ARROWHEAD RESEARCH

3Q Fiscal 2015 Conference Call – Prepared Remarks

August 4, 2015

1:30 PM Pacific time

Operator

Ladies and gentlemen welcome to the Arrowhead Research Corporation fiscal 2015, third quarter financial results conference call. Throughout today's recorded presentation all participants will be in a listen-only mode. After the presentation there will be an opportunity to ask questions. I will now hand the conference call over to Vincent Anzalone, Vice President of Investor Relations for Arrowhead. Please go ahead Vince.

Vince Anzalone

Thank you. Good afternoon everyone and thank you for joining us today to discuss Arrowhead's results for its fiscal 2015 third quarter ended June 30, 2015. With us today from management are President and CEO Dr. Christopher Anzalone, Chief Operating Officer and Head of R&D Dr. Bruce Given, and Chief Financial Officer Ken Myszkowski. Management will provide a brief overview of the quarter and will then open up the call to your questions.

Before we begin, I would like to remind you that comments made during today's call may contain certain forward-looking statements within the meaning of Section 27(A) of the Securities Act of 1933 and Section 21(E) of the Securities Exchange Act of 1934. All statements other than statements of historical fact, including

without limitation those with respect to Arrowhead's goals, plans, and strategies are forward-looking statements. These include, but are not limited to, statements regarding the anticipated safety and/or efficacy of ARC-520, ARC-AAT, ARC-F12 and our other programs, as well as anticipated timing for study enrollment and completion and the potential for regulatory and commercial success. They represent management's current expectations and are inherently uncertain. Thus, actual results may differ materially. Arrowhead undertakes no duty to update any of the forward-looking statements discussed on today's call.

You should refer to the discussions under risk factors in Arrowhead's annual report on Form 10-K and the Company's quarterly reports on Form 10-Q for additional matters to be considered in this regard.

With that said, I'd like to turn the call over to Dr. Christopher Anzalone, President and CEO of the Company. Chris?

Chris Anzalone

Thanks Vince. Good afternoon everyone and thank you for joining us today.

During the recent period, we made important progress on our clinical candidates, ARC-520 for chronic hepatitis B infection and ARC-AAT for liver disease associated with alpha-1 antitrypsin deficiency. We also made good progress on our preclinical pipeline and the underlying DPC delivery platform. I will discuss a few of these highlights and then hand the call over to Bruce Given, our chief operating officer and head of R&D, who will provide an overview of our clinical

programs, followed by Ken Myszkowski, our chief financial officer, who will give a review of the financials for the fiscal 2015 third quarter.

Before I talk about highlights from the quarter, I want to announce our plan to hold an analyst and investor day on September 24, 2015 to discuss ARC-520 in detail and provide data from the clinical program and from a non-clinical study in chronically infected chimpanzees. We have learned a great deal about ARC-520 and the biology of hepatitis B during the course of our chimpanzee study that spanned over a year, as well as from our Phase 2a clinical study. As we discussed in our last conference call, the Phase 2a included four cohorts at doses of 1, 2, 3, and 4 mg/kg and was then expanded to include 3 additional cohorts. These additional cohorts were designed to test some of the hypotheses that emerged from our research program including the chimp study.

We think the format of an analyst day will allow us to provide a more comprehensive overview of what we are learning than if we simply provided top line results in a press release. Some of what we have learned was rather surprising to us and our advisors. We believe that our work represents a real advance for the HBV field and has helped us move our program forward. We have lined up a panel of international experts to talk about the HBV field and how our new data may challenge some widely accepted theories. These panelists include Dr. Robert Gish, Dr. Stephen Locarnini, and Dr. Robert Lanford. The live event for institutional investors and analysts will be held in New York City. In addition, it will be webcast live and available on the Arrowhead website. We will provide more information about the event as the date approaches. We are also happy to announce that reports from the chimp study will be presented at AASLD in November.

Turning to a review of the quarter and the period since our last conference call, we continue to execute on our development programs and made good progress with ARC-520, ARC-AAT, and with our underlying technology platform.

Starting with ARC-520, we completed dosing of a more than yearlong study in chronically infected chimpanzees. As I mentioned, this yielded some interesting findings, some of which have helped to guide the clinical development of ARC-520. In addition to completing dosing of four cohorts that received single ARC-520 doses of 1-4 mg/kg in a Phase 2a study, we also initiated dosing in 3 new cohorts. We plan on discussing all seven cohorts at the analyst day.

Data from the chimpanzee study has also contributed to the design of our multi-dose studies and upcoming combination studies. During the quarter we achieved regulatory clearances for studies titled Heparc-2002, 2003, and 2004, which are three separate multi-dose Phase 2b studies in Germany, Hong, Kong, and the United States. Bruce will talk more about these in a moment, but we are very pleased that the studies are moving forward. ARC-520 was never intended to be a single-dose therapy so we are eager to assess its activity after multiple doses and compare those results to results from our long-term chimpanzee study.

We also made good progress on ARC-AAT, our clinical candidate for the treatment of liver disease associated with alpha-1 antitrypsin deficiency. We are excited that ARC-AAT was granted Orphan Drug Designation by the FDA, which provides important incentives for sponsors to develop drugs that treat rare diseases. These incentives include increased engagement with FDA, exemption from license application fees and potentially future product-specific regulatory fees during development, the opportunity to apply for R&D funding, tax credits, an increased chance of priority review, and 7 years of orphan exclusivity at time of New Drug

Application, or NDA, approval. We see the development path for ARC-AAT as relatively straightforward and receiving Orphan Designation makes us more confident that, provided we can demonstrate that ARC-AAT is safe and effective, we can move the candidate through the clinical and regulatory process quickly.

The first step in this process is establishing a safety profile and assessing early signs of activity. During the quarter we completed dosing of Part A of the ARC-AAT Phase 1 study in healthy volunteers, and transitioned the study into Part B which is designed to enroll patients with PiZZ genotype AATD. This transition was triggered when a predetermined knockdown target was achieved. We subsequently began dosing Part B at a single site in Australia and have also received regulatory clearance to expand Part B at additional sites in the United Kingdom and New Zealand. There are other regulatory submissions pending and we hope to bring on additional sites in other countries shortly.

We have also made important progress on our platforms over the past quarter. Of course we view ARC-520 and ARC-AAT as significant direct value drivers, but we also see them creating value as proofs of concept for other targets. We believe that demonstration of good safety profiles and activity in humans will help to de-risk future programs built on the same platforms. As such, we see potential rapid value creation in our pipeline and we are focused on broadening that out.

We have several active preclinical programs against various disease targets, and we presented data from one of them, ARC-F12, at the TIDES conference during the quarter. ARC-F12 is designed to reduce the production of factor 12 to potentially treat both thrombosis and angioedema. We are pleased to announce today that ARC-F12 has been nominated as our next clinical candidate. We see hereditary angioedema, or HAE, as an attractive target for RNAi, and a disease that

is not adequately addressed with current treatment options. In our development program, we have seen knockdown as deep as 98% in non-human primates with good durability. Our current planning estimates monthly or perhaps even less frequent dosing, although ultimately this will be determined by our findings in clinical human testing.

In addition to ARC-F12, we have other promising preclinical programs that we are currently assessing as potential clinical candidates. We intend to present data on some of these targets at scientific conferences later in the year.

Lastly, I would like to touch on progress we have made expanding our underlying platforms over the past quarter. This includes the DPC™ delivery system and an extensive array of RNAi trigger structures, chemistries, and modifications. We published data on advancements made to the DPC™ delivery system designed to enable subcutaneous and extra-hepatic delivery. This is an important step forward. These new formulations open up a wide range of disease targets that Arrowhead expects to be able to address in the future.

Regarding trigger structures and modifications, we have made great strides with the RNAi technology we acquired from Novartis earlier this year. Teams at Novartis generated impressive data with novel proprietary structures we believe fall outside current fundamental RNAi IP as well as novel intracellular targeting ligands that increase RNAi efficiency. We are happy to report that these technologies are working well in our hands and these new tools are now part of our development process. These give us more flexibility and capabilities, from both a therapeutic and patent standpoint. In fact, we have been exploring several new trigger options in ARC-F12 and other development programs and have found very good potency and reliable manufacturability. Based on this work, we expect to file

an IND or equivalent for ARC-F12 in 2016. In addition to being highly active, the economics of the new trigger are substantially better than one relying on a license for traditional canonical siRNA.

With that overview, I would now like to turn the call over to Dr. Bruce Given, our COO and head of R&D. Bruce?

Bruce Given

Thank you Chris and good afternoon everyone.

We typically talk about the ARC-520 clinical studies in terms like Phase 2a, Phase 2b, and Heparc-2002, but I don't think we have ever explained at one time what all of these studies are. There are now multiple, ongoing and initiating studies of ARC-520. I think that a helpful thing to do now for our investors is to briefly describe each study and identify them by name and study number to help ensure everybody has a clear picture about what we are talking about when we refer to a specific study. A copy of the prepared remarks for this call will be available on the Events page of our website if you want this description for future reference.

Heparc-1001 was our initial Phase 1 single dose-escalation study of ARC-520 administered intravenously to healthy adult males and females. This was conducted in Australia and is now complete. The purpose was to assess safety, tolerability and pharmacokinetics.

Heparc-2001 is a multicenter, single dose-escalation study of ARC-520 administered intravenously to patients with chronic immune active HBV infection maintained on entecavir therapy. This is the ongoing study that we typically refer

to as our Phase 2a study and is being conducted in Hong Kong. There were four initial cohorts that received ARC-520 doses of 1, 2, 3, and 4 mg/kg and then an additional 3 cohorts were subsequently added. We plan to discuss what these 3 new cohorts are and overall results from all 7 cohorts at our analyst day in September. This study is designed to give us an indication of early activity and determine tolerability in a patient population.

Heparc-2002 is a Phase 2b multicenter, Multi-dose Study to Determine the Depth of Hepatitis B Surface Antigen Reduction Following Intravenous ARC-520 in Combination with Entecavir or Tenofovir in Patients with HBeAg Negative, Chronic HBV. It is a parallel design study where patients will receive four doses, once every four weeks, of either 1 mg/kg of ARC-520, 2 mg/kg of ARC-520, or placebo. This study has received regulatory approval to begin in Germany and Hong Kong, and we intend to also open additional sites for enrollment in South Korea, pending approval from regulatory authorities and institutional review Boards. The goal is to assess multi-dose activity as measured by reduction in circulating surface antigen, in addition to other measures.

Heparc-2003 is similar to 2002, but will enroll patients with HBeAg positive chronic HBV infection. It has also received regulatory approval in Germany and Hong Kong, and is pending approval in South Korea.

Heparc-2004 is A Multicenter, repeated-dose Study to Determine the Depth of Hepatitis B Surface Antigen (HBsAg) Reduction Following Intravenous ARC-520 in Combination with Entecavir or Tenofovir in Patients with Chronic HBV, conducted in the U.S. The study is planned to enroll up to 12 patients receiving either 1 mg/kg of ARC-520 or placebo. Each patient will receive 3 total doses, once every 4 weeks. The goal is to assess multi-dose activity as measured by

reduction in circulating surface antigen, in addition to other measures, such as assessing for any effects on entecavir or tenofovir pharmacokinetics.

Heparc-2005 was designed as a study in HBeAg positive patients in combination with Entecavir or Tenofovir. This study was planned to enroll at a single site in Australia. It was closed before enrolling any patients to make way for a new study, Heparc-2008 which I will discuss in a moment.

We also have Heparc-2006 and 2007, multi-dose studies that are in the planning stages. We will provide additional details on these studies when their planning has matured.

Heparc-2008, which will be known as the Monarch study, is intended to be a study of various dosing regimens and combinations, quite similar to the approach taken by Pharmasset in the HCV field. It will have a flexible iterative design so we can ask specific questions about ARC-520 in small open-label cohorts and quickly initiate additional cohorts based on the answers that we get or the availability of new agents to be tested in combination. Our goal is to begin Monarch as soon as possible and we currently believe that we will be able to initiate the study in the 4th quarter. Stay tuned for more information about this study, as we consider it very important.

There is also one important ARC-520 pre-clinical development program worth mentioning. We have completed our 6-month rat and 9-month primate GLP toxicology studies for ARC-520 without any perceived change in the safety profile. The availability of these data clears the way for a year or more of treatment with ARC-520 from a toxicology testing perspective.

That is all of the ARC-520 completed and ongoing studies. I hope it is helpful to have the names and study numbers. Moving on to ARC-AAT, Chris mentioned the status of the Phase 1 study in his highlights for the quarter but I want to add a little detail.

The ongoing Phase 1 trial of ARC-AAT is a multi-center, single dose-escalation, first-in-human study to evaluate the safety, tolerability and pharmacokinetics of ARC-AAT and the effect on circulating AAT levels. The study has been enrolling in dose cohorts of six participants each, with participants randomized at a ratio of 2 active to 1 placebo to receive a single intravenous injection of either ARC-AAT or placebo. The study consists of two parts; Part A in healthy volunteers which dose escalated at a single center until a predetermined level of knockdown was achieved and Part B to be conducted in patients with the PiZZ genotype of AATD. Part B has begun at the highest dose level used in Part A and then continued dose escalation may proceed under the protocol. The study evaluates participants for 28 days following dosing, with additional follow-up if needed every 2 weeks until AAT levels return to baseline.

The study is enrolling currently in Australia. We have received regulatory approval allowing us to add additional sites in the UK and New Zealand, and we are currently awaiting regulatory approval in Germany and The Netherlands. Since AATD is a rare disease, we want to cast a wide net for patient recruitment.

With that, I'd like to turn the call over to Ken Myszkowski, Arrowhead's Chief Financial Officer.

Ken?

Ken Myszkowski

Thank you Bruce, and good afternoon everyone.

As we reported today, our net loss for the three months ended June 30, 2015 was $15.9 million, or $0.27 per share based on 59.5 million weighted average shares outstanding. This compares with a net loss of $11.6 million, or $0.22 per share based on 51.9 million weighted average shares outstanding, for the three months ended June 30, 2014.

Total operating expenses for the three months ended June 30, 2015 were $16.1 million, compared to $12.7 million for the three months ended June 30, 2014. The increase in operating expenses compared to the year ago period, of $3.4 million, were primarily due to higher research and development expenses of $1.1 million, and higher salaries and payroll-related expenses, which also increased $1.1 million. Noncash operating expenses for stock compensation and depreciation & amortization increased $900,000 as compared to the prior year quarter. Higher R&D costs in the current quarter were driven by clinical trial expenses, primarily related to ARC-520. The increase in salaries and payroll-related expenses were driven by higher headcount. Total full-time headcount at June 30, 2015 was 97, as compared to headcount of 75 at June 30, 2014.

Net cash used in operating activities during the third fiscal quarter was $13.1 million, compared with $9.8 million in the prior year period. Cash used in operating activities during the quarter were primarily composed of research and development costs, mostly program costs for ARC-520 and program costs for ARC-AAT, as well as R&D salary and wages, and related discovery research costs, as well as general and administrative costs including salary costs.

The primary drivers of the change in cash used in operating activities during the current period, as compared to fiscal 2014 is consistent with the drivers of the change in operating expenses, aside from noncash charges.

Turning to our balance sheet, at June 30, 2015, including our investments in fixed income securities, our cash and investments balance was $111.6 million, a decrease of $16.8 million from March 31, 2015. Our cash and investments at September 30, 2014 were $177.3 million.

During the current quarter, the Company made the final payment of $3 million to Novartis related to the asset acquisition that closed in March of this year. Excluding this $3 million payment our net change in cash and investments during the quarter was $13.8 million.

Our common shares outstanding at June 30, 2015, were 59.5 million, which increased from 54.7 million at September 30, 2014 primarily due to the issuance of 3.3 million shares for the Novartis asset acquisition. Also, at June 30, 2015, there were 15,652 shares of preferred stock outstanding. These preferred shares are convertible into 2.7 million shares of common stock. Common shares outstanding including the conversion of our preferred shares would be 62.2 million.

With that brief overview, I will now turn the call back to Chris.

Chris Anzalone

Thanks Ken.

With the analyst day presentation, new multiple-dose studies of ARC-520, initial healthy volunteer and patient data of ARC-AAT, progress of ARC-F12 toward the clinic, and data from our growing pipeline all on the horizon, it is shaping up to be an exciting second half of the year for us at Arrowhead. We see all of these as substantial near- and long-term value drivers for our shareholders.

I would now like to open the call to your questions. Operator?

Operator

Operator opens the call to questions …