improve diagnostic accuracy

Diagnosis



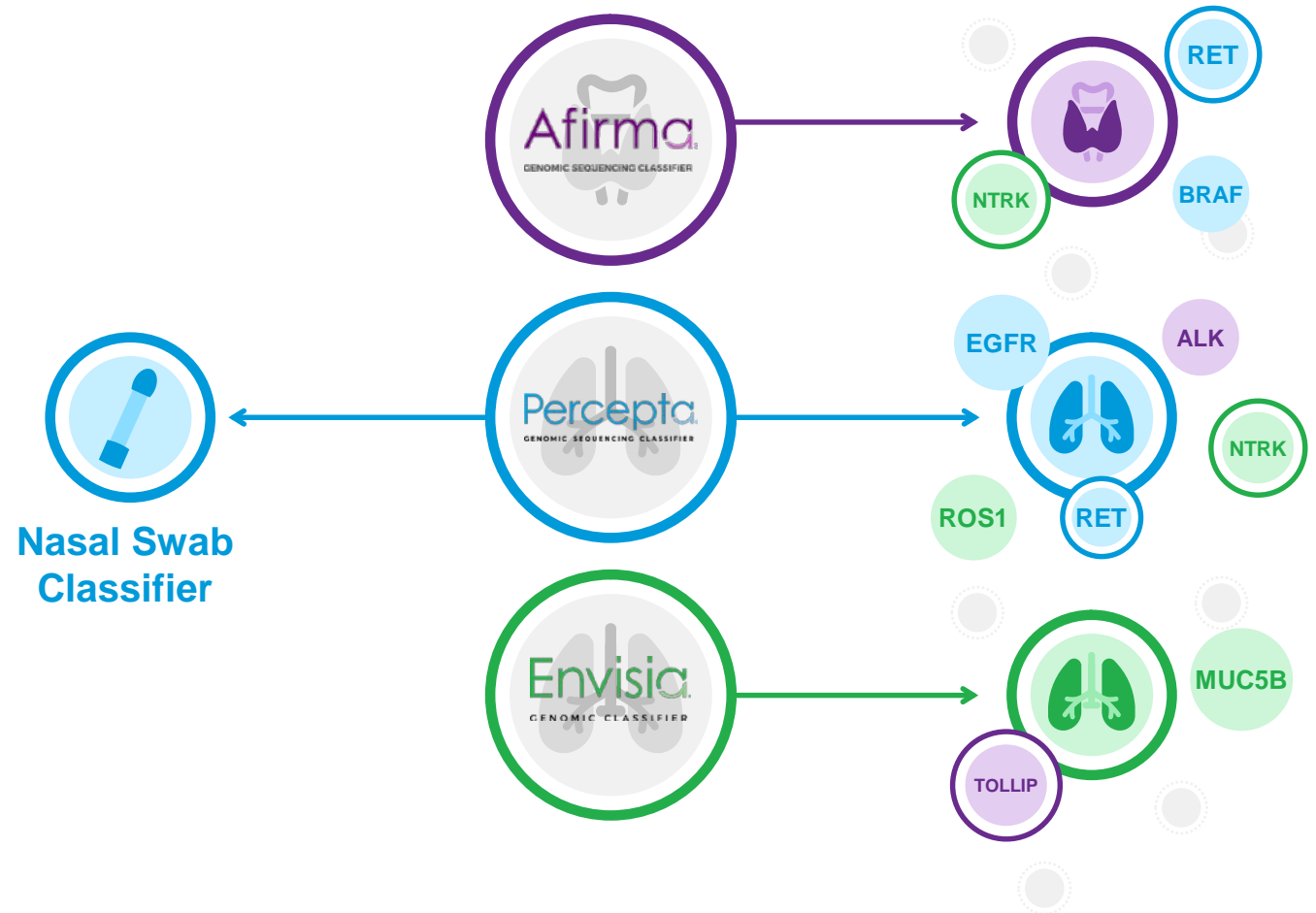
WHERE WE'RE GOING

Expanding to
advance early
detection and
inform treatment
decisions

Early Detection

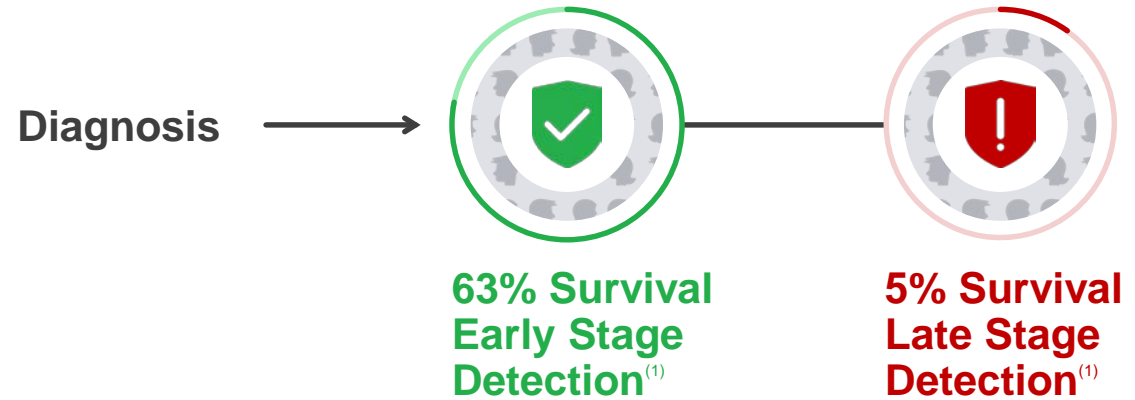
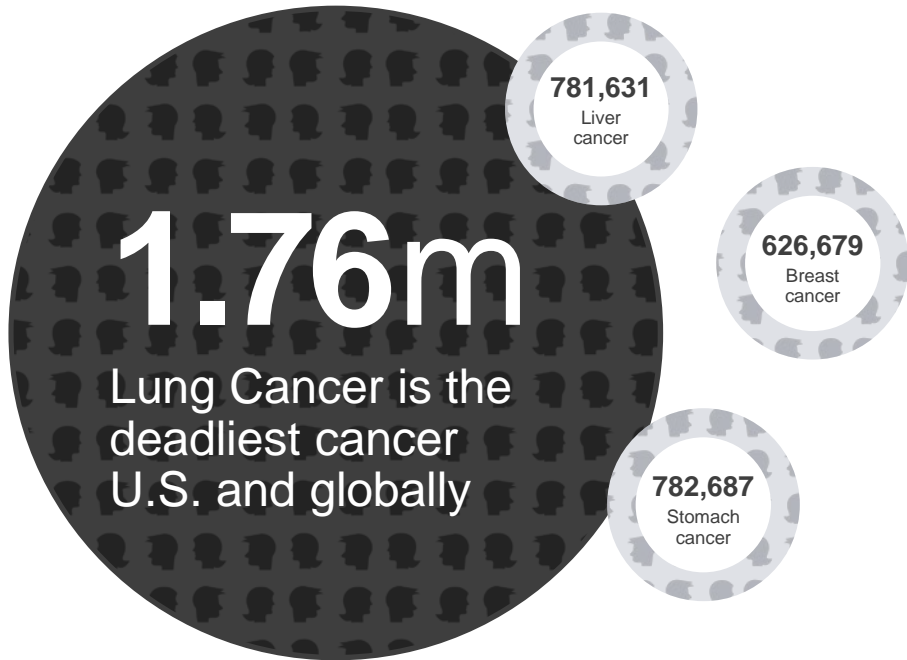
Diagnosis

Treatment



LUNG CANCER

Early detection and improved diagnosis are key to saving lives

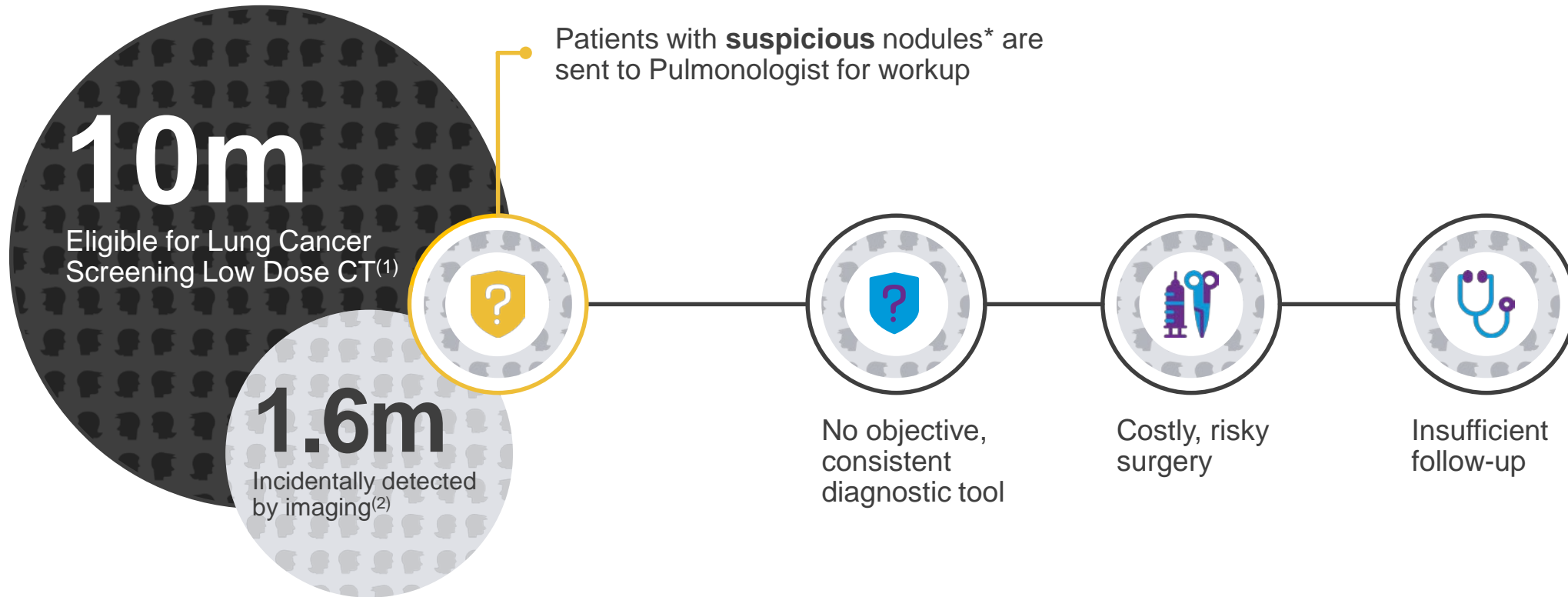


(1) Sources: GLOBOCAN 2018, National Cancer Institute Surveillance, Epidemiology and End Results (SEER)

"Early stage" includes invasive localized tumors that have not spread beyond organ of origin.

"Late stage" includes invasive cancers that have metastasized beyond the organ of origin to other parts of the body.

Risk assessment & diagnostic approach

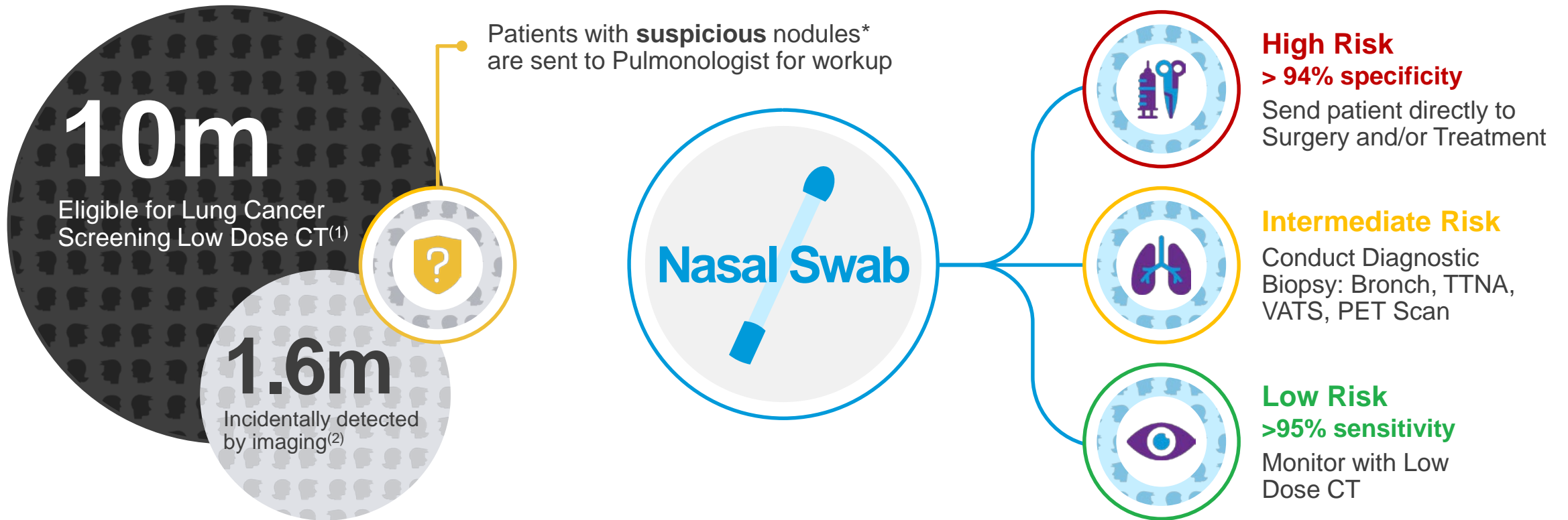


(1) Cancer Epidemiol Biomarkers Prev. 2012 July ; 21(7): 1049–1059. doi:10.1158/1055-9965.EPI-12-0343

(2) Gould et al., ATS Journal, 2015

Sources: * Suspicious nodules include LungRADS3, 4 nodules and Intermediate/High risk nodules

Risk assessment & diagnostic approach could standardize guidelines



(1) Cancer Epidemiol Biomarkers Prev. 2012 July ; 21(7): 1049–1059. doi:10.1158/1055-9965.EPI-12-0343

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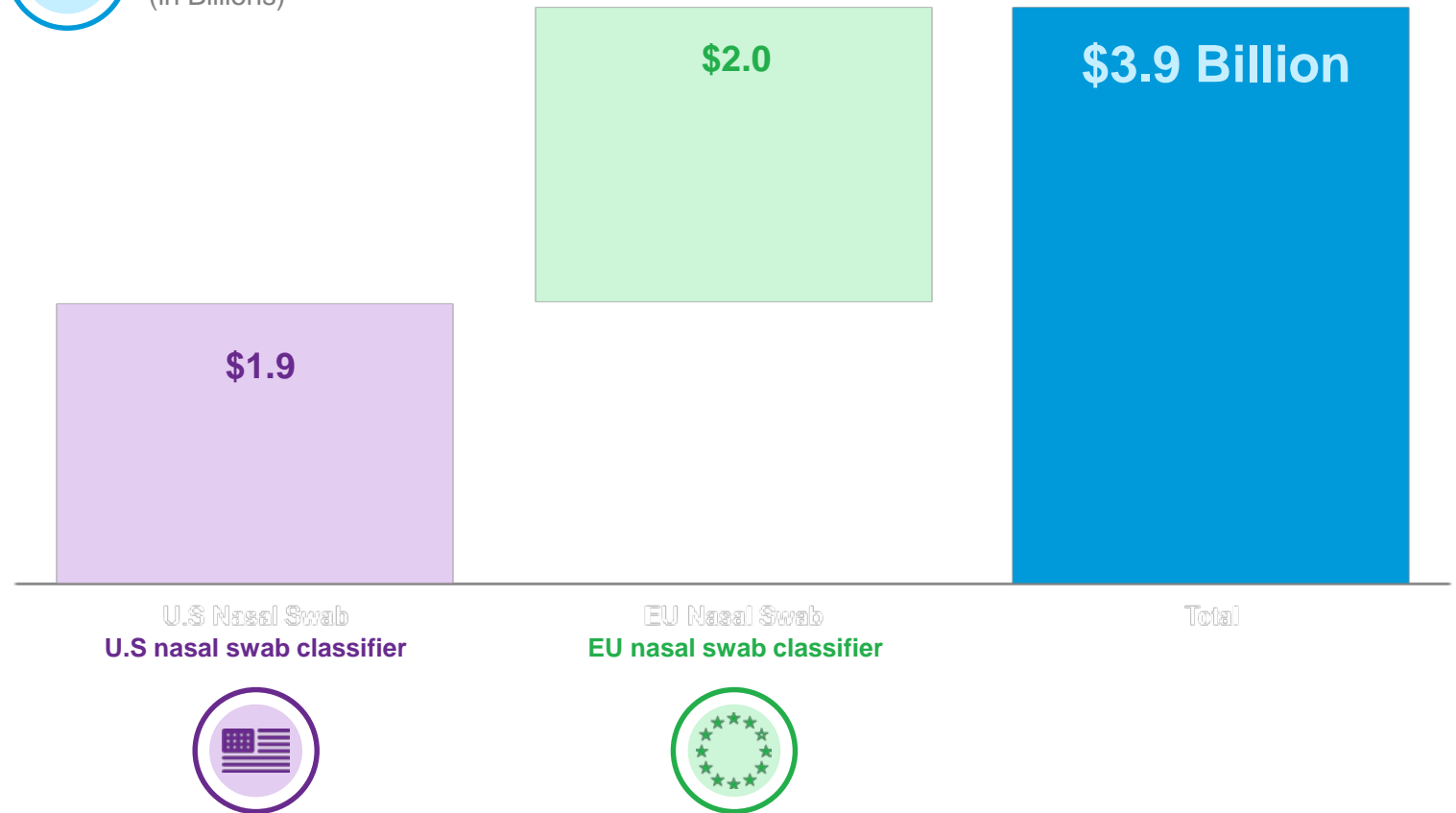
Estimated
up to \$4 billion
in 2019

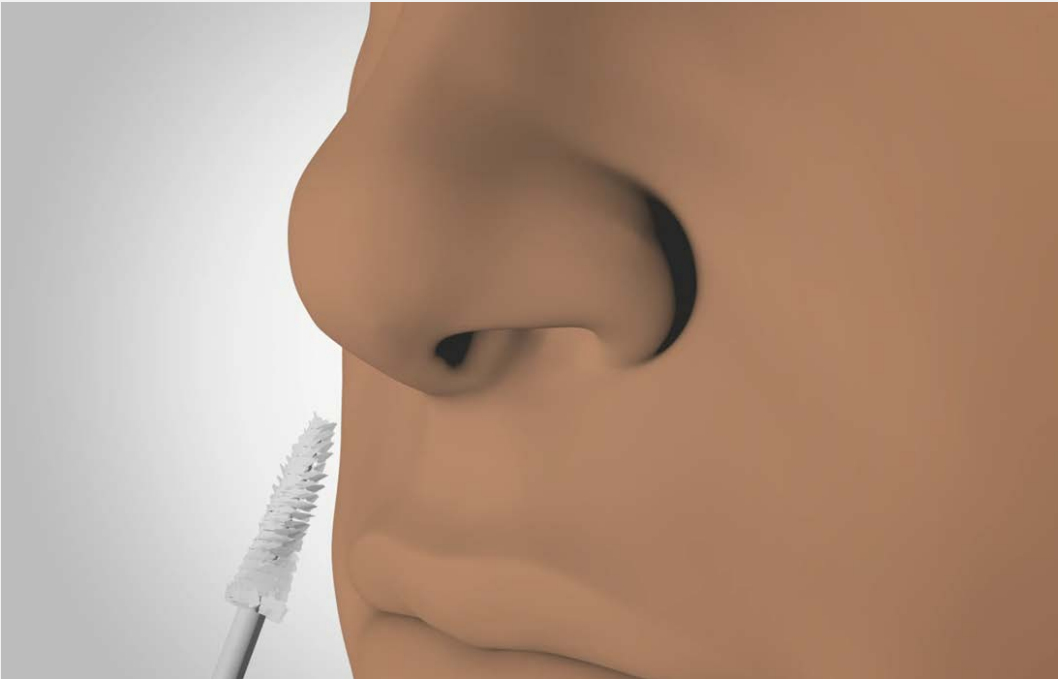
Based on pricing ranging
from \$800 - \$2,500



Nasal Swab Classifier Market Potential

(in Billions)





**Non-invasive nasal swab classifier
designed for early detection to save lives**

PIPELINE HIGHLIGHT

Nasal swab classifier for early lung cancer detection

Strategic Collaboration Accelerates Lung Cancer Pipeline and Expands Market Opportunity

Exposures such as smoking leads to genomic alterations throughout the airway

Leveraging field of injury science, the Percepta GSC detects lung cancer from genomic alterations in the **bronchial airway**

New nasal swab classifier is designed to detect lung cancer from genomic alterations in the **nasal airway**



50M in monetary and non-monetary value*

Nasal Swab Classifier Development Methodology



- Swab samples of the nasal epithelium were prospectively collected during the AEGIS I and II clinical trials from current and former smokers with suspected lung cancer lesions found on chest CT.
- Patients were followed for up to one year until a final diagnosis of lung cancer or benign disease was made. Adjudicated benign and malignant diagnoses were obtained for each patient.
- A total of 675 subjects were divided into a training set of 411 nasal samples and an independent test set of 261 nasal samples
- Extracted RNA was analyzed using whole-transcriptome RNA sequencing; sequencing data was analyzed by the Veracyte feature extraction pipeline
- Machine learning models were developed using gene expression as well as clinical factors such as age, gender, smoking status and nodule characteristics

Training/Independent test set demographic information

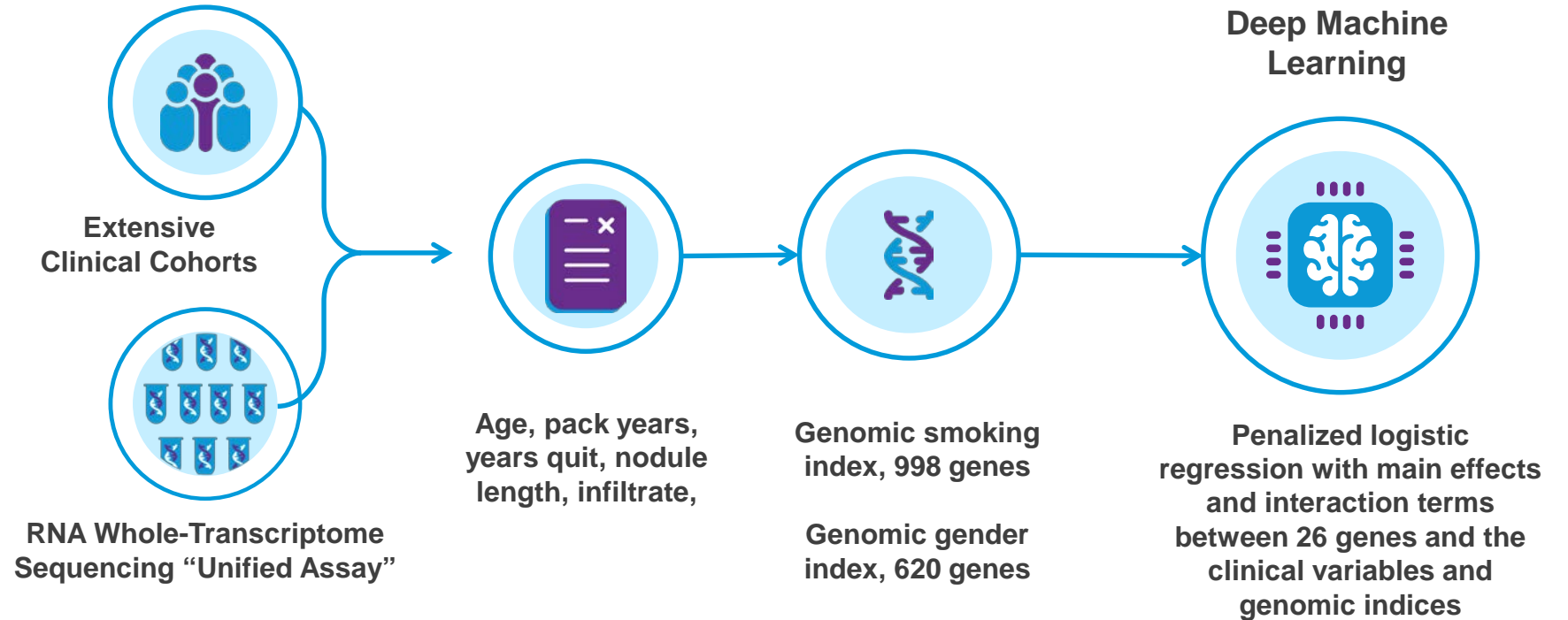
Training Set: 411 patients

Category	Sub-category	Benign	Malignant
N=411		85	326
Sex	Male	51	210
	Female	34	116
Age	Median	58	65
Smoking status	Current	25	146
	Former	60	180
Pack-year	Median	30	47
Nodule size (cm)	< 1	9	8
	1 to 2	16	52
	>2 to <3	9	45
	>=3	27	195
	Ill defined infiltrate	20	14
	Unknown	4	12
Nodule location	Central	22	120
	Peripheral	33	90
	Both	26	105
	Unknown	4	11
Histology	SCLC		42
	NSCLC		250
	Other		34
NSCLC type	Adenocarcinoma		106
	Squamous		100
	Large Cell		11
	Other		33

Independent Test Set: 261 patients

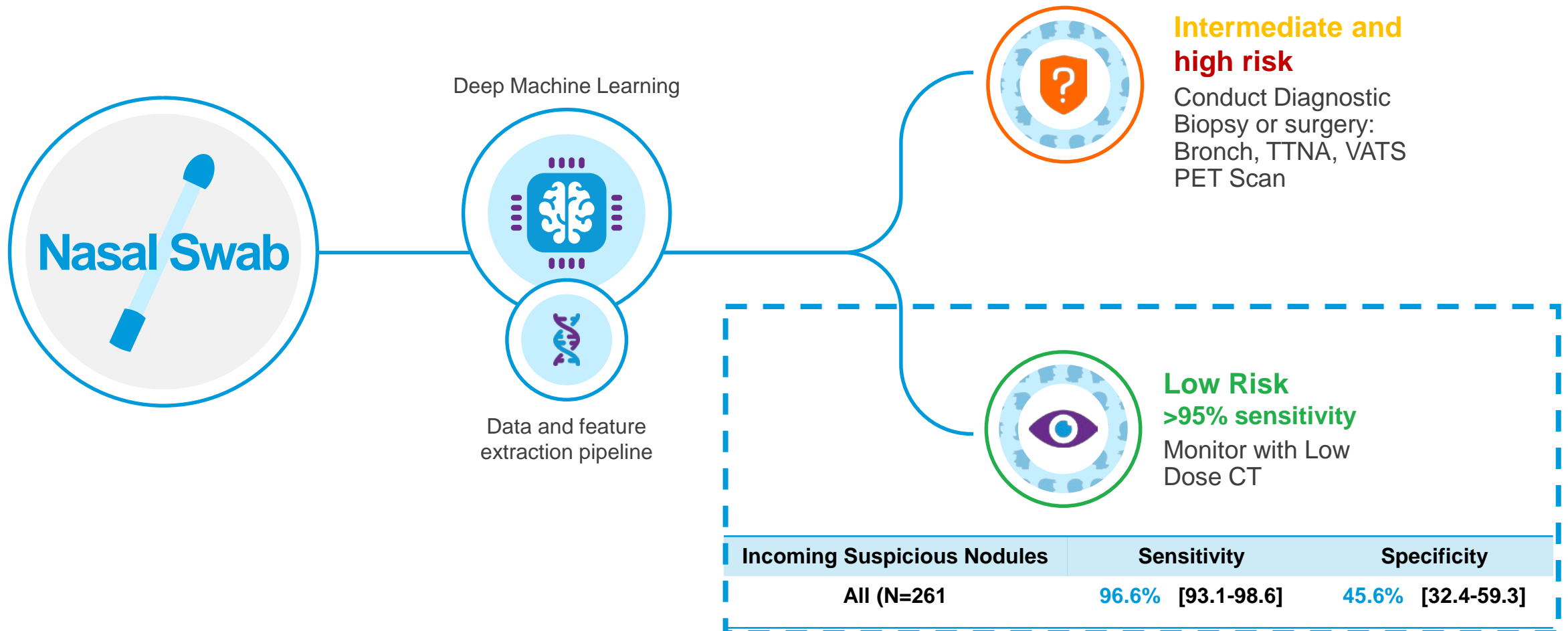
Category	Sub_category	Benign	Malignant
N=261		57	204
Sex	Male	38	131
	Female	19	73
Age	Median	57	66
Smoking status	Current	23	104
	Former	34	100
Pack-year	Median	20	48
Nodule size (cm)	< 1	7	6
	1 to 2	17	33
	>2 to <3	6	25
	>=3	14	125
	Ill defined infiltrate	10	10
	Unknown	3	5
Nodule location	Central	24	72
	Peripheral	21	61
	Both	8	65
	Unknown	4	6
Histology	SCLC		26
	NSCLC		161
	Other		17
NSCLC type	Adenocarcinoma		69
	Squamous		62
	Large Cell		10
	Other		20

Nasal Swab Classifier combines clinical and genomic features

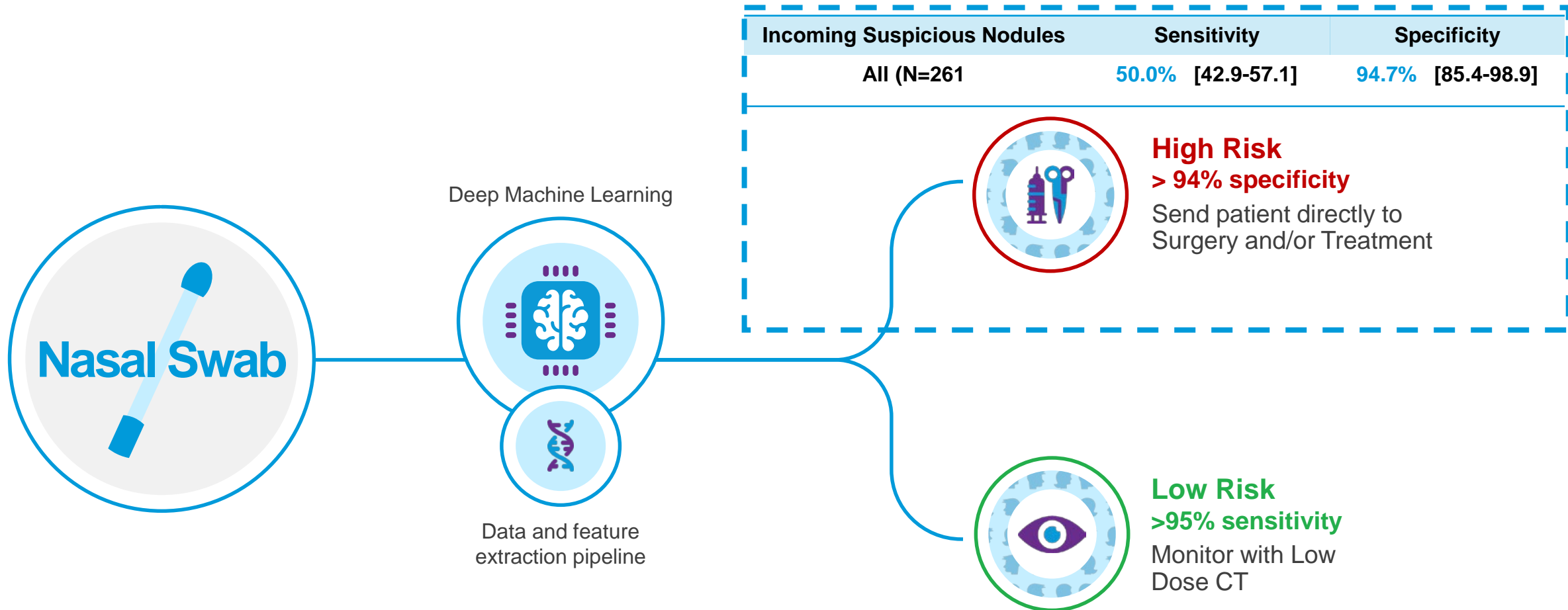


nasal swab classifier

Initial independent test set performance using the **one cut-off** nasal classifier achieved high sensitivity to classify **>40% of benign nodules as Low Risk** without missing cancers

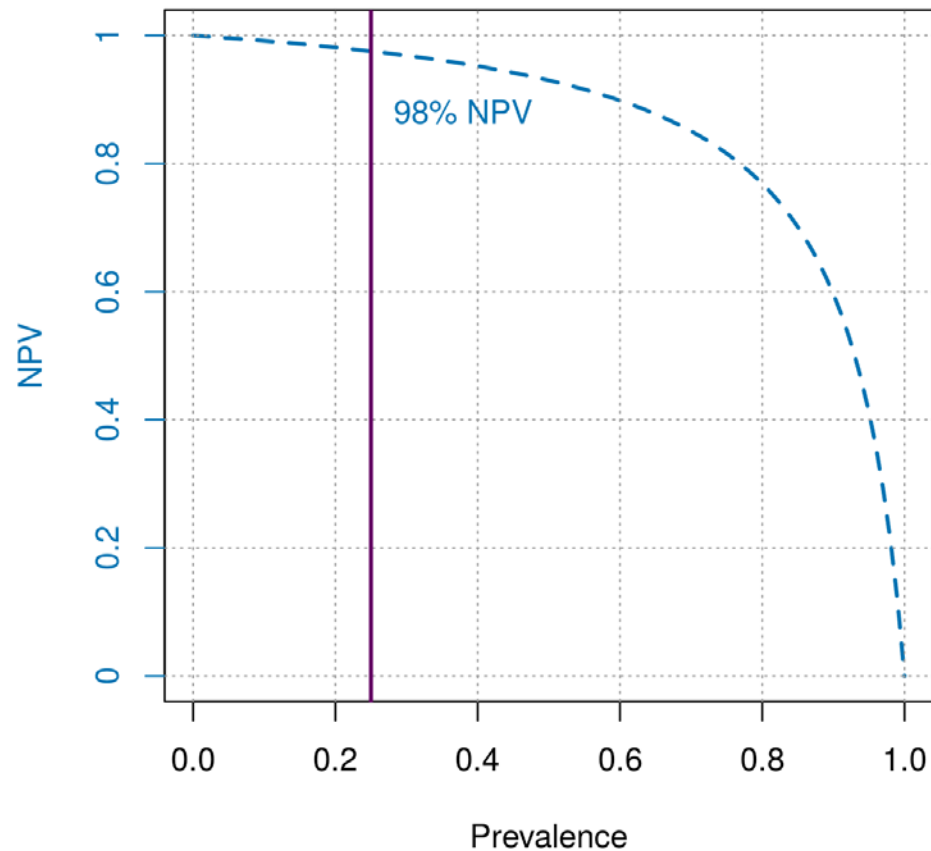


Subsequent independent test set performance using the **two cut-off** nasal classifier achieved the added benefit of **high specificity to classify >40% of malignant nodules as High Risk**

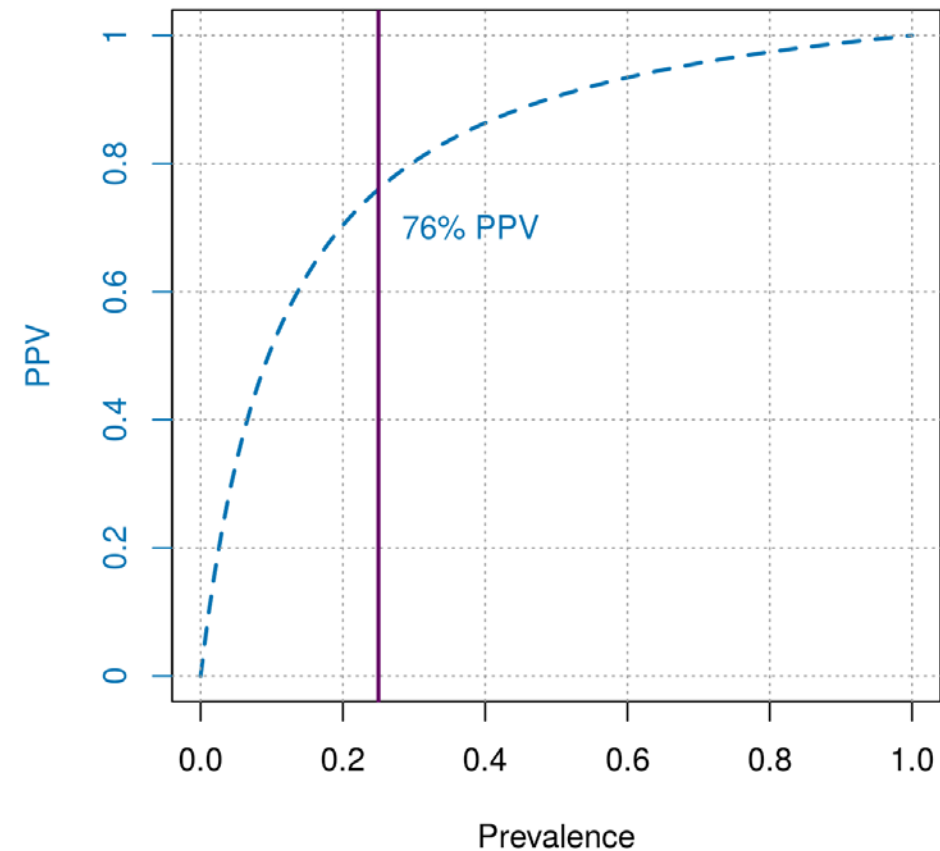


nasal swab classifier

The nasal classifier performance was then modeled on a population with 25% cancer prevalence, mimicking the intended use population

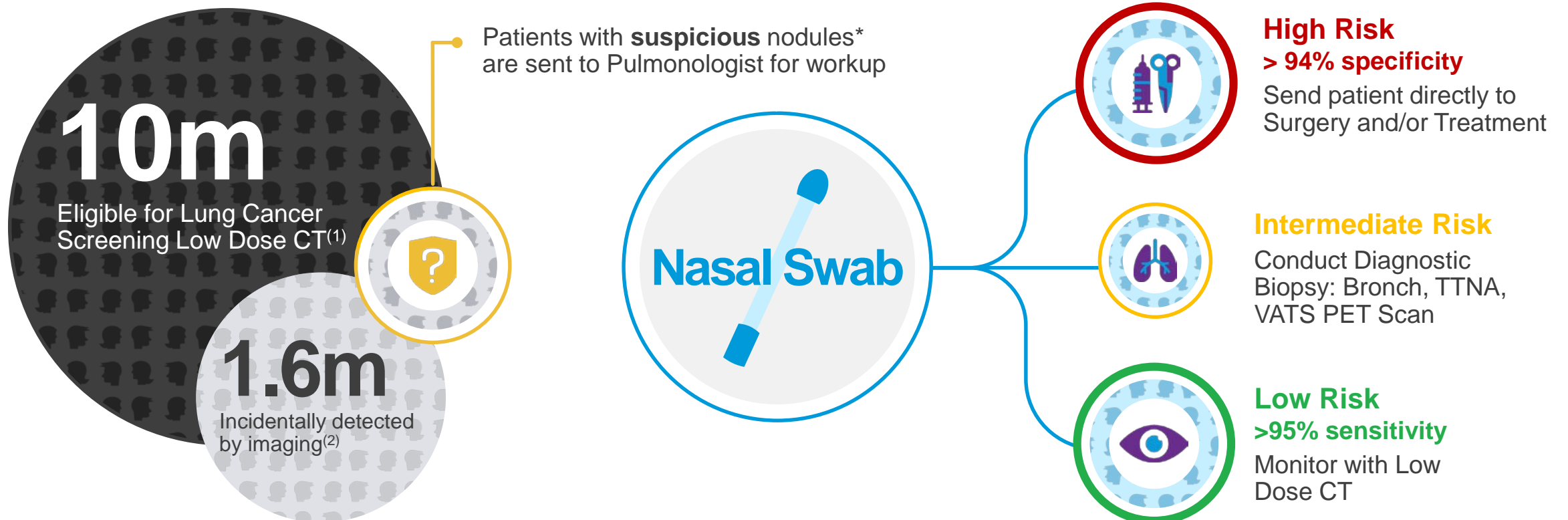


Classification as Low Risk with a specified cut-off
Sensitivity = ~96 %, Specificity = ~45%



Classification as High Risk with a specified cut-off
Sensitivity = ~50%, Specificity = ~94%

First non-invasive nasal swab classifier has the potential to significantly improve risk-stratification and diagnostic work-up of lung nodule patients



(1) Cancer Epidemiol Biomarkers Prev. 2012 July ; 21(7): 1049–1059. doi:10.1158/1055-9965.EPI-12-0343

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