



Pacific Edge  
NOVITAS LCD DECISION  
Investor presentation

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# NOVITAS DETERMINATION TIMELINE

- **July 2020**
  - Novitas informs Pacific Edge that Cxbladder is covered under LCD 35396 with a comment in Local Coverage Article (A58529) “the CxBladder test is now covered utilizing the reasonable and necessary guidelines”
- **June 2022**
  - Novitas proposed a new approach to Cxbladder coverage in Draft LCD (DL39365/DL3967) and a Draft Local Coverage Article (DA59125)
  - Seeks to link coverage relying to third party knowledge bases<sup>1</sup>
  - Cxbladder not mentioned in the LCD or LCA
- **July 2022**
  - Revision of the draft explicitly excluded Cxbladder from coverage, Pacific Edge shares put in trading halt and the market notified of the new draft determination
  - Pacific Edge advised that cessation of Medicare coverage had a low chance of succeeding, was unprecedented and unlawful (21st Century Cures Act).
- **July 2022 – September 2022**
  - With customers, the patient advocacy group BCAN (Bladder Cancer Advocacy Network) and our industry partner the Coalition for 21st Century Medicine (C21) and several other affected diagnostic test companies submitted written comments for consideration supported by in person representations.
- **September 2022 – May 2023**
  - Contingency planning underway for multiple outcomes amid expectations that coverage would be maintained.
- **November 2022**
  - A58529 is retired and Pacific Edge is guided by Novitas to use A58917 as the basis for coverage with Medicare Advantage Plans
- **January 2023**
  - Triage gains coding and then coverage under the older LCD (L35396) based on it being included in the LCA 58917
- **2 June 2023 (June 3 NZT):**
  - Novitas finalized draft LCD (L39365), noting multiple tests, including Cxbladder Triage, Detect, Monitor, Resolve and Detect\* as ‘not considered medically reasonable and necessary’.
- **17 July 2023:**
  - Medicare coverage of Cxbladder to cease

<sup>1</sup> The knowledge bases are Clinical Genome Resource (ClinGen); National Comprehensive Cancer Network (NCCN); Oncology Knowledge Base (OncoKB)

# NOVITAS DETERMINATION HAS A SIGNIFICANT IMPACT ON PACIFIC EDGE

## NOVITAS SUMMARY CONCLUSIONS

Finalized LCD (L39365) notes Cxbladder tests ‘not considered medically reasonable and necessary’, the threshold required for coverage under the US Social Security Act, based on:

- Insufficient validation in confounding clinical circumstances
- Population and gender biases
- High numbers of false positives
- Questions credibility of Pacific Edge funded research
- L39365 is focused on diagnostic, prognostic and predictive tests following or as an adjunct to a confirmed pathological diagnosis of cancer
- Novitas continues to reimburse Pacific Edge at US\$760/test, but this is expected to cease on 17 July 2023

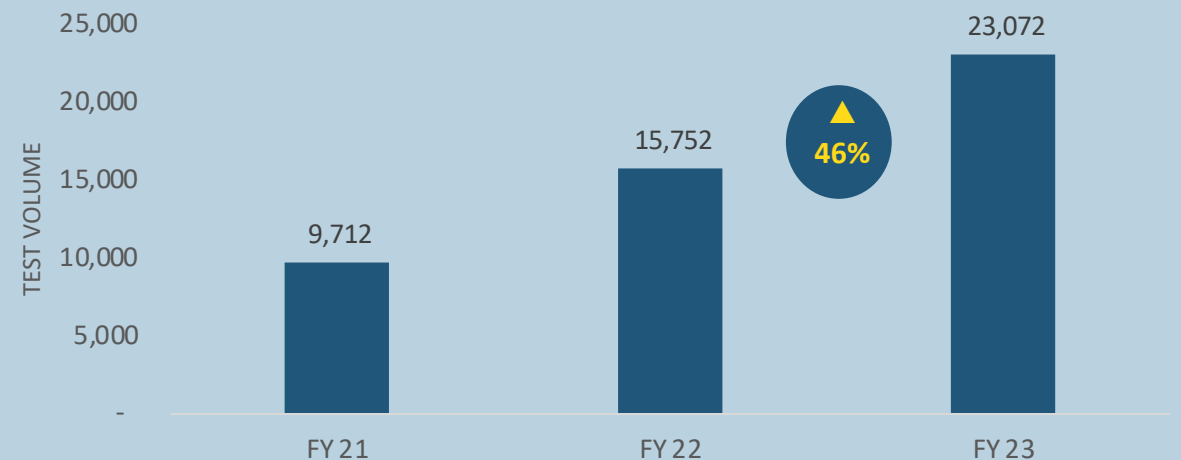
*Novitas is the Medicare Administrative Contactor (MAC) with jurisdiction for Pacific Edge’s US laboratory.*

## MEDICARE COVERS >61.5M US CITIZENS OVER 65



- Cxbladder has a majority Medicare and Medicare Advantage population; average age of 73 for presentation with hematuria
- In FY23, Medicare and Medicare Advantage delivered 13,800 tests (~60%) of US commercial Cxbladder tests generating ~\$15.3m in total operating revenue (~77.3%)

## PACIFIC EDGE US COMMERCIAL TEST VOLUMES



# NOVITAS MISUNDERSTANDS THE VALUE OF CXBLADDER TO UROLOGISTS

## WHERE WE AGREE WITH NOVITAS:

- Molecular diagnostics is a developing field, and it is important to assess genetic testing in the context of oncology with a rigorous, evidence-based approach to facilitate the appropriate testing for all eligible Medicare beneficiaries
- The review of Pacific Edge’s evidence emphasized negative comments and confounding factors where further research and evidence can and are being undertaken – all research was peer reviewed and published in well-respected journals

## WHERE WE DISAGREE WITH NOVITAS:

- Does not acknowledge the support Cxbladder is attracting from urologists the US with 1151 clinicians ordering in Q4FY23 and rapidly growing testing volume of 43% CAGR over the last 2 years
- Misunderstands the value of non-invasive primary ‘first line’ testing
- Misunderstands the value of our tests in the context of the current AUA standards of urological care:
  - Does not consider hematuria as substantiated suspicion of bladder cancer. Current guidelines recognize this and require a cystoscopy, many of which Cxbladder can safely avoid
  - Misunderstands the central value proposition of tests like Cxbladder with high NPV in that they allow urologists to reduce unnecessary tests and procedures
  - Misunderstands how to interpret a positive result, i.e. that physicians should continue the evaluation of the patient for any other cause of disease, including upper tract assessment
- The LCD is an unprecedented change to the threshold and mechanism regarding what’s acceptable evidence and what’s not



## TRIAGE

### Used in primary care to:

- Assist clinicians to **safely de-intensify** hematuria evaluation from low incidence populations
- **Sensitivity 95% / NPV 99%**

## DETECT

### Used in primary and secondary care:

- Assist clinicians to adjudicate diagnostic dilemmas (e.g., equivocal cystoscopy & atypical cytology) in any patient population
- **Sensitivity 82% / Specificity 85% / NPV 97%**

## MONITOR

### Used in bladder cancer surveillance to

- Assist clinicians in **monitoring for UC recurrence**. Intended to reduce the frequency of surveillance cystoscopy and improve patient compliance
- **Sensitivity 93% / NPV 97%**

**Sensitivity:** the likelihood of the test to be positive in a patient with the disease

**Specificity:** the likelihood of the test to be negative when the patient does not have the disease;

**NPV:** the likelihood of a negative test being a true negative.



# STRATEGIC OPTIONS: SHORT-TERM

## CONTAINING COSTS AS WE REVIEW STRATEGY

### TAKING A PRUDENT APPROACH

- Continue to promote Cxbladder and process all tests ordered by US clinicians with the current team
- Cost containment including, but not limited to immediate hiring freeze, and a halt on discretionary spending and new CAPEX
- Contracted payers (Kaiser, VA and other minor health plans) will continue to be billed and we expect to receive reimbursement from them in line with historic rates.



*The Veterans Administration serves >9m veterans each year*

- DRIVE<sup>1</sup> clinical study, has enrolled 80% of target patients
- DRIVE is a key engagement with VA urologists to determine clinical validity in a cohort of VA patients



*The Kaiser Health Plan covers >12.5m members*

- 2 Kaiser sites in PEB's Top 20 Accounts. 14 Kaiser sites across Southern California ordering in FY23
- EMR software development and integration testing complete; KP and PE working towards "go live"

<sup>1</sup> Detail of Pacific Edge's clinical studies are included in the appendix to this presentation.

# STRATEGIC OPTIONS: LONGER TERM

## ENSURING WE ARE RIGHT-SIZED IN LIGHT OF THE LCD

### CLINICAL EVIDENCE SETS THE PATH TO REGAINING MEDICARE COVERAGE

- Reconfiguring the evidence generation program over the last 12-18 months has refocused and accelerated our path to guideline inclusion and regaining Medicare coverage
- Detect+ will be the strongest candidate for inclusion in the NCCN and AUA guidelines as single product for hematuria evaluation
- Clinical studies accelerated<sup>1</sup>:
  - DRIVE ready for publication in CY24
  - microDRIVE, and AUSSIE target completion in end of CY24

### REVIEWING OUR BUSINESS IN LIGHT OF THE LCD

- Management and Board are reviewing the scenario planning commenced last year to determine a path forward that includes
  - Legal challenges or appeals
  - Regaining coverage through Novitas
  - Regaining coverage through an alternative MAC
  - Alternative billing practices, such increasing patient responsibility
  - Other strategic alternatives
- Impact on revenue, expenditure, cash reserves, required time and resources to regain coverage and shareholder value are determinative.
- Management and Board are committed to right-size the business to fit any revision to strategy

<sup>1</sup> Detail of Pacific Edge's clinical studies are included in the appendix to this presentation.



American  
Urological  
Association

[www.auanet.org](http://www.auanet.org)

- Most influential and largest urological association in the world with 23,000 members worldwide.
- Standards of care relevant to Cxbladder are hematuria and micro-hematuria management and non-muscle invasive bladder cancer (NMIBC) (allows for biomarkers in surveillance)
- Guidelines reviewed as new evidence emerges



National Comprehensive  
Cancer Network®

[www.nccn.org](http://www.nccn.org)

- US-based not-for-profit alliance of 32 leading US cancer centres
- Bladder cancer standard suggests biomarkers may be considered during surveillance of high-risk non-muscle-invasive bladder cancer
- Guidelines reviewed annually. PEB will resubmit in every year where there is new peer-reviewed evidence for Cxbladder

## SUMMARY AND OUTLOOK:

- Disappointed by the new LCD
  - Highlights some areas of improvement in Pacific Edge's evidence portfolio that either have been or are being addressed
  - Does not acknowledge the value Cxbladder offers in the patient diagnosis and management, or the record demand from urologists
- The single most important determinant of coverage is high-quality clinical evidence
  - The clinical evidence program has already been accelerated
  - On the back of DRIVE, microDRIVE and AUSSIE, Detect+ is the strongest candidate for guidelines inclusion
- We will continue to bill and collect revenue from contracted payers in the US and in APAC
- We have world-leading technology, a strong balance sheet with \$77.8 million cash on hand at the end of March
- Despite this setback we still expect to deliver on the significant opportunities we see for Cxbladder in the US and around the world.



# QUESTIONS



# APPENDIX

# CLINICAL EVIDENCE GENERATION TOWARDS GUIDELINE INCLUSION (1/2)

STUDY	AIM	LOCATIONS	ENROLLED SITES*	STATUS**
STRATA	<p><b>S</b>afe <b>T</b>esting of <b>R</b>isk for <b>A</b>symptomatic Microhematuria</p> <p>Demonstrate the clinical utility (CU) of Cxbladder using a prospective, two-arm randomized design to risk-stratify patients and rule out from cystoscopy</p> <ul style="list-style-type: none"> <li>Establish CU for Cxbladder Triage in MH populations to identify patients at low risk of bladder cancer that can safely avoid cystoscopy</li> <li>Retrospective analysis with Cxbladder Detect+ to show equivalent or greater CU in MH populations with the improved performance characteristics</li> <li>CU evidence supports AUA/NCCN guidelines inclusion using Cxbladder Triage and/or Cxbladder Detect+ to risk stratify MH populations</li> </ul>	USA Canada	11 / 13	<ul style="list-style-type: none"> <li>Enrolment total is 492, including 113 'low risk' subjects that are the focus of the study</li> <li>Target enrolment: ~600 patients, including 120 low risk subjects randomized to test arm</li> <li>Last patient in: Q3 2023</li> <li>Follow up: until Q3 2024</li> </ul>
DRIVE	<p><b>D</b>etection and <b>R</b>isk Stratification in <b>V</b>eterans Presenting with Hematuria</p> <p>Prospective recruitment of patients to a single-arm observational study to demonstrate the CV of Cxbladder tests in risk stratifying Veterans presenting with hematuria</p> <ul style="list-style-type: none"> <li>CV evidence for Triage in MH &amp; GH patients supplementing NZ Studies</li> <li>Demonstrate CV of Cxbladder Detect+ within a Veterans cohort</li> <li>Retrospective analysis with Cxbladder Detect+ to demonstrate CV evidence supporting AUA/NCCN Guidelines inclusion in MH &amp; GH patients</li> <li>Contribute data to pooled-analysis to establish CV for Detect+ in MH patients</li> </ul>	VA Sites (USA)	10 / 11	<ul style="list-style-type: none"> <li>Enrolment total is 562</li> <li>Target enrolment: ~600 patients</li> <li>Last patient in: Q3 2023</li> <li>Follow up: until Q2 2025</li> </ul>
AUSSIE	<p><b>A</b>ustralian <b>U</b>rologic risk <b>S</b>tratification of patients <b>w</b>ith <b>h</b>ematuria</p> <p>Prospective recruitment of patients to a single-arm observational study to demonstrate CV in an Australian healthcare setting for patients presenting with hematuria</p> <ul style="list-style-type: none"> <li>Demonstrate CV of Cxbladder Detect+ with an Australian cohort</li> <li>Demonstrate accurate risk stratification of hematuria patients to intensify or de-intensify evaluation</li> <li>Contribute data to pooled-analysis to establish CV for Detect+ in MH patients</li> </ul>	Australia	1 / 1	<ul style="list-style-type: none"> <li>Enrolment due to start May 2023</li> </ul>

\*Estimated number of enrolled sites  
 \*\*All dates are best-case estimates and subject to change



# CLINICAL EVIDENCE GENERATION TOWARDS GUIDELINE INCLUSION (2/2)

STUDY	AIM	LOCATIONS	ENROLLED SITES*	STATUS**
<b>Microhematuria Pooled-analysis</b>	<p>Pooled-analysis of Cxbladder Detect+ performance from multiple studies involving prospectively recruited patients from single-arm observational studies including eligible microhematuria patients</p> <ul style="list-style-type: none"> <li>CV of Cxbladder Detect+ with microhematuria (MH) patients</li> <li>Combines data from DRIVE, AUSSIE and a future MH-focused clinical trial</li> <li>CV evidence supports AUA/NCCN guidelines inclusion using Cxbladder Detect+ to risk stratify MH populations</li> </ul>	USA, Aus	N/A	- DRIVE underway, AUSSIE and microDRIVE projected to start in 2023
<b>microDRIVE</b>	<p>Detection and Risk Stratification in <b>VE</b>terans Presenting with <b>MI</b>crohematuria</p> <ul style="list-style-type: none"> <li>Demonstrate the clinical validity of Cxbladder Detect+ in detecting urothelial cancer in patients presenting with microhematuria.</li> <li>MicroDRIVE will compare the performance of Detect+ against the current gold-standard for the detection of urothelial cancer, diagnostic cystoscopy and pathology.</li> </ul>	USA	0/1	<ul style="list-style-type: none"> <li>Projected to start recruitment Sep/Oct 2023</li> <li>Target is 1000 patients and 50 tumour confirmed</li> <li>Last patient in: March/April 2024</li> </ul>
<b>LOBSTER</b>	<p><b>L</b>ongitudinal <b>B</b>ladder Cancer <b>S</b>tudy for <b>T</b>umor <b>R</b>ecur<b>R</b>ence Prospective recruitment of patients to a single-arm observational study to evaluate the clinical validity of CxbM</p> <ul style="list-style-type: none"> <li>To safely risk stratify patients under surveillance for recurrence of UC</li> <li>To demonstrate that it is safe to alternate CxbM with cystoscopy for intermediate and high-risk patients under surveillance for recurrence of UC</li> <li>Targeting AUA/NCCN guidelines inclusion for biomarkers as an alternative to cystoscopy in a surveillance setting</li> </ul>	USA (including some VA sites) Australia	3 / 10	<ul style="list-style-type: none"> <li>Three sites are open</li> <li>Two due to open in April</li> <li>Another 6 are at pre-activation.</li> <li>Enrolment is now 63 patients with 98 samples collected to date</li> <li>Each site will enroll 100 patients within 12 months and follow up for another 12 months</li> </ul>

\*Estimated number of enrolled sites

\*\*All dates are best-case estimates and subject to change



# SUMMARY OF CLINICAL EVIDENCE

		Study	Pop. Type	Sensitivity (Sn)	NPV	Specificity (Sp)	Comment
Detect+	AV	Lotan et al., 2022	MH + GH*	97%	99.7%	90%	Pooled data from US and Singapore cohorts (n=804)
	CV	DRIVE (unpublished) (1)	MH + GH*				Study in progress
		AUSSIE (unpublished) (4)	MH + GH*				Study to start this year
		microDRIVE (unpublished) (5)	MH*				Study to start this year
Triage	AV	Kavalieris et al., 2015	MH + GH*	95.10%	98.50%	45%	Sn, Sp, NPV values when test-negative rate is 40%
	CV	Davidson et al., 2019	MH + GH*	95.5% (1)	98.6% (1)	34.3%	GH only: Sn (95.1%), NPV (98%), Sp (32.8%); MH only: Sn (100%), NPV (100%), Sp (42.6%)
		Konety et al., 2019	(2)	100%			Cxbladder (3) correctly adjudicated all UC confirmed patients (n=26) with atypical urine cytology results (n=153, 4)
		Lotan et al., 2022	MH + GH*	89%	99%	63%	Pooled data from US and Singapore cohorts (n=804)
	CU	Davidson et al., 2020	MH + GH*	89.4% (5)	98.9% (5)	59% (5)	39% of patients testing negative for Cxb Triage & imaging did not get cystoscopy & were managed at primary care (6)
		STRATA (unpublished) (7)	MH + GH*				Study in progress
Detect	AV	O'Sullivan et al., 2012	GH*	81.8%	97%	85.1%	Cxb Detect detected 97% of HG tumors & 100% of Stage 1 or greater tumors.
	CV	Lotan et al., 2022	MH + GH*	74%	97%	82%	Pooled data from US and Singapore cohorts (n=804)
		DRIVE (unpublished) (1)	MH + GH*				Study in progress
Monitor	AV	Kavalieris et al., 2017	(1)	88% (2)	97% (2)	N/A	(3)
	CV	Konety et al., 2019	(4)	100%			Cxbladder (5) correctly adjudicated all UC confirmed patients (n=26) with atypical urine cytology results (n=153, 6)
	CU	Koya et al., 2020	(7)				Integration of Cxb Monitor into the surveillance schedule reduced annual cystoscopies (39%) (8,9)

\* Referred

MH: Microhematuria, GH: Gross Hematuria. For definitions of Sensitivity, NPV and Specificity please see the glossary on page 33 of this presentation

# FOOTNOTES FOR CLINICAL EVIDENCE SUMMARY

Footnotes		
<b>Detect+</b>	1	Observational study to validate performance characteristics and clinical utility of Cxbladder tests (Cxb Triage, Cxb Detect, Cxb Detect*).
	2	Observational study to validate performance characteristics of Cxb Detect* in patients with UC of the upper tract.
	3	Patients with suspected upper tract UC (UTUC) or surveillance patients with a history of UTUC.
	4	Observational study to validate performance characteristics and clinical utility of Cxbladder tests (Cxb Triage, Cxb Detect, Cxb Detect*).
	5	Observational study to validate performance characteristics of Cxb Detect* in microhematuria (MH) patients.
<b>Triage</b>	1	Cxb Triage performance; Cxb Triage & imaging combined performance had a <b>Sn</b> of 97.7% & <b>NPV</b> of 99.8%.
	2	Patients included hematuria evaluation ( $n=436$ ) or surveillance previously diagnosed with UC ( $n=416$ ) with both Cxbladder & urine cytology results.
	3	Cxbladder includes Cxbladder Triage & Cxbladder Monitor.
	4	This included $n=70$ for patients with hematuria & $n=83$ for patients with previously diagnosed UC and overall test negative rate of 30.7%.
	5	Cxb Triage performance; Cxb Triage & imaging combined performance had a <b>Sn</b> of 98.1%, <b>NPV</b> of 99.9% & <b>Sp</b> of 98.4%.
	6	Cxb Triage negative rate was 53%; Follow-up period of 21-months showed no missed cancers, demonstrating safety.
	7	The intent of STRATA is to show that it is safe to risk stratify low risk microhematuria patients and not undertake cystoscopy.
<b>Detect</b>	1	Observational study to validate performance characteristics and clinical utility of Cxbladder tests (Cxb Triage, Cxb Detect, Cxb Detect*).
<b>Monitor</b>	1	Surveillance patients previously diagnosed with primary or recurrent UC.
	2	Cxb Monitor performance characteristics on surveillance patients diagnosed with primary UC; Cxb Monitor had a <b>Sn</b> of 93% and <b>NPV</b> of 94% on patients with recurrent UC.
	3	Using Kavalieris et al., (2017) data set, Lotan et al., (2017) compared relative performance of Cxb Monitor against NMP22 ELISA, NMP22 BladderChek and urine cytology.
	4	Patients included hematuria evaluation ( $n=436$ ) or previously diagnosed UC ( $n=416$ ) with both Cxbladder & urine cytology results.
	5	Cxbladder includes Cxbladder Triage & Cxbladder Monitor.
	6	This included $n=70$ for patients with hematuria & $n=83$ for patients with previously diagnosed UC; test negative rate of 30.7%.
	7	All patients were being evaluated for recurrence of UC ( $n=309$ providing 443 samples).
	8	Cxb Monitor identified all seven confirmed recurrence events identified on the first cystoscopy.
	9	Patients returning negative Cxb Monitor results ( $n=235$ ) had no pathology-confirmed recurrence at 1st cystoscopy

## REFERENCES SUMMARY OF CLINICAL EVIDENCE

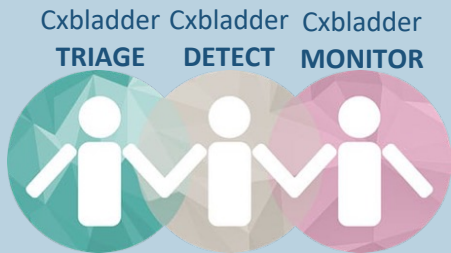
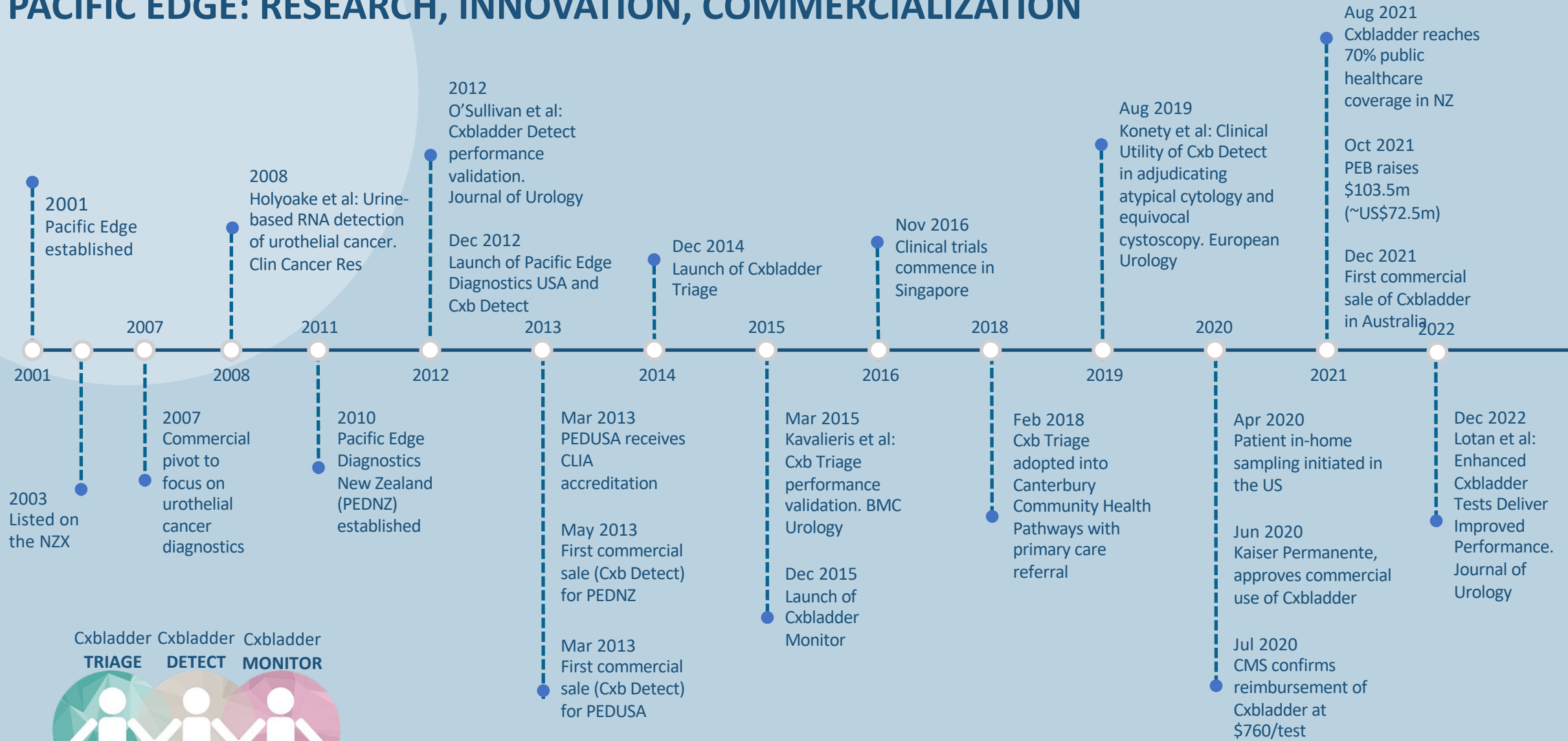
	References
<b>Detect+</b>	Lotan et al., (2022). Urinary Analysis of FGFR3 and TERT Gene Mutations Enhances Performance of Cxbladder Tests and Improves Patient Risk Stratification. <i>The Journal of Urology</i> , 10-1097.
<b>Triage</b>	Davidson et al., (2019). Inclusion of a molecular marker of bladder cancer in a clinical pathway for investigation of haematuria may reduce the need for cystoscopy. <i>NZ Med J</i> , 132(1497), 55-64.
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	Kavalieris et al., (2015). A segregation index combining phenotypic (clinical characteristics) and genotypic (gene expression) biomarkers from a urine sample to triage out patients presenting with hematuria who have a low probability of urothelial carcinoma. <i>BMC urology</i> , 15(1), 1-12.
	Konety et al., (2019). Evaluation of cxbladder and adjudication of atypical cytology and equivocal cystoscopy. <i>European urology</i> , 76(2), 238-243.
	Lotan et al., (2022). Urinary Analysis of FGFR3 and TERT Gene Mutations Enhances Performance of Cxbladder Tests and Improves Patient Risk Stratification. <i>The Journal of Urology</i> , 10-1097.
<b>Detect</b>	Lotan et al., (2022). Urinary Analysis of FGFR3 and TERT Gene Mutations Enhances Performance of Cxbladder Tests and Improves Patient Risk Stratification. <i>The Journal of Urology</i> , 10-1097.
	O'Sullivan et al., (2012). A multigene urine test for the detection and stratification of bladder cancer in patients presenting with hematuria. <i>The Journal of urology</i> , 188(3), 741-747.
<b>Monitor</b>	Kavalieris et al., (2017). Performance characteristics of a multigene urine biomarker test for monitoring for recurrent urothelial carcinoma in a multicenter study. <i>The Journal of Urology</i> , 197(6), 1419-1426.
	Konety et al., (2019). Evaluation of cxbladder and adjudication of atypical cytology and equivocal cystoscopy. <i>European urology</i> , 76(2), 238-243.
	Koya et al., (2020). An evaluation of the real world use and clinical utility of the Cxbladder Monitor assay in the follow-up of patients previously treated for bladder cancer. <i>BMC urology</i> , 20(1), 1-9.
	Lotan et al., (2017). Clinical comparison of noninvasive urine tests for ruling out recurrent urothelial carcinoma. <i>Urologic Oncology: Seminars and Original Investigations</i> , 35 (8), 531-539.

# GLOSSARY

- **Sensitivity** - the frequency with which a test correctly identifies patients with a disease.
- **Specificity** - the frequency with which a test correctly identifies patients without a disease.
- **Negative Predictive Value (NPV)** - the percentage of negative tests being true negatives (by standard of care).
- **Positive Predictive Value (PPV)** - the percentage of positive tests being true positives (by standard of care).
- **Rule-out Rate (ROR)** - the percentage of tests that return a negative result.
- **Evidence definitions:**
  - **Analytical validity:** Develop a test that is repeatable in the lab for a given indication and population.
  - **Clinical validity:** Make sure the test works in the same way on an independent eligible population for the given indication.
  - **Clinical utility:** Put the test in the hands of a physician to establish that it can usefully change patient management within the context of care for the defined population and indication.



# PACIFIC EDGE: RESEARCH, INNOVATION, COMMERCIALIZATION



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