# Epidarex Capital II Interim Review

# Appraisal and Evaluation Team Scottish Enterprise

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# Epidarex<sup>1</sup> Capital II Interim Review

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<sup>&</sup>lt;sup>1</sup> The name Epidarex is derived from Epidaurus a healing centre in Ancient Greece said to be the birthplace of Apollo's son Asclepius the healer.

# **Executive Summary**

- **A.** In 2013 Scottish Enterprise, through the then Scottish Investment Bank (SIB), became a Limited Partner in the Epidarex II Life Sciences Investment Fund. The Fund invests in Life Sciences companies with an emphasis on those spun-out from universities or research institutions.
- **B.** The Fund was initiated by an American fund manager, Rock Spring Ventures, in 2012. Rock Spring had considerable experience of making early stage investments in Life Sciences companies and its key principal, who was Scottish, relocated to Scotland to set up and lead the Fund.
- **C.** At the Close (2014) the Fund had raised £47.5 million from a range of Partner investors with SIB investing £5 million (10.1% of the total funds raised). The European Investment Fund (EIF) was the lead investor (£8.2 million). Universities, through their endowment funds, contributed £8 million (17%). Of this £6.5 million came from Scottish universities.
- **D.** The view of the Fund Manager was that an average time to exit from these companies, by a trade sale, was 6 or more years. As such the Review did not try to assess economic impacts arising from the investments as it was too early, especially when, to date, there had been no exits. The emphasis was therefore upon assessing administration, management and progress to date.
- E. Investment decisions and Fund management are the responsibility of the Epidarex Team with no involvement of the Partners. There is a Team of 11, 9 of whom are based in the United Kingdom, 7 in Edinburgh. The Team has a background in investment and Life Sciences. Use is also made of consultants who have specialist technical skills. Once it is decided to invest in a company then the money is drawn down from the Partners on a proportionate basis so that all Partners have investments in all the investees, regardless of their location.
- **F.** As at June 2019 the Fund had invested £33.685 million in 12 companies. Of these 6 were Scottish based, 4 in England and 2 in Germany. Of the invested funds:-
  - 47% are in Scottish based companies (50% of the investees);
  - 37% in English based ones (33% of the investees); and
  - The 16% balance in 2 German companies (17% of the investees).
- **G.** Although there have been no exits from the Fund, offers have been made for 2 of the companies. These were rejected as it was felt that keeping the investments was likely to produce a greater return for the Partners.
- H. SIB's objectives for the Fund, as set out in the 2013 Approval Paper, were to:-
  - Help set up a Life Sciences investor based in Scotland;
  - Provide a specialist source of investment for Scottish Life Sciences companies; and
  - Encourage more Venture Capitalists, and other international investors, to invest in Scotland.
- **I.** Overlapping, and additional to these, the Key Project Outcomes and Impacts against which performance was to be monitored were to:-
  - Make investments in 8 Scottish based Life Sciences SMEs;
  - Invest more than 60% of funds in Scottish Life Sciences SMEs;
  - Lever more than 3-times its investment from non-SE sources; and
  - Achieve a gross Internal Rate of Return (IRR) in excess of 16% and the Fund returns to exceed the 6% hurdle rate.
- **J**. Table 1 summarises progress against the objectives and measures. When assessed against the measurable metrics to date, progress in delivering against objectives is good.

TABLE 1

#### **Progress Against Objectives and Measures**

| Objective/measure                 | Progress                            | Comment                               |
|-----------------------------------|-------------------------------------|---------------------------------------|
| Set up a Scottish based Life      | Attained.                           | Epidarex is based in Edinburgh and    |
| Sciences investor.                |                                     | the fact that it is in the process of |
|                                   |                                     | setting up Fund III indicates that    |
|                                   |                                     | it is embedded in Scotland.           |
| To provide a specialist source of | Attained.                           | Of the 6 Scottish investees 5 have    |
| investment for Scottish Life      |                                     | received support from other SIB       |
| Sciences companies that could     |                                     | Funds totalling £7.6 million.         |
| be supported by other SIB funds.  |                                     |                                       |
| To encourage other Venture        | Ongoing.                            | The 6 Scottish based companies        |
| Capitalists and other             |                                     | have received funding from other      |
| international investors to invest |                                     | investors including Biogeneration     |
| in Scotland.                      |                                     | Capital, Sifinnova Partners and       |
|                                   |                                     | Sixth Element Capital.                |
| To invest in 8 Scottish -based    | Partial.                            | 6 Scottish companies invested in.     |
| Life Science SME.                 |                                     |                                       |
| To invest more than 60% of the    | Ongoing: 47% at initial investment. | Of SE's £5 million, £0.614 million    |
| Fund in Scottish Life Sciences    | As of June 2019, £6.1 million was   | has still to be drawn down. Were      |
| SMEs.                             | still to be drawn down.             | all the Fund's uninvested £6.1        |
|                                   |                                     | million to be invested in the 6       |
|                                   |                                     | Scottish companies then the 60%       |
|                                   |                                     | target would be met.                  |
| The Fund to lever 3 times its     | UNCLEAR.                            |                                       |
| investment from non-SE            |                                     |                                       |
| sources.                          |                                     |                                       |
| Gross IIR to exceed 16% and       | Impossible to know as no exits      | Fair value indicates a return on      |
| Fund returns to exceed 6%         | have been made.                     | investment to date (June 2019) of     |
| hurdle rate.                      |                                     | 30%. Epidarex views this as           |
|                                   |                                     | conservative.                         |

- K. The view of the Limited Partners was that the Fund was well run and managed. Key positives were:-
  - Responsiveness to questions and general "approachability" of the Epidarex team;
  - The information provided, with the Quarterly reports and the 6-monthly meetings being cited;
  - The technical and financial expertise of the Team;
  - The pro-activity of the Team, in searching for investment opportunities and in managing the existing ones:
  - The Team was felt to be politically aware and responded appropriately to local circumstances; and
  - The contacts that the Team had in both the investment and Life Sciences communities.
- L. Without Epidarex would the 6 companies based in Scotland have been funded? The counter-factual is invariably difficult to evidence. However, the companies were broadly of the view that without the Fund it was unlikely that they would have started.
- **M.** The overwhelming view of the interviewees was that the setting up of Epidarex had had a positive effect on the Scottish funding environment for start-up Life Sciences companies. This reflected such things as the existence of a Scottish-based fund, Scottish companies supported through the Fund being able to lever additional support from other Life Science funds (especially European ones) and the willingness of Epidarex's staff to use their contacts and expertise for the benefit of Scottish Life Science community.
- **N.** The economic development impact of the Fund, although not specified in detail in the Approval Paper, seems likely to be more tenuous. However, this reflects the nature of investing in Life Sciences companies rather than any faults of the Fund or its management. The benefits to date arise from the employment of the estimated

29 Full Time Equivalent staff in the 6 Scottish based companies. Whether there will be more significant long-term benefits will reflect the nature of the exits from the Fund. The worst-case scenario may be that the IP leaves Scotland and the only benefits will be the short-term ones arising from the jobs. The wider issue is what can the public sector do to try to anchor Life Sciences start-ups in Scotland.

- **O**. The long-term nature of this type of investment and the lack of any guarantee, even if the companies achieve a successful exit, that there will be economic development gains for Scotland raises several questions for public sector investors. A key one relates to the opportunity costs at a time when the focus is increasingly upon job creation and inclusive growth. Recommendations were therefore that:-
  - A debate could be held about the **suitability of public bodies investing in Life Sciences companies** given that the economic development benefits may be uncertain and the opportunity costs considerable;
  - If this type of investment is felt to be suitable, then thought should be given to what can be done to try to embed these companies in the economy. A key area may be to capture manufacturing activity;
  - Can more be done to develop Scotland's people resources so that it is not necessary to go elsewhere to find the type of skill and experience sets that can drive Life Science companies forward?;
  - Scotland's universities vary considerably in the resources they put into encouraging spin-outs and the
    approach that is taken to this. There may be greater potential than is currently being realised. There may
    be merit in reviewing current practices across the sector; and
  - It might be useful to review the funding landscape in Scotland and elsewhere for start-up Life Science companies. Such a review might indicate what needs to be done to develop a more sustainable funding environment.
- P. The Review identified several Good Practices that might have wider applicability:-
  - When setting up an investment fund that is to draw in other partners it is desirable to secure an "anchor" investor at an early stage. This will then be an effective way of levering in other investors;
  - When funding high risk ventures, it would seem sensible if this was **done in a syndicated way** that spreads the risks and returns;
  - To stimulate spin-outs from universities and similar institutions there is a need to be pro-active;
  - This pro-activity needs to be backed up by technical and financial knowledge; and
  - The key to success, when entering syndicated investment funds, seems to be to select a lead that has the contacts and credibility in the wider industrial and financial communities.

#### 1. Introduction

- 1. In 2013 Scottish Enterprise, through the Scottish Investment Bank (SIB), became a Limited Partner in the Epidarex II Life Sciences investment Fund in which it invested £5 million. As part of the investment approval paper it was agreed that there would be an Interim Review of progress as is normal good practice. A third Fund, Epidarex III, is now being set up. SE may invest in this. Accordingly, this Review will inform this decision.
- 2. The Fund invests in Life Sciences companies with an emphasis on those spun-out from universities or research institutions. The view of the Fund manager is that an average time to exit from these companies, by a trade sale, is 6 or more years. Other interviewees felt that 8 years was a more realistic average. As such this Review is not looking to identify the economic impacts arising from the investments as it is too early to do this, especially when, to date, there have been no exits. The emphasis is upon assessing administration, management and progress to date.
- 3. The approach used has been to:-
  - Review a range of documentation, especially the Quarterly Limited Partners' reports;
  - Do some analysis of data on the investees, provided by Epidarex; and
  - Undertake a range of interviews with Epidarex, the Partners and the investee companies. Appendix 1 lists the interviewees.
- **4.** However, the starting point is to draw on the interviews to make some general points about investing in Life Sciences companies as this sets the wider context for the remainder of the report.

#### **Investing in Life Sciences Companies**

- **5.** To date the Fund has had no exits although apparently there has been interest in 2 of the companies. This was rebuffed as it was felt that there would be greater financial gains if the investments were retained.
- 6. The absence of exits was not a concern for any of the interviewees. The general view was that the average time to exit from a Life Sciences start-up was 8 years. This was confirmed in the company interviews with some talking about a 6-year time to exit, others as long as 10. Such an exit was likely to be:-
  - At a time when the company had successfully gone through clinical trials and had probably gained regulatory approval but was not trading so that it was likely to be pre-revenue;
  - Through a sale to one of the large pharmaceutical companies that had established sales and marketing networks;
  - It was unlikely that there would be manufacturing in Scotland. Indeed at least one of the Epidarex investee companies was already having its product made outwith Scotland; and
  - Might result in the company and its IP being relocated, with North America being the most likely location given that this is the largest market. An alternative view was that, although manufacturing was unlikely to be done in Scotland, the research staff were likely to remain giving the potential for further scientific developments that might have commercial potential. This seems to be part of SE's rationale for supporting the sector although it was felt that the ability to influence this was perhaps limited.
- 7. The route to an exit was, however, not guaranteed as is indeed the case for all early stage investments. Life Science investment was being additionally risky for several reasons:-
  - Clinical trials might prove to be inconclusive or fail;
  - Regulatory approval might not be gained;
  - The length of time to develop the drug or treatment might mean that others entered the market with a similar product; and
  - Despite a product gaining approval, it might not be seen as sufficiently commercially attractive to a trade buyer.

These additional risks are one of the reasons why there are investors who specialise in this sector.

- **8.** All these factors mean that investments could be lost. Although no attempt was made to undertake a detailed quantification of investment performance, there was a view that for every dozen investments:-
  - At least one would be exceptionally successful, returning the value of the investment many times over;
  - This would be offset by 3 or 4 that would fail, although one interviewee felt that a 50% failure rate was not exceptional in this area;
  - Another 3 or 4 would do well and more than cover the investment costs; and
  - The remainder would just about cover the investment costs.

These statistics are not dissimilar to those reported in other evaluations of investment funds. For example, an Interim Review of the Co-Investment and Venture Funds<sup>2</sup> reported that 10% of investments would achieve significant returns whilst 30% would show losses.

- **9.** It is too early to say if the Epidarex Fund will replicate this pattern. If it is exceptional in any way, it is as there have been no failures to date, something that several interviewees commented upon. At least one interviewee used this to question if Epidarex was risk averse. However, the general view was that this reflected the diligence undertaken prior to investing and the very hands-on role that the investment Team subsequently played.
- **10.** There are several implications for the above trajectory from initial investment to exit. For investors in Life Sciences start-ups:-
  - There is a need to be able to provide the funding to take the company to exit. This generally means an ability to invest for a long time, perhaps 10 years or more;
  - There is a need to be able to follow-on initial investments through several funding rounds that may require substantial investments. One interviewee spoke about the need to spend as much as £30 to £40 million to achieve an exit and was still an investor in one company 12 years after the initial investment was made;
  - Investors need to be able to withstand losses, possibly at quite a late development stage involving significant write-offs; and
  - To be able to cover these losses, there is a need to invest in a portfolio of companies, given the inability, even for those with many years' experience of investing in Life Sciences companies, to pick winners.

These implications mean that Life Sciences investment is not something that is likely to be suitable for individual Angels nor for any but the larger Angel syndicates. Indeed at least one of the Angel interviewees indicated that its Life Sciences portfolio was now smaller than it had been. This was mainly in recognition of the above factors.

- 11. It may also be that there are differences between investing in companies that are developing medical devices and those involved in drug discovery, with regulatory approval for the former being likely to be quicker so that this type of investment may be more suited to Angels. However, the interviews did not find any unanimity on this with some arguing that approval for medical devices could be equally lengthy.
- 12. The specialised nature of Life Sciences investment is important to bear in mind when reading the remainder of this report. This also has implications for public bodies such as SE. This is developed further in the conclusions.

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 $<sup>^2\ \</sup>underline{\text{http://www.evaluationsonline.org.uk/evaluations/Search.do?ui=basic\&action=show\&id=660}}$ 

#### 2. The Fund

- 13. Epidarex Capital II is a Scottish based Limited Partnership, set up in January 2013 with a final close in April 2014, to invest in Life Sciences companies. The Fund was initiated by an American Fund manager, Rock Spring Ventures, in 2012. Rock Spring had considerable experience of making early stage investments in Life Sciences companies and its key principal, who was Scottish, relocated to Scotland to set up and lead the Fund.
- 14. There was a track record in that Epidarex I, a European fund, had invested in Life Sciences companies and had achieved some profitable exits. This gave potential investors in II confidence in the Team's ability to achieve returns. Epidarex III is currently being set up with the British Business Bank (BBB) as the lead investor. To date (November 2019) 2 of the Partners in II have agreed to invest in III (£15 million in total). Others are, at the time of writing, actively considering doing so.
- **15.** At the Close (2014) Fund II had raised £47.5 million from a range of investors with the Scottish Investment Bank investing £5 million (10.1% of the total funds raised). Of the funders:-
  - The largest funder is an American based Life Sciences and pharmaceuticals company;
  - The European Investment Fund (EIF) is the second largest funder and was the lead investor; and
  - Universities, through their endowment funds, contributed £8 million (17%). Of this £6.5 million came from Scottish universities.
- 16. SIB was approached by Rock Spring to invest. The lead investor, EIF, made SE's investment a condition of its involvement. It was also the case that the other first Close investors at the time made their investments cross-conditional on one another. Thus, had SE not invested then the Fund might not have been established or would have taken longer to set up. The attraction of an American Life Sciences company was also significant in that it gave the others confidence. Interviews with the smaller Limited Partners indicated that the presence of these players was a key factor in their decision to invest.
- 17. What was seen as the Fund's Scottish focus was important for the Partners based in Scotland. If this geographical bias had not been an element of the Fund, then the Scottish Universities and other Scottish-based funders might have been less willing to invest.
- **18.** As a Limited Partnership there are 13 Limited Partners and one General Partner. The Fund's activities are overseen by a Limited Partner Committee of 5 of the partners, with Scottish Enterprise being one of these. However, the Committee does not act like a Board of Directors in that it has no executive power. It is purely advisory. It meets every 6 months and receives regular reports on investment progress.
- 19. Investment decisions and Fund management are the responsibility of the Epidarex Team with no involvement of the Partners. There is a Team of 11, 9 of whom are based in the United Kingdom, 7 in Edinburgh. The Team has a background in investment and life sciences. Use is also made of consultants who have specialist technical skills. Once it is decided to invest in a company then the money is drawn down from the Partners on a proportionate basis so that all Partners have investments in all the investees, regardless of their location.
- **20.** The SE Approval Paper stated that the Fund was to invest at least 60% of its money in Scottish based companies with no more than 15% being invested in any one company. However, it seems likely that the 60% criterion is more a "best endeavours" clause than anything that has any legal force.
- **21.** As Limited Partnership the Fund has a 10-year life which can be extended for up to a further 2. Accordingly, it will run until 2023 or 2025.

#### The Investees and Performance

22. As at June 2019 the Fund had invested £33.685 million in 12 companies (Table 2). Of these 6 are Scottish based, 4 in England and 2 in Germany. Of the English based companies, one is listed by Epidarex as being based in Scotland/England. Initially it was headquartered in Edinburgh. However, it seems to have its UK headquarters

in Cambridge where its partner research company is based, despite the Limited Partner reports for June stating that it is Edinburgh based. Accordingly, for the purposes of this report it is treated as if it is based in England.

- 23. Of the invested funds:-
  - 47% are in Scottish based companies (50% of the investees);
  - 37% in English based ones (33% of the investees); and
  - The 16% balance in 2 German companies (17% of the investees).
- **24.** Of the 6 Scottish companies, 5 have received additional SE support mainly through the Scottish Co-Investment Fund (SCF) II. These 5 companies have received £6,593,607 through SCF and a total of £7,631,607 through SIB The balance, of £1,038,00 has mainly come through the Scottish Venture Fund. This £7,631,607 is in addition to the money received through Epidarex.

TABLE 2 Epidarex II Investees – by Geography and Date of First Investment

| Α                  | В                                    | С                      | D                                       | E  | F                        |
|--------------------|--------------------------------------|------------------------|---|--|--------------------------|
| Company            | Type<br>(Epidarex<br>categorisation) | Epidarex<br>Investment | Fair value <sup>1</sup> at<br>June 2019 | Fair value <sup>1</sup> as a percentage of initial investment (Column D/C) | Date of first investment |
|                    |                                      | Scottish based         | Companies                               |  |                          |
| Α                  | Spin-out                             | £3.296 m               | £3.330 m                                | +1%  | January 2014             |
| В                  | Early stage                          | £2.437 m               | £2.559 m                                | +5%  | November<br>2014         |
| С                  | Early stage                          | £1.767 m               | £1.815 m                                | +3%  | March 2015               |
| D                  | Spin-out                             | £2.825 m               | £2.417 m                                | -14%   | October 2015             |
| E                  | Spin-out                             | £3.167 m               | £3.210 m                                | +1%  | May 2016                 |
| F                  | Seed                                 | £2.375 m               | £5.895 m                                | +148%  | March 2017               |
| TOTAL              | N/A                                  | £15.867 m              | £19.226 m                               | +21%   | N/A                      |
|                    |                                      | English                | Based                                   |  |                          |
| G                  | Seed                                 | £4.647 m               | £5.872 m                                | +26%   | December<br>2014         |
| Н                  | Seed                                 | £4.625                 | £9.091 m                                | +97%   | July 2016                |
| I                  | Spin-out                             | £2.350                 | £2.350 m                                | 0%   | February<br>2017         |
| J                  | Seed                                 | £0.750 m               | £0.750 m                                | 0%   | July 2017                |
| TOTAL              | N/A                                  | £12.372 m              | £18.063 m                               | +46%   | N/A                      |
| Overseas (Germany) |                                      |                        |   |  |                          |
| K                  | Spin-out                             | £2.505 m               | £3.231 m                                | +29%   | March 2016               |
| L                  | Early stage                          | £2.941 m               | £3.319 m                                | +13%   | December<br>2016         |
| TOTAL              | N/A                                  | £5.446 m               | £6.550 m                                | +20%   | N/A                      |
| OVERALL<br>TOTAL   | N/A                                  | £33.685 m              | £43.839                                 | +30%   | N/A                      |

Note:-

25. In analysing the performance of the Fund, based on the information in Table 2, it needs to be stressed that the small number of investments (12 in total) means that any analysis needs to be treated with a degree of caution given both the long-term nature of the investments and the small number of cases, some of which may be atypical.

<sup>1.</sup> The Fair Value of the investments is based on the International Private Equity and Venture Capital (IPEVC) Valuation Guidelines which are the industry standard.

#### **26.** Accepting these caveats:-

- 2 of the investments are producing a return on the "fair value" of almost 100% or more: one Scottish and one English;
- At the other extreme 6 are showing a return of 5% or less;
- 1 is showing a decline in value compared with the investment;
- The average return on "fair value" is 30%, the median is 4%;
- Although it could be argued that the English companies are, on average, outperforming the Scottish ones, the English figures are skewed by the 97% return on one;
- The investments have been made at varying times, the earliest in January 2014. The yields were correlated with the time that the investment had been held (in months). If yields were directly related to the time the investment had been held then a correlation of near +1 would be expected. A value of -0.344 was found showing that there is a weak negative correlation between yields and the time held. It therefore seems that the longer an investment is held then the lower the return. If the raw data is examined there is some evidence to back this up: for example, the earliest investment is showing a 1% return. However, the main reason for this finding is that the 2 highest performing investments were made relatively recently. If they are removed then the correlation coefficient is 0.062, indicating that there is no relationship between the time an investment is held and the "fair value". This may reflect the fact that all the companies are unique, pursuing unique solutions to unique problems so that they all follow different growth trajectories; and
- If the types of companies are considered, then it seems that the spin-outs are generally not performing
  as well as the other categories which may reflect their being at an earlier stage of development. However,
  the definition of the classification used by Epidarex is not clear so it may be unwise to make too much of
  this apparent difference.

It is also the case that the Fair Value calculation is felt, by Epidarex, to be a very conservative valuation. As such the figures in Table 2 may underestimate the returns on the investments.

- **27.** To date there have been no exits from the Fund. However, offers have been made for 2 of the companies. These were rejected as it was felt that keeping the investments was likely to produce a greater return for the Partners. These offers were evidenced, and the Partners interviewed all seemed to be happy with this decision.
- 28. Table 3 looks at the average investments and yields to date by geography:-
  - The average investment over the portfolio is £2.8 million, with the Scottish investees averaging 5% below this, the English 10% above;
  - This pattern is repeated across the other metrics, with the English "fair value" being 24% above the portfolio average and the Scottish 12% below;
  - The "Fair Value" to Cost ratio is 12% above the average for the portfolio for the English companies and 7% below for the Scottish; and
  - Interestingly the Scottish investments have been held for 5 months longer than the portfolio average.

TABLE 3

### **Metrics by Geography**

| Α                        | В                     | С                     | D  | E                                   |
|--------------------------|-----------------------|-----------------------|--|-------------------------------------|
| Geography                | Average<br>Investment | Average Fair<br>Value | Fair Value/Cost –<br>June 2019<br>(Column C/B) | Average Age of Investments (Months) |
| Scottish                 | £2.653 m              | £3.204 m              | 1.21   | 49                                  |
| Deviation from portfolio | -5%                   | -12%                  | -7%  | +11%                                |
| English                  | £3.093 m              | £4.516 m              | 1.46   | 38                                  |
| Deviation from portfolio | +10%                  | +24%                  | +12%   | -13%                                |
| Overseas (German)        | £2.723 m              | £3.275 m              | 1.20   | 38                                  |
| Deviation from portfolio | -3%                   | -10%                  | -8%  | -13%                                |
| Portfolio                | £2.807 m              | £3.653 m              | 1.30   | 44                                  |

29. Why there are these differences is hard to know, although 3 of the Scottish investments are spin-outs that may take longer to show returns than those that are described as Early Stage or Seed (Paragraph 26 final bullet point). This would seem to merit further examination as if it is felt that Scottish Life Sciences companies are likely to perform worse than English or European ones, then there may be a danger that this may skew investment decisions in Fund III.

# 3. SIB's Objectives and Fund Performance Against Them

- 30. SIB's objectives for the Fund, as set out in the 2013 Approval Paper, were to:-
  - Help establish a life sciences investor based in Scotland;
  - Provide a specialist source of investment for Scottish Life Sciences companies that could be supported in conjunction with other SIB funds; and
  - Encourage more Venture Capitalists, and other international investors, to invest in Scotland.
- **31.** Overlapping, and additional to these, the Key Project Outcomes and Impacts against which performance was to be monitored were:-
  - Investments in 8 Scottish based Life Sciences SMEs:
  - To invest more than 60% of funds in Scottish Life Sciences SMEs;
  - The Fund to leverage more than 3-times its investment from non-SE sources; and
  - The Gross Fund Internal rate of return to exceed 16% and the Fund returns to exceed the 6% hurdle rate. Given that the Fund is still operational, and no exits have been made, this is a measure that is not yet able to be assessed.

Although these Outcomes were no doubt instrumental in influencing SE's investment decision, it seems doubtful if SE could have taken any action if the Fund had not met them.

- 32. In addition, the Approval Paper, although it contained no detailed economic case, estimated that, based on the then Fund size of £27 million of which 60% was to be invested in Scotland, this would create:-
  - 120 gross jobs; and
  - o £24.7 million of GVA a year.

On a *pro rata* basis, given that the Fund raised £47.5 million at Final Close, this would imply 211 jobs and annual GVA of £43.5 million. However, given that the investments are all pre-commercial, an attempt to assess GVA and jobs now is premature.

- **33.** Table 4 brings those objectives and measures together and attempts to assess progress to date.
- 34. Six years into the Fund what can be said about progress? It seems sensible not to get too concerned about the apparent failure to reach some of the numeric targets, for example investing in 8 Scottish based companies that account for 60% of the Fund. It seems likely that these were best estimates at the time when there was perhaps limited experience upon which to base quantitative targets. There would be legitimate concern if no investments had been made in Scotland. This is far from being the case. Accordingly, based on the measurable metrics to date, progress in delivering against objectives is good.
- **35**. Epidarex's track record in delivering returns (based on Fund I) seems good so that there must be a strong probability that the Fund will deliver good financial returns.
- 36. The economic returns (for example GVA and jobs) are further away as is to be expected when investing in this sector where the route to commercialisation is lengthy. When exits start to be made then it might be possible to estimate the economic returns. However, we need to be aware that the Fund's business model, based on trade sales when a product is on the brink of being commercialised, may mean that even then the economic development returns (as distinct from the Fund's commercial/financial returns) may be limited (see Paragraphs 5 to 12). There may also be issues with trying to track investment impacts, given potential ownership changes as well as the possibility that activity moves out of Scotland. Accordingly, we need to be aware that assessing the Fund's commercial performance is likely to be relatively easy to do. Assessing its economic development impact may be challenging. This is looked at in more detail below (Paragraphs 53 to 55).

#### **TABLE 4**

#### **Objective and Measure Attainment**

| Objective/measure   | Progress  | Comment   |
|---|---|---|
| Set up a Scottish based Life Sciences investor.   | Attained.   | Epidarex is based in Edinburgh and the fact that it is setting up Fund III would seem to indicate that it is embedded in Scotland.  |
| To provide a specialist source of investment for Scottish Life Sciences companies that could be supported by other SIB funds. | Attained.   | Of the 6 Scottish investees 5 have received support from other SIB Funds totalling £7.6 million.  |
| To encourage other Venture capitalists and other international investors to invest in Scotland.                               | Ongoing.  | The 6 Scottish based companies have received investments from other investors including Biogeneration Capital, Sifinnova Partners and Sixth Element Capital.  |
| Invest in 8 Scottish -based Life Science SME.   | Partial.  | 6 Scottish companies invested in. A further company is registered in Scotland but seems to have no operational presence here.   |
| To invest more than 60% of the Fund in Scottish Life Sciences SMEs.   | Ongoing: 47% at initial investment. As of June 2019, £6.1 million was still to be drawn down. | Of SE's £5 million, £0.614 million has still to be drawn down. Were all the Fund's uninvested £6.1 million to be invested in the 6 Scottish companies then the 60% target would be met. However, this seems unlikely to happen so that the target will not be attained. |
| The Fund to lever 3 times its investment from non-SE sources.   | TO BE CONFIRMED   |   |
| Gross IIR to exceed 16% and Fund returns to exceed 6% hurdle rate.  | Impossible to know as no exits have been made yet.  | Fair value indicates a return on investment to date (June 2019) of 30% although this is a very crude measure of achievement which is felt to be conservative.   |

- **37.** If there is a concern it may be about the extent to which the Fund has been able to attract other Life Sciences investors to Scotland. As can be seen from Table 5:-
  - The English and German companies seem to have been very effective in attracting private sector investment and, as far as can be ascertained, none of them have attracted public funds other than those that have come through the Limited Partners; and
  - Of the 6 Scottish companies, as already mentioned (Paragraph 24), 5 have received additional support from SE through the Co-Investment and Venture Funds. Of these 5, 3 have only received additional funding from these sources. Of the 3 companies that have received other investments one is through a Limited Partner whilst another is through a Scottish university. Accordingly, the extent to which the Scottish companies have been able to attract private sector (as opposed to public) investment seems more limited than for the companies based elsewhere.

#### TABLE 5

#### Investors in the Epidarex II Portfolio

| Geography           | Number of other public sector investments                   | Number of other private sector investments <sup>1</sup>  |
|---------------------|---|--|
| Scottish companies. | 5 (Scottish Co-Investment Fund), 5 (Scottish Venture Fund). | 5 <sup>2</sup> (Biogeneration Capital, GU Holdings Ltd, Sixth Element Capital, Sofinnova Partners, University of Strathclyde).   |
| English companies.  | None as far as can be seen.                                 | 10 (Alsa Holdings, AM Ventures, Forbion, F-Prime Partners, Novartis Venture Fund, Sofinnova Partners, Sofiinova Capital VIII, Touchstone Innovations (now part of the IP Group), UCL Technology Fund, Versant Ventures). |
| German companies.   | None as far as can be seen.                                 | 6 (Boehringer Ingelheim Ventures,<br>EMBL Ventures, Evotec AG (2),<br>GIMV, VC Fonds Technologie).   |

#### Note:-

- 1. See Appendix 2 for brief details of the private sector investors.
- 2. Epidarex feels that this number is an underestimate of the number of non-Scottish based Venture Capitalists that have invested in Scottish companies.
- **38.** Why Scottish based companies should have attracted less private sector support than companies based elsewhere is hard to know. Several explanations can be advanced:-
  - There are limited venture and other funders in Scotland interested in investing in Life Sciences companies so that, on this criterion, Epidarex has achieved limited success in stimulating the market;
  - The existence of SIB means that this is seen as an easier option for securing funding than approaching the private sector; and
  - Outside of Scotland there are few public sector sources of Life Science investment capital so that companies are forced to approach private funders.

Undoubtedly other reasons can be advanced, in particular the difficulty in persuading Life Sciences investors based in the South East to consider investments in Scotland. This might, however, mean that should the Scotlish investees need significant amounts of capital in the future then, if this exceeds SIB's resources (or those of the Scotlish National Investment Bank), they may struggle to find support. The challenge for Scotland would seem to be to attract these investors to consider Scotland as an investment location. Epidarex is the potential magnet for this although it may require a longer track record before it can overcome this investment inertia.

- **39.** The way the Fund is set up, with the Partners making investments on a *pro rata* basis in all investees regardless of location, could cause reputational issues for SE should some of the investees based outwith Scotland fail. This is not to argue against the Fund's model in any way. Yet this would seem to be something that there is a need to be aware of.
- **40.** As far as can be ascertained the Fund seems to be performing well in that it is attaining the various objectives and Outcomes that were set when SE became a partner. The report now draws together the views of the various interviewees to look at how it is run.

# 4. The Fund - Administration and Management

- 41. One of the interesting things to emerge from the interviews (with Partners, investees and various stakeholders) was a considerable degree of unanimity which is quite surprising in any project review. There was a general opinion that the Fund was well managed and run and that it was delivering a significant amount of additionality, of various types, to the Life Sciences sector in Scotland. Although there were some criticisms these had either now been resolved or were made by one or two interviewees. As such, the issues that emerge have less to do with the Fund specifically and more with wider issues relating to economic development in Scotland.
- **42.** This section is structured as follows:-
  - Views of the way the Fund was managed and delivered;
  - Company leadership;
  - The additionality of the Fund; and
  - Its economic impact.

#### **Management and Delivery**

- 43. The view of the Limited Partners was that the Fund was well run and managed. Key positives were:-
  - Responsiveness to questions and general "approachability" of the Epidarex team;
  - The information provided, with the Quarterly reports and the 6-monthly meetings where the investees made presentations being cited;
  - The technical and financial expertise of the investment Team;
  - The perceived pro-activity of the Team not only in searching for investment opportunities (for example by doing such things as tracking research grant awards) but in managing the existing ones;
  - The fact that the Team is felt to be politically aware and therefore responds in an appropriate way to local circumstances; and
  - The contacts that the Team had in both the investment and Life Sciences communities. To some this was the key benefit which would be "impossible to replicate".

However, it is worth mentioning that at least one interviewee believed the responsiveness and quality of information had not been there from the start. This had only been forthcoming after requests to improve the quality and quantity of information.

- 44. The view of the Fund from the investees was also positive. There were a number of elements to this:-
  - The presence of Fund representatives on the company's board. A number commented that they brought a mix of scientific and commercial skills, especially funding and strategy development. These were often from different people who complemented one another. The Fund was felt to be a hands-on investor but did not try to micro-manage being content to leave this to company management;
  - The contacts that the Fund had, and which were used to benefit the company; and
  - The responsiveness of the Team and its willingness to provide support as needed.
- 45. The" model", that emerges is one where initially the Fund, through its Board members, was very involved with the companies: "very hands-on". However, as confidence in the company grew it became less involved. As one interviewee said; "you have to look after babies more than you do teenagers". The Fund then became less involved, resulting in one company CEO saying that it was "one of the best investors I've worked with". It therefore seems as if involvement is proportionate: in the early stages there is a lot more attention paid to the detail but as trust grows then it takes more of a back seat. However, at least one commented that if things were not going too well then the Epidarex Board members would be very questioning.
- **46**. The only criticism made by more than one of the investees was that in the early days of the Fund there were too few staff. This meant that decision making was slow which caused some frustrations. However, this has

now been resolved. Another critical comment, made by one investee, related to there being 2 board members. This made management more difficult. However, others commented that having 2 members brought complementary skills to the board which were invariably valued.

#### **Company Leadership**

- 47. One of the interesting findings from the company interviews was that the Chief Executive Officers (or their equivalents) who were interviewed were rarely based in Scotland. In most instances they had been approached by Epidarex to run the company having already known senior Epidarex staff. Most had considerable experience, both in the Life Sciences industry (several having run their own companies) and in raising investments. Often, they were running the companies on a part-time basis, visiting Scotland for board meetings and other key events. It was pointed out by several interviewees that this type of model was not unique: quite often investors would bring in senior staff to augment or replace management teams if they felt there were deficiencies.
- **48.** When this was explored in interviews what emerged was that there seemed to be a dearth of people in Scotland with ambition who could present a coherent funding proposal that would be convincing to investors. As one said; "there is a people not a funding gap". This has been confirmed by research that SE commissioned that was critical of the commercial leads in technology start-ups. The view was that there was limited leadership talent and those who were competent had lots of choices. Relocation to Scotland was therefore not something that could be insisted upon.
- 49. At least one interviewee believed there was no shortage of funds for Life Sciences start-ups and university spin-outs in Scotland. The view was that "good projects get funds". It was argued that the fact that people complained about the inability to obtain funding reflected the fact that they were unwilling to look elsewhere and, perhaps, their inability to present a sound case to funders. This may then again be a reflection on the quality of leadership in Scotland.
- **50.** The issue may be, with the advent of Fund III which it is assumed will result in more Life Science start-ups: is the pool of management/leadership talent sufficiently deep to enable this model to continue? The alternative may be to think again about what needs to be done to nurture this type of indigenous entrepreneurial talent.

#### Additionality

- **51.** Without Epidarex would the 6 companies based in Scotland have been funded? The counter-factual is invariably difficult to evidence. However, the companies were broadly of the view that, without the Fund, it was unlikely that they would have started, as the following quotations illustrate:-
  - "If Epidarex had not been there it would have been challenging to get funding from elsewhere because of our location";
  - "It is highly unlikely that any of this would have happened in Scotland without the Fund":
  - "Epidarex is the sole life sciences investor in Scotland and its role has been vital"; and
  - "But for Epidarex it (the company) would not have been funded".
- **52.** It is important to stress that the additionality that has been introduced to Scotland is not just additional money. It is this, plus:-
  - The management and financial skills that the Epidarex Team has;
  - The Team's contacts that have been instrumental in it attracting Life Science international investors to Scotland, have attracted managers to run the companies and have been more broadly beneficial to the Scotlish investment community; and
  - The establishment of Scotland as a credible place for life science company development.

#### The Economic Development Impact

- 53. Of the companies interviewed all but one was pre-revenue. One was trading and had been achieving growing sales. However, the Chief Executive left, and sales fell. A new CEO was recruited in early 2019 and sales have again started to grow. However, it does not seem appropriate to estimate GVA impacts based on what are currently interim turnover figures in advance of any Fund exit.
- 54. This was, however, the exception. What economic benefits there are, at the moment, come from the staff employed, although not all of these are based in Scotland. For example, one company had an employee in Manchester and another in North America. In total the 5 companies had an estimated 29 Full Time equivalent staff based in Scotland. In addition, use was made of contractors, although not all of these were Scottish based. No attempt was made to quantify contractor use.
- 55. The Fund is therefore having some economic development impact on the Scottish economy through the jobs that are created. However, these may not last (for the reasons outlined earlier, Paragraphs 5 to 12). The jobs are also largely research based. The manufacturing that the trading company was doing was being undertaken outwith Scotland. It seems that only if production is undertaken in Scotland (which for the reasons outlined above (Paragraph 6) seems unlikely) will the job numbers cited above (Paragraph 32) be attained. It may be debatable if these can be anchored in Scotland, although initiatives such as the Bioquarter could have a role to play here.

# 5. The Funding Landscape

- **56.** The overwhelming view of the interviewees was that the setting up of Epidarex had had a positive effect on the Scottish funding environment for start-up Life Sciences companies. This reflected:-
  - The establishment of a Scottish-based Life Sciences fund which, although not solely focused upon Scottish companies, had put a significant proportion of its funds into Scottish-based companies and had played a positive role in developing spin-outs from Scottish universities;
  - The Scottish companies supported through the Fund had been able to lever additional support from other Life Science funds, especially European-based ones (for example, Sofinnova and Novartis). It was felt that this had resulted in Scotland now being recognised as a source of investment opportunities which was possibly not the case until recently; and
  - Epidarex's staff being able and willing to use their contacts in both the Life Sciences and funding communities for the benefit of other investees and investors in Scotland. As one interviewee said, it (Epidarex) "was generous in making connections".
- 57. It was felt that the Venture Capital market in Scotland collapsed in the mid-2000s after the Dot.com collapse. There was a retrenchment to the funding "heartland" of London and the South East so that it became difficult to attract investment into Scottish-based companies. The establishment of Epidarex was therefore seen as part of almost a natural rebalancing of the investment infrastructure. This has had spill over impacts as it has attracted other investors to Scotland, especially from Europe.
- 58. The only negative note was the view of one interviewee that there had been some crowding out of the Angel community as Epidarex had moved into their market (by size of investment). However, this was not confirmed by the Angels who were interviewed nor by the companies.
- 59. The 2 Angel syndicates interviewed, admittedly at the top end of the "spectrum" in terms of the scale of their investments, felt that there had been a process of education of the Angels over time. Most now realised that investing in Life Sciences was a long-term process and required the ability to be able to finance multiple funding rounds (see Paragraphs 5 to 12 above). Even then there was no guarantee of success. This type of investment was therefore only suited to the larger Angel syndicates that had the resources and patience to see investments through to either exit or failure. Even the larger syndicates indicated that the size of their Life Sciences portfolios had shrunk in recent years, in part as a reflection of the specialised nature of this type of investment.
- **60.** Had the Fund not been set up then one investee felt that the company would have had to rely upon trying to obtain Angel funding. It was felt that this would not have been appropriate as it was unlikely the Angels would have been able to provide funds at the required level, again a reflection of the amount of money required and the investment timescales. Although many of the investees were pre-revenue and initially required modest amounts of money, the longer-term financial needs meant that they were unlikely to be attractive, or suitable, to Angels generally.
- **61.** Accordingly, it does not seem as if Epidarex has an adverse impact on Scotland's Business Angels. If there has been an impact it is beneficial, with Epidarex using its contacts on behalf of Angels.

#### 6. Issues

- **62.** Several issues were raised by interviewees, often by one person. Of these, a number had either been resolved or were in the process of being:-
  - Given the lack of exits, and the fact that several companies see this as still being 2 or 3 years away, at least one interviewee questioned if the Fund had enough money to continue to follow-on. However, the establishment of Fund III with greater capitalisation may overcome this concern;
  - Should more be done to stimulate academics to spin-out commercial activities from universities? Again 2 interviewees raised this. This may be partially addressed by the setting up a new fund with a Scottish university that is intended to encourage more spin-outs. There may, however, still be a wider problem in Scotland. What became clear is that universities varied in their approach to spin-outs (for example, at least one preferring licensing deals) and the resources they had available to encourage these. For example, one had a large staff resource, a large endowment fund plus links to several funders in addition to Epidarex. Others had far more modest resources. This is a Scotland-wide issue not one that Epidarex can be expected to solve although it would seem to have a lot of experience and know-how that could be contributed to any debate;
  - One Partner expressed concerns over the American Life Sciences company having more favourable
    option rights than other Partners which might have restricted the attractiveness of the Fund to others.
    However, beyond this single expression of concern, no one else mentioned this; and
  - The use of Scottish Government money to fund companies based outwith Scotland was commented upon by one partner with, as was mentioned earlier (Paragraph 39), possible reputational risks. In forming a judgement on this, 2 factors need to be remembered:-
    - SE quite often provides support to companies with a base in Scotland that, because of this support, grow employment elsewhere. In principle, therefore, this is not something that is unique to the Fund; and
    - The use of Funds to support companies elsewhere would seem to be the price to pay for attracting a well-connected Life Sciences Fund to Scotland.
- 63. In the light of the above it would seem that the issues raised are relatively minor and would not seem to be anything that should cause SE any significant concerns.

# 7. The Implications for Public Sector Investors

- **64.** Earlier in this report (Paragraphs 5 to 12) the specialised investment requirements of Life Sciences companies were outlined. These have implications for public bodies such as SE, whose primary purpose for investing is economic development, not to make a return on investments. These would seem to be:-
  - Investing in early stage Life Science companies is no guarantee that there will be significant economic development gains for Scotland, certainly not in the short to medium-term;
  - If there are short to medium-term gains these will be from the jobs in the investee companies. Any significant GVA returns are likely to be long-term or never realised at all;
  - The risks and scale of investment needed would seem to indicate that Life Sciences investments would be unwise for a public body to undertake in isolation;
  - If there is a desire to invest, then doing this through Funds such as Epidarex, that bring together several
    funders, would seem to be the way to go. This enables an investment portfolio to be built, the risks to be
    spread and investments to be funded to the level needed. All these factors would then seem to give a
    good chance of a return on the money that has been invested;
  - There may be wider strategic gains from public sector investment in Life Sciences start-ups. For example, increasing the investment attractiveness of Scotland to Venture Funders, stimulating research in universities that has commercial potential and acting as a catalyst for the development of the Scottish Life Sciences community. These are likely to be long term and might be attained without there being any significant economic benefits;
  - Whether these wider benefits are worth foregoing economic development gains might be a useful matter for debate. Essentially this would be a debate about the opportunity costs of investing in Life Science companies as against other sectors where there may be greater opportunities for creating jobs and anchoring investment in Scotland; and
  - Any summative evaluation of the impact of Life Sciences investments would need to be undertaken at a
    minimum of 10 years after the initial investment and, even then, this may be too early to assess the impact
    of some investments. Related to this, one can question the value of undertaking economic appraisals of
    investments in these companies given the uncertain path from start-up to commercial viability.
- **65.** These implications are no reflection on Epidarex or the Fund. They represent the reality of intervening in this sector, a reality that might benefit from wider debate.

#### 8. Conclusions

- 66. The purpose of this Review was to:-
  - Assess progress in attaining the objectives set for the Fund in the SE Approval Paper;
  - Gather views and opinions on how the Fund had performed in quantitative and qualitative terms; and
  - Make evidenced based recommendations that could guide the development of subsequent funds in which SE is a partner, yet which are managed by an external company
- 67. In terms of the first objective the Fund seems to be well on the way to attaining the objectives set for it in the Approval Paper although not always to the expected levels. However, it would seem unfair to be too concerned about the failure to attain some of the quantitative targets, given that they were probably little more than best estimates at the time they were set.
- 68. It is too early to judge if the returns to be made from the Fund will be attained. This can only be done when there are exits and the Fund is wound-up. In terms of the wider objectives, of improving the funding environment for Life Science companies, there has been progress in so far as there are now European Life Science funds with investments in Scottish companies.
- 69. The economic development impact of the Fund, although not specified in detail in the Approval Paper, seems likely to be more tenuous. This reflects the nature of investing in Life Sciences companies rather than any faults in the Fund or its management. The benefits to date arise from the employment of the estimated 29 Full Time Equivalent staff in the 6 Scottish based companies. Whether there will be more significant long-term benefits will reflect the nature of the exits from the Fund. The worst-case scenario may be that the IP leaves Scotland and the only benefits will be the short-term ones arising from the jobs. The wider issue is what can the public sector do to try to anchor Life Sciences start-ups in Scotland.
- **70.** Analysis of details of the investments made by the Fund shows several things:-
  - The Scottish companies tend, on several metrics, to be performing slightly below the portfolio average, with the English based companies performing better;
  - SIB, through such Funds as Co-investment, has invested significant amounts in the Scottish companies, with this investment being 42% of the value of the Epidarex investments in these companies;
  - External investment (from non-public sector funds) tends to be less significant for the Scottish companies that are more reliant upon public funding.
- **71.** Given the small number of companies, it may be unwise to read too much into these differences. However, one interpretation may be that Epidarex's ability to stimulate the market for Life Sciences investments in Scotland has still a way to go.
- **72.** There was unanimity that the Fund was well run and managed, with adequate information being provided to the Limited Partners. The experience and contacts and the way the members of the Epidarex Team had complementary skills were key benefits.
- 73. The additionality of the Fund was felt to be considerable. The investees felt that they would have struggled to gain funding so that there has been a clear benefit from the Fund in its ability to develop spin-outs from the Scottish universities. Additionality can also be seen in the levering of other Life Sciences funds and the attraction of management talent to provide commercial leadership.
- **74.** The issue of commercial leadership is interesting in so far as those brought in are generally based in England. It seems that there is a lack of commercial talent in Scotland which may be an issue that the public sector needs to consider addressing.
- **75.** The funding environment for Life Sciences companies in Scotland was generally felt to have improved, although it was still felt that funds were not easy to obtain which is probably a natural reaction given the

uncertainties involved in making such a long-term investment. There was no evidence that the Fund had adversely impacted upon the Angel community. Indeed, the limited evidence seems to show that the Angels have realised that this type of investment is only going to be suitable for the larger syndicates that have the patience and funds to commit to a long-term investment that has no guarantee of success.

**76**. The long-term nature of this type of investment and the lack of any guarantee, even if the companies achieve a successful exit, that there will be economic development gains for Scotland raises several questions for public sector investors. A key one relates to the opportunity costs at a time when the focus is increasingly upon job creation and inclusive growth.

#### 9. Recommendations

- 77. Epidarex has been responsive to its Partners, for example by providing detailed information on its investees. This Review has not identified any major concerns that either the Partners, investees or other stakeholders have. Given this, the Recommendations do not relate to the Fund but to the wider environment in which it operates. As such they may be relevant for Scottish Enterprise, the Scottish Government and other public bodies such as the Scottish Funding Council. The Recommendations are:-
  - A wider debate could usefully be held about the suitability of public bodies investing in Life Sciences start-up companies given that the economic development benefits in the medium to long-term may be very uncertain and the opportunity costs considerable;
  - If this type of investment by public bodies is felt to be suitable then thought should be given to what can
    be done to try to embed these companies in the Scottish economy so that they can make a longerterm contribution both directly and through the supply chain. A key area may be to capture manufacturing
    activity;
  - Can more be done to develop Scotland's people resources so that it is not necessary to go elsewhere
    to find the type of skill and experience sets that can drive Life Science companies forward? In its turn this
    might be a way of starting to embed these companies in the economy;
  - Scotland's universities vary considerably in the resources they put into encouraging spin-outs from
    academic departments and the approach that is taken to this. There may be greater potential here that is
    currently not being exploited. A start to seeing how this could be done might be to review current
    practices across the sector, covering such things as strategies, resources and progress to date; and
  - It might be useful to **review the funding landscape in Scotland and elsewhere for start-up Life Science companies** in the light of the finding that it seems as if the Scottish investees are more dependent upon public, rather than private, sector funders. The results of such a review might indicate what needs to be done to develop a more sustainable funding environment.

#### 10. Good Practice Lessons

- 78. There are several Good Practices that Epidarex exhibits that might have wider applicability:-
  - Whilst the Partners had undertaken diligence, it was clear that the involvement of some key players and their willingness to invest substantial sums (for example the European Investment Bank in Epidarex II (£15 million) and the British Business Bank in III (£50 million)) gave them comfort and confidence. The lesson would therefore seem to be that when setting up a fund that is to draw in other partners it is desirable to secure an "anchor" investor at an early stage. This will then be an effective way of levering in other investors and could also shorten the fundraising cycle as these other investors may limit the amount of diligence they do;
  - When funding high risk ventures, as Life Sciences companies seem to be, it would seem sensible if this
    was done in a syndicated way that spreads the risks and returns. This is also a way of investors
    developing a sufficiently large portfolio so that the gains can balance the losses;
  - To stimulate spin-outs from universities and similar institutions there is a need to be pro-active;
  - This pro-activity needs to be backed up by enough technical and financial knowledge to be able to
    identify suitable investment opportunities and to then assemble management and funds to help them
    develop; and
  - The key to success, if there is one, in entering into syndicated investment funds is to select a lead that has the contacts and credibility in the wider industrial and financial communities.

# Appendix 1: The Interviewees

#### **Epidarex**

Epidarex's CEO was interviewed.

#### **Scottish Enterprise**

3 SE staff with involvement in Epidarex and interest in investing in Life Sciences companies were interviewed.

#### **Limited Partners**

6 of the limited Partners were interviewed, 5 of whom were based in Scotland.

### Companies

5 of the 12 companies that had been invested in were interviewed.

#### **Business Angels**

2 of the larger Business Angel consortia were interviewed.

# Appendix 2: Details of the Private Investors that have Invested in Epidarex's Companies<sup>1</sup>

- **1. ALSA Holdings** is a Europe based biotechnology investment firm with a focus on novel therapeutics at preclinical Proof Of Concept or early clinical development stage. The firm is managed by the founder and ex-CEO of Novotech, a leading midsize Clinical Research Organisation (CRO). The firm has considerable expertise and experience in clinical development and are an active investor.
- **2. AM Ventures Holding GmbH** is a venture capital firm specializing in start-ups. The firm primarily invests in manufacturing projects in industry and 3D printing. It is headquartered in Krailling, Bavaria.
- **3. BioGeneration Ventures** manages funds that are invested in the next generation of Biotech companies in Europe especially in The Netherlands, Belgium and Germany. The focus is on high potential companies active in therapeutics, medical devices, and diagnostics.
- **4. Forbion** is a leading venture capital firm, based in the Netherlands that works closely with entrepreneurs to build life sciences companies that transform people's lives.
- **5.** Founded in 1969, **F-Prime Capital** Partners is a venture capital firm based in Cambridge, Massachusetts. It seeks to invest in information technology, therapeutics, medtech, healthcare service and fintech sectors.
- 6. **IP Group** which now incorporates **Touchstone Innovations** was set up with a mission to evolve great ideas, mainly from partner universities, into world-changing businesses. It aims to achieve this by systematically helping to create, build and support outstanding intellectual property-based companies. The Group pioneered the concept of the long-term partnership model with UK universities and has spent many years honing a unique approach to building businesses and providing support along the journey from "cradle to maturity". It has replicated this approach with a select group of US research institutions and, in 2017, the Group announced it was expanding into Australasia.
- 7. **Novartis Venture Fund** is a Basel based venture capital firm focused on companies that develop novel therapeutics and platforms.
- **8. Sixth Element Capital** is currently managing its first fund: the £70m CRT Pioneer Fund (CPF) to create the future of cancer therapy and diagnosis. CPF invests in oncology focused assets and companies and has a proprietary relationship with Cancer Research Technology (CRT). CPF's investors are the European Investment Fund and Syncona.
- 9. **Sofinnova** is the name shared by two venture capital firms, **Sofinnova Ventures** and **Sofinnova Partners**. Both firms trace their roots back to Sofinnova SA, an investment institution founded in Paris in 1972. The two firms have raised some \$4 billion since inception and shared a similar investment strategy of investing in the life science and technology sectors. The two sister firms distinguish themselves based on their target geographies and have been fully independent since 1997.
- **10. UCL Technology Fund** LP is a co-sponsored fund of Albion Capital Group LLP and University College London (UCL), Endowment Arm specializing in seed and growth capital investments. The fund invests in very early-stage proof-of-concept, development, licensing, and spin-outs. It also has the capacity to support later funding rounds. The fund invests in innovation, intellectual property commercialisation opportunities arising from UCL's research base, focusing on the physical and life sciences. It provides up to £100,000 over a period of up to 12 months for Proof Of Concept, up to £1 million for licensing and up to £2.5 million for spin-outs.

11. Versant Ventures is a leading healthcare investment firm committed to helping exceptional entrepreneurs build the next generation of great companies. The firm invests across the healthcare sector and at all stages of company development, with an emphasis on the discovery and development of novel therapeutics. It has \$2.3 billion under management and offices in Canada, the U.S. and Europe.

Note:-

1. The brief descriptions above are taken from the companies' websites.