Æterna Zentaris

Aeterna Zentaris Inc.
1405 du Parc-Technologique Boulevard
Québec City, Québec G1P 4P5
Canada
Phone: (418) 652-8525
Fax: (418) 948-9191
www.aezsinc.com

Ticker (Exchange)	AEZS (NASDAQ) AEZ (TSX)
Recent Price (04/20/2015)	$0.63 (NASDAQ)
52-week Range	$0.48 - $1.54
Shares Outstanding	~93.6 million
Market Capitalization	~$59 million
Average 3-month Volume	2,001,300
Insider Ownership + >5%	0.69%
EPS (Qtr. ended 12/31/2014)	$0.06
Employees	51

AEZS One-Year Stock Chart

Company Description

Aeterna Zentaris Inc. ("Aeterna" or "the Company") is transitioning into a specialty biopharmaceutical company in oncology, endocrinology, and women's health. With a focus on establishing revenues and profitability while optimizing resources to reduce its burn rate, the Company co-promotes a non-patch estrogen replacement therapy, EstroGel®, in specific U.S. markets with partner, Ascend Therapeutics ("Ascend"). As well, Aeterna holds a pipeline of candidates in varying stages of development and is working to acquire, in-license, or co-promote other commercial compounds. The Company's most advanced wholly owned clinical candidate, zoptarelin doxorubicin (doxorubicin peptide conjugate targeting **LHRH** receptor–expressing tumors), is in a Phase 3 trial in advanced, recurrent, or metastatic **endometrial cancer†**—a disease for which patients typically have a poor prognosis and there is no approved **systemic** therapy. Aeterna's pipeline further includes Macrilen™, a drug for the evaluation of **Adult Growth Hormone Deficiency (AGHD)**, for which the Company intends to initiate a confirmatory Phase 3 program, as well as other compounds in oncology, as the Company works to pursue strategic initiatives consistent with becoming a commercially operating specialty biopharmaceutical company.

Key Points

- As part of Aeterna's co-promotion agreement announced in November 2014 with Ascend, Aeterna's sales force of 19 co-promote EstroGel® in 19 U.S. sales territories with access to sales commissions. A top-prescribed estrogen product in Europe and the leading transdermal estrogen product in Canada, EstroGel® partakes in the $3.6 billion estrogen replacement market.
- A ZoptEC (**Zopt**arelin doxorubicin in **E**ndometrial **C**ancer), open-label, 500-patient Phase 3 trial in advanced endometrial cancer is ongoing under a **Special Protocol Assessment (SPA)** with the U.S. FDA. The primary endpoint is improvement in median overall survival. The first interim analysis could occur in the first half of 2015; the second interim analysis by year-end 2015.
- The Company intends to initiate a confirmatory Phase 3 efficacy trial and a QT interval trial by year-end 2015 for the evaluation of AGHD with Macrilen™, its orally active **ghrelin agonist.**
- Aeterna has established the infrastructure to grow through successful licensing, acquisition, and co-promotional opportunities of commercial compounds as it leverages its current sales force and brings in products that fit synergistically within its core focus areas.
- Aeterna's leadership has experience and established ability in building significant value in the pharmaceutical industry.
- As of December 31, 2014, Aeterna had cash and cash equivalents of $34.9 million versus $43.2 million as of December 31, 2013. The Company subsequently closed a public offering of 59,677,420 units, generating net proceeds of approximately $34.5 million.

Table of Contents

Investment Highlights

- ***Aeterna is evolving into a specialty biopharmaceutical company within oncology, endocrinology, and women's health, focused on establishing revenues and profitability, while optimizing resources and reducing its burn rate.*** The Company is working to achieve a successful commercial presence and growth via licensing, acquisition, and co-promotional opportunities beginning with EstroGel®, a non-patch estrogen replacement therapy. Aeterna also holds a pipeline of candidates in varying stages of development, including its clinical-stage candidates: zoptarelin doxorubicin (doxorubicin peptide conjugate), a potential therapy for advanced, recurrent, or metastatic endometrial cancer; and Macrilen™ (macimorelin), a novel, orally available peptidomimetic ghrelin receptor agonist that stimulates the secretion of growth hormone and that is used to diagnose AGHD. Other potential indications for zoptarelin doxorubicin may include castration- and taxane-resistant prostate cancer and ovarian cancer. Macrilen™ may also have uses in oncology indications as a treatment for **cancer cachexia**.

- ***In November 2014, Aeterna launched a co-promotion initiative with specialty pharmaceutical company, Ascend Therapeutics US, LLC, for EstroGel®, enabling Aeterna to transition beyond the development stage and into a commercial entity.*** Under the agreement, Aeterna's 19 in-house sales representatives promote EstroGel® on a commission basis in 19 territories in the U.S. EstroGel® is a top-prescribed product in Europe and the leading prescribed transdermal product in Canada, participating in the $3.6 billion estrogen replacement market. In seeking to leverage its salesforce, Aeterna is moving discussions forward to acquire new promotional products or mature legacy products that can fit synergistically in its areas of focus.

- ***Zoptarelin doxorubicin is a new concept in oncology.*** This hybrid molecule, which is delivered intravenously, is composed of a synthetic peptide carrier and doxorubicin, which directs the chemotherapy agent specifically to LHRH-receptor-expressing tumors. Accordingly, the compound has demonstrated to result in a more targeted treatment with less damage to healthy tissue and fewer overall side effects.

- ***In an ongoing Phase 3 trial for endometrial cancer, the ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) study could ultimately have 500 patients, with over 430 currently enrolled at 125 active sites in North America, Europe, and Israel.*** Initial interim analysis is expected to occur at 128 events, which could take place in the first half of 2015, and 192 events for the second interim analysis, which could take place by year-end 2015. The Company is working under a Special Protocol Assessment (SPA) with UK-based Ergomed plc (Aeterna's clinical development organization), where the two entities have a cost-sharing agreement in place. If approved, zoptarelin doxorubicin could become the first FDA-approved medical therapy for treating recurrent endometrial cancer. Furthermore, in December 2014, Aeterna announced an agreement with Sinopharm A-Think of China, where Sinopharm A-Think has development rights for China, Hong Kong, and Macau. Following the first indication in endometrial cancer, Aeterna has stated an intent to pursue ovarian cancer as well as prostate cancer (with an investigator-initiated trial already underway in prostate cancer) as part of the product's lifecycle management program.

- ***The Company recently announced plans to conduct a new confirmatory Phase 3 clinical study to demonstrate the efficacy of Macrilen™ for use in evaluating AGHD, as well as a dedicated thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization.*** This decision follows a positive meeting with the U.S. FDA regarding its New Drug Application for Macrilen™. The Company requested the meeting to gain clarity on the approval deficiencies described in the Complete Response Letter (CRL) the Company received on November 6, 2014. Both trials are expected to be initiated by year-end.

- ***In preclinical stages, Aeterna's Erk inhibitors for oncology were recognized by the American Association for Cancer Research (AACR), and were singled out as one of the 10 most important papers discussed at the April 2014 conference (out of over 10,000 papers presented).*** The Company expects to optimize this molecule for development and be able to progress into discussions with potential partners and/or continue its development for further proof of concept.

- ***Over the past year, Aeterna has assembled a strong leadership team with experience and demonstrated ability in building significant value in the pharmaceutical industry.*** The Company is listed on both the NASDAQ and the TSX exchanges and, as of December 31, 2014, cash and cash equivalents totaled $34.9 million versus $43.2 million as of December 31, 2013.

- ***Subsequent to year-end 2014, Aeterna closed a public offering of 59,677,420 units, generating net proceeds of approximately $34.5 million.*** Each unit consisted of one common share, 0.75 of a Series A warrant to purchase one common share, and 0.50 of a Series B warrant to purchase one common share, at a purchase price of $0.62 per unit.

Executive Overview

Aeterna Zentaris Inc. ("Aeterna" or "the Company") is evolving into a specialty biopharmaceutical company engaged in developing, commercializing, and/or promoting novel treatments in oncology, endocrinology, and women's health via internal development programs as well as through co-promotion, in-licensing, and the acquisition of products already on the market. With a focus on establishing revenues and profitability while optimizing resources and reducing its burn rate, the Company's current commercial program is for the co-promotion of a non-patch estrogen replacement therapy, EstroGel®, in specific U.S. geographical areas in conjunction with women's healthcare company, Ascend Therapeutics US, LLC ("Ascend"). Aeterna also holds a pipeline of candidates in varying stages of development.

The Company's lead and wholly owned Phase 3 clinical candidate, zoptarelin doxorubicin (doxorubicin peptide conjugate), is undergoing a Phase 3 trial in advanced-stage endometrial cancer, where this compound has shown to reduce toxicity and improve the effectiveness of cytotoxic drugs. Aeterna is also investigating various other compounds as potential treatments in oncology and endocrinology as it pursues strategic initiatives that are consistent with the operations of a commercial specialty biopharmaceutical company.

EstroGel®

Figure 1
ESTROGEL 0.06%

Source: Æterna Zentaris Inc.

As a part of the Company's strategy of branding itself beyond a development-stage entity and into a commercial entity, Aeterna entered into a co-promotion agreement with Ascend Therapeutics for Ascend's product, EstroGel® (a non-patch transdermal estrogen therapy)*. With over 100 years of success by its parent company, Besins Healthcare S.A., Ascend is a specialty pharmaceutical company exclusively focused on women's healthcare.

Under this agreement, Aeterna's internal sales force of 19 reps is co-promoting EstroGel® within specific territories in the U.S. Sales commissions are payable to Aeterna or one of its subsidiaries based upon incremental EstroGel® sales volumes generated over certain pre-established thresholds. With 35 years of worldwide patient use, EstroGel® is approved in over 70 countries and is the top-prescribed estrogen product in Europe as well as the leading prescribed transdermal estrogen product in Canada. The estrogen replacement market, which generated $3.6 billion in annual revenues in 2013, encompasses products delivered orally, transdermally, vaginally, or intramuscularly (IM). In the non-patch arena of transdermal products where EstroGel® is positioned (which has proven to be a promotionally responsive market), there are currently only three brands on the market, which collectively generate $90 million in annual sales.

By co-promoting EstroGel®, Aeterna is gaining valuable experience for its sales force to utilize toward promoting any future commercial products that the Company acquires, in-licenses, or co-promotes. To that end, an established and experienced sales force may be a key asset in facilitating negotiations with companies that have commercial assets they may wish to out-license or co-promote. Greater details of EstroGel® and the respective co-promotion agreement in place are provided on page 16.

***Please see patient information and boxed warning for more details on Estrogel® at www.estrogel.com.**

Zoptarelin Doxorubicin (Doxorubicin Peptide Conjugate)

Zoptarelin doxorubicin (doxorubicin peptide conjugate) represents a new concept in oncology using a hybrid molecule composed of a synthetic peptide carrier and a well-known chemotherapy agent, doxorubicin. As the first intravenous drug in a clinical study to direct a chemotherapy agent specifically to luteinizing hormone-releasing hormone (LHRH)-receptor expressing tumors, zoptarelin doxorubicin is believed to lead to a more targeted treatment with less damage to healthy tissue. The Company's most advanced indication is for advanced, recurrent, or metastatic endometrial cancer (noting that endometrial cancer is the most common of the gynecologic malignancies and is expected to affect 1 in 37 women during 2015). If the compound is approved for its first indication, the Company intends to develop it for ovarian and prostate cancer as part of zoptarelin doxorubicin's lifecycle management program. An investigator-initiated Phase 1/2 trial is currently underway in prostate cancer.

Patients with advanced and recurrent endometrial cancer typical have a poor prognosis as there is no known or approved systemic therapy (except in Germany) for advanced (Stages III or IV) and recurrent metastatic endometrial cancer. Moreover, while response rates of up to 50% have been seen in patients receiving combination chemotherapy, the duration of the responses are short and the medications carry high toxicity. Due to the difficulty in treating women with late-stage endometrial cancer, new therapies are being developed to try and help better target and kill cancerous cells. As such, within this space, Aeterna is developing zoptarelin doxorubicin for an advanced form of endometrial cancer, known as disseminated endometrial cancer.

Phase 3 ZoptEC Study in Endometrial Cancer

A ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) Phase 3 study in women with advanced, recurrent, or metastatic endometrial cancer who have progressed and have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first-line treatment) is currently underway. The first patient was dosed in July 2013 and recruitment is ongoing at multiple sites across North America, Europe, and Israel, with over 430 patients out of an expected 500 recruited to date. The primary efficacy endpoint of the ZoptEC study is improvement in median overall survival with the first futility interim analysis expected in the first half of 2015 and a second interim analysis by the second half of 2015. If approved, zoptarelin doxorubicin could become the first FDA-approved medical therapy for treating recurrent endometrial cancer. Medical therapies used in treating recurrent endometrial cancer account for approximately $300 million to $400 million in the U.S. and between $150 million and $250 million in European markets.

Aeterna holds global rights to zoptarelin doxorubicin, with the exception of China (including Hong Kong and Macau), where rights have been out-licensed to Sinopharm A-Think (a subsidiary of Sinopharm, the largest medical and healthcare group in China and on *Fortune's* Global 500 list). Greater details of the Sinopharm agreement are provided on page 21.

Ergomed Agreement

In April 2013, Aeterna announced that it had signed a co-development and profit-sharing agreement with UK-based Ergomed plc for zoptarelin doxorubicin in endometrial cancer. Ergomed was selected as the contract clinical development organization to conduct the ZoptEC Phase 3 trial. Under the terms of the agreement, Ergomed has agreed to assume 30% (up to $10 million) of the clinical and regulatory costs for the trial (estimated at approximately $32 million over the course of the study). As well, Ergomed is to receive its return on investment based on an agreed to single-digit percentage of any net income received by Aeterna for zoptarelin doxorubicin in this indication (up to a maximum amount specified in the agreement).

Additional Potential Indications

By and large, recurrent ovarian cancer is considered incurable, with therapies at this stage mainly seeking palliative treatment of symptoms, maintaining or improving quality of life, and increasing survival. Aeterna has completed a Phase 2 trial with zoptarelin doxorubicin in women with platinum-resistant ovarian cancer, a late-stage form of the disease during which refractory tumor growth is observed despite use of primary therapy. The compound has been granted **orphan drug designation** by the FDA and **orphan medicinal product designation** from the European Medicines Agency (EMA) in treating ovarian cancer.

Zoptarelin doxorubicin is further in development for prostate cancer by an independent investigator. An article on final data for the Phase 1 portion of the ongoing Phase 1/2 trial in prostate cancer with zoptarelin doxorubicin was published in the December 2014 issue of *Clinical Cancer Research*. The article outlines data previously disclosed in June 2013 at the ASCO Annual Meeting, which demonstrated the compound's safety profile and potential anti-tumor activity in men with castration- and taxane-resistant prostate cancer who have been heavily pre-treated. With encouraging Phase 1 data, the next milestone could be results from the current Phase 2 portion of this investigator-driven trial.

Other Preclinical Compounds

Aeterna also has a number of drugs in preclinical studies addressing various other cancers and endocrine disorders. In its oncology pipeline are earlier stage programs, including AEZS-134, a highly potent and selective ATP competitive Erk inhibitor, which may represent new therapeutic opportunities in oncology; and LHRH disorazol Z, a next-generation zoptarelin doxorubicin, which is a cytotoxic conjugate of disorazol Z and a synthetic peptide carrier that targets the LHRH receptor (and may also have potential in solid tumors).

Macrilen™

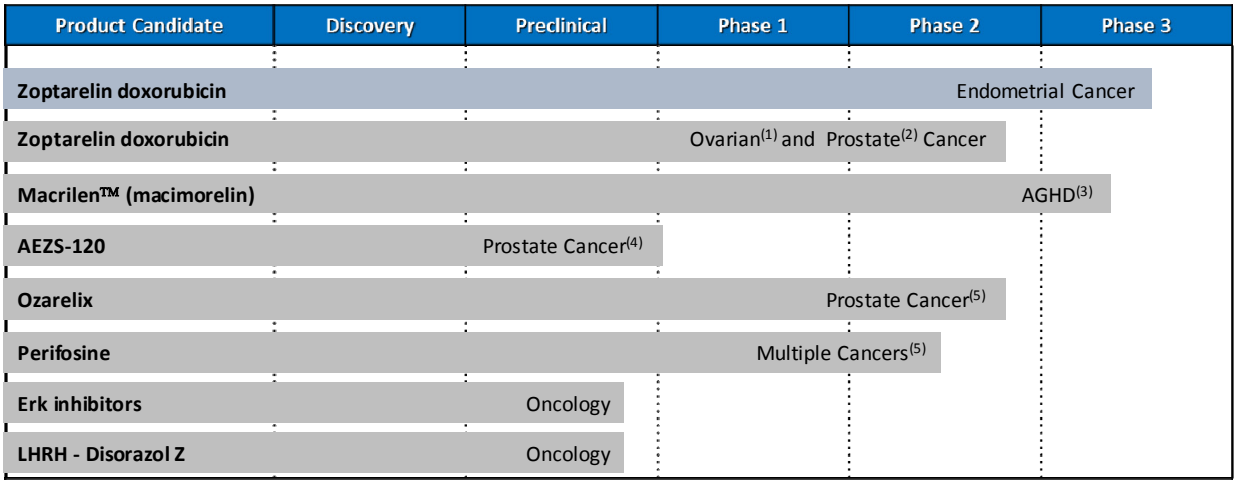
Macrilen™ (macimorelin) is an orally active **ghrelin agonist** for use in evaluating AGHD. On April 13, 2015, the Company announced plans to conduct a new, confirmatory clinical study to demonstrate the efficacy of Macrilen™ for use in AGHD, as well as a dedicated thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization. Aeterna has stated that this decision followed a positive and helpful meeting with the FDA regarding the New Drug Application (NDA) for Macrilen™. The Company requested the meeting to gain clarity on the approval deficiencies described in a Complete Response Letter (CRL) that Aeterna had received on November 6, 2014. Following receipt of the CRL, the Company convened a panel of U.S. and EU endocrinology experts to advise it regarding the options for Macrilen™. According to Aeterna, the panel advised the Company to continue to seek approval for the compound because of their confidence in its efficacy and because there is not currently an FDA-approved diagnostic test for AGHD.

Following an end-of-review meeting with the FDA on March 6, 2015, the Company and the FDA agreed on the general design of the confirmatory study as well as evaluation criteria. The study is to be conducted as a two-way crossover with the insulin tolerance test as the benchmark comparator. The study population is intended to consist of patients with a medical history documenting risk factors for AGHD and include a spectrum of patients, ranging from those who have a low risk of AGHD to those with a high risk of the condition. The Company believes that completion of the confirmatory Phase 3 study and the QT study will likely require approximately 18 months and a combined expenditure of between $5 million and $6 million.

Pipeline Summary

Figure 2 summarizes the Company's current product pipeline, followed by greater details on pages 16-30 of this Executive Informational Overview (EIO®).

Figure 2
PRODUCT PIPELINE



(1) Phase 2 in ovarian cancer completed.
(2) Investigator-driven and sponsored.
(3) Confirmatory Phase 3 efficacy trial and QT interval trial to be initiated by year-end.
(4) Potential oral prostate cancer vaccine available for out-licensing.
(5) Sponsored entirely by license partners.

Source: Æterna Zentaris Inc.

Global Resources Optimization Program

In April 2013, Aeterna named a new CEO, David Dodd, who commenced a strategic review of the Company's assets and development plan. Mr. Dodd implemented a "global resources optimization program" to shift the Company's strategic focus from drug discovery and R&D to commercial operations and developing product sales. Prior to this, Aeterna was working toward developing multiple ongoing early-stage drug discovery and development programs emerging from a prior R&D team. When perifosine, Aeterna's lead drug candidate in 2012/2013, failed in two Phase 3 trials in advanced colorectal cancer and in recurrent multiple myeloma, respectively, Mr. Dodd was hired as Aeterna's new president and CEO to conduct a strategic review of the Company and its assets.

As a senior-level manager at several pharmaceutical companies, including president and CEO or as a Board member, Mr. Dodd is believed to hold the experience needed to redirect the Company and turn it into a commercially viable and revenue-generating organization. Mr. Dodd's history involves accelerating growth and increasing the market capitalization of companies he has led, and in certain cases, leading to merger(s) or acquisition(s). Mr. Dodd also has a history of raising capital. With $35 million in the bank as of December 31, 2014, combined with a recent public offering which generated net proceeds of $34.5 million, Aeterna holds the means with which to implement this restructuring plan and fund continuing development of the Company's product candidates while moving into a commercial organization. The Company may from time to time need to raise additional capital to fund its operations.

Key Corporation Information

The Company was incorporated on September 12, 1990, under the Canada Business Corporations Act (CBCA) and continues to be governed by the CBCA. On December 30, 2002, it acquired Zentaris AG, a biopharmaceutical company based in Frankfurt, Germany. Zentaris was a spin-off of Asta Medica GmbH, a former pharmaceutical company affiliated with Degussa AG. In May 2004, the Company's name was changed to Aeterna Zentaris Inc. and on May 11, 2007, Zentaris GmbH was renamed Aeterna Zentaris GmbH. On October 2, 2012, Aeterna effected a 6-to-1 reverse stock split and on October 5, 2012, the common shares began trading on a consolidated and adjusted basis on both the NASDAQ and TSX.

The Company's corporate headquarters are based in Québec City, Canada, with offices in Charleston, South Carolina, and Frankfurt, Germany. Aeterna expanded into Charleston in May 2014 as its new location for North American business and global commercial operations. Over the next five years, the Company has stated that it expects to implement staff additions to support the areas of commercial operations, business development, regulatory and quality assurance, manufacturing management, clinical and product development, along with administrative functions. As well, the Coordinating Council for Economic Development of South Carolina has approved job development credits for the Company.

Aeterna trades on the NASDAQ under the ticker symbol AEZS and on the TSX under AEZ. Its three wholly owned direct and indirect subsidiaries include Aeterna Zentaris GmbH (Germany); Zentaris IVF GmbH, a direct wholly owned subsidiary of AEZS Germany based in Frankfurt, Germany; and Aeterna Zentaris, Inc., an entity incorporated in the State of Delaware with an office in Summerville, South Carolina.

Growth Strategy

Aeterna is transitioning toward commercial activities through co-promotion, in-licensing, and acquisition of products already on the market, with its co-promotion efforts ongoing with EstroGel®, a non-patch transdermal estrogen therapy, and development efforts underway with advanced clinical-stage candidate zoptarelin doxorubicin, a targeted therapy for advanced, recurrent, or metastatic endometrial cancer, as well as potentially for prostate and ovarian cancers. Aeterna is further investigating other compounds as potential treatments for a host of unmet medical needs. Summaries of the Company's near-term growth initiatives are outlined below.

- ***EstroGel®***. Along with partner Ascend Therapeutics, Aeterna is formally engaging its own contracted sales force of 19 sales representatives for the field selling of estrogen replacement drug, EstroGel®, in 19 agreed-upon U.S. sales territories. The Company expects that its sales force will likely continue to ramp-up its co-promotion activities, which commenced at the end of November 2014, as it seeks to utilize these collaboration efforts to exploit its portfolio's value and growth.

- ***Zoptarelin Doxorubicin***. As it relates to the Company's Phase 3 ZoptEC (**Zopt**arelin doxorubicin in **E**ndometrial **C**ancer) study, Aeterna expects to continue to monitor patient enrollment in North America, Europe, and Israel, to be able to secure a first interim analysis for the Phase 3 ZoptEC study during the first half of 2015, and to complete the second interim analysis by year-end 2015. Of note is that currently available medical therapies that treat recurrent endometrial cancer account for between $300 million to $400 million in value in the U.S.

- ***Macrilen™ (macimorelin)***. On April 13, 2015, the Company announced its decision to conduct a new confirmatory Phase 3 clinical trial of Macrilen™ for the diagnosis of AGHD as well as a dedicated, thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization, after reaching an agreement with the FDA on the design of the clinical trials. The Company expects that the combined clinical trials may cost between $5 million and $6 million and require approximately 18 months to complete.

Ultimately, Aeterna continues to focus on EstroGel®, specifically targeting growth that is at least twice the rate of the segment in its respective territories. As well, Aeterna is focused on bringing in additional products, which it has stated could be announced in the near term. Furthermore, the Company continues to seek to complete its global resource optimization while reducing its burn rate (noting it has recently reduced its headcount from 91 to 51).

Milestones

Transitioning from a research- and development-stage clinical company, Aeterna is evolving into an operating company focused on in-licensing, acquiring, and/or promoting or co-promoting already registered products, with the milestones listed below expected to drive this transformation.

Developing Commercial Portfolio

- In-license additional commercial compounds (2015 and beyond)

Resource and Organizational Improvement

- Continue to implement global optimization program to streamline research and development activities, increase commercial activities, and overall workforce flexibility

Zoptarelin Doxorubicin

- Complete patient enrollment for ZoptEC Phase 3 trial by the end of 2015
- Operate ZoptEC Phase 3 trial in support of achieving first interim analysis in the first half of 2015 and second interim analysis by year-end 2015

Erk Inhibitor Development Program

- Select optimized molecule for development in the first half of 2015

Macrilen™

- Resolve decision connected to clinical development program through FDA interactions

A summary of the Company's achieved and potential milestones is provided in Figure 3.

Figure 3

KEY ACHIEVEMENTS AND POTENTIAL MILESTONES

1993	- Aeterna Labs Founded
2002	- Zentaris GmbH Acquired
2003 2012	- Clinical Development
2013	- Strategic Shift to Commercial Development - ZoptEC Trial Launched
2014	- Co-promotion Agreement with Ascend - Start of selling Ascend's EstroGel® in the U.S. - Focus on Business Development - Organizational Restructuring; seek to reduce burn rate
2015	- Expansion of Commercial Operations - ZoptEC Interim Results Potentially First Half 2015 - Portfolio Expansion and Development

Source: Æterna Zentaris Inc.

Intellectual Property

Patents

Aeterna seeks to protect its compounds, manufacturing processes, compositions, and methods of medical use for its lead drugs and drug candidates through a combination of patents, trade secrets, and know-how. Its patent portfolio consists of approximately 28 owned and in-licensed patent families (issued, granted, or pending in the U.S., Europe, and other jurisdictions). The patent positions of companies in the biotechnology and pharmaceutical industries are highly uncertain and involve complex legal and factual questions. Therefore, the Company cannot predict the breath of claims, if any, that may be allowed under any of patent applications, or the enforceability of any of its allowed patents.

Patents extend for varying periods according to the date of patent filing or grant and the legal term of patents in the various countries where patent protection is obtained. The actual protection afforded by a patent, which can vary from country to country, depends on the type of patent, the scope of its coverage and the availability of legal remedies in the country. Independent of the original patent expiry date, additional exclusivity is possible in the U.S., Europe, and several other countries by data protection for **new chemical entities** or by orphan drug designation. In addition, in the U.S., Europe and certain other jurisdictions the terms of a patent covering an approved drug can be extended by patent term extension or supplementary protection certificate.

In the U.S., the patent term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Drug Price Competition and Patent Term Restoration Act of 1984, or the **Hatch-Waxman Act**, permits a patent term extension of up to five years beyond the expiration of the patent, in which the patentee may file an application for yearly interim extensions within five years if the patent will expire and the FDA has not yet approved the NDA. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended.

Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. In these jurisdictions, however, no interim extensions exist and the marketing approval must be granted before the patent expires. In the future, if and when its pharmaceutical products receive FDA approval, Aeterna expects to apply for patent term extensions on patents covering those products. While the Company anticipates that any such applications for patent term extensions will likely be granted, it cannot predict the precise length of the time for which such patent terms would be extended in the U.S., Europe or other jurisdictions. The following is a description of Aeterna's intellectual property rights with respect to its compounds in development.

Zoptarelin Doxorubicin

The Company licenses intellectual property relating to LH-RH agonists and LH-RH antagonists carrying various cytotoxic radicals (including zoptarelin doxorubicin) from the Administrators of the Tulane Educational Fund pursuant to a License Agreement dated September 17, 2002. The Tulane Agreement grants to Aeterna an exclusive worldwide license for all therapeutic uses of LH-RH agonists and LH-RH antagonists carrying various cytotoxic radicals, to the extent covered by one of the patents listed below. The term of the Tulane Agreement continues for ten years after the first commercial sale of a product based on the licensed intellectual property or until the expiration of the last to expire of the patents listed below, whichever is longer, on a country-by-country basis.

Pursuant to the Tulane Agreement, Aeterna is required to pay Tulane the following amounts: (i) US$400,000 upon the first grant of regulatory approval for a Licensed Product in the U.S., Canada, the European Union, or Japan; (ii) 10% of all consideration received by the Company from a sublicensee for authorization to use the licensed intellectual property to develop, manufacture, market, distribute, and sell a Licensed Product; (iii) 5% of the Company's net sales of Licensed Products; and (iv) 50% of any royalties that Aeterna receives from a sublicensee with respect to its net sales of Licensed Products; provided, however, that the payment with respect to royalties received from a sublicensee shall not be less than 3.5% nor more than 5% of the sublicensee's net sales of the Licensed Product.

The patents listed below are covered by the Tulane Agreement.

- U.S. patent 5,843,903 provides protection in the U.S. for the compound zoptarelin doxorubicin and other related targeted cytotoxic anthracycline analogs, pharmaceutical compositions comprising the compounds as well as their medical use for the treatment of cancer. This patent expires in November 2015.

- European patent 0 863 917 B1 provides protection in Europe for the compound zoptarelin doxorubicin and other related targeted cytotoxic anthracycline analogs, pharmaceutical compositions comprising the compounds as well as their medical use for the treatment of tumors. This patent expires in November 2016.

- Japanese patent 3 987 575 provides protection in Japan for the compound zoptarelin doxorubicin and other related targeted cytotoxic anthracycline analogs, pharmaceutical compositions comprising the compounds as well as their medical use for the treatment of tumors. This patent expires in November 2016.

- Chinese patent ZL96198605.0 provides protection in China for the compound zoptarelin doxorubicin and other related targeted cytotoxic anthracycline analogs, pharmaceutical compositions comprising the compounds as well as their medical use for the treatment of tumors. This patent expires in November 2016.

- Hong Kong patent 1017363 provides protection in Hong Kong for the compound zoptarelin doxorubicin and other related targeted cytotoxic anthracycline analogs, pharmaceutical compositions comprising the compounds as well as their medical use for the treatment of tumors. This patent expires in November 2016.

Macimorelin

- U.S. patent 6,861,409 protects the compound macimorelin and U.S. patent 7,297,681 protects other related growth hormone secretagogue compounds, each also protecting pharmaceutical compositions comprising the compounds as well as their medical use for elevating the plasma level of growth hormone. U.S. patent 6,861,409 and U.S. patent 7,297,681 both expire in August 2022.

- European patent 1 289 951 protects the compound macimorelin and European patent 1 344 773 protects other related growth hormone secretagogue compounds, pharmaceutical compositions comprising the compounds as well as their medical use for elevating the plasma level of growth hormone. EP patent 1 289 951 and EP patent 1 344 773 both expire in June 2021.

- Japanese patent 3 522 265 protects the compound macimorelin and pharmaceutical compositions comprising the compounds as well as their medical use for elevating the plasma level of growth hormone. This patent expires in June 2021.

- Canadian patent 2,407,659 protects the compound macimorelin and pharmaceutical compositions comprising the compounds as well as their medical use for elevating the plasma level of growth hormone. This patent expires in June 2021.

- U.S. patent 8,192,719 protects a method of assessing pituitary-related growth hormone deficiency in a human or animal subject comprising an oral administration of the compound macimorelin and determination of the level of growth hormone in the sample and assessing whether the level of growth hormone in the sample is indicative of growth hormone deficiency. This patent expires in October 2027.

- European patent 1 984 744 protects a method of assessing pituitary-related growth hormone deficiency by oral administration of macimorelin. This expires in February 2027.

- Japanese patent 4 852 728 protects a method of assessing pituitary-related growth hormone deficiency by oral administration of macimorelin. This expires in February 2027.

Erk Inhibitors

Aeterna owns a number of patents that relate to its Erk inhibitors, of which AEZS-134 is its lead candidate.

- U.S. patent 8,791,118 seeks protection for compound AEZS-134 as well as methods of treatment for this compound. This patent expires in May 2032 (including PTA).

- European Patent Application No. EP2,694,067 seeks protection for compound AEZS-134 as well as methods of treatment for this compound. If granted, the EP patent would expire in April 2032.

- Japanese patent application based on PCT/EP2012/056138 seeks protection for compound AEZS-134 as well as methods of treatment for this compound. If granted, the patent would expire in April 2032.

Disorazol Z - LHRH Conjugates (AEZS-138)

- U.S. patent 7,741,277 protects compound AEZS-138 (disorazole Z - LHRH conjugate). This patent will expire in January 2028 (including PTA).

- U.S. patent 8,470,776 protects methods of treatment for compound AEZS-138 (disorazole Z - LHRH conjugate). This patent will expire in February 2029 (including PTA).

- European patent application 2,066,679 protects compound AEZS-138 (disorazole Z - LHRH conjugate) as well as methods of treatment for this compound. If granted, this patent will expire in September 2027.

- Japanese patent 5,340,155 protects compound AEZS-138 (disorazole Z - LHRH conjugate) as well as methods of treatment for this compound. This patent will expire in September 2027.

Company Leadership

Figure 4 summarizes the Company's executive leadership, followed by brief biographies. The current CEO, David Dodd, joined Aeterna in April 2013, with a reexamination of the Company. He remains focused on moving the Company beyond internal clinical development and augmenting these efforts with a targeted move into the commercial realm, in conjunction with bringing the Company's lead programs forward.

Figure 4

MANAGEMENT

Executive	Title	Prior Affiliation(s)
David Dodd	Chairman, CEO	Abbott, BMS, Wyeth, Solvay, Serologicals, and others
Jude Dinges	Senior VP and CCO	Merck, Novartis, and Amgen
Richard Sachse	Senior VP, CMO, and CSO	Boehringer Ingelheim, Bayer, Schwarz Pharma, and UCB
Phil Theodore	Senior VP, CAO, General Counsel, Corporate Secretary	King & Spalding, Serologicals, BioReliance, John H. Harland, and Zep
Dennis Turpin	Senior VP and CFO	Coopers & Lybrand

Source: Æterna Zentaris Inc.

Management

David A. Dodd, Chairman, Chief Executive Officer (CEO)

Mr. Dodd's executive management experience in the pharmaceutical and biotechnology industries spans more than 35 years, during which he developed a recognition for leading significant transformation and value growth in various companies. During his six-year tenure as president, CEO, and director of Serologicals Corporation, the market value of the company increased from $85 million in June 2000 to an all-cash sale to Millipore Corporation in July 2006 for $1.5 billion. Prior to his service at Serologicals, he served as president, CEO, and director of Solvay Pharmaceuticals, Inc., which achieved an increase in value from $100 million to $2 billion during his five-year service. He also was president, CEO, and chairman of BioReliance Corporation, a provider of biological safety and related testing services. Prior to that, Mr. Dodd held various senior management positions at Wyeth-Ayerst Laboratories, the Mead Johnson Laboratories Division at Bristol-Myers Squibb Company, and Abbott Laboratories. In addition, Mr. Dodd currently serves as chairman of the Board of GeoVax Labs, Inc. (GOVX-OTC), a company developing novel vaccines for Ebola and HIV. Mr. Dodd holds a Master's degree from Georgia State University and completed the Harvard Business School Advanced Management Program.

Jude Dinges, Senior Vice President, Chief Commercial Officer (CCO)

Mr. Dinges began his career nearly 30 years ago as a professional sales representative at Bristol Laboratories and later at Merck & Co., where he was promoted to positions with increasing responsibilities in training, sales, management, marketing, and market development. While at Merck, Mr. Dinges won multiple awards, including the President's Achievement Award in 2001, awarded to one of 32 Business Directors each year. He received the Change Agent Award for his market development prelaunch business planning and contributions to sales force execution, while launching the blockbuster brands Cozaar®, Fosamax®, Singulair®, Maxalt®, Vioxx®, and Vytorin®. He was recognized with a Career Achievement Award for his consistent top performance as a senior/executive business director. Mr. Dinges joined Novartis Pharmaceuticals in 2006 and led his region to top performance in the launch of Tekturna® while balancing a broad antihypertensive portfolio across several Novartis divisions. His region also led the nation in market share for Exelon® and Exelon Patch®. In 2008, Mr. Dinges became the respiratory and infectious disease specialty medicines director. In 2009, Mr. Dinges joined Amgen Inc. as executive director of Region Sales, Bone Health Business Unit. Mr. Dinges led his region team to a highly successful launch of monoclonal antibody, Prolia®, across southeastern U.S. and Puerto Rico. His region ranked number one among eight regions in sales, producing 18% of total company revenue while leading 13% of the national sales force. His teams produced the highest sales month on month, achieved the highest number of buy and bill accounts, and developed the broadest use of Prolia® by primary care physicians.

Dr. Richard Sachse, Senior Vice President, Chief Medical Officer, and Chief Scientific Officer

From 1996 to 2000, Dr. Sachse was international project leader at the Bayer AG Institute for Clinical Pharmacology, and Principal Investigator at the Bayer Clinical Pharmacology Unit, implementing innovative exploratory development tools, including biomarkers to demonstrate early proof of concept. From 2001 to 2006, Dr. Sachse held a variety of different management positions within early and late phase clinical development programs, including responsibilities for completed Phase 3 programs leading to successful NDA/MAA submissions. In 2007, after a merger, he became senior director, head of experimental medicine, at UCB in Belgium, where he managed the implementation of novel biomarkers in clinical development to provide data supporting identification of appropriate target indication and target population. In 2010, Dr. Sachse became vice president, head of global translational medicine at Boehringer Ingelheim. Dr. Sachse holds a degree in medicine from the Friedrich-Alexander-University Erlangen in Germany and a board certification in clinical pharmacology. With more than 20 years of experience as a physician and scientist, he has extensive expertise in a variety of different therapeutic areas, including endocrinology and oncology. In addition to registration studies, he is especially experienced in the design and implementation of translational programs to bridge research programs to the clinic, as well as in the design and implementation of clinical pharmacology programs, including all required profiling studies and activities, enabling successful registration of products at the international level.

Philip A. Theodore, Senior Vice President, Chief Administrative Officer, General Counsel, and Corporate Secretary

Before joining Aeterna, Mr. Theodore served as vice president, general counsel, and corporate secretary of Zep Inc., a leading global supplier of consumable chemical packaged goods. Prior to joining Zep Inc., he served as vice president of corporate development, compliance and legal for BioReliance, Inc. from September 2008 to April 2009; as senior vice president and general counsel of John H. Harland Company from September 2006 to September 2007; and as vice president, general counsel and corporate secretary of Serologicals Corporation from 2004 through August 2006. Mr. Theodore also served as a partner in the corporate practice of King & Spalding, LLP, an Atlanta-based law firm, from 1986 through 2003. Mr. Theodore is a graduate of the University of Cincinnati College of Law and holds a B.A. (political science) from the University of Tennessee at Chattanooga.

Dennis Turpin, CPA, CA, Senior Vice President and Chief Financial Officer

Mr. Turpin joined the Company in August 1996 as finance director before being appointed vice president and chief financial officer in June 1999. Since being with Aeterna, Mr. Turpin has been actively involved in several financing activities, such as public offerings and is very committed to investor relation activities on an international level. Prior to joining Aeterna, Mr. Turpin was with Coopers & Lybrand (now PricewaterhouseCoopers), Chartered Accountants, for over 10 years.

Directors

The Company's Board of Directors (Figure 5) consists of seven individuals, six of whom are independent. The Board oversees the conduct and supervises the management and affairs of Aeterna, convening regularly to consider issues or conduct specific reviews when appropriate.

Figure 5
BOARD OF DIRECTORS

Marcel Aubut, O.C., O.Q., Q.C.	Managing Partner, Heenan Blaikie Aubut LLP (law firm)
David A. Dodd	CEO and Chairman, Æterna Zentaris Inc.
José P. Dorais	Partner, Miller Thomson Pouliot LLP (law firm)
Carolyn Egbert	Corporate Director
Juergen Ernst, M.B.A.	Lead Director, Former Worldwide General Manager, Pharmaceutical Sector of Solvay S.A.
Pierre Lapalme	Corporate Director
Gérard Limoges, CM, FCA	Corporate Director

Source: Æterna Zentaris Inc.

Core Story

Aeterna Zentaris Inc. ("Aeterna" or "the Company") is progressing into a specialty biopharmaceutical company within oncology, endocrinology, and women's health, concentrated on establishing revenues and profitability, while optimizing resources and reducing its burn rate. The Company is working toward achieving successful commercial presence and growth via licensing, acquisition, and co-promotional opportunities beginning with EstroGel®, a leading transdermal non-patch estrogen replacement therapy. Aeterna further possesses a pipeline of candidates in varying development stages, such as its most advanced clinical-stage candidate, zoptarelin doxorubicin (doxorubicin peptide conjugate), a possible therapy for advanced, recurrent, and metastatic endometrial cancer (and is also targeting various cancers including prostate and ovarian). Aeterna is moreover investigating various other compounds as potential treatments for a host of unmet medical needs as the Company works to pursue strategic initiatives that are in line with its goal of becoming a commercially operating specialty biopharmaceutical company.

EstroGel® (Non-Patch Transdermal Hormone Replacement Therapy)

On August 5, 2014, Aeterna entered into a co-promotion services agreement with Ascend Therapeutics US, LLC—a specialty pharmaceutical company solely focused on women's healthcare—in which Aeterna or one of its subsidiaries detail and market Ascend's non-patch transdermal hormone replacement therapy product, EstroGel®, within specific agreed-upon U.S. regions. The marketing services are in exchange for a high percentage of sales commission payable to Aeterna or one of its subsidiaries based upon incremental EstroGel® sales generated over certain pre-established thresholds. A product summary of EstroGel® 0.06% is provided in Figure 6.

Figure 6
ESTROGEL 0.06%

- 35 years of worldwide patient use
- Approved in over 70 countries
- #1 prescribed estrogen product in Europe
- #1 prescribed transdermal estrogen product in Canada
- Established Worldwide
- Non-patch transdermal estrogen therapy product commercialized by ASCEND Therapeutics in the U.S.
- Co-promotion agreement with ASCEND in the U.S.
- Promotion by Aeterna Zentaris sales force in the U.S. with access to sales commissions

Source: Æterna Zentaris Inc.

Aeterna recently engaged a full-time U.S. sales force of approximately 19 sales representatives for the field selling of EstroGel® beginning in late November 2014. In conjunction with Ascend's existing sales force, there are now a total of 53 sales reps performing EstroGel® sales-related activities. Aeterna seeks to become the leader in every territory it sells into and to build EstroGel® into a much stronger product to share in value with Ascend.

EstroGel® is an FDA-approved, topical (non-patch) transdermal estrogen replacement product for the treatment of vasomotor symptoms (hot flashes) and vulvar/vaginal atrophy in post-menopausal women. A competitive, high-volume market, estrogen replacement therapy is dominated by relatively low-cost formulations of estradiol in a variety of dosage forms—primarily tablets, patches, and creams or gels. The overall size of the estrogen replacement market is estimated at nearly $4 billion (Source: Symphony Health Solutions, 2013) and is dominated by Pfizer's (PFE-NYSE) Premarin® family of products, which reported sales of roughly $300 million in 2013. By co-promoting EstroGel®, this could provide Aeterna with valuable experience for its sales force to utilize toward the next commercial products that the Company develops, acquires, in-licenses, or co-promotes. An established and experienced sales force may be a key asset in facilitating negotiations with companies that have commercial assets they may wish to out-license or co-promote.

Zoptarelin Doxorubicin (Oncology)

Zoptarelin doxorubicin (doxorubicin peptide conjugate) is a new targeting concept in oncology using a hybrid molecule composed of a synthetic peptide carrier and a recognized chemotherapy agent, doxorubicin. As the first intravenous drug in a clinical study to direct the chemotherapy agent specifically to LHRH-receptor expressing tumors, zoptarelin doxorubicin is believed to result in a more targeted treatment with less damage to healthy tissue.

The Company is currently conducting a ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) Phase 3 trial in women with advanced, recurrent, or metastatic endometrial cancer who have progressed and have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first-line treatment) under a Special Protocol Assessment (SPA) with the FDA. With the first patient dosed in July 2013, recruitment is ongoing at multiple sites throughout North America, Europe, and Israel, where the primary efficacy endpoint of this open-label, randomized, multicenter trial is improvement in median overall survival. The first futility interim analysis is expected in the first half of 2015 and the second interim analysis is expected by year end 2015.

Zoptarelin doxorubicin is also in a Phase 2 investigator-driven trial in men with castration- and taxane-resistant prostate cancer, where there are few therapeutic options and the prognosis is usually poor. Most patients have symptomatic metastases making the identification of new therapies important. Given that LHRH receptors are expressed in a great number of prostate cancers, it is possible that zoptarelin doxorubicin, which specifically targets those receptors, may represent a novel targeted treatment for men with this disease. Zoptarelin doxorubicin has been further granted orphan drug designation by the FDA and orphan medicinal product designation from the European Medicines Agency (EMA) in treating ovarian cancer.

Other Development-Stage Compounds

Aeterna has a number of other compounds in preclinical studies for the treatment of various cancers. Its oncology pipeline includes Erk inhibitors for solid tumors and a LHRH disorazol Z product candidate, which is an expansion of the zoptarelin doxorubicin technology platform.

Macrilen™

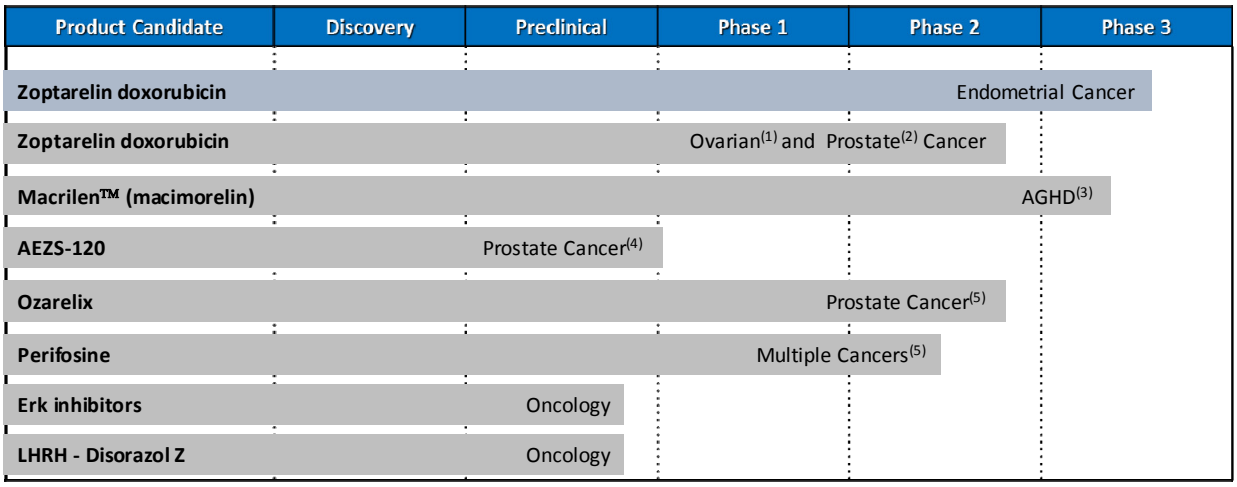
Macrilen™ (macimorelin) is an orally active ghrelin agonist for use in evaluating adult growth hormone deficiency (AGHD). In November 2014, the Company received a Complete Response Letter (CRL) from the FDA for its NDA for the drug. Following receipt of the CRL, the Company convened a panel of U.S. and EU endocrinology experts to advise it regarding the options for Macrilen™. According to Aeterna, the panel advised the Company to continue to seek approval for the compound because of their confidence in its efficacy and because there is not currently an FDA-approved diagnostic test for AGHD.

On April 13, 2015, Aeterna announced its decision to conduct a new confirmatory Phase 3 clinical trial of Macrilen™ for the diagnosis of AGHD as well as a dedicated QT study to evaluate the effect of Macrilen™ on myocardial repolarization, after reaching an agreement with the FDA on the design of the clinical trials. The Company expects that the combined clinical trial program will likely cost between $5 million and $6 million and require approximately 18 months to complete. The confirmatory clinical study is designed to be conducted as a two-way crossover with the insulin tolerance test as the benchmark comparator. The study population would consist of patients who have a medical history documenting risk factors for AGHD and would include a spectrum of patients, ranging from those with a low risk of having AGHD to those with a high risk of the condition. The Company intends to submit a proposed final protocol to the FDA for approval prior to commencing the confirmatory study. Aeterna's goal is to conduct a Phase 3 study that can satisfy the registration requirements of the European Medicines Agency as well as the FDA. The Company expects to receive comments from the EMA regarding the study design during a Scientific Advice Meeting in May 2015.

Pipeline Summary

Figure 7 provides a summary of the Company's current product pipeline, accompanied by greater details on pages 20-30.

Figure 7
PRODUCT PIPELINE



(1) Phase 2 in ovarian cancer completed.
(2) Investigator-driven and sponsored.
(3) Confirmatory Phase 3 efficacy trial and QT interval trial to be initiated by year-end.
(4) Potential oral prostate cancer vaccine available for out-licensing.
(5) Sponsored entirely by license partners.

Source: Æterna Zentaris Inc.

ONCOLOGY CANDIDATES: MARKET OPPORTUNITIES, CLINICAL RESULTS, AND DEVELOPMENT PROGRESS

As a foundation to the following discussion, Figure 8 provides the estimated numbers of new cancer cases and deaths by sex, according to site category, highlighting the specific categories being addressed by Aeterna.

Figure 8

ESTIMATED NUMBER OF NEW CANCER CASES AND DEATHS BY SEX, U.S., 2015

	Estimated New Cases			Estimated Deaths		
	Both Sexes	Male	Female	Both sexes	Male	Female
All Sites	1,658,370	848,200	810,170	589,430	312,150	277,280
Oral cavity & pharynx	45,780	32,670	13,110	8,650	6,010	2,640
Tongue	14,320	10,310	4,010	2,190	1,500	690
Mouth	12,920	7,750	5,170	2,120	1,200	920
Pharynx	15,520	12,380	3,140	2,660	2,010	650
Other oral cavity	3,020	2,230	790	1,680	1,300	380
Digestive system	291,150	163,050	128,100	149,300	86,540	62,760
Esophagus	16,980	13,570	3,410	15,590	12,600	2,990
Stomach	24,590	15,540	9,050	10,720	6,500	4,220
Small intestine	9,410	4,960	4,450	1,260	670	590
Colon†	93,090	45,890	47,200	49,700	26,100	23,600
Rectum	39,610	23,200	16,410			
Anus, anal canal, & anorectum	7,270	2,640	4,630	1,010	400	610
Liver & intrahepatic bile duct	35,660	25,510	10,150	24,550	17,030	7,520
Gallbladder & other biliary	10,910	4,990	5,920	3,700	1,660	2,040
Pancreas	48,960	24,840	24,120	40,560	20,710	19,850
Other digestive organs	4,670	1,910	2,760	2,210	870	1,340
Respiratory system	240,390	130,260	110,130	162,460	89,750	72,710
Larynx	13,560	10,720	2,840	3,640	2,890	750
Lung & bronchus	221,200	115,610	105,590	158,040	86,380	71,660
Other respiratory organs	5,630	3,930	1,700	780	480	300
Bones & joints	2,970	1,640	1,330	1,490	850	640
Soft tissue (including heart)	11,930	6,610	5,320	4,870	2,600	2,270
Skin (excluding basal & squamous)	80,100	46,610	33,490	13,340	9,120	4,220
Melanoma of skin	73,870	42,670	31,200	9,940	6,640	3,300
Other nonepithelial skin	6,230	3,940	2,290	3,400	2,480	920
Breast	234,190	2,350	231,840	40,730	440	40,290
Genital system	329,330	231,050	98,280	58,670	28,230	30,440
Uterine cervix	12,900		12,900	4,100		4,100
Uterine corpus	54,870		54,870	10,170		10,170
Ovary	21,290		21,290	14,180		14,180
Vulva	5,150		5,150	1,080		1,080
Vagina & other genital, female	4,070		4,070	910		910
Prostate	220,800	220,800		27,540	27,540	
Testis	8,430	8,430		380	380	
Penis & other genital, male	1,820	1,820		310	310	
Urinary system	138,710	96,580	42,130	30,970	21,110	9,860
Urinary bladder	74,000	56,320	17,680	16,000	11,510	4,490
Kidney & renal pelvis	61,560	38,270	23,290	14,080	9,070	5,010
Ureter & other urinary organs	3,150	1,990	1,160	890	530	360
Eye & orbit	2,580	1,360	1,220	270	140	130
Brain & other nervous system	22,850	12,900	9,950	15,320	8,940	6,380
Endocrine system	64,860	16,520	48,340	2,890	1,350	1,540
Thyroid	62,450	15,220	47,230	1,950	870	1,080
Other endocrine	2,410	1,300	1,110	940	480	460
Lymphoma	80,900	44,950	35,950	20,940	12,140	8,800
Hodgkin lymphoma	9,050	5,100	3,950	1,150	660	490
Non-Hodgkin lymphoma	71,850	39,850	32,000	19,790	11,480	8,310
Myeloma	26,850	14,090	12,760	11,240	6,240	5,000
Leukemia	54,270	30,900	23,370	24,450	14,210	10,240
Acute lymphocytic leukemia	6,250	3,100	3,150	1,450	800	650
Chronic lymphocytic leukemia	14,620	8,140	6,480	4,650	2,830	1,820
Acute myeloid leukemia	20,830	12,730	8,100	10,460	6,110	4,350
Chronic myeloid leukemia	6,660	3,530	3,130	1,140	590	550
Other leukemia‡	5,910	3,400	2,510	6,750	3,880	2,870
Other & unspecified primary sites‡	31,510	16,660	14,850	43,840	24,480	19,360

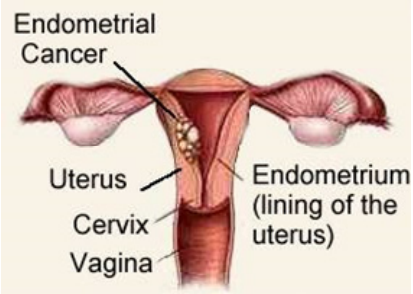
*Rounded to the nearest 10; estimated new cases exclude basal cell and squamous cell skin cancer and in situ carcinoma except urinary bladder. About 60,290 carcinoma in situ of the female breast and 63,440 melanoma in situ will be newly diagnosed in 2015. †Estimated deaths for colon and rectal cancers are combined. ‡More deaths than cases may reflect lack of specificity in recording underlying cause of death on death certificates and/or an undercount in the case estimate.

Cancer indications being addressed by Aeterna Zentaris, Inc.

Source: American Cancer Society, Inc. Surveillance Research.

Endometrial Cancer

Figure 9
ENDOMETRIAL CANCER



Source: aboutcancer.com

As the most common gynecologic malignancy, endometrial cancer develops when abnormal cells amass to form a tumor in the lining of the uterus (shown in Figure 9). Forming in the glands of the endometrium, endometrial cancer is divided into two types based on the cause of abnormal cell growth. "Type 1" endometrial cancer is caused by excess estrogen in the body and "Type 2" encompasses all remaining sources of development. With a more negative prognosis, Type 2 cancer is normally treated more aggressively. Issues occur when the disease is refractory to first-line chemotherapy or recurs after treatment, where the majority of recurrences take place within three years of being diagnosed. The recurrence site can be confined to the vagina or pelvis or can be spread throughout in distant metastases. Advanced metastatic endometrial cancer is a late-stage form of the disease (classified as stage III or IV) that has spread to other organs.

Factors which may raise a woman's chances of developing endometrial cancer include post-menopause hormone shifts, estrogen therapy, obesity, diabetes, and family history of the disease. Symptoms of endometrial cancer include unusual vaginal bleeding or discharge; difficult or painful urination; pain during intercourse; and pain in the pelvic area. External factors that have been proven to lower the risk of developing endometrial cancer include the use of birth control pills or an intrauterine device (IUD) as well as pregnancy.

The American Cancer Society states that endometrial cancer is the most common invasive gynecologic cancers in women in the U.S., with an estimated 54,870 new cases expected in 2015. These estimates include both endometrial cancers as well as uterine sarcomas (about 2% of uterine body cancers are sarcomas, making the actual figures for endometrial cancer cases and deaths marginally lower than these estimates, according to the American Cancer Society). Primarily affecting postmenopausal women around age 60 years at diagnosis, roughly 10,170 women will likely succumb to the disease in 2015, with a higher prevalence in Caucasians and higher mortality rate among African Americans. The average chance of a women being diagnosed with this type of cancer during her lifetime is approximately 1 in 37. Stage III metastatic endometrial cancer accounts for 19% of all endometrial cancer diagnoses while stage IV accounts for 8%. Datamonitor Healthcare states that the incidence of the disease in the seven major pharmaceutical markets was 94,061 patients in 2010 and could reach approximately 98,500 cases by 2019.

Diagnosing and Treating

Since there is no routine test performed to identify endometrial cancer, most women are diagnosed only after presenting with symptoms, where upon experiencing symptoms, a general pelvic exam is conducted and a tissue sample taken. Upon confirmation of cancer, a gynecological specialist performs image testing, including an ultrasound, cystoscopy, computer tomography (CT) scan, magnetic resonance imaging (MRI), positron emission tomography (PET) scan, or x-ray. Endometrial cancer is diagnosed based on a four-tier scale, as outlined in Figure 10 (page 21). Groups of patients are analyzed to calculate survival rate of those who have lived five years since receiving treatment, where survival rate for endometrial cancer is approximately 83%. If discovered in the early stages of growth, the rate of survival increases to 96%, whereas for stage IV, the survival rate is 17%.

Figure 10
STAGES OF ENDOMETRIAL CANCER

Stage I:	The cancer is only in the uterus, not the cervix.
Stage II:	Cancerous cells have spread through the uterus to the cervix.
Stage III:	The tumor has spread to the lymph nodes and the pelvis.
Stage IV:	The cancer has metastasized past the pelvis, into the bladder and rectum.

Source: Æterna Zentaris Inc.

Depending on the stage of the prognosis, there are four ways to treat endometrial cancer. The majority of women are treated with surgery, including a **hysterectomy**, a **bilateral salpingo-oophorectomy**, or **lymph node surgery**. As well, women can be treated with radiation therapy, hormone therapy, and chemotherapy to eliminate cancerous cells from the endometrium. Combinations of these treatments are commonly administered. In many cases primary therapy of endometrial cancer leads to remission, however, roughly 25% of patients experience disease recurrence. That said, metastatic and recurrent disease, while not common, is largely treated via hormone therapy and chemotherapy. Patients with advanced and recurrent endometrial cancer typically have a poor prognosis, because to date, there is no approved systemic therapy (except in Germany) for advanced (Stages III or IV) and recurrent metastatic endometrial cancer. While response rates of up to 50% have been seen in patients receiving combination chemotherapy, the duration of the responses are short and the medications carry high toxicity.

Due to the increased difficulty in treating women with late-stage endometrial cancer, new therapies are being developed to help better target and kill cancerous cells (a selection of which are profiled in the Competition section on pages 31-33). As such, within this space, Aeterna is developing a novel targeted compound, zoptarelin doxorubicin, for an advanced form of endometrial cancer, known as disseminated endometrial cancer. A Phase 3 ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) study in women with advanced recurrent or metastatic endometrial cancer is underway with a first futility interim analysis expected in the first half of 2015. Aeterna believes that this is an important medical market given that therapies to treat recurrent endometrial cancer account for between $300 million to $400 million in value in the U.S., and between $150 million and $250 million in European markets. Should this product reach the market for endometrial cancer, the Company has stated that it would initially launch in the U.S., and seek out licensees for the rest of the world (as it has done with Sinopharm A-Think Pharmaceuticals Co.).

Exclusive License and Technology Transfer Agreement with Sinopharm A-Think Pharmaceuticals Co., Ltd.

In December 2014, Aeterna announced that it had signed an exclusive license and technology transfer agreement with Sinopharm A-Think Pharmaceuticals Co., Ltd. for zoptarelin doxorubicin for the initial indication of endometrial cancer for the Chinese (including Hong Kong and Macau) market. Under the terms of the Master Collaboration Agreement, Aeterna has received a non-refundable $1 million fee for the transfer of the Company's technology for zoptarelin doxorubicin to Sinopharm A-Think. Sinopharm A-Think has also agreed to make additional payments to the Company upon achieving certain pre-established regulatory and commercial milestones. Additionally, the Company is scheduled to receive royalties on future net sales of zoptarelin doxorubicin in the Chinese, Hong Kong, and Macau markets. Sinopharm A-Think is responsible for the development, production, registration, and commercialization of the product in its respective territories. China National Pharmaceutical Group Corporation (Sinopharm) is the largest medical and healthcare group in China and on *Fortune's* Global 500 list (directly managed by the State-owned Assets Supervision and Administration Commission of the State). Formed in 1998, Sinopharm Group has operations in Africa, France, Germany, Hong Kong, the U.S., and Vietnam.

Ovarian Cancer

Emerging when abnormal cells amass to form a tumor in the ovaries, three types of ovarian tumors can develop from cancerous cells. These include **epithelial tumors**, **germ cell tumors**, and **stromal tumors**. Ovarian-epithelial tumors, which are the most common, develop in the **epithelial tissue** (a thin layer of tissue that covers the ovaries). Since early-stage ovarian cancer is essentially asymptomatic, 70% of women are diagnosed in advanced stages (III and IV) of the disease. Despite a high initial response-rate to first-line chemotherapy, the majority of women with advanced ovarian cancer have a recurrence within two years. There is believed to be a higher risk of developing ovarian cancer in patients who are overweight, taking fertility drugs, estrogen therapy, or androgens, and who have a family history of breast, colorectal, or ovarian cancers. This risk is reduced in women who take birth control pills, eat a low-fat diet, have given birth, and/or had tubal ligation surgery. Ovarian cancer can present with the following symptoms: pain in the abdomen and pelvis; nausea, indigestion, constipation, or diarrhea; fatigue; shortness of breath; frequent urination; and unusual or irregular vaginal bleeding.

According to the American Cancer Society, about 21,290 women will receive a new diagnosis of ovarian cancer in 2015, with roughly 14,180 women succumbing to the disease. Ranking fifth in cancer deaths among women and accounting for more deaths than any other cancer of the female reproductive system, a woman's risk of getting ovarian cancer during her lifetime is about 1 in 73. Her lifetime chance of dying from the disease is about 1 in 100 (noting that these figures do not take into account low malignant potential ovarian tumors). Ovarian cancer develops primarily in older women, with about half of women diagnosed with ovarian cancer being age 63 or older, and the disease has shown to be more prevalent in older Caucasian women.

Diagnosing and Treating

Many times, ovarian cancer is diagnosed from results attained during annual pelvic exams. Should a lump or change in the size and shape of the ovaries be observed, more testing, including blood tests and an ultrasound, may be required. With the confirmation of the presence of cancerous cells, a biopsy is performed to determine if the tumor is benign or malignant. If diagnosed, ovarian cancer is categorized on a four-tier scale, as shown in Figure 11.

Figure 11
FOUR-TIER SCALE OF OVARIAN CANCER

Stage I:	Cancer cells are found on the surface of the ovaries.
Stage II:	The tumor has spread to other tissues in the pelvis, the fallopian tubes or the uterus.
Stage III:	Cancer cells are present in the lymph nodes and outside the liver.
Stage IV:	The tumor has metastasized past the abdomen to other organs.

Source: Æterna Zentaris Inc.

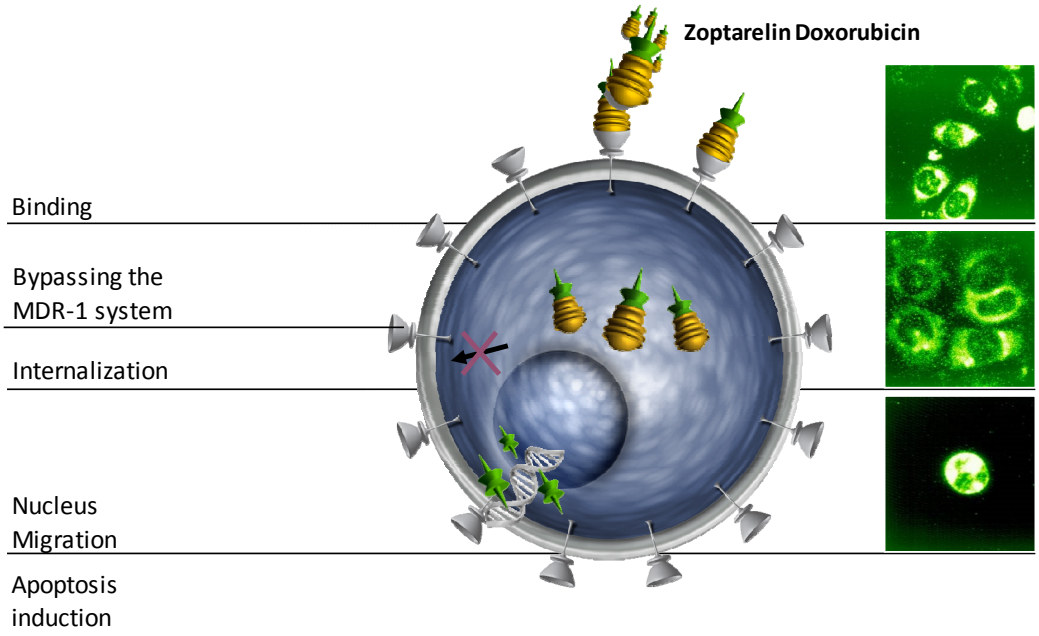
Survival rate, which is calculated by analyzing groups of patients who have lived five years since receiving treatment, for a Stage I patient is 89%. This rate decreases as the stage of the cancer increases, as Stage II survival rate is 66%; Stage III is 34%; and Stage IV is 18%. In spite of treatments with radical surgery and chemotherapy, mortality rates for ovarian cancer patients remain at over 50%. There are three traditional ways to treat ovarian cancer (depending on the development of the tumor): chemotherapy, radiation therapy, or surgery. As there is no widely accepted standard therapy for recurrent disease, combining two or more of these treatments is many times the best treatment option. By and large, recurrent ovarian cancer is considered incurable, where the goals with therapies for patients with recurrent disease largely include palliation of symptoms, maintaining or improving quality of life, and increasing survival. New therapies are needed to effectively treat advanced and recurrent ovarian cancer. Aeterna has completed a Phase 2 trial with its novel LHRH-targeted compound, zoptarelin doxorubicin, in women with platinum-resistant ovarian cancer, a late-stage form of the disease during which refractory tumor growth is observed despite use of primary therapy.

Aeterna's Tumor-Targeting Cytotoxic Conjugates in Treating Endometrial and Ovarian Cancer

Cytotoxic Conjugates

Due to the non-specific toxicity that most chemotherapeutic agents exert against normal cells, targeting chemotherapeutic drugs at cancerous tissue could provide key benefits to patients with advanced or metastatic tumors. Targeted cytotoxic peptide conjugates, which are hybrid molecules made up of a cytotoxic moiety linked to a peptide carrier that binds to receptors on tumors, have been developed to achieve differential delivery, or targeting, of the cytotoxic agent to cancer (as opposed to normal cells). Aeterna's tumor-targeting cytotoxic conjugates may provide an innovative strategy to control and reduce toxicity and improve the effectiveness of cytotoxic drugs.

Figure 12
ZOPTARELIN DOXORUBICIN – TARGETED CYTOTOXIC PEPTIDE



Source: Ref.: Westphalen et al. Int J Oncol. 2000.

With zoptarelin doxorubicin (the most advanced of the cytotoxic conjugates), doxorubicin is chemically linked to a luteinizing hormone-releasing hormone (LHRH) agonist (a modified natural hormone with affinity for the LHRH receptor). This design (as shown in Figure 12) allows for the precise binding and selective uptake of the cytotoxic conjugate by LHRH receptor-positive tumors. This approach may provide an improved safety profile by means of lower incidence and severity of side effects, with normal tissues possibly spared the toxic effects of the drug. As well, a targeted approach may permit treatment of LHRH receptor-positive cancers that have become refractory to doxorubicin where it has been administered in its non-targeted form.

Clinical Data for Zoptarelin Doxorubicin for Endometrial and Ovarian Cancer

Phase 2

In 2007, a Phase 2, open-label, non-comparative, multicenter, two-indication trial stratified with two stages was prepared, involving up to 82 patients, with up to 41 patients each with a diagnosis of platinum-resistant ovarian cancer (stratum A) or disseminated endometrial cancer (stratum B). Performed within 14 centers of the German Gynaecological Oncology Working Group, the study was in cooperation with three clinical sites in Europe. The primary efficacy endpoint was a response rate with a success criterion at the end of Stage II defined as five or more patients with partial or complete tumor responses (according to Response Evaluation Criteria in Solid Tumors (**RECIST**) and/or Gynaecologic Cancer Intergroup [GCIG] guidelines). Secondary endpoints included time to progression (TTP), survival, toxicity, and adverse effects.

Following the report of two partial responses (PR) among patients with ovarian cancer, in October 2008, Aeterna announced commencement of the second stage of patient recruitment for the Phase 2 trial in platinum-resistant ovarian cancer indication. The second stage of patient recruitment for endometrial cancer (reached in November 2008) was based on the report of one complete response (CR) and two partial responses (PR) among 14 patients with endometrial cancer.

In November 2009, Aeterna reported positive preliminary efficacy data for its Phase 2 study in patients with LHRH-receptor positive platinum-resistant and taxane-pretreated ovarian cancer. Data from all 43 patients who were in the study and completed their treatment, showed through a preliminary evaluation that the study had met its predefined primary efficacy endpoint of five or more responders in 41 evaluable patients. Responders, along with patients who had stable disease subsequent to completing treatment with zoptarelin doxorubicin were to be followed to assess the duration of response and, eventually, overall survival (OS). That same month, the Company announced positive results from a Phase 2 study in patients with endometrial cancer. Preliminary evaluation revealed that the study met its predefined primary efficacy endpoint of five or more responders in these patients. Responders, along with patients who had stable disease after completion of treatment with zoptarelin doxorubicin, were to be followed to assess the duration of progression free survival (PFS) and ultimately OS.

On May 6, 2010, Aeterna announced that it received Orphan Drug designation from the FDA for zoptarelin doxorubicin in treating ovarian cancer. On May 17, 2010, it was further announced that the Company had received a positive opinion for orphan medicinal product designation from the Committee for Orphan Medicinal Products (COMP) of the EMA for the compound in treating ovarian cancer. On June 7, 2010, Professor Günter Emons, Chairman, Department of Obstetrics and Gynaecology Georg-August University Göttingen, Germany, presented positive efficacy and safety data of the drug in ovarian cancer at the American Society of Clinical Oncology's (ASCO) Annual Meeting.

Included in the study were 42 patients with platinum-resistant ovarian cancer, with efficacy including PR in five patients (11.9%) and stable disease for more than 12 weeks in 11 patients (26.2%). Overall survival (OS) compared favorably with data from Doxil® and topotecan (8 to 9 months), and overall, tolerability was good and generally permitted retreatment. Only one patient (2.4%) had a dose reduction, and in total, 25 of 170 (14.7%) courses were given with a delay, including cases in which delay was not related to toxicity. Severe (Grade 3 or 4) toxicity was mainly restricted to rapidly reversible hematologic toxicity (leukopenia/neutropenia) in three cases due to fever.

Good tolerability was also shown in zoptarelin doxorubicin with only a few patients with non-hematological toxicities of Grade 3 (none with Grade 4), such as single cases each of nausea, constipation, poor general condition, and an enzyme elevation, with no cardiac toxicity reported. Final evaluation of the ovarian cancer study revealed six patients with PR based on tumor lesions, plus two with tumor marker response, including one case with normalization, for an overall response rate of 19%. Median TTP and OS were evaluated as three and twelve months, respectively.

Positive final Phase 2 efficacy and safety data in advanced endometrial cancer were presented at the European Society of Gynecological Oncology in Milan, Italy, in September 2011. Data showed that zoptarelin doxorubicin, administered as a single agent at a dosage of 267 mg/m2 every three weeks was active, well tolerated, and that overall survival was similar to that reported for modern triple combination chemotherapy, though with lower toxicity. The primary endpoint was the response rate as defined by the RECIST; secondary endpoints included safety, TTP, and OS.

Ultimately, of 43 patients treated with zoptarelin doxorubicin, 39 were evaluable for efficacy, where efficacy confirmed by independent response review included two complete responses, ten partial responses, and 17 patients with stable disease (SD). Based on those data, the estimated overall response rate (ORR) (ORR = CR+PR) was 30.8% with the CBR (CBR = CR+PR+SD) of 74.4%. Responses in patients previously treated with chemotherapy included one CR, one PR, and two SDs in eight of the patients with prior use of platinum/taxane regimens. Final evaluation, not excluding non-evaluable cases, revealed the following results: two CR, eleven PR (including three patients with PR not confirmed at subsequent time point), and 17 patients with SD, for an ORR of 30.2% and CBR of 70%; median TTP and OS at seven and 15 months, respectively.

In general, tolerability was good and commonly allowed retreatment as scheduled. Severe (Grade 3 or 4) toxicity was mainly restricted to rapidly reversible leukopenia and neutropenia associated with fever in only one patient who had been treated only three weeks following a surgery. Tolerability of zoptarelin doxorubicin was also reflected by a low rate of severe non-hematological and possibly drug-related adverse events, with no reported cardiac toxicity.

Of note is that an article on the Phase 2 results for zoptarelin doxorubicin in endometrial cancer was published in the February 2014 *International Journal of Gynecological Cancer*. Results published in this article refer to the final evaluation of the Phase 2 trial in endometrial cancer.

Phase 3 (ZoptEC Trial)

In December 2012, the Company announced that it had reached an agreement with the FDA with respect to a SPA for the ZoptEC Phase 3 registration trial of zoptarelin doxorubicin in endometrial cancer. The SPA agreement states that the proposed trial protocol design, clinical endpoints, and planned analyses are acceptable to the FDA to support a regulatory submission. Final marketing approval is contingent on the results of efficacy, the adverse event profile, and an evaluation of the benefit/risk of treatment demonstrated.

This Phase 3 ZoptEC trial in women with locally advanced, recurrent, or metastatic endometrial cancer who have progressed and who have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant first-line treatment), is an open-label, randomized, multicenter trial conducted in North America, Europe, and Israel. The first patient was dosed in July 2013 and recruitment is ongoing at multiple sites across North America, Europe, and Israel, with over 420 patients recruited to date out of an expected 500. The primary efficacy endpoint is improvement in median overall survival with a first futility interim analysis expected in the first half 2015 and a second interim analysis by the second half of 2015. Parameters of the ZoptEC trial are summarized in Figure 13 (page 26).

Figure 13
ZoptEC: PHASE 3 STUDY UNDER SPA

Phase 3 "ZoptEC" **(Zopt**arelin doxorubicin in **E**ndometrial **C**ancer) trial in women with advanced, recurrent or metastatic endometrial who have progressed and who have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first line treatment)	
Patients	n = 500 Randomized one to one Zoptarelin doxorubicin against doxorubicin
Dosing	267 mg/m^2 (zoptarelin doxorubicin) against 60 mg/m^2 (doxorubicin) IV infusion every 3 weeks
Primary endpoint	Overall survival 384 events

Interim analysis at ~128 events and ~192 events

Source: Æterna Zentaris Inc.

Ergomed Agreement

In April 2013, Aeterna announced that it had signed a co-development and profit-sharing agreement with UK-based Ergomed plc for zoptarelin doxorubicin in endometrial cancer. Ergomed was selected as the contract clinical development organization to conduct the ZoptEC Phase 3 trial. Under the terms of the agreement, Ergomed has agreed to assume 30% (up to $10 million) of the clinical and regulatory costs for the trial (estimated at approximately $32.5 million over the course of the study). As well, Ergomed is to receive its return on investment based on an agreed-upon single-digit percentage of any net income or net proceeds from licensing activity received by Aeterna for zoptarelin doxorubicin in endometrial cancer (up to a specified maximum amount).

Prostate Cancer

Prostate cancer develops due to abnormal cells amassing and forming a tumor in the prostate gland. The primary purpose of this gland is to control urination and help form semen. Over 99% of prostate cancers develop from the gland fluid that is found in semen. Initially, a tumor in the prostate usually grows slowly in its first few years and is generally unnoticed. However, there are some aggressive tumors that can metastasize quickly and spread rapidly throughout the body. With metastatic prostate cancer, the cancer has spread to the lymph nodes or other parts of the body, such as the bones. In individuals with **castration-resistant/hormone-refractory prostate cancer**, this type of cancer has continued to grow despite the suppression of male hormones that fuel their growth. In over 80% of all prostate cancer patients, the disease is limited to the prostate and surrounding organs; however, 10% and 20% of patients are diagnosed with prostate cancer that has metastasized.

It is widely theorized by many within the healthcare field that prostate cancer develops from a pre-cancerous condition called **prostatic intraepithelial neoplasia**, which occurs in almost half of all men by age 50. As well, other factors that increase the risk of developing prostate cancer may include race, diet, and vasectomies. African American men are more likely to develop prostate cancer and twice as likely to die from it. Another contributing factor may be a diet high in red meat and high-fat dairy products. Furthermore, family history of prostate cancer can increase an individual's risk of developing the disease. Symptoms of prostate cancer include: frequent and painful urination; difficulty becoming aroused or painful ejaculation; blood in the urine; and frequent pain in the back, hips, and upper thighs.

Besides skin cancer, prostate cancer remains the most common cancer among American men, with about 220,800 new cases of prostate cancer expected to be diagnosed in 2015, with 27,540 deaths directly linked to this form of cancer. This translates into roughly 1 in 7 men being diagnosed with prostate cancer during his lifetime. Occurring primarily in older men, roughly 6 in 10 men are diagnosed when they are age 65 or older (with the average age of diagnosis being age 66), and this form of cancer being rare among those under age 40. Prostate cancer is the second leading cause of cancer death in American men, behind only lung cancer, with about 1 in 38 men likely to die from it. While a serious disease, the majority of men will likely not die from this disease. In fact, over 2.7 million men in the U.S. who have been diagnosed with prostate cancer at some point are still alive at present. While prevalent among men of all ages and races, African American men and men older than 65 have a higher rate of diagnosis.

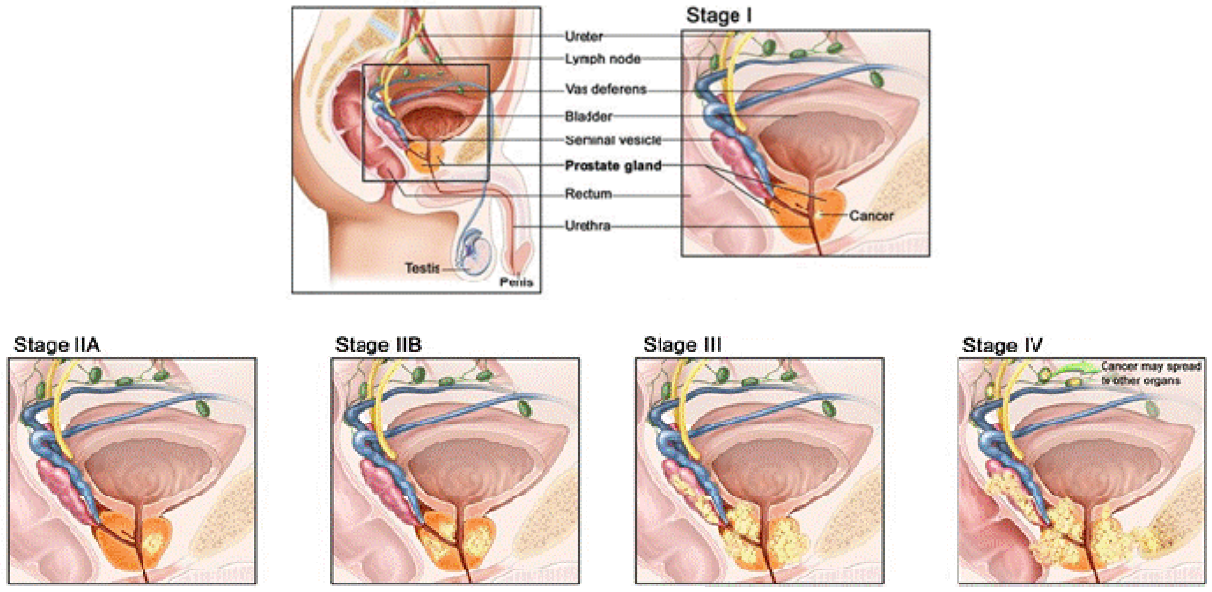
Early stages of prostate cancer are typically asymptomatic which is why this type of cancer is so difficult to detect. That said, discovery is primarily made via a routine **prostate-specific antigen (PSA) test** or **digital rectal exam (DRE)**. Following the discovery of abnormal cells, a biopsy is conducted, during which a sample of tissue is removed from the prostate and viewed under a microscope. Additionally, a **transrectal ultrasound** may further be performed to create a sonogram picture of the prostate. Prostate cancer can be evaluated on a four-tier scale, as outlined in Figure 14 and illustrated in Figure 15.

Figure 14
FOUR-TIER SCALE OF PROSTATE CANCER

Stage I:	Cancer presents no symptoms and is confined to the prostate gland.
Stage II:	Cancer cells have metastasized but have not spread past the prostate.
Stage III:	Cancer cells have grown past the prostate.
Stage IV:	The tumor has grown into the bladder, rectum, lymph nodes or bones.

Source: Æterna Zentaris Inc.

Figure 15
PROSTATE CANCER



Source: Cancer.gov

Survival rate is calculated through the analysis of patient groups who have lived five years after receiving treatment. A patient's survival rate with Stage I, II, or III prostate cancer is 100%, while the survival rate for patients who are diagnosed with Stage IV cancer is 31%. Depending on the stage of the cancer, there are several different options for treatment. An approach by which the patient is aware of the symptoms but is waiting until they worsen to begin treatment, called **watchful waiting**, is suggested if the patient is diagnosed early. If not, a healthcare provider may recommend surgery, radiation therapy, hormone therapy, or chemotherapy, or a combination of two or more of these therapies.

With the increased difficulty in treating men with late-stage cancer, new therapies are in development to help better target and kill cancerous cells. For patients with castration-taxane-resistant prostate cancer, there are few therapeutic options and prognosis is usually poor. Most patients have symptomatic metastases making the identification of new therapies important. A Phase 2 investigator-driven trial with Aeterna's zoptarelin doxorubicin in men with castration- and taxane-resistant prostate cancer is currently ongoing. Given that LHRH receptors are expressed in a great number of prostate cancers, it is possible that zoptarelin doxorubicin, which specifically targets those receptors, may represent a novel targeted treatment for men with this disease.

Aeterna's Tumor-Targeting Cytotoxic Conjugates in Treating Prostate Cancer

In August 2010, the Company announced that the National Institutes of Health (NIH) awarded Dr. Jacek Pinski, Associate Professor of Medicine at the Norris Comprehensive Cancer Center of the University of Southern California, a grant of $1.6 million over three years to conduct a Phase 1/2 study in refractory prostate cancer with zoptarelin doxorubicin.

Entitled *A Phase I/II Trial of AN-152 [AEZS-108] in Castration- and Taxane-Resistant Prostate Cancer*, the study was to enroll up to 55 patients and be conducted in two portions: an abbreviated dose-escalation followed by a single arm, a two-stage design Phase 2 study using the dose selected in the Phase 1 portion. The primary objective of the Phase 2 portion was to evaluate the clinical benefit of zoptarelin doxorubicin in men with castration- and taxane-resistant metastatic prostate cancer, for which the presence of LHRH receptors has been confirmed.

Phase 1/2 Trial Initiated

In December 2010, the Company announced that the investigator had initiated the Phase 1/2 trial, and in September 2011, announced positive interim data for the Phase 1 portion of the Phase 1/2 trial with zoptarelin doxorubicin in castration- and taxane-resistant prostate cancer at the European Society for Medical Oncology (ESMO) meeting. The primary endpoint of the Phase 1 portion was safety. The primary objective of the Phase 2 portion was to evaluate the clinical benefit of this drug in this patient population. Twelve patients entered the study, of which three each received zoptarelin doxorubicin at the lower dose levels of 160 and 210 mg/m2, and six patients at 267 mg/m2. Data on 10 patients were presented (as two patients were too early for evaluation). Results demonstrated the drug to be generally well tolerated with no **dose-limiting toxicities**.

The only Grade 3 and 4 toxicities were hematologic in nature. At the time, there were three Grade 4 toxicities (two at 210 mg/m2 and one at 267 mg/m2), all asymptomatic. There were six Grade 3 toxicities, including two cases of Grade 3 anemia after repeated courses and one case of febrile neutropenia that occurred during cycle one. Signs of therapeutic activity included five patients with PSA regression (noting that one of these patients treated at the lowest dose level received eight treatment cycles because the patient demonstrated continued clinical benefit and three out of four evaluable patients with radiologic evaluable disease achieved stable disease per RECIST).

In February 2012, Aeterna reported updated results for the Phase 1 portion of the ongoing Phase 1/2 study in prostate cancer. Results were based on 13 patients who had been previously treated with androgen-deprivation therapy (LHRH agonist) and at least one taxane-based chemotherapy regimen, who were treated on three dose levels of zoptarelin doxorubicin: three at 160 mg/m2, three at 210 mg/m2, and seven at 267 mg/m2. Overall, zoptarelin doxorubicin was well tolerated among this group of heavily pretreated older patients. There were two dose-limiting toxicities, each of which having been a case of asymptomatic Grade 4 neutropenia at the 267 mg/m2 dose level and both patients fully recovered. The Grade 3 and 4 toxicities were primarily hematologic. There was minimal non-hematologic toxicity, most frequently fatigue and alopecia.

Despite the low doses of zoptarelin doxorubicin in the first cohorts, there was some evidence of anti-tumor activity. One patient received eight cycles (at 210 mg/m2) due to continued benefit. Among the five evaluable patients with measurable disease, four achieved stable disease. At the time of submission of the abstract, a decrease in PSA was noted in six patients. Six of 13 (46%) treated patients received at least five cycles of therapy with no evidence of disease progression at 12 weeks. Correlative studies on **circulating tumor cells (CTC)** demonstrated the uptake of zoptarelin doxorubicin into the targeted tumor.

Final Data for Phase 1 Portion of Ongoing Phase 1/2 Trial Published in *Clinical Cancer Research*

In December 2014, the Company announced that an article on final data for the Phase 1 portion of the ongoing Phase 1/2 trial in prostate cancer with zoptarelin doxorubicin was published in *Clinical Cancer Research*. The article outlines data previously disclosed in June 2013 at the ASCO Annual Meeting, which demonstrated the compound's safety profile and potential anti-tumor activity in heavily pre-treated men with castration- and taxane-resistant prostate cancer. With encouraging Phase 1 data, the next milestone could be results from the current Phase 2 portion of this investigator-driven trial.

Phase 2 Initiated

In November 2012, Aeterna announced the initiation of the Phase 2 portion of the ongoing Phase 1/2 study of zoptarelin doxorubicin in prostate cancer. The primary endpoint of the Phase 2 portion is to evaluate the clinical benefit of zoptarelin doxorubicin for these patients. Clinical benefit is defined as non-progression at 12 weeks with no dose-limiting toxicity or other toxicity requiring termination of treatment. Secondary endpoints include toxicity, time to RECIST and PSA progression, RECIST response rate for patients with measurable disease, PSA response rate, pain palliation, and overall survival.

In June 2013, Aeterna announced that final data for the Phase 1 portion of the ongoing Phase 1/2 trial with zoptarelin doxorubicin in prostate cancer, demonstrating the compound's anti-tumor activity. Results were presented by lead investigator, Jacek Pinski, M.D., Ph.D., of the USC Norris Comprehensive Cancer Center, during a poster session at the ASCO Annual Meeting in Chicago. Eighteen men with a median of two prior chemotherapy regimens (range 1/5) and a median PSA of 106.4 ng/mL (range 8.4-1624.0) were enrolled. The dose of zoptarelin doxorubicin was escalated from 160 mg/m2 to 210 mg/m2 then to 267 mg/m2.

There were two dose-limiting toxicities in the seven patients receiving the drug at a dose of 267 mg/ m2 (grade 4 neutropenia), establishing 210 mg/m2 as the **Maximum Tolerated Dose (MTD)**. Significant non-hematologic toxicities included one case of grade 3 nausea. No cardiotoxicity was observed on serial evaluation of six patients completing six cycles. Internalization of zoptarelin doxorubicin was consistently visualized in CTCs 1 to 3 hours after dosing. Maximal PSA response was stable or decreased in 8 of 18 men. Among the 15 evaluable patients with measurable disease, 10 achieved stable disease and a drop in PSA was noted in three patients. The MTD of zoptarelin doxorubicin in this indication is 210 mg/m2, which is below the MTD reported in women with refractory endometrial and ovarian cancer. The Phase 2 portion of this Phase 1/2 trial is ongoing. The Company has stated that it expects to seek a more suitable entity with which to move the compound forward.

OTHER DEVELOPMENT-STAGE COMPOUNDS

Aeterna has a number of drugs in preclinical studies to treat a variety of cancers. In its oncology pipeline are Erk inhibitors and an LHRH disorazol Z product candidate, as described in the accompanying section.

Erk Inhibitors (AEZS-134)

The Company believes that the results of research to date indicate that the MAPK signaling pathway represents a therapeutic intervention point for the clinical treatment of malignant tumors. In this pathway, Aeterna has focused on Erk inhibitors. As a result of its multi-parameter optimization program for kinase inhibitor selectivity, cellular efficacy, physicochemical, and *in vitro* ADMET properties, the Company developed compounds that it believes might have therapeutic potential. Aeterna concluded that, among these compounds, AEZS-134, a highly potent and selective ATP competitive Erk inhibitor, has the most potential. Therefore, the Company is continuing with the optimization and preclinical development of AEZS-134.

In April 2014, Aeterna presented a poster on AEZS-134 at the American Association for Cancer Research Annual Meeting. The data presented provide a rationale for new therapeutic opportunities in oncology, suggesting that Erk inhibitors such as AEZS-134 may provide a treatment option for patients suffering from tumors resistant to currently established therapies such as B-Raf and Mek inhibitors. AEZS-134 demonstrated potent anti-proliferative activity in B-Raf wildtype, B-RafV600E mutant, Ras wildtype, and K-Ras mutant tumor cell lines in comparison to common Raf inhibitors. Further, Aeterna believes that it demonstrated that AEZS-134 is efficacious in Mek inhibitor-resistant Hct116 and MDA MB231 cells that have been well characterized in terms of Mek F129L allosteric binding pocket mutation, varying degrees of K-Ras amplification, cellular proliferation assays, and MAPK pathway phosphorylation studies. Aeterna's data indicate a broader targeting potency for Erk versus Mek or Raf.

LHRH-Disorazol Z (AEZS-138)

In search of new anti-tumor agents, Aeterna found that disorazol Z, a compound that was isolated from the myxobacterium *Sorangium cellulosum*, possesses cytotoxicity in the picomolar range in a panel of different tumor cell lines. Inhibition of tubulin polymerization, cell cycle arrest, and efficient induction of apoptosis have been identified as modes of action. AEZS-138 is a cytotoxic conjugate of disorazol Z and a synthetic peptide carrier that targets the LHRH receptor. It is an outgrowth of Aeterna's research that led to the formulation of zoptarelin doxorubicin. The following points are a summary of the development efforts with respect to AEZS-138.

- On March 24, 2011, the Company was awarded a $1.5 million grant from the German Ministry of Education and Research to develop, up to the clinical stage, cytotoxic conjugates of the proprietary cytotoxic compound disorazol Z and peptides targeting G-protein coupled receptors, including the LHRH receptors. The compounds combine the targeting principle being studied in Phase 3 with zoptarelin doxorubicin with the novel cytotoxic disorazol Z. The grant was payable as a partial reimbursement of qualifying expenditures over a three-year period until January 31, 2014. The qualified project was performed with Morphisto GmbH and the Helmholtz Institute in Saarbrücken, Germany, which received additional funding of approximately $0.7 million. Researchers from the departments of Gynecology and Obstetrics at both the University of Göttingen and the University of Würzburg, Germany were also part of the collaboration.

- On November 16, 2011, Aeterna announced the presentation of a poster at the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics on encouraging preclinical data for disorazol Z. The data showed that disorazol Z possesses cytotoxicity in a highly diverse panel of 60 different tumor cell lines and also underlined the identification of important aspects of this novel natural compound's mechanism of action. Disorazol Z has been identified as a tubulin binding agent with highly potent anti-tumor properties. Cell cycle analysis revealed that disorazol Z arrested cells in the G2/M cell cycle phase and subsequently induced apoptosis with remarkable potency, as shown by sub-nanomolar EC50 values. Currently, experiments are underway to determine the tubulin binding site for disorazol Z and to identify further mechanisms of action of this novel highly potent agent. The Company intends to evaluate the utility of disorazol Z as a cytotoxic component in a drug-targeting approach utilizing GPCR ligands as the targeting moieties for the treatment of GPCR over-expressing cancers to expand its zoptarelin doxorubicin technology platform.

- On April 10, 2013, Aeterna announced at a meeting of the American Association for Cancer Research (AACR) encouraging updated proof-of-concept results for disorazol Z cytotoxic conjugates, such as AEZS-138, in human ovarian and endometrial cancer xenograft models. Data demonstrated that conjugates of D-Lys6-LHRH and disorazol Z retained strong binding to the LHRH receptor and showed potent inhibition of tubulin polymerization. Cellular cytotoxicity of the conjugates was in the low nanomolar EC50 range. Increased cytotoxicity in cells over-expressing the LHRH receptor support receptor targeting as a mechanism of action. The LHRH receptor-dependent efficacies of disorazol Z - D-Lys6-LHRH conjugates *in vitro* and in mouse xenograft models that were presented support the principle of tumor targeting by the LHRH receptor as already employed by zoptarelin doxorubicin.

- On February 11, 2014, at the 11th International Symposium on GnRH, in Salzburg, Austria, Aeterna presented further data on the mechanism of action and proof of concept of the disorazol Z cytotoxic conjugate, AEZS-138, which had led to the initiation of its preclinical development during the second quarter 2013.

Competition

Potential Competition to Zoptarelin Doxorubicin

The Pharmaceutical Research and Manufacturers of America (PhRMA) states that there are currently 771 medicines and vaccines in development for oncology indications in the U.S. New treatments are demonstrating increasing effectiveness as the medical community further understands the unique characteristics of how certain cancers develop and how to target treatments to specific cells and tumor types. The outcomes are largely favorable—mortality due to cancer declined over 15% from 2000 to 2011 while five-year survival rates have increased 39% since 1975 (Source: PhRMA), likely due to earlier detection of cancers as well as therapeutic developments. However, to date, Aeterna is not aware of any drug nor systemic therapy that has been approved to treat advanced and recurrent metastatic endometrial cancer in either the U.S. or Europe, though some compounds approved to treat similar tumors may be used off-label in advanced endometrial cancer patients. A search of the National Cancer Institute's clinical trials database returned approximately 60 active trials for treatments in patients who have recurrent or advanced (Stage IV, IVA, IVB) endometrial cancer (Source: www.cancer.gov/clinicaltrials/search/results?protocolsearchid=13761704) .

The accompanying section is not intended to be an exhaustive listing of potential competitors to Aeterna but is believed to be representative of the type of competition the Company may encounter as it seeks to commercialize multiple product candidates targeting an array of oncology indications, including its Phase 3 candidate, zoptarelin doxorubicin, in endometrial cancer. Furthermore, Figure 16 (page 34) provides an overview of the type of competition that Aeterna may face as its sales team co-promotes non-patch estrogen replacement therapy, EstroGel® (with partner Ascend Therapeutics).

Ixabepilone
Bristol-Myers Squibb Company (BMY-NYSE)

Ixabepilone, sold as Ixempra® from Bristol-Myers Squibb Company, is a microtubule inhibitor that is indicated in combination with capecitabine for the treatment of patients with metastatic or locally advanced breast cancer resistant to treatment with an anthracycline and a taxane, or whose cancer is taxane resistant and for whom further anthracycline therapy is contraindicated. The medication is also FDA approved for use on its own to treat metastatic or locally advanced breast cancer in patients who have shown tumor resistance to treatment with anthracyclines, taxanes, and capecitabine. As a combination therapy, the median progression-free survival shown with Ixempra® is 5.7 months versus 4.1 months with capecitabine alone. The objective tumor response seen with Ixempra® as a monotherapy had a median duration of response time of six months. However, the medication is not without risks. Ixempra® carries a black box warning from the FDA for "toxicity in hepatic impairment," indicating that the drug may cause serious disease or death in individuals who have liver disease. Other side effects include peripheral neuropathy, myelosuppression, hypersensitivity reactions, potential damage to a fetus, and cardiac adverse reactions, among others. While not an FDA approved label for Ixempra®, ixabepilone has shown activity in Phase II studies of patients with heavily pre-treated paclitaxel/platinum-resistant recurrent endometrial cancer (Source: Abstract from the 2012 ASCO Annual Meeting, http://meetinglibrary.asco.org/content/95298-114).

Bevacizumab
Genentech USA, Inc., a member of the Roche Group

Bevacizumab, sold as Avastin® by Genentech, is an anti-angiogenic therapy designed to inhibit the growth of new blood vessels by blocking the vascular endothelial growth factor (VEGF) protein. In doing so, the medication is essentially "starving" the tumor by cutting off its blood supply, in an attempt to prevent it from growing. Avastin® has been approved by the FDA to treat glioblastoma (brain cancer), metastatic colorectal cancer, non-small-cell lung cancer, and metastatic kidney cancer. In addition, it is often used off-label as a treatment for ovarian and endometrial cancers, and it is currently in Phase II trials for use with carboplatin-paclitaxel in advanced (Stage III-IV) or recurrent endometrial cancer. Side effects of Avastin® are known to include common reactions such as high blood pressure, proteinuria, nosebleeds, rectal bleeding, back and head pain, and dry skin, as well as less common, but potentially serious events: GI perforation, wounds that do not heal (including surgical cuts), internal bleeding, kidney problems, and severe stroke or heart problems, among many others.

SAR245408 (XL-147)
Sanofi (SNY-NYSE)

SAR245408 is an investigational agent under development at sanofi-aventis U.S. LLC for advanced or recurrent endometrial cancer, ER/PR+ HER2- breast cancer, solid tumors (as a combination therapy with another Sanofi investigational agent, and with carboplatin plus paclitaxel), lymphoma, and recurrent glioblastoma. Exelixis, Inc. originally discovered SAR245408 (XL-147) and out-licensed the compound to sanofi. The candidate targets the PI3K/AKT/mTOR pathway that is associated with tumor cell proliferation and survival, as well as tumors' resistance to anticancer therapies. SAR245408 is believed to function as a selective, pan-PI3K inhibitor decreasing levels of phosphorylated AKT and downstream effectors. In a Phase I study of the candidate in advanced solid tumors, researchers found that it was tolerable at doses associated with PI3K pathway inhibition, though showed dose-limiting toxicities of maculopapular rash and hypersensitivity reaction (Source: *Clinical Cancer Research*, 2014; 20[1]:233-45). The drug is now being investigated in a Phase II study in patients with advanced or recurrent endometrial cancer, and in combination with letrozole (described below) in a Phase I/II trial of ER/PR+ HER2- breast cancer.

Letrozole
Novartis AG (NVS-NYSE)

Letrozole, sold as Femara® from Novartis, is a type of hormone therapy approved for the adjuvant (following surgery) treatment of postmenopausal women with hormone receptor-positive early stage breast cancer. Femara® works by reducing the amount of estrogen in postmenopausal women. Though it has been available as a breast cancer therapy for certain patient populations for over a decade, letrozole has continued to be investigated for other indications. For instance, a Phase II Canadian trial of the drug in postmenopausal women with advanced or recurrent metastatic endometrial cancer found that 39% had stable disease with letrozole treatment for a median of 6.7 months, 7% of participants had a partial response, and one patient had a complete response (Source: *Cancer Control: Journal of the Moffitt Cancer Center*, 2009; 16[1]:38-45). Novartis has subsequently conducted further testing of the medication in advanced or recurrent endometrial cancer, with one trial showing that a combination of oral everolimus and oral letrozole daily achieved a clinical benefit in 15 of 30 patients, consisting of four complete responses, two partial responses, and stable disease in nine patients. Novartis's currently approved or active clinical trials of letrozole include a Phase II study to measure whether the combination of everolimus, letrozole, and metformin can help control recurrent or progressive endometrial cancer, and a Phase II study to evaluate the effectiveness of the combination of everolimus and letrozole versus tamoxifen and medroxyprogesterone acetate in treating endometrial cancer and to determine the types and severity of side effects caused by treatment with these drug combinations. Prior marketing approvals of letrozole in hormone receptor-positive breast cancer have shown that there are number of common, mild side effects associated with the therapy, including joint pain, nausea, weight decrease, vaginal irritation, and pain in the extremities, as well as potentially serious events. The most serious side effects of Femara® are bone effects, such as fractures, decreased density, and osteoporosis, and increases in cholesterol.

Buparlisib (BKM120) and LFA102
Novartis Pharmaceuticals Corporation

In addition to letrozole (profiled on page 32), Novartis is also developing new drugs targeting an array of oncology areas (22 tumor types) from basal cell carcinoma, colorectal cancer, and glioblastoma multiforme to melanoma, non-small-cell lung cancer, solid tumors, and more. Included in this pipeline are two Phase I/II candidates for prostate cancer: BKM120 and LFA102. BKM120 is an oral agent targeting the PI3K/AKT/mTOR pathway for inhibiting tumor proliferation. It has shown cell growth inhibition and induction of apoptosis in a variety of tumor cell lines and animal models, as well as is believed to possess anti-angiogenic properties. Beyond prostate cancer, BKM120 is also being studied in Phase III trials for locally advanced or metastatic breast cancer and in Phase I and II trials for advanced solid tumors as a monotherapy and combination therapy. Novartis's LFA102 is a selective anti-prolactin receptor humanized monoclonal antibody designed to inhibit signaling of the prolactin hormone receptor. LFA102 is in a Phase I study in both PRLR-positive, castration-resistant prostate cancer and PRLR-positive metastatic breast cancer.

Lenvatinib (E7080)
Eisai Co., Ltd.

Lenvatinib is in development at Eisai. It is a multiple receptor tyrosine kinase (RTK) inhibitor that selectively targets key receptors involved in tumor proliferation and angiogenesis, including VEGFR, FGFR, PDGFRα, KIT, and RET. In October 2014, the FDA granted priority review status to lenvatinib as a treatment for progressive radioiodine-refractory differentiated thyroid cancer. The candidate has also been submitted for approval in thyroid cancer to authorities in Japan and the EU. In January 2015, the company announced that lenvatinib had further met its primary endpoint of prolonging progression-free survival in a Phase II study in unresectable advanced or metastatic renal cell carcinoma. In addition, Eisai has initiated a global Phase III trial of lenvatinib in hepatocellular carcinoma and Phase II studies of lenvatinib in endometrial cancer, melanoma, and non-small-cell lung cancer are underway. In a Phase II trial of lenvatinib in patients with advanced or recurrent endometrial cancer, the candidate showed to be tolerable, with a median progression-free survival of 5.4 months and median overall survival of 10.6 months. The most common adverse events were hypertension, fatigue, diarrhea, decreased appetite, and nausea, and some patients experienced asthenia, bowel obstruction, fistula formation, and perforation (Source: 2013 ASCO Annual Meeting, Abstract Number 5520).

Sunitinib malate
Pfizer, Inc. (PFE-NYSE)

Sunitinib, sold as Sutent® from Pfizer, is an oral multi-kinase inhibitor approved to treat pancreatic neuroendocrine tumors, advanced kidney cancer (renal cell carcinoma), and gastrointestinal stromal tumor. Sutent® functions to block VEGFR, PDGFR, KIT, FLT3, and RET targets expressed in many solid tumor patients and believed to be associated with fostering angiogenesis (leading to tumor growth). The National Cancer Institute is currently sponsoring an ongoing study of sunitinib malate in treating patients with recurrent or metastatic endometrial cancer, which has a target completion date for its primary endpoint data of June 2015. A prior Phase II study of sunitinib in recurrent or metastatic endometrial carcinoma found that the agent demonstrated sufficient activity in endometrial cancer to warrant further study (Source: 2010 ASCO Annual Meeting, Abstract Number 5038); however, a Phase III study of the drug in metastatic castration-resistant prostate cancer was terminated early due to futility. Adverse events associated with the use of Sutent® have included fatigue, asthenia, diarrhea, nausea, stomatitis, vomiting, abdominal pain, hypertension, and bleeding. The product is also known to cause severe liver problems, including death.

Potential Competition to EstroGel®

There are many generic hormone replacement therapies (HRTs) on the market, which vary in administration route, strength, and dosing frequency. Delivery of these HRTs take the form of oral, transdermal, and vaginal options. Figure 16 summarizes a selection and key specifics of leading transdermal HRTs, noting that EstroGel® is co-promoted by Aeterna.

Figure 16
TRANSDERMAL ESTROGEN HORMONE REPLACEMENT THERAPIES

Generic	Brand	Form	Strength	Dosing Frequency
estradiol	Alora	matrix patch	0.025mg/day, 0.05mg/day, 0.075mg/day, 0.1mg/day	Twice weekly
	Climara	matrix patch	0.025mg/day, 0.0375mg/day, 0.05mg/day, 0.06mg/day, 0.075mg/day, 0.1mg/day	Once weekly
	Divigel	topical gel	0.25mg/pkt, 0.5mg/pkt, 1mg/pkt	Once daily
	Elestrin	topical gel	0.87g/pump	Once daily
	Estraderm	reservoir patch	0.05mg/day, 0.1mg/day	Twice weekly
	Estrasorb	topical emulsion	1.74g/pouch	2 pouches once daily
	Estrogel	topical gel	1.25g/pump	1 pump once daily
	Evamist	topical spray	1.53mg/spray	Initially 1 spray daily; may increase to 2–3 sprays if needed
	Menostar	matrix patch	0.014mg/day	Once weekly
	Minivelle	patch	0.0375mg/day, 0.05mg/day, 0.075mg/day, 0.1mg/day	Twice weekly
	Vivelle	matrix patch	0.05mg/day, 0.1mg/day	Twice weekly
	Vivelle-Dot	matrix patch	0.025mg/day, 0.0375mg/day, 0.05mg/day, 0.075mg/day, 0.1mg/day	Twice weekly
estradiol/levonorgestrel	Climara Pro	matrix patch	0.045mg/0.015mg per day	Once weekly
estradiol/ norethindrone acetate	Combipatch	matrix patch	0.05mg/0.14mg per day, 0.05mg/0.25mg per day	Twice weekly

Source: MPR (http://www.empr.com/).

Historical Financial Results

Figures 17, 18, and 19 (pages 35-37) summarize Aeterna's key historical financial statements: Consolidated Statements of Comprehensive (Loss) Income, Consolidated Statements of Financial Position, and Statements of Cash Flows, as of December 31, 2014, and released by Aeterna on March 17, 2015.

Figure 17

CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

For the years ended December 31, 2014, 2013 and 2012

(in thousands of US dollars, except share and per share data)

	Years ended December 31,		
	2014	**2013**	**2012**
	$	**$**	**$**
Revenues			
Sales	**—**	96	834
License fees (note 5)*	**11**	6,079	1,219
	11	6,175	2,053
Operating expenses (note 18)			
Cost of sales	**—**	51	591
Research and development costs, net of refundable tax credits and grants (notes 11 and 14)	**23,716**	21,284	20,592
Selling, general and administrative expenses (notes 10 and 14)	**13,690**	12,316	10,606
	37,406	33,651	31,789
Loss from operations	**(37,395)**	(27,476)	(29,736)
Finance income (note 20)	**20,319**	1,748	6,974
Finance costs (note 20)	**—**	(1,512)	(382)
Net finance income (costs)	**20,319**	236	6,592
Loss before income taxes	**(17,076)**	(27,240)	(23,144)
Income tax expense (notes 5 and 22)	**(111)**	—	—
Net loss from continuing operations	**(17,187)**	(27,240)	(23,144)
Net income from discontinued operations (note 6)	**623**	34,055	2,732
Net (loss) income	**(16,564)**	6,815	(20,412)
Other comprehensive (loss) income:			
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation adjustments	**(1,158)**	1,073	(504)
Items that will not be reclassified to profit or loss:			
Actuarial (loss) gain on defined benefit plans	**(1,833)**	2,346	(3,705)
Comprehensive (loss) income	**(19,555)**	10,234	(24,621)
Net loss per share (basic and diluted) from continuing operations (note 26)	**(0.29)**	(0.92)	(1.17)
Net income (basic and diluted) from discontinued operations (notes 6 and 26)	**0.01**	1.16	0.14
Net (loss) income (basic and diluted) per share	**(0.28)**	0.24	(1.03)
Weighted average number of shares outstanding (notes 17 and 26):			
Basic	**59,024,730**	29,476,455	19,775,073
Diluted	**59,024,730**	29,476,455	19,806,687

*For descriptions of notes, please consult Aeterna's Form 20-F filed with the SEC on March 17, 2015.

Source: Aeterna Zentaris Inc.

Figure 18

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(in thousands of US dollars)

	December 31, 2014	December 31, 2013
	$	$
ASSETS		
Current assets		
Cash and cash equivalents (note 7)*	**34,931**	43,202
Trade and other receivables (note 8)	**867**	1,953
Prepaid expenses and other current assets	**419**	500
	36,217	45,655
Restricted cash equivalents (note 9)	**760**	865
Property, plant and equipment (note 10)	**797**	1,351
Other non-current assets	**622**	725
Identifiable intangible assets (note 11)	**352**	708
Goodwill (note 12)	**8,687**	9,892
	47,435	59,196
LIABILITIES		
Current liabilities		
Payables and accrued liabilities (note 13)	**5,799**	7,242
Provision for restructuring costs (note 14)	**1,505**	—
Deferred revenues (note 5)	**270**	—
	7,574	7,242
Deferred revenues (note 5)	**809**	—
Warrant liability (note 15)	**8,225**	18,010
Employee future benefits (note 19)	**15,053**	15,407
Provisions and other non-current liabilities (note 16)	**1,290**	1,473
	32,951	42,132
SHAREHOLDERS' EQUITY		
Share capital (note 17)	**150,544**	134,101
Other capital	**86,639**	86,107
Deficit	**(222,322)**	(203,925)
Accumulated other comprehensive (loss) income	**(377)**	781
	14,484	17,064
	47,435	59,196
Commitments and contingencies (note 25)		
Subsequent events (note 28)		

*For descriptions of notes, please consult Aeterna's Form 20-F filed with the SEC on March 17, 2015.

Source: Aeterna Zentaris Inc.

Figure 19

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31, 2014, 2013 and 2012

(in thousands of US dollars)

	Years ended December 31,		
	2014	**2013**	**2012**
	$	**$**	**$**
Cash flows from operating activities			
Net loss from continuing operations	**(17,187)**	(27,240)	(23,144)
Items not affecting cash and cash equivalents:			
Change in fair value of warrant liability (note 15)*	**(18,272)**	(1,563)	(6,746)
Provision for restructuring costs (note 14)	**2,489**	—	—
Depreciation, amortization and impairment (notes 10 and 11)	**878**	949	1,234
Share-based compensation costs (note 17)	**497**	2,215	1,797
Employee future benefits (note 19)	**605**	470	889
Amortization of deferred revenues (note 5)	**—**	(6,046)	(1,077)
Foreign exchange (gain) loss on items denominated in foreign currencies	**(1,164)**	1,078	614
Gain on disposal of property, plant and equipment	**(66)**	—	—
Amortization of prepaid expenses and other non-cash items	**2,640**	6,831	4,756
Transaction cost allocated to warrants issued (note 17)	**666**	1,165	370
Changes in operating assets and liabilities (note 21)	**(1,873)**	(7,990)	(4,374)
Net cash (used in) provided by operating activities of discontinued operations (note 6)	**(295)**	10,147	(5,134)
Net cash used in operating activities	**(31,082)**	(19,984)	(30,815)
Cash flows from financing activities			
Proceeds from issuances of common shares and warrants, net of cash transaction costs of $1,348 in 2014, $2,119 in 2013 and $1,665 in 2012 (note 17)	**24,358**	23,708	23,619
Proceeds from the exercise of share purchase warrants (note 15)	**—**	—	437
Proceeds from the exercise of stock options (note 17)	**—**	—	209
Repayment of long-term payable	**—**	—	(57)
Net cash provided by financing activities	**24,358**	23,708	24,208
Cash flows from investing activities			
Purchase of property, plant and equipment (note 10)	**(127)**	(85)	(272)
Disposals of property, plant and equipment (note 10)	**66**	—	—
Net cash provided by investing activities of discontinued operations	**—**	113	—
Net cash (used in) provided by investing activities	**(61)**	28	(272)
Effect of exchange rate changes on cash and cash equivalents	**(1,486)**	(71)	(481)
Net change in cash and cash equivalents	**(8,271)**	3,681	(7,360)
Cash and cash equivalents – Beginning of the year (note 7)	**43,202**	39,521	46,881
Cash and cash equivalents – End of the year (note 7)	**34,931**	43,202	39,521

*For descriptions of notes, please consult Aeterna's Form 20-F filed with the SEC on March 17, 2015.

Source: Aeterna Zentaris Inc.

Risks and Disclosures

This Executive Informational Overview® (EIO) has been prepared by Crystal Research Associates, LLC (CRA) based upon information provided by Aeterna. CRA has not independently verified such information. Some of the information in this EIO relates to future events or future business and financial performance. Such statements constitute forward-looking information within the meaning of the Private Securities Litigation Act of 1995. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in Aeterna's statements in its public and investor materials as well as regulatory forms filed from time to time.

The content of this report with respect to Aeterna has been compiled primarily from information available to the public released by the Company through news releases, investor presentations, and other materials released from time to time. Aeterna is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by Aeterna or CRA. Certain summaries of activities and outcomes have been condensed to aid the reader in gaining a general understanding. CRA assumes no responsibility to update the information contained in this report. In addition, CRA has been compensated by the Company in cash of thirty-nine thousand U.S. dollars for its services in creating this report and other communications products. Investors should carefully consider the risks and information about Aeterna's business, as described below. Investors should not interpret the order in which considerations are presented in this or other filings as an indication of their relative importance. The risks and uncertainties overviewed below are not the only risks that the Company faces. Additional risks and uncertainties not presently known to Aeterna or that it currently believes to be immaterial may also adversely affect the Company's business. If any of such risks and uncertainties develops into an actual event, Aeterna's business, financial condition, and results of operations could be materially and adversely affected, and the trading price of the Company's shares could decline. This report is published solely for information purposes and is not to be construed as an offer to sell or the solicitation of an offer to buy any security in any state. Past performance does not guarantee future performance. Additional information about Aeterna, as well as copies of this report, can be obtained by calling (418) 652-8525.

RISKS RELATING TO AETERNA AND ITS BUSINESS

The risk factors set forth below do not comprise all the risk factors relating to the Company and its business that the Company believes are important. Aeterna's business, financial condition or results of operations could be materially adversely affected by any of these risks, including the risks not described below. Additional risks not presently known to the Company or that it currently deems immaterial may also impair its business operations. For a complete discussion of risk factors, please refer to the Company's most recent Annual Report on Form 20-F. Before making an investment decision, investors should carefully consider the risks described below and the additional risk factors described in the Company's Annual Report on Form 20-F.

Investments in biopharmaceutical companies are generally considered to be speculative.

The prospects for companies operating in the biopharmaceutical industry are uncertain, given the very nature of the industry, and, accordingly, investments in biopharmaceutical companies should be considered to be speculative assets.

Aeterna has a history of operating losses and may never achieve or maintain operating profitability.

The Company's product candidates remain at the development stage, and it has incurred substantial expenses in its efforts to develop products. Consequently, Aeterna has incurred operating losses historically and, as disclosed in its unaudited condensed interim consolidated financial statements as of December 31, 2014, had a deficit of approximately $222.3 million. The Company's operating losses have adversely impacted, and will continue to adversely impact, its working capital, total assets, and shareholders' equity (deficiency). Aeterna does not expect to reach operating profitability in the immediate future, and its operating expenses are likely to continue to represent a significant component of the Company's overall cost profile as Aeterna continues its R&D and clinical

study programs, seeks regulatory approval for its product candidates, and carries out commercial activities. Even if the Company succeeds in developing, acquiring, or in-licensing new commercial products, Aeterna could incur additional operating losses for at least the next several years. If the Company does not ultimately generate sufficient revenue to achieve profitability, an investment in the Company's Common Shares and Warrants could result in a significant or total loss.

The Company's clinical trials may not yield results, which would prevent it from obtaining regulatory approval for its products, and a setback in any of its clinical trials would likely cause a drop in the price of Aeterna's Common Shares.

Aeterna will only receive regulatory approval for a product candidate if it can demonstrate in carefully designed and conducted clinical trials, including ZoptEC, which is expected to produce interim results in the first half of 2015, that the product candidate is both safe and effective. The Company does not know whether its pending or any future clinical trials will demonstrate sufficient safety and efficacy to obtain the requisite regulatory approvals or will result in marketable products. Unfavorable data from those studies could result in the withdrawal of marketing approval for approved products or an extension of the review period for developmental products.

Preclinical testing and clinical development are inherently lengthy, complex, expensive, and uncertain processes and have a high risk of failure. It typically takes many years to complete testing, and failure can occur at any stage of testing. Results attained in preclinical testing and early clinical studies, or trials, may not be indicative of results that are obtained in later studies. In addition, Aeterna has limited experience in conducting and managing the clinical trials necessary to obtain regulatory approval in the U.S., in Canada, and abroad and, accordingly, may encounter unforeseen problems and delays in the approval process.

Though the Company may engage a contract research organization (CRO) with experience in conducting regulatory trials, errors in the conduct, monitoring, and/or auditing could invalidate the results from a regulatory perspective. None of the Company's current product candidates have to date received regulatory approval for their intended commercial sale. Aeterna cannot market a pharmaceutical product in any jurisdiction until it has completed rigorous preclinical testing and clinical trials and passed such jurisdiction's extensive regulatory approval process. In general, significant R&D and clinical studies are required to demonstrate the safety and efficacy of the Company's product candidates before it can submit regulatory applications. Even if a product candidate is approved by the FDA, the Canadian Therapeutic Products Directorate (CTPD), or any other regulatory authority, Aeterna may not obtain approval for an indication whose market is large enough to recover its investment in that product candidate. In addition, there can be no assurance that the Company will ever obtain all or any required regulatory approvals for any of its product candidates.

Aeterna is currently developing its product candidates based on R&D activities, preclinical testing, and clinical trials conducted to date, and it may not be successful in developing or introducing to the market these or any other new products or technology. If the Company fails to develop and deploy new products successfully and on a timely basis, it may become non-competitive and unable to recover the R&D and other expenses incurred to develop and test new products. Interim results of preclinical or clinical studies do not necessarily predict their final results, and acceptable results in early studies might not be obtained in later studies. Safety signals detected during clinical studies and preclinical animal studies may require the Company to perform additional studies, which could delay the development of the drug or lead to a decision to discontinue development of the drug.

Product candidates in the later stages of clinical development may fail to show the desired safety and efficacy traits despite positive results in initial clinical testing. Results from earlier studies may not be indicative of results from future clinical trials and the risk remains that a pivotal program may generate efficacy data that will be insufficient for the approval of the drug, or may raise safety concerns that may prevent approval of the drug. Interpretation of the prior preclinical and clinical safety and efficacy data of the Company's product candidates may be flawed and there can be no assurance that safety and/or efficacy concerns from the prior data were overlooked or misinterpreted, which in subsequent, larger studies appear and prevent approval of such product candidates.

Furthermore, Aeterna may suffer significant setbacks in advanced clinical trials, even after promising results in earlier studies. Based on results at any stage of clinical trials, the Company may decide to repeat or redesign a trial or discontinue development of one or more of its product candidates. Further, actual results may vary once the final and quality-controlled verification of data and analyses has been completed.

If the Company fails to adequately demonstrate the safety and efficacy of its products under development, Aeterna will not be able to obtain the required regulatory approvals to commercialize its product candidates. A failure in the development of any one of its programs or product candidates could have a negative impact on the development of the others. Setbacks in any phase of the clinical development of the Company's product candidates would have an adverse financial impact (including with respect to any agreements and partnerships that may exist between it and other entities), could jeopardize regulatory approval, and would likely cause a drop in the price of the Company's Common Shares.

If unable to successfully complete its clinical trial programs, or if such clinical trials take longer to complete than projected, Aeterna's ability to execute its current business strategy will be adversely affected.

Whether or not and how quickly Aeterna completes clinical trials is dependent, in part, upon the rate at which it is able to engage clinical trial sites and, thereafter, the rate of enrollment of patients and the rate at which the Company collects, cleans, locks, and analyzes the clinical trial database. Patient enrollment is a function of many factors, including the design of the protocol, the size of the patient population, the proximity of patients to and availability of clinical sites, the eligibility criteria for the study, the perceived risks and benefits of the drug under study and of the control drug, if any, the efforts to facilitate timely enrollment in clinical trials, the patient referral practices of physicians, the existence of competitive clinical trials, and whether existing or new drugs are approved for the indication being studied.

Certain clinical trials are designed to continue until a pre-determined number of events have occurred to the patients enrolled. Such trials are subject to delays stemming from patient withdrawal and from lower than expected event rates and may also incur increased costs if enrollment is increased in order to achieve the desired number of events. If Aeterna experiences delays in identifying and contracting with sites and/or in patient enrollment in its clinical trial programs, the Company may incur additional costs and delays in its development programs, and may not be able to complete its clinical trials on a cost effective or timely basis.

In addition, conducting multi-national studies adds another level of complexity and risk as the Company is subject to events affecting countries other than Canada and the U.S. Moreover, negative or inconclusive results from the clinical trials conducted or adverse medical events could cause the Company to have to repeat or terminate the clinical trials. Accordingly, Aeterna may not be able to complete the clinical trials within an acceptable time-frame, if at all. If the Company or any third party has difficulty enrolling a sufficient number of patients to conduct its clinical trials as planned, the Company may need to delay or terminate ongoing clinical trials. Clinical trials are subject to continuing oversight by governmental regulatory authorities and institutional review boards and must do the following:

- meet the requirements of these authorities;
- meet the requirements for informed consent; and
- meet the requirements for good clinical practices.

Aeterna may not be able to comply with these requirements with respect to one or more of its product candidates. Additionally, the Company has limited experience in filing an NDA or similar application for approval in the U.S. or in any country for its current product candidates, which may result in a delay in, or the rejection of, its filing an NDA or similar application. During the drug development process, regulatory agencies will typically ask questions of drug sponsors. While the Company seeks to answer all such questions in a timely fashion, some questions may not be answered in time to prevent the delay of acceptance of an NDA or the rejection of an NDA.

The Company has incurred, and expects to continue to incur, substantial expenses, and has made and expects to continue to make, substantial financial commitments to establish a commercial operation. There can be no assurance how quickly, if ever, Aeterna will realize a profit from its commercial operation.

Aeterna's business strategy is to become an integrated specialty biopharmaceutical company with commercial operations to market and sell products that it develops, may acquire, or in-license. To that end, during 2014, the Company established a commercial operation, including hiring a 19-person contract sales force and two regional sales managers and established a new office location and infrastructure for its North American business and global operations. The Company has, to date, incurred, and expects to continue to incur, substantial expenses, and has made, and expects to continue to make, substantial financial commitments to build out its commercial operations. Establishing a commercial operation is costly and time-consuming, and there can be no assurance how quickly, if ever, Aeterna will realize a profit from its commercial operations. Factors that may inhibit its efforts to realize a profit from its commercial operations, should the Company be successful in consummating transactions such as acquisitions, in-licensing, promotional, or co-promotional arrangements with third parties, include the following:

- the inability to recruit, train, and retain adequate sales and marketing personnel and representatives;
- the inability of its sales personnel to obtain access to or to persuade adequate numbers of physicians to prescribe Aeterna's products or the products that it in-licenses or co-promotes;
- the lack of complementary products to be offered by sales personnel, which may put the Company at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

The Company's financial viability depends, in part, on its ability to acquire, in-license, or otherwise obtain the right to sell other products. If unable to do so, Aeterna will continue to experience operating losses from its commercial operations.

Aeterna must acquire, in-license, or obtain the right to sell or promote other products to achieve profitability of its commercial operations. The Company's management is spending a substantial amount of its time on efforts to obtain additional products. These activities entail numerous operational and financial risks, including the following:

- the difficulty or inability to secure financing to acquire or in-license products;
- the incurrence of substantial debt or dilutive issuances of securities to pay for the acquisition or in-licensing of new products;
- the disruption of its business and diversion of management's time and attention;
- higher than expected development, acquisition, or in-license and integration costs;
- exposure to unknown liabilities; and
- the difficulty in locating products that are in the Company's specific targeted therapeutic areas and that are compatible with other products in its portfolio.

Aeterna can provide no assurance that it will be able to identify potential product candidates or strategic commercial partners or, if the Company identifies such product candidates or partners, that any related commercial arrangements will be consummated on terms that are favorable to it. To the extent that Aeterna is successful in entering into any strategic commercial arrangements, including promotional or co-promotional agreements, or acquisition or in-licensing agreements with third parties, the Company cannot provide any assurance that any resulting initiatives or activities will be successful. To the extent that any related investments in such arrangements do not yield the expected benefits, Aeterna's business, financial condition, and results of operations may be materially adversely affected.

The Company has limited resources to identify and execute the procurement of additional products and to integrate them into its current commercial operations. Failure to successfully integrate the personnel and operations of businesses that Aeterna may acquire or of products that it may in-license in the future with the Company's existing operations, business, and products could have a material adverse effect on its operations and results. The Company competes with larger pharmaceutical companies and other competitors in its efforts to acquire, in-license, and/or obtain the right to market new products. Competitors likely will have access to greater financial resources than Aeterna and may have greater expertise in identifying and evaluating new opportunities. Moreover, the Company may devote resources to potential acquisition, in-licensing, promotion, or co-promotion opportunities that are never completed, or it may fail to realize the anticipated benefits of such efforts.

The Company will require significant additional financing, and may not have access to sufficient capital.

Aeterna will require significant additional capital to fund its commercial operations and to pursue planned clinical trials, regulatory approvals, and R&D efforts. The Company does not anticipate generating significant revenues from operations in the near future, and currently has no committed sources of capital. Aeterna may attempt to raise additional funds through public or private financings, collaborations with other pharmaceutical companies, or from other sources, including, without limitation, through at-the-market offerings and issuances of Common Shares. Additional funding may not be available on terms which are acceptable to the Company. If adequate funding is not available to Aeterna on reasonable terms, the Company may need to delay, reduce, or eliminate one or more of its product development programs or obtain funds on terms less favorable than it would otherwise accept.

To the extent that additional capital is raised through the sale of equity securities or securities convertible into or exchangeable for equity securities, the issuance of those securities could result in dilution to the Company's shareholders. Moreover, if Aeterna were to incur debt financing or issue dividend-paying preferred shares, it could result in a substantial portion of its future operating cash flow, if any, being dedicated to the payment of principal and interest on such indebtedness or the payment of dividends on such preferred shares and could impose restrictions on the Company's operations and on its ability to make certain expenditures and/or to incur additional indebtedness. Such financing alternatives could render the Company more vulnerable to competitive pressures and economic downturns.

Aeterna anticipates that its existing working capital and anticipated revenues will be sufficient to fund its commercial operations, development programs, clinical trials, and other operating expenses for the near future. However, its future capital requirements are substantial and may increase beyond the Company's current expectations depending on many factors, including the following:

- the duration of, changes to and results of clinical trials for various product candidates going forward;
- unexpected delays or developments in seeking regulatory approvals;
- the time and cost involved in preparing, filing, prosecuting, maintaining, and enforcing patent claims;
- unexpected developments encountered in implementing business development and commercialization strategies;
- the potential addition of commercialized products to the Company's pipeline;
- the outcome of litigation, if any; and
- further arrangements, if any, with collaborators.

In addition, global economic and market conditions as well as future developments in the credit and capital markets may make it even more difficult for Aeterna to raise additional financing in the future.

If unsuccessful in increasing revenues and/or raising additional funding, Aeterna may cease to continue operating as it currently does.

The Company has sustained operating losses, deficits, and negative cash flows from operating activities over the past several years, and expects that it will continue to do so for an extended period. Although the audited consolidated financial statements as of December 31, 2014, were prepared on a going concern basis, which contemplates the realization of assets and liquidation of liabilities during the normal course of operations, the Company's ability to continue as a going concern is dependent on the successful execution of its business plan, which will require an increase in revenue and/or additional funding to be provided by potential investors as well as non-traditional sources of financing.

Although the Company stated in its most recent Management's Discussion and Analysis of Financial Condition and Results of Operations that management believed that the Company had, as of December 31, 2014, sufficient liquidity and financial resources to fund planned expenditures and other working capital needs for at least, but not limited to, the 12-month period following such date, there can be no assurance that management will be able to reiterate such belief in the future, particularly in the event that the Company does not or is unable to raise additional capital, as it does not expect its operations to generate sufficient cash flow to fund Company operations. Additional funding may be in the form of debt or equity or a hybrid instrument depending on Company needs, those of investors, and market conditions. Depending on the prevailing global economic and credit market conditions, the Company may not be able to raise additional cash resources through these traditional sources of financing. Although Aeterna may also pursue non-traditional sources of financing with third parties, the global equity and credit markets may adversely affect the ability of potential third parties to pursue such transactions with it.

Accordingly, as a result of the foregoing, the Company continues to review traditional sources of financing, such as private and public debt or various equity financing alternatives, as well as other alternatives to enhance shareholder value, including, but not limited to, non-traditional sources of financing, such as strategic alliances with third parties, the sale of assets, or licensing of its technology or intellectual property, a combination of operating and related initiatives or a substantial reorganization of its business.

There can be no assurance that it will achieve profitability or positive cash flows or be able to obtain additional funding or that, if obtained, it will be sufficient, or whether any other initiatives will be successful such that the Company may continue as a going concern. There also could be material uncertainties related to certain adverse conditions and events that could impact Aeterna's ability to remain a going concern. If the going concern assumptions were deemed no longer appropriate for its consolidated financial statements, adjustments to the carrying value of assets and liabilities, reported expenses and consolidated statement of financial position classifications would be necessary. Such adjustments could be material.

Aeterna is and will be subject to stringent ongoing government regulation for its products and its product candidates, even if the Company obtains regulatory approvals for the latter.

The manufacture, marketing, and sale of the Company's products and product candidates are and will be subject to strict and ongoing regulation, even if regulatory authorities approve any of the latter. Compliance with such regulation will be costly and consume substantial financial and management resources. For example, an approval for a product may be conditioned on the Company's agreement to conduct costly post-marketing follow-up studies to monitor the safety or efficacy of the product.

In addition, as clinical experience with a drug expands after approval because the drug is used by a greater number and more diverse group of patients than during clinical trials, side effects or other problems may be observed after approval that were not observed or anticipated during pre-approval clinical trials. In such a case, a regulatory authority could restrict the indications for which the product may be sold or revoke the product's regulatory approval.

Aeterna and its contract manufacturers will be required to comply with applicable current Good Manufacturing Practice regulations for the manufacture of its products. These regulations include requirements relating to quality assurance, as well as the corresponding maintenance of rigorous records and documentation. Manufacturing facilities must be approved before the Company can use them in the commercial manufacturing of its products and are subject to subsequent periodic inspection by regulatory authorities. In addition, material changes in the methods of manufacturing or changes in the suppliers of raw materials are subject to further regulatory review and approval.

If the Company, or if any future marketing collaborators or contract manufacturers, fail to comply with applicable regulatory requirements, it may be subject to sanctions including fines, product recalls, or seizures and related publicity requirements, injunctions, total, or partial suspension of production, civil penalties, suspension, or withdrawals of previously granted regulatory approvals, warning, or untitled letters, refusal to approve pending applications for marketing approval of new products or of supplements to approved applications, import or export bans or restrictions, and criminal prosecution and penalties. Any of these penalties could delay or prevent the promotion, marketing, or sale of the Company's products and product candidates.

Even if the Company receives marketing approval for its product candidates, such product approvals could be subject to restrictions or withdrawals. Regulatory requirements are subject to change.

Regulatory authorities generally approve products for particular indications. If an approval is for a limited indication, this limitation reduces the size of the potential market for that product. Product approvals, once granted, are subject to continual review and periodic inspections by regulatory authorities. Aeterna's operations and practices are subject to regulation and scrutiny by the U.S. government, as well as governments of any other countries in which the Company does business or conducts activities.

Later discovery of previously unknown problems or safety issues and/or failure to comply with domestic or foreign laws, knowingly or unknowingly, can result in various adverse consequences, including, among other things, a possible delay in the approval or refusal to approve a product, warning letters, fines, injunctions, civil penalties, recalls, or seizures of products, total or partial suspension of production, refusal of the government to renew marketing applications, complete withdrawal of a marketing application, criminal prosecution, withdrawal of an approved product from the market, and/or exclusion from government healthcare programs. Such regulatory enforcement could have a direct and negative impact on the product for which approval is granted, but also could have a negative impact on the approval of any pending applications for marketing approval of new drugs or supplements to approved applications.

Because the Company operates in a highly regulated industry, regulatory authorities could take enforcement action against it in connection with the Company, or its licensees' or collaborators' business and marketing activities for various reasons. From time to time, new legislation is passed into law that could significantly change the statutory provisions governing the approval, manufacturing, and marketing of products regulated by the FDA and other health authorities. Additionally, regulations and guidance are often revised or reinterpreted by health agencies in ways that may significantly affect Aeterna's business and its products.

It is impossible to predict whether further legislative changes will be enacted, or whether regulations, guidance, or interpretations will change, and what the impact of such changes, if any, may be. For example, the Patient Protection and Affordable Care Act and the Healthcare and Education Affordability Reconciliation Act of 2010 (collectively, the ACA), enacted in the U.S. in March 2010, substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacted the pharmaceutical industry. With regard to pharmaceutical products, among other things, the ACA is expected to expand and increase S-17 industry rebates for drugs covered under Medicaid programs and make changes to the coverage requirements under the Medicare D program. Aeterna expects both government and private health plans to continue to require healthcare providers, including healthcare providers that may one day purchase its products, to contain costs and demonstrate the value of the therapies they provide.

Recent Events

04/16/2015—Aeterna announced that it has filed an application for a patent (European Patent Office priority application: EP15000132) on a novel method of manufacturing zoptarelin doxorubicin, its hybrid cytotoxic molecule that is the subject of a pivotal ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) Phase 3 clinical study in women with advanced, recurrent or metastatic endometrial cancer who have progressed and who have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first-line treatment). The claimed manufacturing process is expected to result in a significant reduction in the cost of goods sold, providing a stronger competitive position for the Company.

04/13/2015—Announced plans to conduct a new, confirmatory Phase 3 clinical study to demonstrate the efficacy of Macrilen™, for use in evaluating AGHD, as well as a dedicated thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization. This decision follows a positive meeting with the U.S. FDA regarding its New Drug Application for Macrilen™. The Company requested the meeting to gain clarity on the approval deficiencies described in the Complete Response Letter ("CRL") the Company received on November 6, 2014.

During an end-of-review meeting with the FDA on March 6, 2015, the Company and the FDA agreed on the general design of the confirmatory study as well as evaluation criteria. The study will be conducted as a two-way crossover with the insulin tolerance test as the benchmark comparator. The study population will consist of patients with a medical history documenting risk factors for AGHD and will include a spectrum of patients from those with a low risk of having AGHD to those with a high risk of having the condition. The Company will submit a proposed final protocol to the FDA for approval prior to commencing the confirmatory study which is expected to be initiated by year-end.

03/31/2015—Announced the transfer of its discovery library of roughly 100,000 unique compounds to the South Carolina Center for Therapeutic Discovery & Development (the Center), which is part of The Medical University of South Carolina (MUSC). This agreement results in the continued use of the library for the discovery of drug development candidates for Aeterna in the areas of oncology, neurology, endocrinology, and women's health. The Center may make the library available to all investigators in the University of South Carolina system without restriction on its use and owns any therapeutic compounds discovered outside the Company's areas of therapeutic interest.

The Center will submit at least one development candidate in its areas of therapeutic interest per year during a 10-year period beginning in 2018. The Company will receive the right of first refusal to license the development candidates. Should the Company decide to further develop a development candidate submitted by the Center, MUSC will license the compound candidate to the Company, and be entitled to a royalty on the net sales of all commercialized products developed from the development candidate. However, should the Company decide not to further develop the development candidate submitted by the Center, MUSC shall pay to the Company a royalty on net sales of all commercialized products developed from the development candidate.

03/17/2015—Reported financial and operating results for the fourth quarter and the year ended December 31, 2014. Net income (loss) for the three-month period and year ended December 31, 2014 was $4.2 million and ($16.6) million, or $0.06 and ($0.28) per basic and diluted share, respectively versus ($8.2) million and $6.8 million, or ($0.22) and $0.24 per basic and diluted share, for the same periods in 2013. The increase in net income for the three-month period ended December 31, 2014, as compared to the same period in 2013, is due largely to higher comparative net finance income, offset partially by higher comparative operating expenses and by lower net income from discontinued operations. The decrease in net income for the year ended December 31, 2014, as compared to the same period in 2013, is due largely to the higher loss from operations and to lower net income from discontinued operations, partially offset by higher comparative net finance income.

03/11/2015—Announced the closing of its previously announced public offering of 59,677,420 units generating net proceeds of approximately US$34.5 million, with each unit consisting of one common share, 0.75 of a Series A warrant to purchase one common share, and 0.50 of a Series B warrant to purchase one common share, at a purchase price of US$0.62 per unit.

03/10/2015—Announced that it expects to report its fourth quarter and full-year 2014 financial and operating results after market close on Tuesday, March 17, 2015. The Company was to host a conference call to discuss these results on Wednesday, March 18, 2015, at 8:30 a.m., Eastern Time.

03/06/2015—Announced the pricing of its previously announced public offering of 59,677,420 units. Each Unit consists of one common share, 0.75 of a Series A warrant to purchase one common share, and 0.50 of a Series B warrant to purchase one common share, at a purchase price of US$0.62 per Unit.

03/02/2015—Announced that the Company's Chairman and CEO, David Dodd, will be presenting a corporate overview and update at the 27th Annual Roth Conference on Wednesday, March 11, 2015, at 11:00 am (Pacific), in the Colonnade Room (Track 4) of the Ritz-Carlton Laguna Niguel Hotel, in Dana Point, California.

01/06/2015—Announced that the Company's Chairman and CEO, David Dodd, will be presenting a corporate overview at the 7th annual Biotech Showcase Conference on Wednesday, January 14, 2015, at 3:30 pm (Pacific), in the C-Mission II room (4th floor) of the Parc 55 Wyndham San Francisco – Union Square Hotel.

12/29/2014—Announced that an article on final data for the Phase 1 portion of the ongoing Phase 1/2 trial in prostate cancer with zoptarelin doxorubicin (formerly AEZS-108), a hybrid molecule composed of a synthetic peptide carrier and a well-known chemotherapy agent, doxorubicin, has been published in the December issue of *Clinical Cancer Research*. The article outlines data previously disclosed in June 2013 at the American Society of Clinical Oncology's (ASCO) Annual Meeting, which demonstrated the compound's safety profile and potential anti-tumor activity in heavily pre-treated men with castration- and taxane-resistant prostate cancer.

12/19/2014—Announced that it has received a notice from The NASDAQ Listing Qualifications Department indicating that the Company's minimum bid price has fallen below $1.00 for 30 consecutive business days, and, therefore, was no longer in compliance with NASDAQ Marketplace Rule 5550(a)(2)-bid price. The Company has been provided 180 calendar days, or until June 16, 2015, to regain compliance with the minimum bid price requirement. To regain compliance, the closing bid price of the Company's common stock must be at least $1.00 per share for a minimum of 10 consecutive business days. This notice did not impact the Company's listing on The NASDAQ Capital Market at this time.

12/01/2014—Aeterna and Sinopharm A-Think Pharmaceuticals Co., Ltd. announced the signing of an exclusive license and technology transfer agreement for the Company's lead anti-cancer compound, zoptarelin doxorubicin for the initial indication of endometrial cancer, for the Chinese, Hong Kong, and Macau markets. Under the terms of the Master Collaboration Agreement, Aeterna is entitled to receive a non-refundable $1 million fee for the transfer of the Company's technology for zoptarelin doxorubicin to Sinopharm A-Think. Sinopharm A-Think has also agreed to make additional payments to the Company upon achieving certain pre-established regulatory and commercial milestones. Furthermore, the Company will receive royalties on future net sales of zoptarelin doxorubicin in the territory. Sinopharm A-Think is responsible for the development, production, registration, and commercialization of the product in the territory. Sinopharm is the largest pharmaceutical company in China.

11/20/2014—Announced the opening of a new clinical site at the Hollings Cancer Center of the Medical University of South Carolina in Charleston, South Carolina, for the Company's ongoing multinational, pivotal ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) Phase 3 trial in women with advanced, recurrent, or metastatic endometrial cancer. The Hollings Cancer center is the only National Cancer Institute-designated cancer center in South Carolina and the state's largest academic based cancer program. Furthermore, the Company announced that patient recruitment for this trial now stands at over 320 patients out of a projected total of 500 patients.

11/06/2014—Announced that it has received a Complete Response Letter (CRL) from the U.S. Food and Drug Administration (FDA) for its New Drug Application (NDA) for Macrilen™ (macimorelin) for use in evaluating adult growth hormone deficiency (AGHD). Based on its review, the FDA has determined that the NDA cannot be approved in its present form. Following the FDA's decision, the Company is currently reviewing the outstanding issues stated in the CRL in order to evaluate its options and future plans for the drug.

11/04/2014—Reported financial and operating results for the third quarter ended September 30, 2014. R&D costs, net of refundable tax credits and grants, for the three-month period ended September 30, 2014, were $6.1 million versus $6.2 million for the same period in 2013. R&D costs for the quarter ended September 30, 2014 include a provision for restructuring costs, amounting to approximately $1.6 million, for severance payments and other directly related costs associated with R&D restructuring activities. SG&A expenses were $3.7 million for the three-month period ended September 30, 2014 versus $2.4 million for the same period in 2013. The increase in SG&A expenses is mainly related to higher comparative foreign exchange losses, the ramping up of pre-commercialization activities associated with Macrilen™, and the recording of restructuring costs related to planned administrative staff redundancies. Net loss for the three-month period ended September 30, 2014 was $11.3 million, or $0.20 per basic and diluted share versus a net income of $3.8 million, or $0.13 per basic and diluted share, for the same period in 2013. The decrease in net income was due largely to lower net income from discontinued operations related to former Cetrotide® Business, higher comparative operating expenses, and higher comparative net finance costs. Cash and cash equivalents totaled $42.0 million as at September 30, 2014, as compared to $43.2 million as at December 31, 2013.

10/28/2014—Announced that the Company would report its third quarter 2014 financial and operating results after market close on Tuesday, November 4, 2014.

10/27/2014—Announced the formal implementation of its own full-time U.S. sales force with field selling of ASCEND Therapeutics US LLC's, EstroGel®, scheduled to start the week of November 17, 2014. EstroGel® is the leading non-patch transdermal brand of estrogen replacement therapy commercialized in the U.S. The selling of EstroGel® by Aeterna is part of the strategic co-promotion services agreement signed last August with ASCEND, which stipulates that Aeterna will market this product in specific U.S. territories. Aeterna anticipates using approximately 20 full-time sales representatives to cover its assigned U.S. specific territories, while ASCEND will use its existing sales force of over 35 sales representatives to cover its territories.

10/07/2014—Announced the appointment of Philip A. Theodore, as senior vice president, chief administrative officer, general counsel, and corporate secretary. Before joining Aeterna, Mr. Theodore was vice president, general counsel and corporate secretary of Zep Inc., a consumable chemical packaged goods company.

08/07/2014—Reported financial and operating results as at and for the second quarter ended June 30, 2014. R&D costs, net of refundable tax credits and grants, for the three-month period ended June 30, 2014 were $5.5 million compared to $5.3 million for the same period in 2013. SG&A expenses were $2.9 million for the three-month period ended June 30, 2014, compared to $4.4 million for the same period in 2013. The decrease in SG&A expenses is mainly related to the recognition in the second quarter of 2013 of non-recurring termination benefits (approximately $1.4 million) and to the recording of related non-cash share-based compensation costs, amounting to approximately $0.7 million. Net loss for the three-month period ended June 30, 2014 was $5.0 million compared to a net income of $9.3 million for the same period in 2013. The decrease in net income is due largely to lower net income from discontinued operations related to the Company's former Cetrotide® business, partially offset by lower comparative operating expenses and by higher comparative net finance income.

08/05/2014—Announced its strategic co-promotion services agreement with ASCEND Therapeutics® US, LLC.

06/10/2014—Announced the roll-out of a global resources optimization program as the Company pursues its strategy of transitioning into a commercially operating specialty biopharmaceutical company. Initiated earlier this year, the program's goal is to streamline R&D activities and increase commercial operations and flexibility.

06/02/2014—Announced a poster was presented on the design of its current ZoptEC (Zoptarelin doxorubicin in Endometrial Cancer) Phase 3 trial in women with advanced, recurrent, or metastatic endometrial cancer. The poster #TPS5630 titled, "ZoptEC: Phase 3 study of zoptarelin doxorubicin (AEZS-108) in platinum-taxane pretreated endometrial cancer (Study AEZS-108-050)", D. S. Miller, H. Gabra, G. Emons, D. S. McMeekin, A. M. Oza, S. M. Temkin, I. Vergote, was presented by lead investigator, David S. Miller, M.D., of the Univ. of Texas Southwestern Medical Center at the 50th Annual Meeting of the American Society of Clinical Oncology (ASCO) in Chicago.

05/12/2014—Announced that following its annual meeting of shareholders held on May 9, 2014, its Board of Directors appointed current President and CEO, David Dodd, as chairman of the Board, a decision that is in keeping with Aeterna's new strategy of transitioning from a research and development into a commercial company. The Board believes that with both roles being assumed by David Dodd, the decision-making process of the leadership will be more efficient, which should also accelerate the attainment of the Company's objective of becoming a commercial entity. To ensure that the Board of Directors will continue to act independently from management, Juergen Ernst, former chairman of the Board and an independent director, will assume the role of lead director.

05/09/2014—Announced that it has entered into an At Market Issuance (ATM) Sales Agreement, dated May 9, 2014, with MLV & Co. LLC (MLV), under which the Company may, at its discretion, from time to time during the term of the sales agreement, sell up to a maximum of 14,018,692 million of its common shares through ATM issuances on the NASDAQ Stock Market, up to an aggregate amount of US $15 million. MLV will act as sales agent for any sales made under the ATM. The common shares will be sold at market prices prevailing at the time of the sale of common shares, and prices may vary. In connection with the execution of the ATM Sales Agreement with MLV, the Company will file with the U.S. SEC a prospectus supplement to its shelf registration statement on Form F-3, which was declared effective by the SEC on March 28, 2014.

05/08/2014—Reported financial and operating results for the first quarter ended March 31, 2014. Revenues for the three-month period ended March 31, 2014 were nil compared to $6.1 million for the same period in 2013, which had resulted predominantly from the non-recurring, accelerated recognition of remaining unamortized deferred revenue related to an upfront payment received from a licensing partner following the termination of related R&D activities. R&D costs, net of refundable tax credits and grants, for the three-month period ended March 31, 2014 were $5.8 million, compared to $4.4 million for the same period in 2013. A substantial portion of the quarter-over-quarter increase in third-party R&D costs relates to development initiatives associated with zoptarelin doxorubicin, and in particular with the Company's Phase 3 ZoptEC trial initiated in 2013 with its partner, Ergomed Clinical Research Ltd. (Ergomed). Net (loss) income for the three-month period ended March 31, 2014 was $(4.4) million, or $(0.08) per basic and diluted share, compared to $1.9 million, or $0.07 per basic and diluted share, for the same period in 2013. This decrease in net income is due largely to lower revenues, higher operating expenses, and higher net loss from discontinued operations, partially offset by higher comparative net finance income. Cash and cash equivalents totaled $45.8 million as at March 31, 2014, compared to $43.2 million as at December 31, 2013.

05/05/2014—Announced that it has selected Charleston, South Carolina, as its new location for the Company's North American business and global commercial operations. Over the next five years, Aeterna is expected to implement a staff to support the areas of commercial operations, business development, regulatory and quality assurance, manufacturing management, clinical and product development, as well as various administrative functions. In conjunction with the Company's plans and commitment to this investment, the Coordinating Council for Economic Development of South Carolina has approved job development credits to Aeterna.

04/09/2014—Announced that a poster on AEZS-134, a highly potent and selective ATP competitive Erk inhibitor, provides rationale for new therapeutic opportunities in oncology with this compound. The poster, titled, "Erk Inhibition as a Therapeutic Option for the Treatment of Raf- and Mek- Inhibitor Resistant Tumors", I. Seipelt, P. Schmidt, H. Märzhäuser, M. Gerlach, K. Jung, T. Schuster and M. Teifel, was presented yesterday by Irene Seipelt, Ph. D., Director, Preclinical Development at Aeterna, during a poster session at the American Association for Cancer Research Annual Meeting in San Diego, California.

03/28/2014—Announced that its shelf registration statement on Form F-3 previously filed with the SEC has been declared effective. Under the shelf registration statement, the Company may offer and sell from time to time, in one or more public offerings in the U.S., up to $50 million of common shares in one or more "at-the-market" (ATM) distribution programs, during a 36-month period.

03/20/2014—Announced financial and operating results for the fourth quarter and the year ended December 31, 2013. Revenues for year ended December 31, 2013 were $6.2 million compared to $2.1 million for the same period in 2012. This increase is attributable to the accelerated recognition of deferred revenues. R&D costs, net of refundable tax credits and grants, for the three-month period ended December 31, 2013 were $5.3 million, compared to $5.5 million for the same period in 2012. R&D costs, net of refundable tax credits and grants, for the year ended December 31, 2013 were $21.3 million, compared to $20.6 million for the same period in 2012. Net loss for the three-month period ended December 31, 2013 was $8.2 million, or $0.22 per basic and diluted share, versus $6.9 million, or $0.29 per basic and diluted share, for the same period in 2012. Net income for the year ended December 31, 2013 was $6.8 million, or $0.24 per basic and diluted share, versus a net loss of $20.4 million, or $1.03 per basic and diluted share, for the same period in 2012. In January 2014, subsequent to year-end, the Company completed a public offering of 11.0 million units, generating net proceeds of about $12.2 million.

02/04/2014—Announced that an article on Phase 2 results for zoptarelin doxorubicin (AEZS-108) in endometrial cancer has been published in the February issue of the *International Journal of Gynecological Cancer*. Zoptarelin doxorubicin, is the Company's cytotoxic peptide conjugate which specifically targets luteinizing hormone-releasing hormone (LHRH) receptors. The article, "Efficacy and Safety of AEZS-108 (LHRH Agonist Linked to Doxorubicin) in Women With Advanced or Recurrent Endometrial Cancer Expressing LHRH Receptors: A Multicenter Phase 2 Trial (AGO-GYN5)", Emons G., Gorchev G., Harter P., Wimberger P., Stähle A., Hanker L., Hilpert F., Beckmann M.W., Dall P., Gründker C., Sindermann H., Sehouli J., outlines results of this study which had been previously presented at the European Society of Gynaecological Oncology's (ESGO) annual meeting in September 2011.

02/03/2014—Announced that presentations on two of its oncology compounds, zoptarelin doxorubicin (AEZS-108) and disorazol Z, were to be made during the 11th International Symposium on GnRH, in Salzburg, Austria, February 9 -11, 2014. The session was to be held on Tuesday, February 11, 2014, in Hall A of the Wyndham Hotel in Salzburg.

01/14/2014—Announced the closing of its previously announced public offering of 11.0 million units, generating net proceeds of approximately US$12.2 million, with each unit consisting of one common share and 0.8 of a warrant to purchase one common share, at a purchase price of US$1.20 per unit. Each warrant is exercisable for a period of five years at an exercise price of US$1.25 per share. Canaccord Genuity Inc. acted as the sole book-running manager, and Maxim Group LLC, H. C. Wainwright & Co., LLC and MLV & Co LLC acted as co-managers for the Offering.

Glossary

Adult Growth Hormone Deficiency (AGHD)—A condition that affects approximately 75,000 adults across the U.S., Canada, and Europe. Growth hormone not only plays an important role in growth from childhood to adulthood but also helps promote a hormonally-balanced health status. AGHD mostly results from damage to the pituitary gland. It is usually characterized by a reduction in bone mineral density, lean body mass, exercise capacity, and overall quality of life.

Bilateral Salpingo-Oophorectomy—The removal of an ovary together with the Fallopian tube is a salpingo-oophorectomy or unilateral salpingo-oophorectomy. When both ovaries and both Fallopian tubes are removed, it is a bilateral salpingo-oophorectomy.

Cancer Cachexia—Weakness and wasting of the body due to severe chronic illness.

Castration-resistant/Hormone-refractory Prostate Cancer—Disease progression despite androgen-deprivation therapy (ADT) and may present as one or any combination of a continuous rise in serum levels of prostate-specific antigen (PSA), progression of pre-existing disease, or appearance of new metastases.

Circulating Tumor Cells (CTC)—Cells that have shed into the vasculature from a primary tumor and circulate in the bloodstream.

Digital Rectal Exam (DRE)—An exam done to detect abnormalities that can be felt (palpated) from within the rectum. The doctor inserts a lubricated, gloved finger into the rectum and feels for anything that is not normal.

Dose-Limiting Toxicities (DLT)—Describes side effects of a drug or other treatment that are serious enough to prevent an increase in dose or level of that treatment.

Endometrial Cancer—Endometrial cancer is the most common malignancy of the female genital tract.

Epithelial Tissue—Epithelial tissue covers the whole surface of the body. It is made up of cells closely packed and ranged in one or more layers. This tissue is specialized to form the covering or lining of all internal and external body surfaces.

Epithelial Tumors—Cancer that begins in the cells that line an organ.

Germ Cell Tumors—Growths that form from reproductive cells. Tumors may be cancerous or noncancerous. Most germ cell tumors that are cancerous occur as cancer of the testicles in males (testicular cancer) or cancer of the ovaries in females (ovarian cancer).

Ghrelin Agonist—An agonist is a substance that initiates a physiological response when combined with a receptor, in this case for ghrelin, which is an enzyme produced by stomach lining cells that stimulates appetite.

Hatch-Waxman Act—Also called the Drug Price Competition and Patent Term Restoration Act of 1984, which is a U.S. federal law that provides incentives for the development of generic drugs. It allows drug-patent owners to regain the time lost on a patent's term while awaiting approval of the drug from the FDA.

Hysterectomy—A surgical operation to remove all or part of the uterus.

Luteinizing Hormone-Releasing Hormone (LHRH)—A hormone made by a part of the brain called the hypothalamus. Luteinizing hormone-releasing hormone causes the pituitary gland in the brain to make and secrete the hormones luteinizing hormone (LH) and follicle-stimulating hormone (FSH). In men, these hormones cause the testicles to make testosterone. In women, they cause the ovaries to make estrogen and progesterone. Also called GnRH, gonadotropin-releasing hormone, LH-RH, and LHRH.

Lymph Node Surgery—An operation to remove a lymph node, which is any of numerous bean-shaped masses of tissue, situated along the course of lymphatic vessels, that help to protect against infection by killing bacteria and neutralizing toxins and are the source of lymphocytes.

Maximum Tolerated Dose (MTD)—The highest dose of a drug or treatment that does not cause unacceptable side effects. The maximum tolerated dose is determined in clinical trials by testing increasing doses on different groups of people until the highest dose with acceptable side effects is found.

New Chemical Entities (NCEs)—A drug that contains no active moiety that has been approved by the FDA in any other application submitted under section 505(b) of the Federal Food, Drug, and Cosmetic Act.

Orphan Drug Designation—A program of the FDA that provides orphan status to drugs and biologics which are defined as those intended for the safe and effective treatment, diagnosis or prevention of rare diseases/disorders that affect fewer than 200,000 people in the U.S., or that affect more than 200,000 persons but are not expected to recover the costs of developing and marketing a treatment drug.

Orphan Medicinal Product Designation—Orphan Medicinal Product Designation is granted by the European Commission, subsequent to an initial opinion being made by the European Medicines Agency's (EMA's) Committee for Orphan Medicinal Products (COMP) that the product qualifies as an orphan medicinal product.

Prostate-Specific Antigen (PSA) Test—Used primarily to screen for prostate cancer. A PSA test measures the amount of prostate-specific antigen (PSA) in the blood. PSA is a protein produced in the prostate, a small gland that sits below a man's bladder.

Prostatic Intraepithelial Neoplasia—The formation of atypical epithelial cells in the prostate gland that are believed to be early precursors of adenocarcinoma.

RECIST—Response Evaluation Criteria In Solid Tumors (RECIST) is a set of published rules that define when tumors in cancer patients improve ("respond"), stay the same ("stabilize"), or worsen ("progress") during treatment.

Special Protocol Assessment (SPA)—A declaration from the FDA that an uncompleted Phase III trial's design, clinical endpoints, and statistical analyses are acceptable for FDA approval.

Stromal Tumors—Gastrointestinal stromal tumors (GISTs) may be malignant (cancer) or benign (not cancer). They are most common in the stomach and small intestine but may be found anywhere in or near the GI tract. Some scientists believe that GISTs begin in cells called interstitial cells of Cajal (ICC), in the wall of the GI tract.

Systemic—Pertaining to or affecting the body as a whole.

Transrectal Ultrasound—A procedure in which a probe that sends out high-energy sound waves is inserted into the rectum. The sound waves are bounced off internal tissues or organs and make echoes. The echoes form a picture of body tissue called a sonogram. Transrectal ultrasound is used to look for abnormalities in the rectum and nearby structures, including the prostate.

Watchful Waiting—An approach to a medical problem in which time is allowed to pass before medical intervention or therapy is used. During this time, repeated testing may be performed.

crystal research associates

Facts Without Fiction

EXECUTIVE INFORMATIONAL OVERVIEW®

About Our Firm: For the past decade, Crystal Research Associates, LLC (www.crystalra.com) has successfully articulated the exceptional stories of small- and mid-cap companies to the Wall Street investor community. Our methods are well-established and diverse, from compiling and disseminating objective, factual information for both institutional and retail investor audiences to capitalizing on our expansive line of targeted distribution channels, which include industry-leading financial data and information providers. Our distribution efforts are accompanied by the use of prominent social media channels and by strategic and targeted appearances on national news programs and print media.

Crystal Research Associates is led by Wall Street veterans, Jeffrey Kraws and Karen Goldfarb. Together, Kraws and Goldfarb have built a unique business model, capitalizing on decades of experience as an award-winning sell-side analyst team to produce institutional-quality industry and market research in a manner that is easily understood by investors and consumers. Our firm's approach has been proven successful over the years as our products are published and available on Bloomberg, Thomson Reuters/First Call, Capital IQ, FactSet, Yahoo! Finance, and scores of other popular forums.

Corporate Headquarters:
880 Third Avenue, 6th Floor
New York, NY 10022
Office: (212) 851-6685
Fax: (609) 395-9339

Satellite Office Location:
2500 Quantum Lakes Drive, Ste. 203
Boynton Beach, FL 33426
Office: (561) 853-2234
Fax: (561) 853-2246