

ASX RELEASE

30 April 2018



## March 2018 Quarterly Report

### Highlights:

- Paradigm's phase 2b clinical trial in participants with knee osteoarthritis and concurrent bone marrow lesions is 50% recruited as of 27<sup>th</sup> March and remains ahead of schedule. **Expected read-out Q4 CY2018**
- Phase 2a clinical trial in participants with viral arthralgia (Ross River virus) is currently over 70% recruited as of the 27<sup>th</sup> March and scheduled to recruit further subjects following seasonal recurrence of the disease. **Expected read-out Q4 CY2018**
- In addition to the two current Phase 2 clinical trials, **doctors are currently treating over 200 osteoarthritis patients** via the TGA Special Access Scheme ("TGA SAS")
- Paradigm reports a **50% reduction in pain (on average)**, from patients with osteoarthritis treated with injectable pentosan Polysulfate Sodium (PPS) via the TGA SAS
- A growing number of past and present elite sportspeople are being treated by their doctors with PPS for osteoarthritis and/or acute injuries with concurrent bone marrow edema lesions
- European patent granted for treatment of bone marrow edema lesions with PPS.

**Paradigm Biopharmaceuticals Ltd (ASX: PAR)** ("Paradigm" or "the Company") is pleased to provide its quarterly report for the three months ending 31 March 2018 to accompany its Appendix 4C cash flow report for the period.

### Clinical Development Progress

#### **Phase 2b - Osteoarthritis / Bone Marrow Lesions**

Paradigm is progressing well ahead of schedule with the phase 2b, randomised double-blind placebo-controlled multicentre clinical trial to evaluate the effects of injectable pentosan polysulfate sodium (PPS) on pain in participants with knee osteoarthritis and concurrent subchondral bone marrow lesions (n=100).

#### **Recruitment Status**

- Trial is ahead of schedule, with 50 (50%) of participants recruited to date
- All six sites are operational and recruitment is proceeding ahead of schedule
- Interest in the clinical trial is very high from people with osteoarthritis

Paradigm is very pleased with the strong momentum that the clinical trial has been able to maintain. **The phase 2b clinical trial remains ahead of schedule with the pivotal results expected in Q4 CY2018.**

### **Phase 2a - Viral Arthralgia – Ross River Virus**

Paradigm continues to recruit patients for the phase 2a, randomised, double-blinded placebo-controlled pilot clinical trial treating a total of 24 participants across five trial sites in Victoria and Queensland. Patients with Ross River virus (RRV) induced arthralgia (painful joints) are being evaluated for safety, tolerability and effects on disease symptoms of PPS subcutaneous injections.

#### **Recruitment Status**

- The clinical trial is currently over 70% recruited
- Recruitment has slowed over the past 5 months due to the changeable prevalence of the disease, which is spread by mosquitoes.
- A recent RRV outbreak on the Sunshine Coast, Qld is likely to increase the number of clinical trial participants.
- Paradigm has initiated an additional clinical trial site in the Sunshine Coast where reported RRV infections were high in the second half of 2017 and in to 2018.

Paradigm remains confident that the trial will recruit fully, and will complete within budget. **The results from this viral arthralgia phase 2a clinical trial are expected in Q4 CY2018**

Looking forward it is hoped that positive results from the RRV Phase 2a trial will provide the foundation for a commercial opportunity not only on RRV within the Australasian region but also for Chikungunya virus, potentially with the United States Department of Defense.

### **Real World Evidence – TGA Special Access Scheme**

In addition to the two current phase 2 clinical trials, doctors are currently treating over osteoarthritis patients via the TGA Special Access Scheme (“TGA SAS”). Paradigm reported the results from the second group (n:21) of patients treated and assessed via the TGA SAS, increasing the total number of reported patients to 45.

Patients, self-reported pain scores were reduced by 50% (on average) from baseline pain scores in 45 patients with knee osteoarthritis and concurrent bone marrow lesions. The 50% reduction in pain scores observed with PPS in knee OA demonstrates superiority over the “15% pain reduction scores reported for opioid treatments for chronic pain in OA of the knee and hip”<sup>1</sup>

All patients were symptomatic with OA pain for at least six months and had failed current standard of care which involved treatment with analgesics, NSAIDs (non-steroidal anti-inflammatory drugs) or corticosteroids.

- 60% of the patients had moderate to severe BMELs with a size ranging from five millimetres to more than 20 millimetres in diameter.
- 40% had lesions less than five millimetres in diameter.

### **Elite Sportspeople**

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<sup>1</sup> Seghal N, Colson J and Smith H; Expert Rev Neurother. 2013;13(11):1201-1220

There is a growing number of past and present elite sportspeople are being treated by their doctors via the TGA SAS with Pentosan Polysulfate Sodium (PPS) for osteoarthritis and/or acute injuries, with concurrent bone marrow lesions.

To date, club doctors from eight Australian Football League (AFL) clubs have successfully treated players that have presented bone marrow lesions concurrently with a variety of orthopaedic issues. Paradigm remains very encouraged by the results and the positive impact the treatment is having on the players.

To be clear, pentosan polysulfate sodium is not a performance enhancing substance and is thus not registered as a banned substance by either Australian Sports Anti-Doping Authority or World Anti-Doping Authority.

Due to the well established safety profile of PPS and its approval in Europe and the United States for other indications, the TGA has approved its use via the Special Access Scheme to treat patients in cases where all standard of care treatments have failed. Additionally, Paradigm and the respective club doctors maintained dialog with the corresponding league officials to ensure the treatment via the TGA SAS was cleared.

### **European Patent Granted**

During the quarter Paradigm was granted a European patent for the treatment of Bone Marrow Edema Lesions with Pentosan Polysulfate Sodium. The patent (no 2670412), entitled: 'Treatment of bone marrow edema (oedema) with polysaccharides' was granted on the 3<sup>rd</sup> January 2018.

Paradigm has initiated the process of validating the patent in the following European member states: Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, Great Britain, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, and Turkey.

The Company anticipates that the patent will be validated in these individual member states over the coming months, providing an effective patent life of 20 years.

The European registration enhances Paradigm's already strong patent position, adding to previously granted registrations in United States, Japan, China, Canada, Taiwan, Singapore and Australia.

Paradigm has an additional level of market exclusivity via its Supply Agreement with bene pharmaChem. Bene pharmaChem is the original manufacturer of PPS and its manufacturing process is protected via Trade Secrets. The Supply Agreement with bene pharmaChem provides Paradigm with exclusive rights to the injectable PPS (for use in humans) for all its orthopaedic indications for a term of 20 years (with the right to extend the term).

### **Financial and Corporate Update**

Paradigm continues to expect to be well funded post the completion of both the Phase 2a RRV and the Phase 2b OA trials due to be completed at the end of CY 2018.

As at 31 March 2018, the Company's cash balance was \$4 million. The Appendix 4C report attached contains the Company's cash flow statement for the quarter.

### **Outlook**

Following a recent Investor Roadshow Paradigm is starting to receive increased investor attention as the Company draws closer to the final recruitment and completion of each of the arthritis Phase 2 clinical trials (RCT) - both of which are major value inflection points for the Company.

In addition, over the coming months Paradigm anticipates updating the market on additional valuable Real World Data from doctors treating patients under the TGA SAS and progress on its other programs.

## Appendix 4C

### Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

**Name of entity**

Paradigm Biopharmaceuticals Limited

**ABN**

94 169 346 963

**Quarter ended ("current quarter")**

31 March 2018

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) research and development	(1,456)	(3,943)
(b) product manufacturing and operating costs	-	-
(c) advertising and marketing	-	-
(d) leased assets	-	-
(e) staff costs	(129)	(397)
(f) administration and corporate costs	(130)	(648)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	9	18
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	1,774
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,706)</b>	<b>(3,196)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	(3)
(b) businesses (see item 10)	-	-
(c) investments	-	-

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
	(d) intellectual property	(41)	(145)
	(e) other non-current assets	-	-
2.2	Proceeds from disposal of:		
	(a) property, plant and equipment	-	-
	(b) businesses (see item 10)	-	-
	(c) investments	-	-
	(d) intellectual property	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(41)</b>	<b>(148)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	5,550
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	(257)	(799)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>(257)</b>	<b>4,751</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of quarter/year to date	6,002	2,591
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,706)	(3,196)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(41)	(148)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(257)	4,751

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	<b>Cash and cash equivalents at end of quarter</b>	<b>3,998</b>	<b>3,998</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	3,998	6,002
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>3,998</b>	<b>6,002</b>

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

**Current quarter  
\$A'000**

60

-

Payments to Chairman and Non-Executive Directors

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

**Current quarter  
\$A'000**

-

-

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	NIL	NIL
8.2 Credit standby arrangements	NIL	NIL
8.3 Other (please specify)	NIL	NIL
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

9. <b>Estimated cash outflows for next quarter</b>	<b>\$A'000</b>
9.1 Research and development	951
9.2 Product manufacturing and operating costs	-
9.3 Advertising and marketing	-
9.4 Leased assets	-
9.5 Staff costs	136
9.6 Administration and corporate costs	244
9.7 Other (provide details if material)	-
<b>9.8 Total estimated cash outflows</b>	<b>1,331</b>

10. <b>Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)</b>	<b>Acquisitions</b>	<b>Disposals</b>
10.1 Name of entity	N/A	N/A
10.2 Place of incorporation or registration	N/A	N/A
10.3 Consideration for acquisition or disposal	N/A	N/A
10.4 Total net assets	N/A	N/A
10.5 Nature of business	N/A	N/A

### Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.



30 April 2018

Sign here: .....  
Company secretary

Date: .....

Kevin Hollingsworth

Print name: .....

### Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.