



PainChek

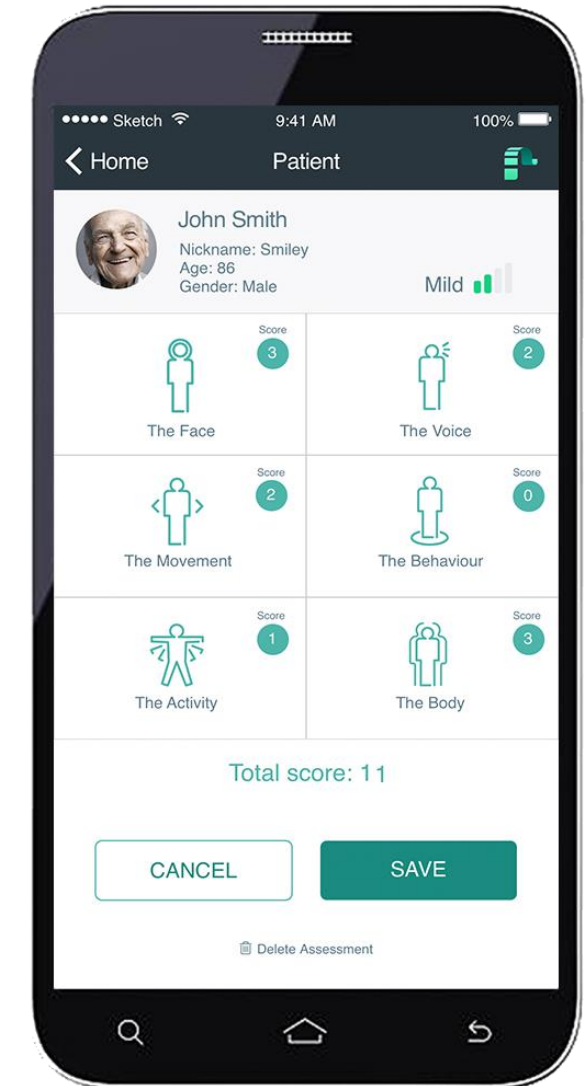
Intelligent Pain Assessment

**Investor Presentation Update
May 2018**

PainChek Ltd

Highlights

- A digital healthcare company
- **First to global market** mobile app to assess and monitor pain
 - pain the most common reason to see a doctor
 - accurate pain assessment is a big problem
- Very large global market opportunities
- Multiple products and revenue channels
- Innovative technology with patent protection
- Commercialisation commenced in Q4 2017
- Experienced board and management



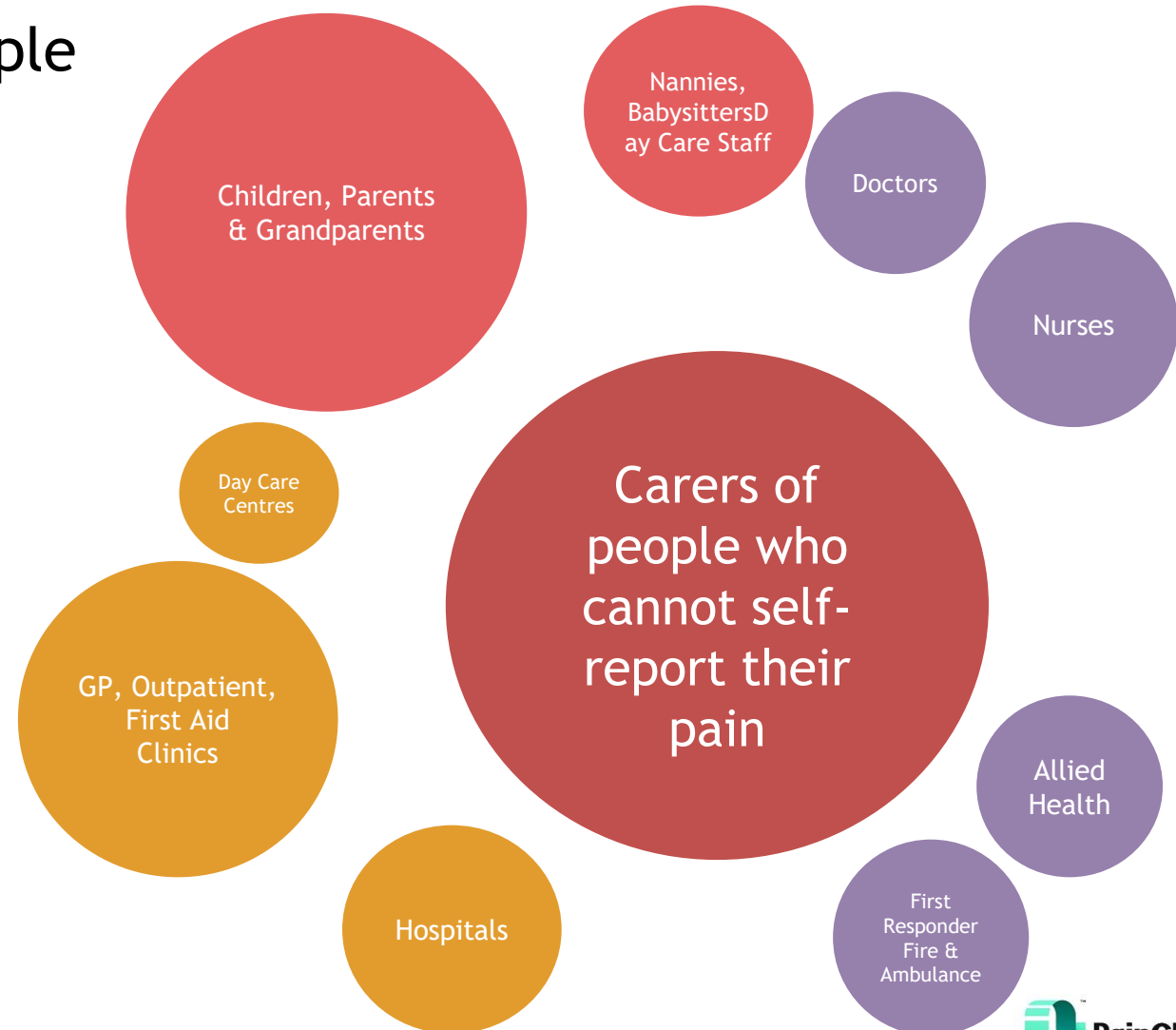
Our Why

**Our purpose is to give a voice to
people who cannot verbalise their pain**

Our Target Markets

Carers of non-communicative people with pain:

- Dementia sufferers
- Pre-verbal children



The pain problem in dementia care

- Up to 85% of people in aged care suffer pain regularly¹
- More than 50% of people in Australian aged care have dementia²
- Pain is often poorly assessed, documented, monitored and managed
- Tools are subjective and manually based
- Adverse impact on quality of care, operational efficiency and compliance



¹ Aged Care Awareness

² Australian Govt. Dept. of Health data at 30 June 2015

Evolution of Pain Assessments in Dementia

Table 1 Common pain behaviors in cognitively impaired elderly persons according to the AGS Panel on persistent pain in older persons³⁸

1. Facial expressions	Slight frown; sad, frightened face Grimacing, wrinkled forehead Closed or tightened eyes Any distorted expression Rapid blinking
2. Verbalizations, vocalizations	Sighing, moaning, groaning Grunting, chanting, calling out Noisy breathing Asking for help Verbally abusive
3. Body movements	Rigid, tense body posture, guarding Fidgeting Increased pacing, rocking Restricted movement Gait or mobility changes
4. Changes in interpersonal interactions	Aggressive, combative, resisting care Decreased social interactions Socially inappropriate, disruptive Withdrawn
5. Changes in activity patterns or routines	Refusing food, appetite change Increase in rest periods Sleep, rest pattern changes Sudden cessation of common routines Increased wandering
6. Mental status changes	Crying or tears Increased confusion Irritability or distress

2002

AGS

2003

Pain Assessment IN Advanced Dementia

	0	1	2	Score
Breathing Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations	
Negative Vocalization	None	Occasional moan or groan. Low level speech with a negative or disapproving quality	Repeated troubled crying out. Loud moaning or groaning. Crying	
Facial expression	Smiling, or inexpressive	Sad, Frightened, Frown	Facial grimacing	
Body Language	Relaxed	Tense, Distressed pacing, Fidgeting	Rigid, Fists clenched, Knees pulled up. Pulling or pushing away. Striking out	
Consolability	No need to console	Distressed or reassured by voice or touch	Unable to console, distress or reassure	
TOTAL				

This material prepared by the Genetics Research Education Clinical Center, is provided by the Louis Foundation for Medical Care, the Medicare Quality Improvement Organization for Iowa, was prepared by MedStar, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health & Human Services. The contents presented do not necessarily reflect CMS policy.

Abbey Pain Scale

For measurement of pain in people with dementia who cannot verbalise

<p>Q1. Vocalisation (eg whimpering, growling, crying)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				<p>Total pain score</p>
<p>Q2. Facial expression (eg looking tense, frowning, grimacing, looking frightened)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				
<p>Q3. Change in body language (eg flinching, rocking, guarding part of body, withdrawal)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				
<p>Q4. Behavioural change (eg confusion, refusing to eat, alteration in usual pattern)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				
<p>Q5. Physiological changes (eg temp, pulse, BP outside normal limits, perspiring, flushing, pallor)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				
<p>Q6. Physical changes (eg skin tears, pressure areas, arthritis, contractures)</p> <p>Absent 0 Mild 1 Moderate 2 Severe 3</p>				

Albee, J. Aging, Demography and Public Care in Old-Care, and America's Elderly. *WHO Palliative Care Nursing: A guide to practice*. Ames: Publications, Williams, pp. 111-124.

2004

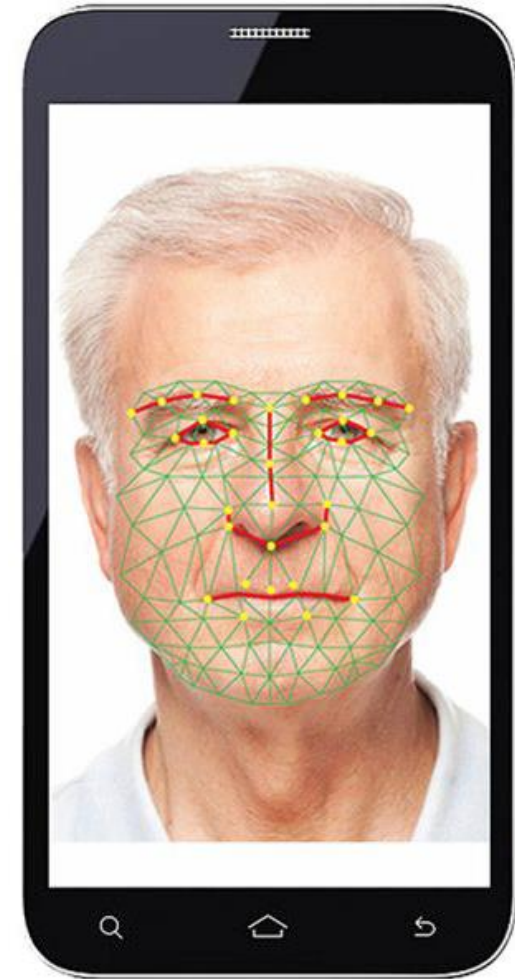
PainChek™

2017



The PainChek™ solution

- A secure, validated, medical device in the form of a mobile app
- Uses existing smartphone and tablet hardware
- Artificial Intelligence (AI) technology to analyze facial expressions indicative of pain in real time



PainChek™: Software as a Medical Device



- Best Practice Tools
- Binary Guided Checklists
- Clinical validation

Intelligent Automation

Artificial Intelligence

- Automated Facial Recognition
- Micro-facial Pain Feature analysis
- POC testing



PainChek

IoT and Cloud Computing

Regulatory & Clinical clearance

- Open API's
- Central Server
- Shared care model

- Class 1 Medical Device (TGA & CE)
- FDA de Novo
- Peer reviewed publications





Philip Daffas
CEO & Managing Director, MBA, BSc

Philip is a highly accomplished global business leader and people manager with an international career spanning more than 25 years with leading blue-chip healthcare corporates. Philip has held senior global leadership positions with Cochlear and Roche in Europe, US and Australia.



Prof. Jeff Hughes
Chief Scientific Officer PhD, MPS

Jeff is a professor in the School of Pharmacy, Curtin University in Western Australia. Jeff served as the Head of the School of Pharmacy of Curtin University, from March 2009 to May 2014. Jeff is one of the team who developed the PainChek™ concept.



Mustafa Atee
Research Scientist MPS, PhD (candidate)

Mustafa is a clinical, community and academic pharmacist and he has managed a number of community pharmacies in Western Australia. The PainChek™ concept was born out of his PhD research. His PhD research has been supported by both a grant and an academic scholarship from Alzheimer's Australia.



Scott Robertson
Chief Technology Officer, MBA, B.Eng.
(Comp. Systems)

Scott has over 25 years' experience designing, deploying and managing enterprise software systems. He mostly worked in private enterprises, where adapting to changing client needs, markets directions and government regulations were paramount to commercial success.



David Allsopp
Head of Business Development ANZ

David joins us with 15 years' experience in the account management, relationship management and business development space. Ten of those spent in the aged care sector with market leaders Healthstrong and Mirus. He is renowned for establishing trusting, transparent and long-standing relationships in the healthcare space.



Dawn Kerr
Senior Clinical Specialist

Dawn has 16 years' nursing experience. She completed her nurse training at West of Scotland University in Glasgow, where she graduated with a BSc in Adult Nursing. Dawn joins PainChek™ with an extensive knowledge in the area of pain management nursing. Patient orientated in providing care, Dawn believes pain management is of paramount importance in any care facility.

THE TEAM

PainChek™ staggered market entry strategy - current access to 40% of the global market

1

Australia/NZ
2017/18

Goal: Establish sales, business model and clinical utility data in ANZ

Focus: RAC priority, HCP and Consumer markets

Distribution: Direct Operation established and local partners

Regulatory: TGA clearance received in 2017

Global market access: 3-4%

2

International
Expansion 2018/19

Goal: Expand into international markets using ANZ experience

Focus: Europe and other CE Mark countries

Distribution: Establish overseas presence and local distributors (including Australian partners with overseas operations).

Regulatory: CE mark clearance 2017

Global market access: 35-40%

3

US entry 2019/20

Goal: Extend into US market post FDA clearance

Focus: RAC, HCP and Consumer segments

Distribution: Establish US presence and local partners

Regulatory: FDA de Novo clearance projected in 2019

Global market access: 70%

PainChek™ benefits impact all key decision makers

Clinical Utility

- Improve quality of life
- Reduce rates and severity of behavioural and psychological symptoms
- Reduce rates of incorrectly prescribed antipsychotics
- Improve staff retention

Cost benefit


- Point of Care testing
- Automated documentation
- Eliminate double handling of data
- Reduce labour time to focus on care

Revenue Assurance

- Addresses pain assessment requirements for accreditation and audit standards
- Accurate pain classification for the Aged Care Funding Instrument (ACFI)



Clinical acceptance of PainChek™ continues to increase

- 
- 1000 + PainChek clinical assessments in RAC setting and Dementia Support Australia
 - Two peer reviewed publication - with three new publications in process
 - **PainChek current clinical presentations**
 1. DTA invitational talk, Perth - April 2018
 2. Aged Care IT, Sydney - April 2018
 3. HammondCare Dementia conference, Sydney 7-8th June 2018
 4. 2nd Palliative, Aged and Dementia CareForum, Melbourne 3rd-5th July 2018
 - Invitation to German Pain Society conference & research collaboration with UK University College London (UCL)
- *PCK has the potential to become a standard in clinical care*
 - *Global recognition of clinical performance data*
 - *Strong local brand recognition*
 - *PCK becoming perceived as pain “thought leader”*
 - *Support from peak Government bodies (Dementia Support Australia, Dementia Training Australia and Pain Australia)*

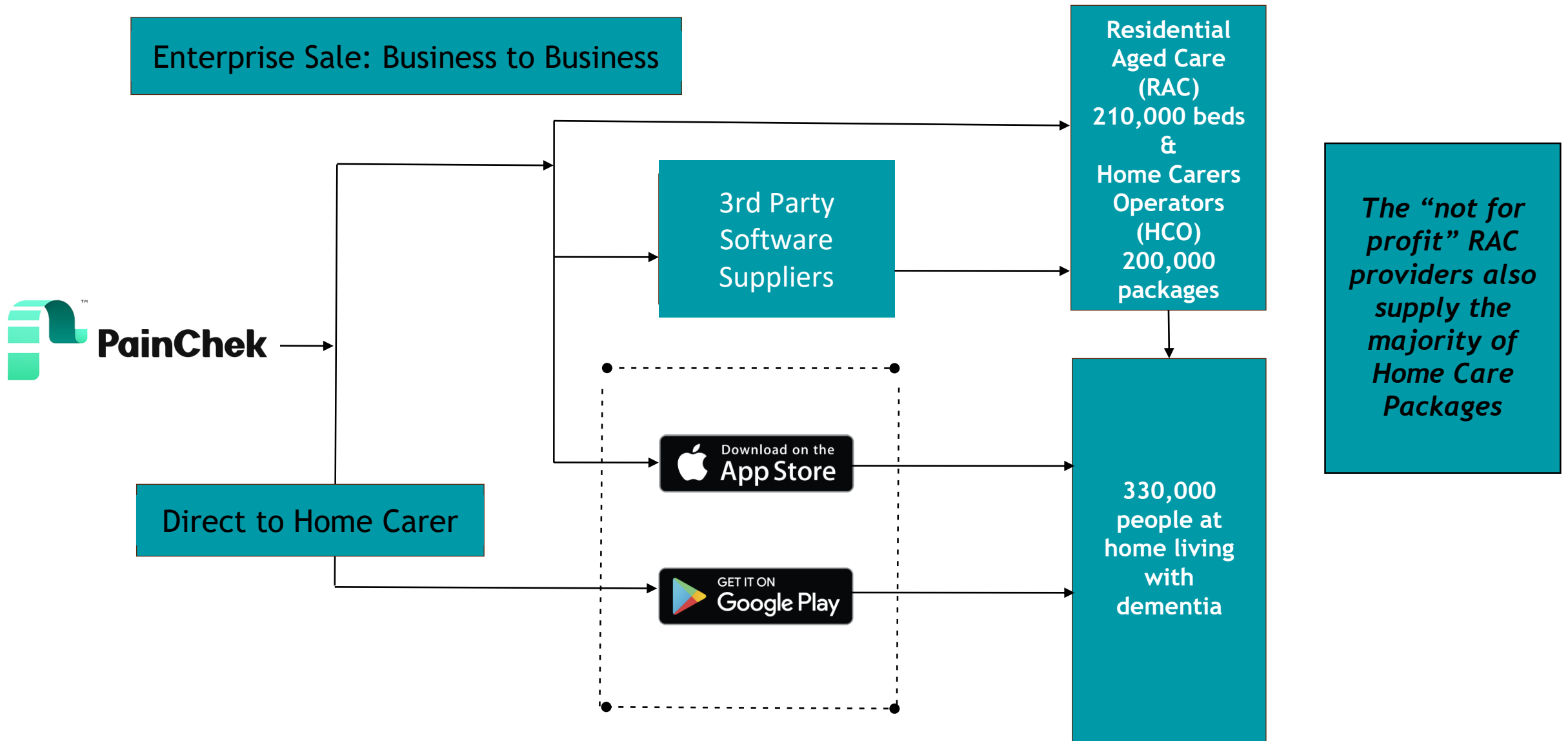
PainChek™ Case Study 1 PainChek™ Case Study 2

- 84 year old male
 - Referred with physical aggression during care
 - Pain suspected to be impacting on behaviour
 - PainChek™ indicated severe pain & GP prescribed pain relief therapy
 - **Result:** Significant reduction in physical aggression
- 72 year old female
 - Referred with agitated behaviour, restless at night
 - Pain suspected to be impacting on behaviour
 - PainChek indicated moderate pain & care plan updated to include regular analgesia
 - **Result:** Rapid change in behaviour and family satisfaction

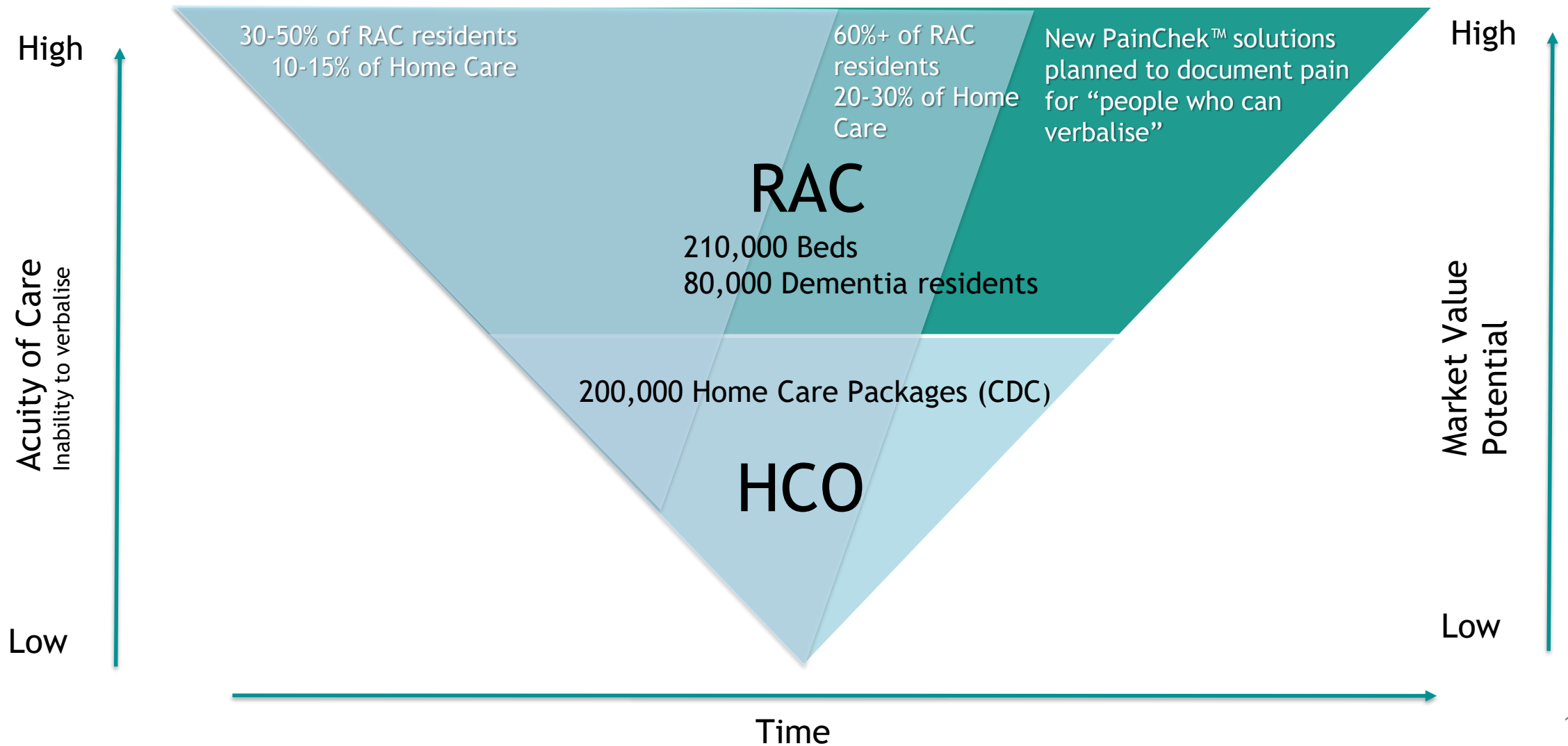


PainChek™ provides Carers with the information needed to change treatment

PainChek™ Australia Dementia App Market Strategy



PainChek™ can become the Universal Pain Assessment tool - initially within Aged Care



RAC market continues to consolidate as 1% of the Providers own 26% of the total facilities

Providers	Number of facilities (RACs)	Percentage of (RAC) market facilities
<i>Uniting Care Total*</i>	185	6.9%
<i>Southern Cross Total*</i>	88	3.3%
Opal Aged Care	72	2.7%
Bupa Aged Care	71	2.7%
Estia Health	69	2.6%
Regis	54	2.0%
Allity	44	1.6%
Japara Healthcare	43	1.6%
<i>Catholic Healthcare*</i>	41	1.5%
<i>RSL Lifecare*</i>	31	1.2%
Sub Total	698	26.11%
Market Grand Total	(949 Providers with a total of 2673 facilities)	100%

Residential Aged Care Market Progress

Australia residential aged care market

- 949 RAC providers
- 2673 RACs (Residential Aged Care facilities)
- Total of 210,000 beds

PainChek™ existing business:

- 3 RAC providers with existing PainChek™ licensing agreements
- Dementia Support Australia (DSA) agreement extended into FY'19

PainChek™ new commercial opportunities:

- 30 providers (3.16% of the market)
- 332 RACs (12.42% of the market)
- Total of 32,706 beds (15.57% of the market)

**Data source Australian Govt Dept of Health*

The current range of potential clients include a number of small, medium and large RAC providers - including 5 of the top 11 largest providers

PainChek™ building a cost effective Enterprise Business Model

Pre-Sales

- Key Account Management relationships in place
- Business Case Analysis
- On-site demonstration
- Product trials (4-6 weeks) if required

On-Boarding

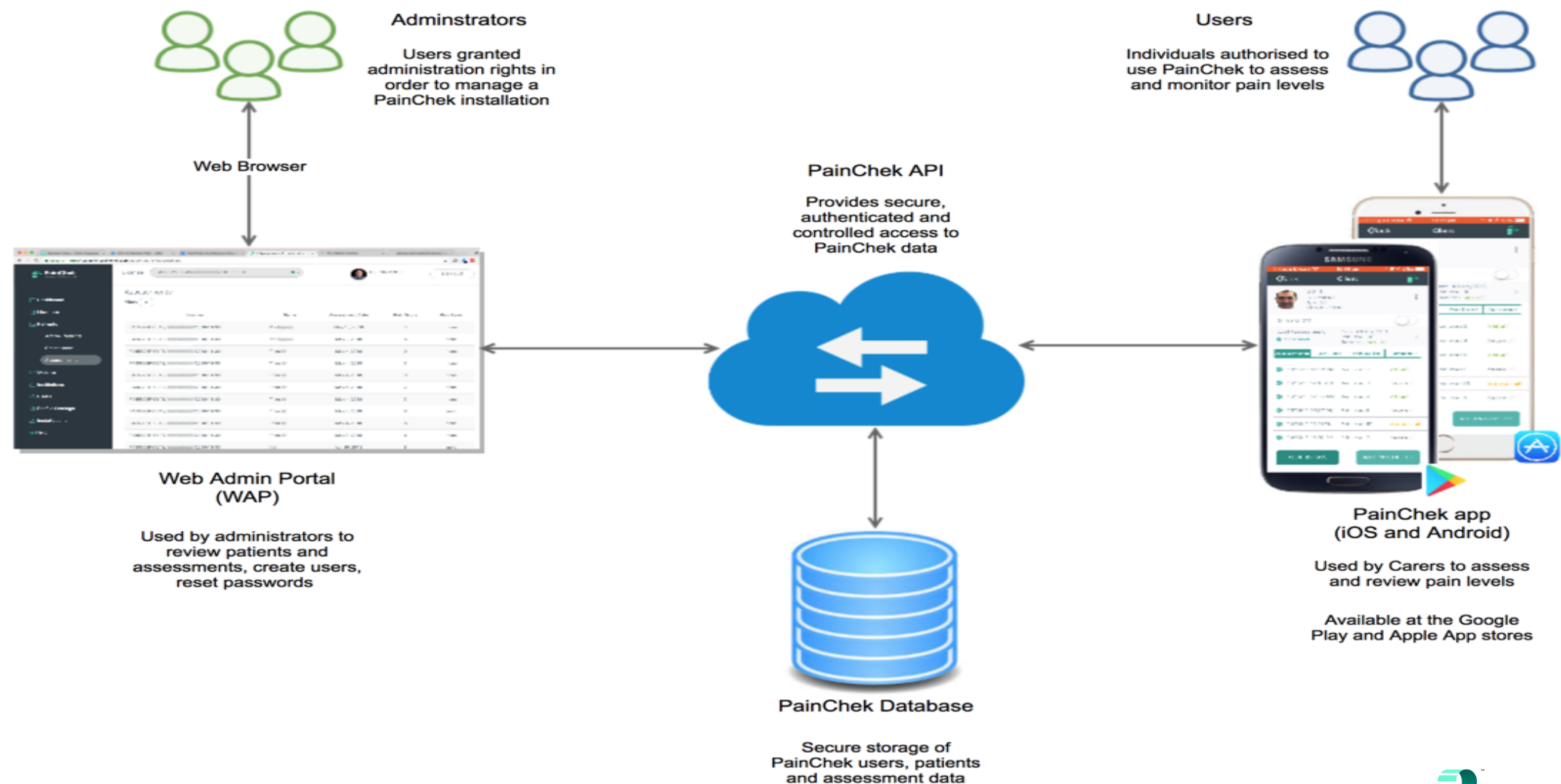
- License agreements: recurring monthly subscriptions based on #beds/residents
- PCK download via Apple/Google Stores
- 1-2 hour on-site clinical training
- On-line video training tools (built with Dementia Training Australia and Dementia Support Australia)

Post-Sales Support

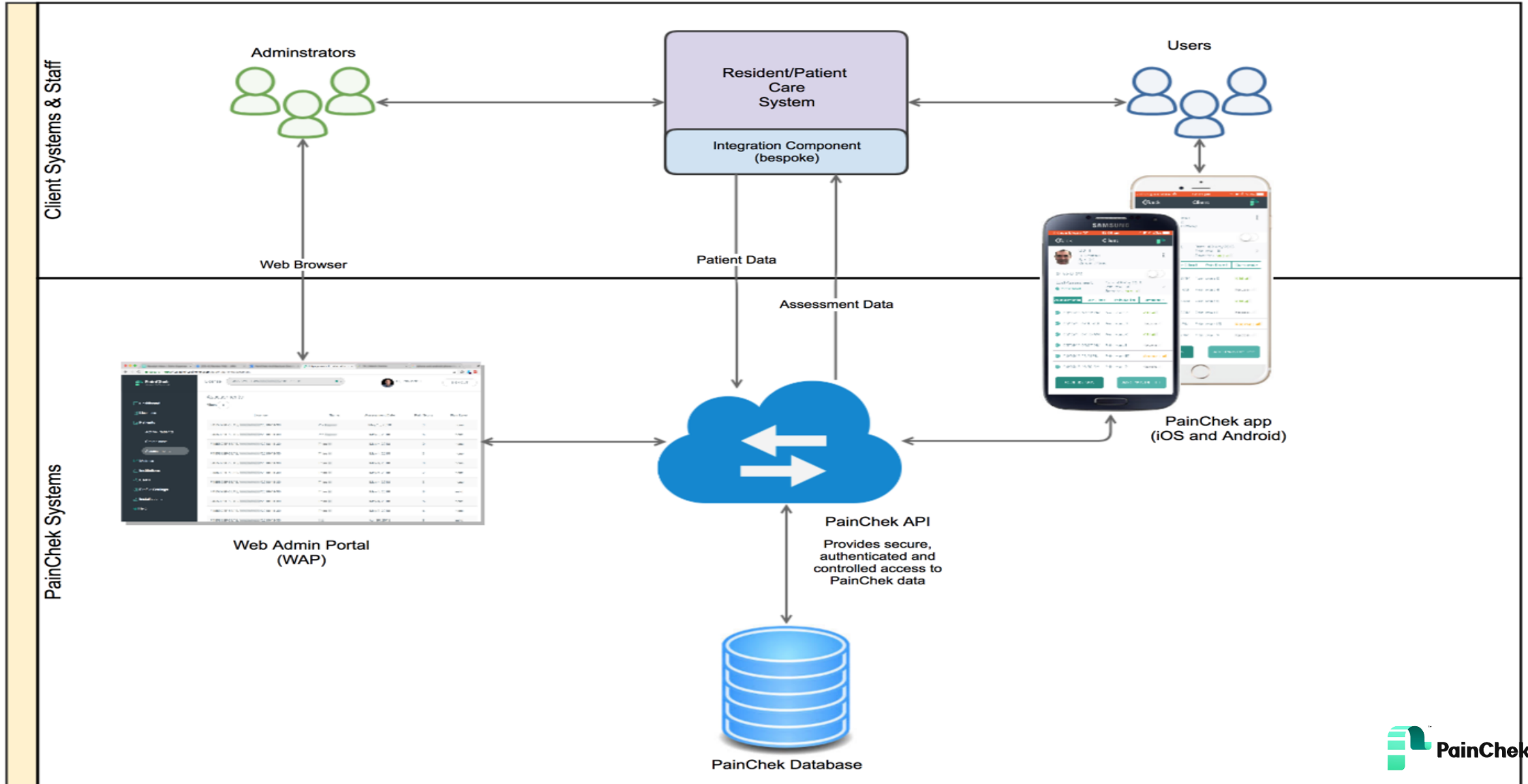
- Portal based pain assessment reports
- Customer Satisfaction Scores
- Technical and Clinical on-line support
- Option for follow up training

- ***Sales Cycle to date ranges from 1-4 weeks up to 3+ months for more complex accounts***
- ***License agreements range from one to three years***

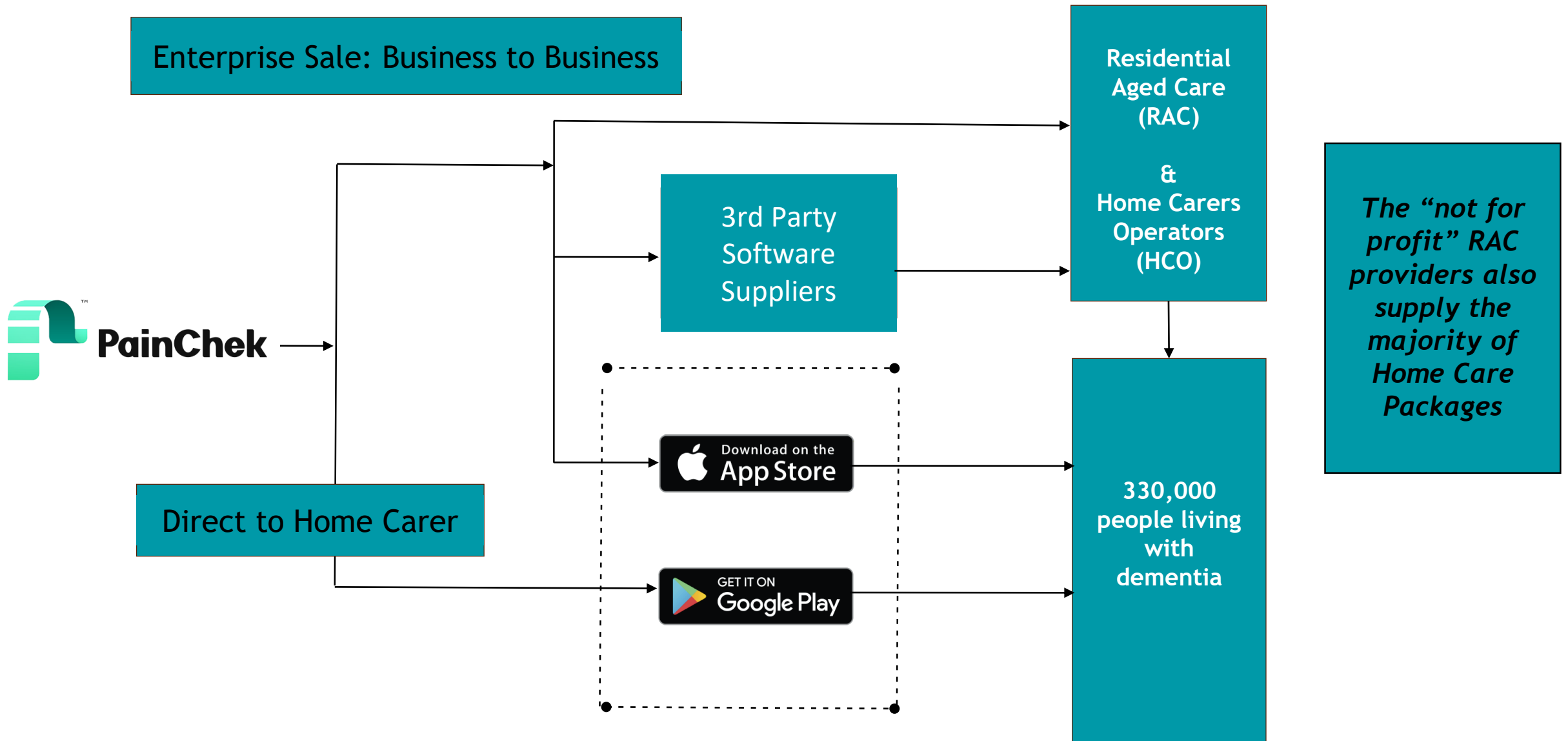
PainChek™ secure automated resident data exchange



PainChek™ integrates seamlessly into client patient care systems



PainChek™ Australia Dementia App Market Strategy



Direct to Home Carer Opportunity

- Majority of people living with Dementia live at home
- Government drive towards home care included Consumer Directive Care (CDC) initiative
- PainChek™ Direct to Carer App scheduled for Q3 2018

Carers of people
with dementia

Healthcare Professionals
Trained Carers
Allied Health
Family Members

47 Million with Dementia¹

- growing at 3% p.a.

7,500,000 people in Western Europe

6,000,000 people In North America

400,000+ people in Australia²

¹ World Alzheimer Report 2016

² Alzheimer's Australia Key Facts and Statistics 2017



Blue sky market is pre-verbal children

- Neonates (0-1 month), infants and toddlers (1 month - 3 years)
- Sources of pain include: rashes, teething, middle ear infections, headaches, gastro-intestinal.
- Current pain assessments are often subjective and based on intuitions, assumptions and personal beliefs

Carers of pre-verbal children

Mums & Dads
Grandparents
Health care professionals
Nannies
Babysitters
Day care workers

~ 130 million¹

Births per year in world

~ 1.25 million²

0-3 year olds in Australia

~ total of 400 million

0-3 year olds worldwide

¹ <http://www.ecology.com/birth-death-rates>

² ABS 2016

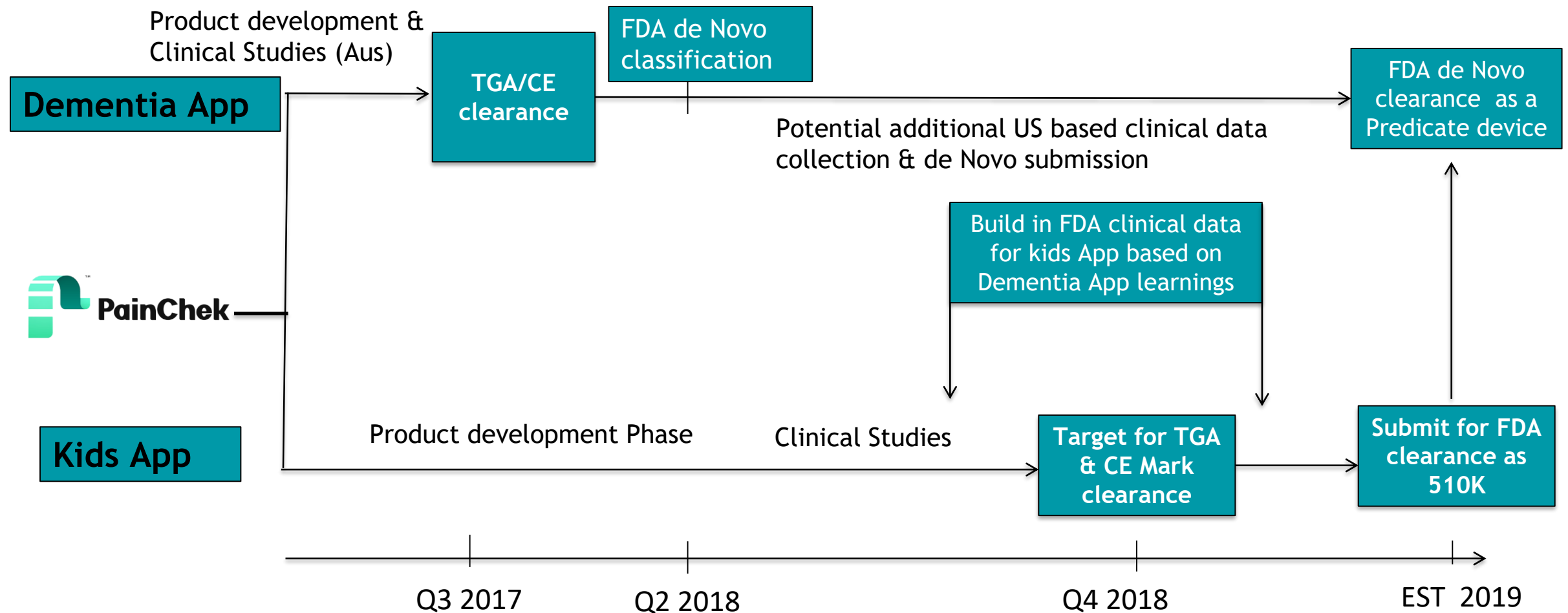


Children's App commercialisation Update

- Children's video Images and library now complete
- Prototype infants App (0-1 years) scheduled for Clinical studies and regulatory work Q2-Q4 2018
- Infant App regulatory clearance scheduled for Q4 2108 in Australia
- Toddlers (1-3 years) and Children's (4 years to 12 years) Apps to follow in 2019



Regulatory: Dementia App FDA de Novo clearance can act as a predicate for the Kids App



PainChek™ Patent Status

- Patent clearance for PCT filing received in August 2016
- National filings commenced Feb 2017 in all key global markets;
 - Europe
 - US
 - Australia
 - China
 - Japan

PATENT COOPERATION TREATY		
From the: INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY		
To: Dr Andreas Hartmann GRIFFITH HACK Level 19, 109 St Georges Terrace Perth, Western Australia 6000 Australia		PCT NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty) (PCT Rule 71.1)
Applicant's or agent's file reference P96779.PCT		Date of mailing (day/month/year) 08 August 2016
IMPORTANT NOTIFICATION		
International application No. PCT/AU2015/000501	International filing date (day/month/year) 18 August 2015	Priority date (day/month/year) 18 August 2014
Applicant ELECTRONIC PAIN ASSESSMENT TECHNOLOGIES (EPAT) PTY LTD		
<ol style="list-style-type: none">1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.		

PainChek™ Key Milestones



Dementia App

Q4 2017

First commercial sales achieved in Q3 & Q4 2017

Q1 2018 Built Australian commercial team to execute on sales
IOS and Android Apps completed

Q1-2 2018
Established sales pipeline and pilot trials in Residential Aged Care settings
DSA nationwide roll out & integration

Q2 FDA de Novo classification
Q2/Q3 Australian Pilots transitioning to commercial agreements

Q3-Q4 2018
European and International market expansion (CE mark countries)

2019
Consolidation of Australian & European business – recurring revenue stream
FDA De Novo clearance & commercialization

Pre-Verbal Children Apps

Q4 2017

Completion of children video library, data model and algorithm – on track

Q1-2 2018
Development of App

Q3-Q4 2018
Clinical studies and validation work

Q3 -Q4 2018
Finalise App and build regulatory file for approvals

Q4 2018
Target for regulatory approval in Australia and EU followed by market launch

2019
Target for FDA clearance as 510K

Financial Update

- Current shares on issue: 834,134,587
- Market cap undiluted at 6.2c = \$52m
- Market Cap fully diluted at 6.2c = \$62m
- Unlisted Options on issue: 175,167,730
- Fully diluted capital: 1,009,302,317
- Cash at bank: 31st March 2018: \$4m

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