CIRCASSIA PHARMACEUTICALS PLC
PRELIMINARY RESULTS FOR THE YEAR ENDED 31 DECEMBER 2018

Oxford, UK – 1 May 2019: Circassia Pharmaceuticals plc ("Circassia" or "the Company") (LSE: CIR), a specialty pharmaceutical company focused on respiratory disease, today announces its preliminary results for the year ended 31 December 2018 and a post-period update.

Financial progress

Key performance indicators	2018 underlying continuing operations	2017 underlying continuing operations	2018 total	2017 total
Revenue	£48.3m	£46.3m	£48.3m	£46.3m
R&D	(£10.8m)	(£13.3m[1])	(£89.4m)	(£103.0m)
G&A	(£11.4m)	(£10.7m[1])	(£11.8m)	(£11.1m)
S&M	(£54.4m)	(£49.5m[1])	(£57.3m)	(£50.1m)
Loss for the year	(£25.9m)	(£34.5m[1])	(£117.1m)	(£99.1m)
Net cash[2] outflow	(£18.8m)	(£57.9m)	(£18.8m)	(£57.9m)
Cash[2] at year end	£40.7m	£59.5m	£40.7m	£59.5m

NIOX® progress

- Sales increased 5% to £27.4 million (2017 CER[3]: £26.2 million)
- Clinical (non-research[4]) revenues increased 7% compared with 2017 CER
- China sales decreased 11% vs 2017 CER following destocking and disruption during transition to direct sales; new sales model now in place
- Q1 2019 unaudited revenues increased 38% vs Q1 2018 CER

US COPD portfolio progress

- Tudorza® profit share revenues increased 11% to £20.9 million (2017 CER: £18.8 million)
- Q1 2019 unaudited revenues increased 31% vs Q4 2018 CER following option exercise at year end; prescriptions stable
- Tudorza® option exercised acquiring product's full commercial rights
- Tudorza® ASCENT study data filed for inclusion in label; FDA approved March 2019
- Duaklir® NDA filed; FDA approved March 2019

Commercial platform progress

- China direct sales force launched; commercial team expansion to approximately 100 near completion
- UK team expanded; Commercial Director hired in Italy; European commercial operations strengthened
- US dedicated COPD and device teams launched to prepare for product launches

Corporate progress

- AstraZeneca subscription raising $26.7 million completed

Post-period highlights

- US and China commercialisation rights to novel nitric oxide product AirNOvent[5] acquired January 2019
- Move to AIM completed February 2019
- AstraZeneca five-year loan addresses outstanding COPD transaction consideration, option and R&D payments

Steven Harris, Circassia's Chief Executive, said: *"We made good progress in 2018 completing our strategic transition into a commercially-focused specialty pharmaceutical business focused on respiratory disease. Our revenues continued to grow and we maintained our commercial investment and broad cost control activities. As a result, we dramatically reduced our net cash outflow and decreased the loss in our underlying business."*

"During 2018, our global NIOX® business continued to grow, and following the launch of our direct sales team in China we look forward to expanding our presence in this significant market. We also advanced our US COPD portfolio, and in the first half of 2018 our partner filed for Duaklir® approval and an expanded label for Tudorza®. We are delighted that both filings were successful and we now look forward to enhancing our Tudorza® promotion and launching Duaklir® later this year."

"During 2019 we have maintained our momentum, taking full commercial control of Tudorza®, adding late-stage product AirNOvent to our portfolio, significantly increasing NIOX® revenues and boosting our commercial platform. As a result, we are making good progress building a robust business with growing revenue potential and an exciting commercial future."

Analyst meeting and webcast
An analyst meeting will take place today at 9.30am at FTI Consulting, 200 Aldersgate, Aldersgate Street, London, EC1A 4HD. A webcast of the presentation will be available on the Company's website.

Contacts

Circassia
Steven Harris, Chief Executive Officer — Tel: +44 (0) 1865 405 560
Julien Cotta, Chief Financial Officer
Rob Budge, Corporate Communications

Peel Hunt (Nominated Adviser and Joint Broker)
James Steel / Dr Christopher Golden — Tel: +44 (0) 20 7418 8900

Numis Securities (Joint Broker)
James Black / Freddie Barnfield — Tel: +44 (0) 20 7260 1000

FTI Consulting
Simon Conway / Ciara Martin — Tel: +44 (0) 20 3727 1000

About Circassia
Circassia is a world-class specialty pharmaceutical business focused on respiratory disease. The Company sells its novel, market-leading NIOX® asthma management products directly to specialists in the United States, United Kingdom, China and Germany, and in a wide range of other countries through its network of partners. In the United States, Circassia has a commercial collaboration with AstraZeneca in which it has the commercial rights to chronic obstructive pulmonary disease (COPD) treatments Tudorza® and Duaklir®. Circassia also has the US and Chinese commercial rights to the late-stage ventilator-compatible nitric oxide product AirNOvent. For more information please visit www.circassia.com.

[1]Underlying operations restated to show the results of in-house respiratory development in discontinued operations
[2]Cash, cash equivalents and short-term deposits
[3]Constant exchange rates (CER) for 2017 represent reported numbers re-stated using 2018 average exchange rates; management believes CER comparisons better represent underlying performance due to currency fluctuations against sterling
[4]Clinical revenues represent sales to clinicians, hospitals and distributors; research revenues represent sales to pharmaceutical companies for use in clinical studies
[5]AirNOvent is not an approved name and may not be the final name submitted for approval

Forward-looking statements
This press release contains certain projections and other forward-looking statements with respect to the financial condition, results of operations, businesses and prospects of Circassia. The use of terms such as "may", "will", "should", "expect", "anticipate", "project", "estimate", "intend", "continue", "target" or "believe" and similar expressions (or the negatives thereof) are generally intended to identify forward-looking statements. These statements are based on current expectations and involve risk and uncertainty because they relate to events and depend upon circumstances that may or may not occur in the future. There are a number of factors that could cause actual results or developments to differ materially from those expressed or implied by these forward-looking statements. Any of the assumptions underlying these forward-looking statements could prove inaccurate or incorrect and therefore any results contemplated in the forward-looking statements may not actually be achieved. Nothing contained in this press release should be construed as a profit forecast or profit estimate. Investors or other recipients are cautioned not to place undue reliance on any forward-looking statements contained herein. Circassia undertakes no obligation to update or revise (publicly or otherwise) any forward-looking statement, whether as a result of new information, future events or other circumstances.

OPERATING REVIEW

Strategic overview

In 2018 Circassia made good progress implementing its strategy. The Company completed its transition into a commercially-focused specialty pharmaceutical business, and has continued to build on this positive momentum. The Company has refocused its R&D expenditure, with device development, regulatory, medical affairs, quality and supply chain functions focused on supporting its commercial products, and spending on its in-house respiratory pipeline halted. In parallel, Circassia has maintained investment in its commercial platform, dramatically increasing its presence in China and strengthening its team in Europe. The Company also expanded its product portfolio, exercising its option to take full US commercial control of chronic obstructive pulmonary disease (COPD) treatment Tudorza® at the end of 2018, and acquiring the US and Chinese commercial rights to late-stage ventilator-compatible nitric oxide product AirNOvent at the start of 2019.

Circassia also made good corporate progress. It amended its commercialisation agreement with AstraZeneca for COPD products Tudorza® and Duaklir®, and AstraZeneca increased its equity stake in Circassia to 19.9% following a subscription of new shares. As part of the approval process for this related-party transaction, the Company agreed with the UK Financial Conduct Authority (FCA) to seek shareholder approval to move to AIM if the percentage of its shares held in public hands did not reach the level required for the Main Market. Circassia's shareholders subsequently approved this move to AIM and it was completed in early 2019. The move also provides potential strategic advantages as AIM's more flexible regulatory regime may help the Company acquire, partner or in-license additional products more efficiently to leverage its commercial platform.

Alongside the Company's strategic and corporate progress, the past year was also a period of financial transition. Circassia continued to grow its revenues despite headwinds in the second half, controlled its non-commercial costs, reduced the net loss in its underlying business and dramatically decreased its net cash outflow. As a result, Circassia is continuing to advance towards its strategic objective of building a self-sustaining specialty pharmaceutical business.

NIOX® asthma management products

NIOX® is the leading point-of-care system for measuring fractional exhaled nitric oxide (FeNO), an important biomarker of the major underlying cause of asthma, type 2 airway inflammation. NIOX® is used around the world to improve asthma diagnosis and management, and Circassia sells the product directly in the United States, UK and Germany, and following the recent launch of its local sales team, in China also. In addition, the Company promotes NIOX® through its network of international partners, which extends across more than 35 countries.

Sales growth

NIOX® sales continued to grow during 2018. Global revenues of £27.4 million were 5% (CER) higher than the year before, with sales for clinical use increasing 7% and less predictable sales for use in pharmaceutical company clinical studies declining 6%. Overall growth was held back by lower sales in China, which decreased 11% with destocking and distributor disruption during the transition to the Company's direct sales model. In Germany and the UK, revenues grew 8% and 27% (CER) respectively, while in the United States sales declined by 1% (CER) due to disruption at the end of the year caused by territory realignment as the Company launched dedicated COPD and NIOX® sales teams.

With much of this disruption now complete, NIOX® revenue growth has accelerated significantly during the first quarter of 2019, and global sales were 38% higher at CER compared with the same period the year before.

Increasing access

Circassia is working to increase NIOX® market access in a number of countries. In the United States, payor coverage grew significantly during 2018 and the market access team is targeting a number of additional healthcare plans to increase this further. In the US and UK, the Company's commercial teams are working with pharmacy chains to explore the potential of providing NIOX® testing in convenient locations. In China, reimbursement for FeNO testing was recently granted in Beijing, providing an opportunity to target the more than 100 top level hospitals in the city. In Australia, the Company's partner plans to grow the local market following the introduction of reimbursement for FeNO testing alongside spirometry.

Geographic expansion
Outside its direct sales territories, Circassia sells NIOX® through a network of international partners. During 2018 the Company added new partners in Malaysia, Mexico, Saudi Arabia and Thailand and has now received approvals in each of these countries.

NIOX® support
Circassia supports its partners' NIOX® promotion via a dedicated commercial team. During 2018, the team launched a new NIOX® marketing campaign at the European Respiratory Society International Congress, where it also held a partner meeting to provide training on the new materials. The Company also provided training in South Korea and recently held training sessions at the Chest World Congress in Thailand.

During 2018 Circassia's commercial team also continued NIOX® brand building activities in its direct markets, including the roll out of its digital strategy with online advertising, e-shots, refreshed web resources and the launch of a new NIOX.com web portal. In the UK, Circassia is providing healthcare professionals with training via its Asthma Masterclass programme, which is delivered by a specialist respiratory nurse advisor. It is also working with the Primary Care Respiratory Society to offer members exclusive benefits when purchasing NIOX®.

In the US, the Company has partnered with reimbursement specialists to provide support for NIOX® customers. This new service offers coding and reimbursement support via a dedicated hotline team of certified coders. Additionally, Circassia has launched a dedicated NIOX® promotional team in the US to improve targeting and promotional efficiency. The team includes telesales and customer service professionals working alongside the dedicated field-based sales force.

US collaboration with AstraZeneca
In 2017, Circassia established a US commercial collaboration with AstraZeneca for COPD products Tudorza® and Duaklir®. Under the agreement, Circassia acquired the commercialisation rights to Duaklir® and entered a profit share arrangement for Tudorza® in which the Company was responsible for the product's promotion and AstraZeneca its manufacture, distribution, pharmacovigilance and regulatory activities.

Agreement amendment and option exercise
During 2018, the companies amended the original agreement, and AstraZeneca increased its shareholding in Circassia to 19.9% via subscription for newly-issued ordinary shares. Circassia used the $26.7 million consideration to pay a $20.0 million R&D contribution due to AstraZeneca by 31 December 2018 and to part settle the final $25.0 million payable by the end of 2019. The remaining $18.3 million of this final R&D payment is addressed by a five-year loan provided by AstraZeneca.

At the end of 2018, Circassia issued a notice of option exercise to acquire the full US commercialisation rights to Tudorza®. This completed as anticipated on 31 December 2018, and from 1 January 2019 Circassia has recorded Tudorza®'s in-market sales and costs and retained the full profits from commercialisation. The option exercise triggered an initial payment obligation of $5 million, and following the approval of Duaklir® a final option payment of $20 million became payable to AstraZeneca. These payment obligations are addressed by a five-year loan provided by AstraZeneca under the companies' agreement. This loan facility provided by AstraZeneca also addresses the final consideration of $100 million due under the companies' agreement, in addition to the R&D payment outlined above.

Tudorza® collaboration
Tudorza® contains the long-acting muscarinic antagonist (LAMA) aclidinium bromide, which is administered twice-daily via the easy-to-use inhaler Pressair® for the maintenance treatment of COPD. In the United States, the market for LAMA therapies totalled an estimated $2 billion in 2018 presenting a significant opportunity for Tudorza®. With the product's prescriptions making up approximately 2.6% of the market, a modest increase in volumes or uptake in higher value channels could substantially grow the product's sales, which would be of material importance to the Company.

Commercial progress
Following the establishment of the Tudorza® collaboration in 2017, Circassia's sales force rapidly achieved its target call volumes as part of the Company's plan to turn round the product's previously declining prescriptions. During 2018 the prescription rate continued to stabilise, although the £20.9 million profit share revenues for the year were impacted by higher rebates in federal channels during the second half. In the final quarter of the year the Company refined its physician targeting strategy and during piloting the new prescription rate per call responded positively.

Circassia plans to build on this progress during the coming year. Following the exercise of its option to acquire the full US commercial rights to Tudorza® at the end of 2018, first quarter revenues in 2019 increased 31% at CER compared with the final quarter the previous year. With the imminent transfer of the product's licence to Circassia, the Company will have significant additional flexibility in managing its sales force composition, customer targeting, product detail prioritisation, territory definition, distribution strategy, pricing and market access activities. Circassia is leveraging this increased flexibility and recently refocused its US sales capabilities launching a dedicated COPD sales force to improve targeting and promotional efficacy.

Regulatory progress
Following the successful completion of the phase IV ASCENT study at the end of 2017, Tudorza® has made good regulatory progress. The study met both its primary endpoints, and during the first half of 2018 a supplemental New Drug Application (sNDA) was submitted to the FDA requesting inclusion of the data in the product's prescribing information. The FDA recently completed its review of the filing and approved the sNDA at the end of March.

As a result, Tudorza®'s expanded label now includes unique data from ASCENT. The study, which was conducted in patients with moderate to very severe COPD and cardiovascular disease and / or significant cardiovascular risk factors, demonstrated that Tudorza® is effective at reducing COPD exacerbations with no increase in major cardiovascular events and at reducing hospitalisations due to COPD exacerbations in this at-risk population. Cardiovascular disease is the most common and significant co-morbidity of COPD, with approximately 30% of COPD patients dying from cardiovascular conditions. Tudorza® is the only LAMA in the United States with these data in its label, which Circassia plans to use in payor discussions as part of its market access strategy.

Duaklir® collaboration

Duaklir® is a fixed-dose combination of the LAMA aclidinium bromide and long-acting beta agonist (LABA) formoterol fumarate, which is administered twice-daily via the breath-actuated Pressair® inhaler for the maintenance treatment of COPD. Duaklir® targets the rapidly growing $850 million US LAMA / LABA market, which represents an important commercial opportunity for the Company.

Regulatory progress
During 2018, Duaklir® made good regulatory progress following the successful completion of the AMPLIFY phase III study the prior year. In the first half of 2018, a New Drug Application was submitted for Duaklir®, which was approved in March 2019 by the FDA. The approval is based on a broad clinical database, including data from AMPLIFY and two earlier phase III studies, ACLIFORM and AUGMENT. The label also includes clinical data from the phase IV ASCENT study, which shows aclidinium therapy is effective at reducing COPD exacerbations. As a result, Duaklir® is the only twice-daily LAMA / LABA in the United States with COPD exacerbation data included in its prescribing information.

Commercial progress
Circassia plans to launch Duaklir® in the second half of 2019 through its dedicated COPD sales force. The Company is making good progress with its preparations and is working with specialist agencies and an advisory board of medical experts as it finalises its launch plans. The team has completed market research to inform the product's value proposition, brand messaging and creative campaign, and is developing Duaklir®'s market access contracting strategy and payor value propositions while public relations specialists finalise the communications strategy.

Commercial infrastructure progress

During 2018 Circassia continued to develop its commercial infrastructure to increase revenues from its existing portfolio and provide a platform to attract additional products. In China it significantly expanded its team, launching a direct sales team at the end of the year. This represents a significant change to the Company's business model in the country, with Circassia's previously modest team focusing solely on distributor support, marketing and market access activities. During the second half of the year, the Company recruited a full range of commercial and back office functions to support its direct sales field force, and by the end of the year the vast majority of the 100-strong commercial team was in place. Following the launch of this direct sales capability, Circassia now commercialises NIOX® using a mixed business model in China. In major cities the sales force works with logistics providers to supply customers directly, while in secondary cities the team works alongside distributors and in remoter regions the Company uses distribution partners. This new approach represents a significant opportunity for the Company to significantly increase its gross margin and expand its overall sales.

The launch and transition to this new model in China resulted in disruption and destocking at the end of 2018 impacting revenues. However, with this now complete and Circassia focusing promotion significantly beyond the 400 hospitals where NIOX® was previously installed, as well as capturing additional margin from selling directly, the Company anticipates continued strong sales growth in China.

Circassia is also strengthening its presence in Europe. The UK sales force expanded to increase coverage in the South East and add dedicated territories in the South West and Republic of Ireland. In Italy, the Company recently appointed a Commercial Director with significant respiratory and market access experience who will play a key role in finalising the commercialisation strategy in the country, including the potential for direct sales. Additionally, the Company is recruiting further marketing, analysis and operations expertise to support local promotional activities.

Investment strategy

In 2018, the Company refocused its investment approach as part of the strategy to transition into a self-sustaining, commercially-focused specialty pharmaceutical business. As a result, Circassia focused investment on its commercial platform while halting R&D expenditure on its in-house respiratory pipeline and aligning its regulatory, medical affairs, quality and supply chain resources to support the Company's marketed and late-stage products. The Company reduced its underlying R&D expenditure by nearly 20%, with headcount decreasing by over 50%, and increased its sales and marketing investment by 10% with growth focused in the United States and China. At the same time, the Company controlled its underlying administrative expenditure, which increased only marginally following increased office costs to support the Company's significant expansion in China.

During 2019, Circassia plans to maintain its commercial investment alongside an ongoing focus on cost containment. With the refocusing of its investment strategy now complete, the Company anticipates ongoing control of non-commercial expenditure, and sales and marketing costs reflecting the larger team in China and upcoming launch of Duaklir® in the United States.

Post-period highlights

Portfolio expansion

As part of its strategy to leverage its commercialisation platform, Circassia is actively pursuing opportunities to add to its portfolio through partnering, in-licensing or acquisition. The Company continued its business development programme throughout 2018, and at the beginning of 2019 announced the acquisition of the exclusive US and Chinese commercialisation rights to AirNOvent from AIT Therapeutics Inc. AirNOvent is a late-stage, ventilator-compatible novel inhaled nitric oxide product, initially targeting use in the treatment of hypoxic respiratory failure associated with persistent pulmonary hypertension of the newborn (PPHN).

Under the terms of the agreement, Circassia paid AIT initial consideration of $7.35 million, and a further $3.15 million following the successful completion of a pre-submission FDA meeting. Both payments were satisfied through the issuance of new ordinary shares in the Company to AIT. Further deferred contingent consideration, also payable in Circassia shares, will become due on the achievement of certain milestones, including $12.6 million following FDA approval, $8.4 million on US approval of a related indication and $1.05 million on the product's launch in China. Additionally, the Company will pay tiered royalties based on gross profits from future product sales.

AirNOvent overview

AirNOvent is a portable system that utilises an electric voltage to produce precise quantities of nitric oxide from the nitrogen and oxygen in air. Inhaled nitric oxide is a pulmonary vasodilator, which is approved in the United States for use as part of a regimen in the treatment of hypoxic respiratory failure associated with PPHN. PPHN is the failure of normal circulatory transition after birth, which occurs in approximately 1,500 – 26,200 newborns in the United States. The condition is potentially fatal and management can be complex involving a number of treatments, which in addition to supplemental oxygen can include the administration of inhaled nitric oxide.

The currently available product, INOMAX®, is used in neonatal intensive care units (NICUs) and its delivery system administers nitric oxide from pressurised cylinders in conjunction with ventilator systems. The product generated US revenues estimated at over $400 million in 2018. AirNOvent offers a number of potential benefits over the existing competition. It is cylinder-free and is smaller, significantly lighter and more convenient, and unlike nitric oxide cylinder-based systems does not require special storage and handling. As a result, it has the potential for use by NICUs, as well as smaller clinics without the facilities required to manage nitric oxide cylinders.

Under the companies' agreement, AIT is responsible for the product's development, US regulatory filings and manufacture, with Circassia managing the regulatory process in China. AIT plans to submit AirNOvent to the FDA in the coming weeks for Premarket Approval (PMA) for use in the treatment of PPHN, and Circassia anticipates launching the product in the first half of 2020 following approval.

AirNOvent commercialisation

Circassia intends to leverage its existing commercial platform in the United States to commercialise AirNOvent and anticipates modestly expanding its commercial team, adding further key accounts and medical affairs experts. The Company plans to target top hospitals with NICUs, many of which are called on by the existing dedicated device sales team. Additionally, the team will target facilities that do not currently use inhaled nitric oxide, such as those without the appropriate handling facilities.

Move to AIM

AstraZeneca's subscription for additional equity in 2018 decreased the 'free float' in the Company's shares to approximately 10%. The free float excludes holdings by directors and shareholdings of over 5%, and the Financial Conduct Authority's (FCA) Listing Rules require a level of at least 25%. As a result, the Company committed to the FCA that if the free float did not meet this required level within six months it would seek shareholder approval to move to AIM, which does not have the same requirement.

During the subsequent months, there was little movement in the free float and consequently Circassia sought approval to move to AIM. This was granted at a shareholder meeting on 4 January 2019 and the Company's shares were removed from trading on the London Stock Exchange's Main Market and admitted to trading on AIM on 4 February 2019.

Board changes

Following six years as Non-Executive Chairman, Dr Francesco Granata has informed the Company of his intention to retire from Circassia's Board in order to focus on his other business commitments. Francesco will continue as Chairman while the Company completes the ongoing search for his replacement. Additionally, following 12 years as Non-Executive Director, Russ Cummings has informed the Company he will not stand for re-election to the Board at the forthcoming Annual General Meeting. The Board wishes to express its sincere appreciation to Francesco for his leadership and significant contribution to the Company's development during his time at Circassia and to Russ for providing strategic insight and extensive financial market experience during his significant time as a Non-Executive Director.

In parallel with the ongoing Chairman search process, the Company is further strengthening its commercial focus through the creation and appointment of a Chief Operating Officer. The COO will lead Circassia's global commercial strategy and operational management and will be appointed to the Company's Board. The Company intends to announce the appointment of both the new Chairman and COO in due course.

Summary and outlook

During 2018, Circassia continued to make good progress implementing its strategy. The Company grew its revenues, despite headwinds in the second half, and maintained its financial strategy focusing on commercial investment and cost containment elsewhere. As a result, it reduced net cash outflow significantly and decreased the loss in its underlying business despite increased investment in its commercial infrastructure.

During the year, the Company's products also made progress, with the NIOX® business continuing to grow and filings in the US COPD portfolio resulting in the recent approval of Duaklir® and label expansion for Tudorza®. With dedicated NIOX® and COPD sales teams in the US, direct sales capabilities in China and a broader commercial platform in Europe, Circassia anticipates building on the encouraging Q1 2019 sales with strong revenue growth in the coming year. In the coming months, the Company looks forward to further progress, with the upcoming US filing for AirNOvent and launch of Duaklir® in the second half of 2019.

Over the last three years, the Company has completed its transformation from an R&D-based organisation into a strong commercially-focused business. The Company now features a unique commercial platform promoting compelling respiratory products across the world's largest markets. With a clear strategy focused on building a self-sustaining specialty pharmaceutical business, combined with growing revenues, Circassia is well positioned to continue its drive towards profitability.

FINANCIAL REVIEW

During 2018 revenues continued to grow, increasing 4% to £48.3 million, while the Company maintained control of overall costs, reducing R&D expenditure and investing in the commercial platform.

The table below sets out the Group's results for the year ended 31 December 2018, separated into continuing and discontinued operations. Continuing operations are further divided into underlying and non-underlying operations. Continuing underlying operations include revenues from the Tudorza® collaboration with AstraZeneca and sales of NIOX®, as well as the costs of the underlying business. These key performance indicators are used by management to manage the business and measure performance.

Non-underlying operations include irregular and non-recurring expenditure, such as those relating to restructuring the US field force into dedicated NIOX® and COPD units, the prior year's R&D contribution to AstraZeneca and other non-cash gains and losses relating to the deferred consideration payable to AstraZeneca. Discontinued operations include direct costs and overheads associated with the in-house respiratory pipeline which ceased in April 2018 and residual costs from the allergy programmes for which all development ceased in April 2017.

	Underlying operations		**Non-underlying operations**		**Total continuing**		**Discontinued operations[1]**			**Total**
	2018	2017 Restated[2]	**2018**	2017 Restated[2]	**2018**	2017 Restated[2]	**2018**	2017 Restated[2]	**2018**	2017
	£m	£m	**£m**	£m	**£m**	£m	**£m**	£m	**£m**	£m
Revenue	**48.3**	46.3	**-**	-	**48.3**	46.3	**-**	-	**48.3**	46.3
Cost of sales	**(8.9)**	(10.0)	**-**	-	**(8.9)**	(10.0)	**-**	-	**(8.9)**	(10.0)
Gross profit	**39.4**	36.3	**-**	-	**39.4**	36.3	**-**	-	**39.4**	36.3
Gross margin	**82%**	78%	**-**	-	**82%**	78%	**-**	-	**82%**	78%
Research and development	**(10.8)**	(13.3)	**-**	(45.1)	**(10.8)**	(58.4)	**(78.6)**	(44.6)	**(89.4)**	(103.0)
Sales and marketing	**(54.4)**	(49.5)	**(2.9)**	-	**(57.3)**	(49.5)	**-**	(0.6)	**(57.3)**	(50.1)
Administrative expenditure	**(11.4)**	(10.7)	**(0.3)**	0.1	**(11.7)**	(10.6)	**(0.1)**	(0.5)	**(11.8)**	(11.1)
EBITDA	**(32.8)**	(32.3)	**(3.2)**	(45.0)	**(36.0)**	(77.3)	**(78.7)**	(45.7)	**(114.7)**	(123.0)
Operating loss	**(37.2)**	(37.2)	**(3.2)**	(45.0)	**(40.4)**	(82.2)	**(78.7)**	(45.7)	**(119.1)**	(127.9)
Other gains and (losses)	**1.9**	(1.1)	**(5.6)**	11.5	**(3.7)**	10.4	**(0.1)**	(0.2)	**(3.8)**	10.2
Finance costs	**(0.1)**	(0.1)	**(11.9)**	(2.7)	**(12.0)**	(2.8)	**-**	-	**(12.0)**	(2.8)
Finance income	**0.3**	0.4	**-**	-	**0.3**	0.4	**-**	-	**0.3**	0.4
Loss before tax	**(35.1)**	(38.0)	**(20.7)**	(36.2)	**(55.8)**	(74.2)	**(78.8)**	(45.9)	**(134.6)**	(120.1)
Taxation	**9.2**	3.5	**-**	10.2	**9.2**	13.7	**8.3**	7.3	**17.5**	21.0
Loss for the financial year	**(25.9)**	(34.5)	**(20.7)**	(26.0)	**(46.6)**	(60.5)	**(70.5)**	(38.6)	**(117.1)**	(99.1)
Cash[3]									**40.7**	59.5

[1] Disclosed as a single amount in the consolidated statement of comprehensive income

[2] Restated to show the results of the respiratory business in discontinued operations, see note 10 to the consolidated financial statements

[3] Includes cash and cash equivalents and short-term deposits.

Revenue

Circassia's revenues of £48.3 million (2017: £46.3 million) include Tudorza® revenues of £20.9 million (2017: £19.0 million) and NIOX® sales of £27.4 million (2017: £27.3 million).

During 2018, Tudorza® revenues derived from the profit share arrangement with AstraZeneca. AstraZeneca recorded in-market sales, cost of sales and other operational costs while Circassia recorded the costs of the field force and promotion and the companies each recorded 50% of the resultant profit. On 31 December 2018, Circassia completed the exercise of its option to take full commercial control of Tudorza® in the United States, and during 2019 will receive the full benefits of commercialisation and will record both the product's sales and costs.

NIOX® revenues include sales for use in clinical practice of £23.4 million (2017: £22.8 million), sales for use in pharmaceutical company research of £3.7 million (2017: £4.1 million) and other revenues such as freight of £0.3 million (2017: £0.4 million).

Gross profit

Gross margin increased from 78% to 82%. This was mainly due to the contribution of revenues from the AstraZeneca collaboration for the full year, which due to the agreement structure have a 100% gross margin. Gross profit on NIOX® sales was £18.5 million (2017: £17.3 million), with a gross margin of 68% (2017: 63%). This increase mainly reflects the weakening of sterling against the dollar.

Sales and marketing

Sales and marketing costs increased to £57.3 million (2017: £50.1 million). This was mainly due to a full year of investment in the US field force promoting Tudorza® versus 9 months in 2017, as well as significant expansion of commercial operations in China during the second half of the year. Sales and marketing costs of £2.9 million included in non-underlying continuing operations represents the re-organisation costs associated with restructuring the US field force into dedicated NIOX® and COPD teams.

R&D activities

Research and development activities include the costs associated with regulatory, quality and medical affairs support for marketed products, device development, and depreciation and amortisation. Research and development costs from underlying operations decreased to £10.8 million (2017: £13.3 million) mainly as a result of significantly lower headcount.

Discontinued operations include costs relating to the in-house respiratory pipeline of £78.6 million (2017: £44.6 million) most of which relates to an impairment charge of the associated intangible assets as set out below. The impairment costs have no impact on cash.

Impairment of intangibles	**£m**
Goodwill	4.4
Flixotide substitute	21.1
Seretide substitute	22.1
Spiriva substitute	8.5
Technology	18.9
Total	**75.0**

Total R&D expenditure reduced to £89.4 million (2017: £103.0 million).

Administrative expenditure

Administrative expenditure, which includes overheads relating to corporate functions, centrally managed support functions and corporate costs, increased to £11.8 million (2017: £11.1 million). This was mainly due to the costs associated with the transfer of the Company's shares to AIM and increased business development costs.

Other gains and losses

Other losses increased to £3.8 million (2017: £10.2 million gain). This was mainly due to unrealised foreign exchange losses relating to deferred consideration payable to AstraZeneca following the weakening of sterling against the dollar.

Net finance costs

Net finance costs were £11.7 million (2017: £2.4 million) for the year. This mainly relates to a non-cash charge to the income statement for the period reflecting the difference in the discounted and actual deferred consideration payable to AstraZeneca recorded on the balance sheet. The discounted amount reflects the time value of money.

Taxation

Taxation for the year was a credit of £17.5 million (2017: £21.0 million) of which £9.2 million (2017: £3.5 million) relates to underlying continuing operations. Included in underlying continuing operations is an R&D tax credit of £1.0 million (2017: £3.5 million) which is lower than the previous year because of a decrease in qualifying R&D expenditure. Also included is a deferred tax credit of £8.2 million (2017: £nil) which has arisen on an increase in recognised carried-forward tax losses in the Group.

An R&D tax credit of £10.2 million was included in non-underlying continuing operations in 2017, which related to the R&D contribution paid to AstraZeneca.

Taxation for discontinued operations increased to a credit of £8.3 million (2017: £7.3 million credit), mainly due to a reduction in the deferred tax liability following the impairment of intangible assets in the respiratory pipeline.

Loss after tax and loss per share

Basic loss per share for the period was 34p (2017: 31p) reflecting a loss of £117.1 million (2017: £99.1 million), with the increase mainly due to impairment of intangible assets in the in-house respiratory portfolio. Loss per share for continuing operations decreased to 14p (2017: 19p) reflecting a loss for the financial period of £25.9 million (2017: £34.5 million).

Statement of financial position

The Group's net assets at 31 December 2018 were £125.9 million (31 December 2017: £224.8 million). The decrease was mainly due to impairment of the in-house respiratory intangible assets and lower trade receivables and deposit balances, combined with an increase in the recognised non-contingent consideration payable to AstraZeneca reflecting the time value of money.

Current liabilities at the end of the period were £124.4 million (31 December 2017: £30.8 million). The increase at 31 December 2018 was mainly due to reclassification of the $100 million deferred non-contingent consideration payable to AstraZeneca as a current liability payable due within one year.

Current tax assets at 31 December 2018 were £1.0 million (31 December 2017: £6.5 million), representing the R&D tax credit due from HM Revenue and Customs. An R&D tax credit of £10.9 million was received in July 2018.

Cash flow

The Group's cash position, including cash equivalents and short-term deposits, decreased from £59.5 million at 31 December 2017 to £40.7 million at 31 December 2018.

Cash used in operations decreased to £51.3 million (2017: £66.4 million), reflecting higher revenues and a net decrease in the overall cost base of the business. Cash used in operations in 2017 included settlement of the $17.5 million (£13.1 million) R&D contribution due to AstraZeneca. In 2018, the contribution of $20.0 million (£15.3 million) was satisfied through the issue of new shares to AstraZeneca.

Other significant cashflows included an R&D tax credit of £10.9 million (2017: £8.9 million) and proceeds from the issue of share capital of £20.4 million (2017: £nil), which were used to pay the AstraZeneca R&D contribution of $20.0 million and the remainder part paying the final tranche of $25.0 million due by the end of 2019. The remaining $18.3 million of this final R&D payment, plus the $125.0 million consideration payable, is addressed by a five-year loan provided by AstraZeneca.

Outlook

In the coming year, Circassia anticipates significant sales growth with a number of factors expected to contribute to the increase. In particular, the Company expects higher NIOX® revenues in China following the implementation of direct sales in the country, increased Tudorza® revenues following the exercise of the option at the end of 2018 and initial Duaklir® sales later this year following the product's approval by the FDA at the end of March. The Company also plans to continue its cost control and commercial investment strategy and as a result, Circassia looks forward to continuing its trajectory towards profitability.

Julien Cotta
Chief Financial Officer

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2018

		2018			2017		
		Underlying operations	**Non-underlying items**	**Total**	Underlying operations Restated[1]	Non-underlying items Restated[1]	Total
	Notes	**£m**	**£m**	**£m**	£m	£m	£m
Continuing operations							
Revenue from contracts with customers	4	**48.3**	**-**	**48.3**	46.3	-	46.3
Cost of sales		**(8.9)**	**-**	**(8.9)**	(10.0)	-	(10.0)
Gross profit		**39.4**	**-**	**39.4**	36.3	-	36.3
Research and development costs		**(10.8)**	**-**	**(10.8)**	(13.3)	(45.1)	(58.4)
Sales and marketing		**(54.4)**	**(2.9)**	**(57.3)**	(49.5)	-	(49.5)
Administrative expenses		**(11.4)**	**(0.3)**	**(11.7)**	(10.7)	0.1	(10.6)
Operating loss	8	**(37.2)**	**(3.2)**	**(40.4)**	(37.2)	(45.0)	(82.2)
Other gains and (losses)	6	**1.9**	**(5.6)**	**(3.7)**	(1.1)	11.5	10.4
Finance costs	7	**(0.1)**	**(11.9)**	**(12.0)**	(0.1)	(2.7)	(2.8)
Finance income	7	**0.3**	**-**	**0.3**	0.4	-	0.4
Loss before tax		**(35.1)**	**(20.7)**	**(55.8)**	(38.0)	(36.2)	(74.2)
Taxation	12	**9.2**	**-**	**9.2**	3.5	10.2	13.7
Loss for the financial year from continuing operations		**(25.9)**	**(20.7)**	**(46.6)**	(34.5)	(26.0)	(60.5)
Discontinued operations							
Loss for the year from discontinued operations attributable to owners of Circassia Pharmaceuticals plc	10	**-**	**(70.5)**	**(70.5)**	-	(38.6)	(38.6)
Loss for the financial year		**(25.9)**	**(91.2)**	**(117.1)**	(34.5)	(64.6)	(99.1)
Other comprehensive (expense)/income							
items that may be subsequently reclassified to profit or loss							
Currency translation differences	29	**(4.8)**	**-**	**(4.8)**	2.2	-	2.2
Total other comprehensive (expense)/income for the year		**(4.8)**	**-**	**(4.8)**	2.2	-	2.2
Total comprehensive expense for the year		**(30.7)**	**(91.2)**	**(121.9)**	(32.3)	(64.6)	(96.9)

Loss per share attributable to owners of the parent during the year (expressed in £ per share)

		2018	2017 Restated[1]
Basic and diluted loss per share		**£**	£
Loss per share from continuing operations	13	**(0.14)**	(0.19)
Total loss per share	13	**(0.34)**	(0.31)

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details.

The Company has elected to take the exemption under section 408 of the Companies Act 2006 not to present the Parent Company profit and loss account.

The notes on pages 18 to 53 are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2018

	Notes	2018 £m	2017 £m
Assets			
Non-current assets			
Property, plant and equipment	14	**0.5**	1.4
Goodwill	15	**9.3**	10.0
Intangible assets	16	**221.4**	199.7
Deferred tax assets	24	**19.1**	15.7
Investment in joint venture	18	**0.1**	0.5
Prepayment for business combination	35	**-**	77.9
Non-current tax assets	12	**3.0**	7.3
		253.4	312.5
Current assets			
Inventories	19	**4.2**	5.0
Trade and other receivables	20	**8.1**	18.9
Current tax assets	12	**1.0**	6.5
Short-term bank deposits	21	**-**	15.0
Cash and cash equivalents	21	**40.7**	44.5
		54.0	89.9
Total assets		**307.4**	402.4
Equity and liabilities			
Ordinary shares	25	**0.3**	0.3
Share premium	27	**622.5**	602.2
Other reserves	29	**15.1**	17.2
Accumulated losses	28	**(512.0)**	(394.9)
Total equity		**125.9**	224.8
Liabilities			
Non-current liabilities			
Deferred tax liabilities	24	**10.9**	24.1
Non-contingent consideration	35	**-**	68.7
Contingent consideration	35	**46.2**	33.6
Non-current trade payables	22	**-**	20.4
		57.1	146.8
Current liabilities			
Non-contingent consideration	35	**80.3**	-
Contingent consideration	35	**15.4**	-
Trade and other payables	22	**28.7**	30.8
		124.4	30.8
Total liabilities		**181.5**	177.6
Total equity and liabilities		**307.4**	402.4

The notes on pages 18 to 53 are an integral part of these financial statements.

The financial statements on pages 12 to 53 were authorised for issue by the Board of Directors on 1 May 2019 and were signed on its behalf by

Steven Harris
Chief Executive Officer
Circassia Pharmaceuticals plc

Julien Cotta
Chief Financial Officer
Circassia Pharmaceuticals plc

Registered number: 05822706

PARENT COMPANY STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2018

	Notes	2018 £m	2017 £m
Assets			
Non-current assets			
Investments in subsidiaries	17	**67.6**	273.5
		67.6	273.5
Current assets			
Trade and other receivables	20	**282.6**	328.2
Short-term bank deposits	21	**-**	15.0
Cash and cash equivalents	21	**0.1**	0.3
		282.7	343.5
Total assets		**350.3**	617.0
Equity and liabilities			
Equity attributable to the owners of the Company			
Ordinary shares	25	**0.3**	0.3
Share premium	27	**622.5**	602.2
Other reserves	29	**11.3**	8.6
(Accumulated losses)/ retained earnings	28	**(289.9)**	1.9
Total equity		**344.2**	613.0
Liabilities			
Current liabilities			
Trade and other payables	22	**6.1**	4.0
		6.1	4.0
Total equity and liabilities		**350.3**	617.0

The loss for the Parent Company for the year was £291.8 million (2017: £1.5 million profit).

The notes on pages 18 to 53 are an integral part of these financial statements.

The financial statements on pages 12 to 53 were authorised for issue by the Board of Directors on 1 May 2019 and were signed on its behalf by

Steven Harris
Chief Executive Officer
Circassia Pharmaceuticals plc

Julien Cotta
Chief Financial Officer
Circassia Pharmaceuticals plc

Registered number: 05822706

CONSOLIDATED AND PARENT COMPANY STATEMENTS OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2018

		Group		Company	
	Notes	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Cash flows from operating activities					
Cash (used in)/generated from operations	30	**(51.3)**	(66.4)	**11.7**	0.4
Interest paid	7	**(0.2)**	(0.1)	**-**	-
Tax credit received	12	**10.9**	8.9	**-**	-
Net cash (used in)/generated from operating activities		**(40.6)**	(57.6)	**11.7**	0.4
Cash flows from investing activities					
Recapitalisation of subsidiary	17	**-**	-	**-**	(9.0)
Purchases of property, plant and equipment	14	**(0.1)**	(0.8)	**-**	-
Purchases of intangible assets	16	**(0.3)**	-	-	-
Proceeds from sale of property, plant and equipment	14	**0.5**	-	-	-
Interest received	7	**0.2**	0.8	**-**	0.7
Joint venture distributions to owners	18	**0.3**	0.2	**-**	-
Loans granted to subsidiary undertakings	20	**-**	-	**(45.5)**	(68.2)
Decrease in short-term bank deposits		**15.0**	5.0	**15.0**	5.0
Net cash generated from/ (used in) investing activities		**15.6**	5.2	**(30.5)**	(71.5)
Cash flows from financing activities					
Proceeds from issuance of ordinary shares	25	**20.4**	-	**20.4**	-
Share issue costs offset against share premium	27	**(0.1)**	(1.6)	**(0.1)**	(1.6)
Acquisition of interest in a subsidiary	17	**-**	-	**(1.7)**	-
Net cash generated from/ (used in) financing activities		**20.3**	(1.6)	**18.6**	(1.6)
Net decrease in cash and cash equivalents		**(4.7)**	(54.0)	**(0.2)**	(72.7)
Cash and cash equivalents at 1 January	21	**44.5**	97.4	**0.3**	73.0
Exchange gains on cash and cash equivalents		**0.9**	1.1	**-**	-
Cash and cash equivalents at 31 December	21	**40.7**	44.5	**0.1**	0.3

The notes on pages 18 to 53 are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2018

	Notes	Ordinary shares £m	Share premium £m	Other [1] reserves £m	Accumulated losses £m	Total equity £m
At 1 January 2017		0.2	563.8	12.5	(295.8)	280.7
Loss for the financial year	28	-	-	-	(99.1)	(99.1)
Currency translation differences	29	-	-	2.2	-	2.2
Total comprehensive income/ (expense)		-	-	2.2	(99.1)	(96.9)
Transactions with owners:						
Issue of ordinary shares	25	0.1	38.4	-	-	38.5
Employee share option scheme	29	-	-	2.5	-	2.5
At 31 December 2017		**0.3**	**602.2**	**17.2**	**(394.9)**	**224.8**
At 1 January 2018		0.3	602.2	17.2	(394.9)	224.8
Loss for the financial year	28	-	-	-	(117.1)	(117.1)
Currency translation differences	29	-	-	(4.8)	-	(4.8)
Total comprehensive expense		-	-	(4.8)	(117.1)	(121.9)
Transactions with owners:						
Issue of ordinary shares	25	-	20.3	-	-	20.3
Employee share option scheme	29	-	-	2.7	-	2.7
At 31 December 2018		**0.3**	**622.5**	**15.1**	**(512.0)**	**125.9**

[1] Other reserves include share option reserve, translation reserve, treasury shares reserve, and transactions with NCI reserve.

The notes on pages 18 to 53 are an integral part of these financial statements.

PARENT COMPANY STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2018

	Notes	Ordinary shares £m	Share premium £m	Share option reserve £m	(Accumulated losses)/ Retained earnings £m	Total equity £m
At 1 January 2017		0.2	563.8	6.1	0.4	576.9
Profit and total comprehensive income	28	-	-	-	1.5	1.5
Transactions with owners:						
Issue of ordinary shares	25, 27	0.1	38.4	-	-	38.5
Employee share option scheme	29	-	-	2.5	-	2.5
At 31 December 2017		**0.3**	**602.2**	**8.6**	**1.9**	**613.0**
At 1 January 2018		0.3	602.2	8.6	1.9	613.0
Loss and total comprehensive expense	28	-	-	-	(291.8)	(291.8)
Transactions with owners:						
Issue of ordinary shares	25, 27	-	20.3	-	-	20.3
Employee share option scheme	29	-	-	2.7	-	2.7
At 31 December 2018		**0.3**	**622.5**	**11.3**	**(289.9)**	**344.2**

The notes on pages 18 to 53 are an integral part of these financial statements.

Notes to the financial statements

1. Summary of significant accounting policies

General information

The Group is a specialty pharmaceutical group focused on the development and commercialisation of respiratory products.

Circassia Pharmaceuticals plc is a public company limited by shares which is listed on the Alternative Investment Market (AIM) and incorporated and domiciled in the United Kingdom. The Company is resident in England and the registered office is The Magdalen Centre, Robert Robinson Avenue, Oxford Science Park, Oxford, Oxfordshire, England, OX4 4GA.

The principal accounting policies adopted in the preparation of this financial information are set out below. These policies have been consistently applied to all the financial years presented, unless otherwise stated.

Basis of preparation

The financial information has been prepared in accordance with International Financial Reporting Standards as adopted by the European Union ('IFRS'), IFRS Interpretations Committee ('IFRS IC') interpretations endorsed by the European Union and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS. The financial statements have been prepared using the historical cost convention modified by the revaluation of certain items, as stated in the accounting policies, and on a going concern basis.

The results shown for the years ended 31 December 2018 and 2017 are audited. The consolidated financial information contained in this announcement does not constitute statutory accounts within the meaning of Section 434 of the Companies Act 2006. Statutory accounts of the Company in respect of the financial year ended 31 December 2018 were approved by the Board of Directors on 1 May 2019 and will be delivered to the Registrar of Companies in due course. The report of the auditors on those accounts was unqualified and did not contain an emphasis of matter paragraph nor any statement under Section 498 of the Companies Act 2006.

The exemption from audit has been claimed for the individual financial statements of Circassia Pharma Limited (registered number 6410308) and Prosonix Limited (registered number 05679156) for the year ended 31 December 2018 under section 479A of Companies Act 2006. Circassia Pharmaceuticals plc has given the required guarantee under section 479C in respect of the reporting year. Circassia Pharma Limited and Prosonix Limited results are included in these consolidated financial statements.

Going concern

Though the Group continues to make losses, the directors have reviewed the current and projected financial position of the Group, taking into account existing cash balances. On the basis of this review, the directors have not identified any material uncertainties to the Group's ability to continue to adopt the going concern basis of accounting for a period of at least 12 months from the date of approval of the financial statements.

The directors note that as at 31 December 2018, the Group is in a net current liability position. This is mainly due to the $125 million consideration payable to AstraZeneca. Payment of this amount is addressed by a loan provided by AstraZeneca.

New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing 1 January 2018:

- IFRS 9 - Financial Instruments
- IFRS 15 - Revenue from Contracts with Customers

The new standards listed above did not have any impact on the amounts recognised in prior periods or the current period and are not expected to significantly affect future periods.

New standards and interpretations not yet adopted

Certain new accounting standards and interpretations have been published that are not mandatory for 31 December 2018 reporting periods and have not been early adopted by the Group. The Group's assessment of the impact of these new standards and interpretations is set out below.

IFRS 16 – Leases

This new standard was issued in January 2016. It will result in almost all leases being recognised on the balance sheet by lessees, as the distinction between operating and finance leases is removed. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay rentals are recognised. The only exceptions are short-term and low-value leases.

The Group has reviewed all leasing arrangements considering the new lease accounting rules in IFRS 16. The standard will affect primarily the accounting for the Group's operating leases.

As at the reporting date, the Group has non-cancellable operating lease commitments of £3.7 million, see note 32. Of these commitments, approximately £0.1 million relates to low value leases which will be recognised on a straight-line basis as expense in profit or loss.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

For the remaining lease commitments, the group expects to recognise right-of-use assets of approximately £2.3 million on 1 January 2019, lease liabilities of £2.5 million (after adjustments for prepayments and accrued lease payments recognised as at 31 December 2018). The related deferred tax asset is immaterial. Overall net assets will be approximately £0.1 million lower, and net current assets will be £0.6 million lower due to the presentation of a portion of the liability as a current liability.

The Group expects that loss after tax will increase by approximately £0.1 million for 2019 as a result of adopting the new rules.

Operating cash flows will increase, and financing cash flows decrease by approximately £1.6 million as repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities.

The Group's activities as a lessor are not material and hence the Group does not expect any significant impact on the financial statements. However, some additional disclosures will be required from next year. The Group will apply the standard from its mandatory adoption date of 1 January 2019. The Group intends to apply the simplified transition approach and will not restate comparative amounts for the year prior to first adoption.

There are no other standards that are not yet effective and that would be expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

Use of estimates and assumptions
The preparation of financial information in conformity with IFRS requires the use of certain critical accounting estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial information and the reported amounts of revenues and expenses during the reporting period. Estimates and judgements are continually made and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable in the circumstances.

Significant accounting estimates and judgements
The preparation of financial statements requires the use of accounting estimates which, by definition, will seldom equal the actual results. Management also needs to exercise judgement in applying the Group's accounting policies. This note provides an overview of the areas that involved a higher degree of judgement or complexity, and of items which are more likely to be materially adjusted due to estimates and assumptions being revised.

The areas involving significant estimates are listed below:

Recognition of deferred tax asset for carried-forward tax losses
The deferred tax assets include an amount of £8.2 million which relates to carried-forward tax losses of Circassia AB (previously known as Aerocrine AB). These losses were generated before the company was acquired by Circassia Pharmaceuticals plc. The Group has concluded that the deferred assets will be recoverable using the estimated future taxable income based on the approved business plans and budgets for the subsidiary. The subsidiary has generated taxable income in both years ended 2017 and 2018 is expected to continue generating taxable income from 2019 onwards. The losses can be carried forward indefinitely and have no expiry date. The judgement is how much of the asset can be recognised based on probable future profits. Changes in the expected future profits of Circassia AB might result in a significantly higher or lower deferred tax asset. A 10% higher or lower taxable profit generated by Circassia AB would result in a £0.8 million higher or lower deferred tax asset recognised.

Accounting for collaboration with AstraZeneca
Following the collaboration and profit share arrangement with AstraZeneca in the previous year, a Purchase Price Allocation exercise was performed in relation to the Duaklir® acquisition. It was considered that the Group assumed control over the Duaklir® business only on this date, as the acquisition of Tudorza® was contingent on net sales achievement. The following key accounting areas were of focus:

—— Valuation of Duaklir® IPR&D
The Excess Earnings Method approach was determined to be the most appropriate methodology to use for the valuation of the In-Process Research & Development (IPR&D). This methodology made use of the same cash flows used in the Duaklir® business valuation with certain key assumptions including a specific rate of return of net working capital, no additional workforce requirement and minimal tangible fixed asset requirements.

As at 31 December 2018, the carrying amount of the Duaklir® IPR&D was £33.3 million (2017: £33.3 million). The Group estimates the useful life of this IPR&D to be 17 years, based on the expected future cash flows that the asset is expected to generate. However, the actual useful life might be shorter or longer than 17 years, depending on product innovations and competitor actions. As at 31 December 2018, the asset is not yet ready for use as the Duaklir® product has not been launched, and therefore this estimate has no impact on the carrying amount in the current year.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

—— Valuation of Duaklir® royalties
As part of the collaboration, Circassia will pay royalties to AstraZeneca on future sales of Duaklir® in the United States. There is some uncertainty over the final amount of future sales and thus royalties due and therefore actual outcomes could differ significantly from the estimates made. Under IFRS 3, these royalties have been classified as additional consideration and initially recognised as an IPR&D asset with a corresponding contingent liability. The value of the IPR&D asset and corresponding liability was calculated by management using a tax-effected NPV of the future royalty cash outflows at the date of the transaction.

As at 31 December 2018, the royalty liability has been remeasured using sales projections based on financial budgets approved by management covering a ten-year period. Expected sales beyond the ten-year period are extrapolated using estimated growth rates. See note 35 for further details.

Accounting for the Tudorza® option exercise
Following the Tudorza® option becoming substantive in October, a Purchase Price Allocation exercise was performed focusing on the following key accounting area:

— Initial valuation of Tudorza® CMP
The Excess Earnings Method approach was determined to be the most appropriate methodology to use for the valuation of the Currently Marketed Product (CMP). This methodology made use of the cash flows associated with the Tudorza® business with certain key assumptions including a specific rate of return of net working capital, workforce requirements and minimal tangible fixed asset requirements. In addition, the Cost Approach was used to value the Assembled Workforce. As per IAS 38, the fair value of the Assembled Workforce has not been recognised as a separate intangible asset. The valuation of the Assembled Workforce was solely used for allowing a return on the Assembled Workforce in the valuation analyses of the CMP.

Investments
Circassia Pharmaceuticals plc holds a number of investment balances in subsidiary companies. Investment impairment reviews are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. Judgements and estimates are made in respect of the carrying value of the cash generating units (CGUs) containing the investment. If there is a significant impairment of a particular CGU or if the Group's market capitalisation remains below the carrying value of Circassia Pharmaceuticals plc's aggregate investment in subsidiaries, this could result in an impairment of the investment. Please see note 17 for sensitivity analysis and further information.

The areas involving judgement are listed below:

Date of acquisition regarding Tudorza® option exercise
The business combination relating to the exercise of the Tudorza® option has been accounted for on 23 October 2018. This is determined to be the point at which there were no barriers to prevent Circassia from exercising the option, rather than 11 December 2018, being the date at which formal notice of exercise was served to AstraZeneca.

Non-underlying items
The Group presents certain items of income and expense as non-underlying in the Consolidated Statement of Comprehensive Income. Management primarily manage the business and measure performance based on the results of "underlying operations". Significant irregular and exceptional items are classified as "non-underlying" items and are excluded from the underlying measures. This is a judgemental area and is performed by management.

Consolidation
Subsidiaries
Subsidiaries are all entities (including structured entities) over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date that control ceases. Inter-company transactions, balances and unrealised gains and losses on transactions between Group companies are eliminated. Accounting policies of subsidiaries are consistent with the policies adopted by the Group. Acquisition-related costs are expensed as incurred.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Joint arrangements
The Group applies IFRS 11 to all joint arrangements. Under IFRS 11 investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations of each investor. Circassia Pharmaceuticals plc has assessed the nature of its joint arrangements and determined them to be joint ventures. Joint ventures are accounted for using the equity method.

Under the equity method of accounting, interests in joint ventures are initially recognised at cost and adjusted thereafter to recognise the Group's share of the post-acquisition profits or losses and movements in other comprehensive income. When the Group's share of losses in a joint venture equals or exceeds its interests in the joint ventures (which includes any long-term interests that, in substance, form part of the Group's net investment in the joint ventures), the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the joint ventures.

Unrealised gains on transactions between the Group and its joint ventures are eliminated to the extent of the Group's interest in the joint ventures. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of the joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

Segmental reporting
The Group had four business segments during 2018, allergy, respiratory, NIOX® and US AZ collaboration. This is consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance, has been identified as the Executive Directors, who make strategic decisions.

The allergy and respiratory operating segments have been classified as discontinued operations. Information about these discontinued segments is provided in note 10.

Discontinued operations
A discontinued operation is a component of the Group's business that represents a separate major line of business or geographical area of operations that will not be progressed in the future. Discontinued operations are presented on the income statement as a separate line and are shown net of tax. Cash flows relating to discontinued operations are disclosed in the notes.

The decision to treat the allergy business as discontinued was made on 25 April 2017 when the Group announced a decision to cease all further activities on the allergy programmes. As such, the allergy programme costs and the associated research and development tax credit for the year ended 31 December 2017 and 31 December 2018 are classified as discontinued operations in the Consolidated statement of comprehensive income in accordance with IFRS 5 requirements.

The respiratory programme costs and the associated research and development tax credit for the year ended 31 December 2017 have been reclassified as discontinued operations in the Consolidated statement of comprehensive income in accordance with IFRS 5 requirements. The decision to treat the in-house respiratory pipeline as discontinued was made in April 2018 when the Group announced a decision to cease investment in the respiratory pipeline and to seek an out-license partner.

Financial instruments
The Group's financial instruments comprise cash and cash equivalents, short-term bank deposits, receivables and payables arising directly from operations.

Cash and cash equivalents comprise cash in hand and short-term deposits which have an original maturity of three months or less and are readily convertible into known amounts of cash. Such assets are classified as current, where management intend to dispose of the asset within 12 months of the end of the reporting period. Bank deposits with maturity of more than 12 months after the end of the reporting period are classified as non-current assets.

Where derivatives exist in the financial year, they are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value at each reporting date, with any resulting gain or loss recognised through profit or loss.

The Group does not have any committed borrowing facilities. Payment of the $125 million consideration payable and the $18.3 million R&D payment is addressed by a five-year loan provided by AstraZeneca. Cash balances are mainly held on short and medium term deposits with quality financial institutions, in line with the Group's policy to minimise the risk of loss. The main risks associated with the Group's financial instruments relate to interest rate risk and foreign currency risk (note 2).

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Trade and other receivables
Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. They are generally due for settlement within 30 days and therefore are all classified as current. Trade receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less credit loss allowance. In respect of 2018 and subsequent years, the Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets. In respect of 2017, the Group applied as incurred loss methodology, in accordance with IAS39.

Trade receivables are written off when there is no reasonable expectation of recovery.

Other receivables are recognised initially at fair value and subsequently measured at amortised cost, using the effective interest method, less provision for impairment.

Trade and other payables
Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. They are initially recognised at fair value and subsequently held at amortised cost. Accounts payable are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities.

Leases
Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the income statement on a straight line basis over the period of the lease.

Goodwill and Intangible assets
Intangible fixed assets, relating to goodwill, customer relationships, technology, intellectual property rights and currently marketed products acquired through licensing or assigning patents and know-how are carried at historical cost, less accumulated amortisation, where the useful economic life of the asset is finite, and the asset will probably generate economic benefits exceeding costs.

Amortisation is calculated using the straight line method to allocate the cost of intangible assets over their estimated useful lives, as follows:

Intangible asset	Estimated useful lives
IPR&D	5 – 17 years
CMP	13 years
Customer Relationships	18 years
Technology	15 – 20 years
Software	5 years

Goodwill arising on the acquisition of subsidiaries represents the excess of the consideration transferred, the amount of any non-controlling interests in the acquiree and the acquisition date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the CGUs, or groups of CGUs, that are expected to benefit from the synergies of the combination. Each unit or group of units to which the goodwill is allocated represents the lowest level within the entity at which the goodwill is monitored for internal management purposes. Goodwill is monitored at the operating segment level.

Goodwill impairment reviews are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The carrying value of the CGU containing the goodwill is compared to the recoverable amount, which is the higher of value in use and the fair value less costs of disposal. Any impairment is recognised immediately as an expense and is not subsequently reversed.

Where an acquired intangible asset is not yet available for use in the manner intended by management, the asset is tested annually for impairment by allocating the assets to the CGUs to which they relate. Amortisation would commence when product candidates underpinned by the intellectual property rights become available for commercial use. Amortisation would be calculated on a straight line basis over the shorter of the remaining useful life of the intellectual property or the estimated sales life of the product candidates.

Expenditure on product development is capitalised as an intangible asset and amortised over the expected useful economic life of the product candidate concerned. Capitalisation commences from the point at which technical feasibility and commercial viability of the product candidate can be demonstrated and the Group is satisfied that it is probable that future economic benefits will result from the product candidate once completed. Capitalisation ceases when the product candidate receives regulatory approval for launch. No such costs have been capitalised to date.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Expenditure on research and development activities that do not meet the above criteria, including ongoing costs associated with acquired intellectual property rights and intellectual property rights generated internally by the Group, is charged to the income statement as incurred. Intellectual property and in-process research and development from acquisitions are recognised as intangible assets at fair value. Any residual excess of consideration over the fair value of net assets in an acquisition is recognised as goodwill in the financial statements.

Computer Software
Expenditure on software costs is capitalised as an intangible asset and amortised over the expected useful economic life of the software. Until such an asset is fully developed, the costs are capitalised and classified within intangibles assets as 'Software in development'. These costs are not amortised until the software has been fully developed and operational, at which point the total cost of the software development is amortised over its estimated useful life.

Investments
Investments in subsidiary companies are recognised and carried at cost less any identified impairment losses at the end of each reporting period. Investments are impaired where there is objective evidence that the estimated future cash flows of the investment have been affected.

Inventories
Inventories are valued at the lower of the acquisition cost and the net realisable value. The FIFO (first in, first out) principle is used to calculate the value of inventories. Inventories mainly comprise products for sale and stocks of components for the service activities in Sweden and the US. The acquisition value comprises all expenses for purchases. The net realisable value is the expected sale price less expected costs for preparation and selling. Write-downs of inventory occur in the general course of business and are recognised in cost of sales.

Impairment of non-financial assets
Assets that have an indefinite useful life, for example goodwill or intangible assets not ready for use, are not subject to amortisation and are tested annually for impairment. Assets that are subject to amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at each reporting date. Charges or credits for impairment are passed through the income statement.

Property, plant and equipment
Property, plant and equipment is stated at historical cost less depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of the items. Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of replaced parts is derecognised. All other repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

Depreciation is calculated using the straight-line method to allocate the cost of assets over their estimated useful lives, as follows:

Property, plant and equipment	Depreciation rate
Leasehold improvements	Over the life of the unbreakable portion of the lease
Fixtures and fittings	20%
Plant and equipment	10% - 33%

Individually significant tangible assets that are intended to be held by the Group for use in the production or supply of goods and services or for administrative purposes and that are expected to provide economic benefit for more than one year are capitalised. All other assets of insignificant value are charged to the income statement in the year of acquisition.

Costs incurred relating to an asset that is not yet complete are capitalised and held as 'Assets under construction' until they are brought into use. The asset is then transferred to the appropriate asset class and depreciated in line with the policy above.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Provisions
Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. If the amounts involved are significant, provisions are determined by discounting the expected future cash flows at a pre-tax rate which reflects the current market assessment of the time value of money and, when appropriate, the risks specific to the liability.

Where a leasehold property substantially ceases to be used for the Group's business, or a commitment is entered into which would cause this to occur, provision is made to the extent that the recoverable amount of the interest in the property is expected to be insufficient to cover the future obligations relating to the lease.

A charge for restructuring costs is taken to the income statement when the Group has approved a detailed and formal restructuring plan, and the restructuring has either commenced or the Group has a constructive obligation, for example having made an announcement publicly to the employee or the Group as a whole.

Deferred non-contingent consideration
Deferred non-contingent consideration is measured by discounting the liability, where the effect of the time value of money is material, using a pre-tax discount rate that reflects current market assessments of the time value of money and, when appropriate, the risks specific to the liability. Where discounting is used, the increase in the liability due to the passage of time is recognised as an interest expense in the income statement.

Deferred contingent consideration
Deferred contingent consideration is recognised as a liability and measured at fair value on the acquisition date. It is measured by discounting the liability, where the effect of the time value of money is material, using a pre-tax discount rate that reflects current market assessments of the time value of money and, when appropriate, the risks specific to the liability. The liability is subsequently measured at fair value at each reporting date, with changes in fair value recognised as other gains or losses in the income statement. Where discounting is used, the increase in the liability due to the passage of time is recognised as an interest expense in the income statement.

Contingent royalty consideration
In a business combination, future royalty payments owed to the seller are treated as contingent consideration. The contingent consideration is recognised as a liability, an asset or equity depending on its terms. A contingent consideration arrangement is initially measured at fair value on the acquisition date based on a tax-effected net present value basis of the future cash outflows. Contingent consideration that is classified as a liability is remeasured to fair value at each reporting date, with changes included in the income statement in the post-combination period until the uncertainty is resolved.

Cash and cash equivalents
In the consolidated statement of cash flows, cash and cash equivalents include cash in hand, deposits held on call with banks, and other short-term highly liquid investments with original maturities of three months or less from the date of original investment.

Share capital
Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Employee benefit costs
The Group makes contributions to defined contribution personal pension schemes for its directors and employees. The pension cost charge recognised in the year represents amounts payable by the Group to the funds. The Group has no further payment obligations once the contributions have been paid. The contributions are recognised as employee benefit expense when they are due.

Share based payments
The Group operates a number of equity-settled, share based compensation plans, under which the entity receives services from employees as consideration for equity instruments (options) of the Group. The fair value of the employee services received in exchange for the grant of the options is recognised as an expense. The total amount to be expensed is determined by reference to the fair value of the options granted:

- including the effect of any market performance conditions (for example, an entity's share price);
- excluding the impact of any service and non-market performance vesting conditions (for example, profitability, sales growth targets and remaining an employee of the entity over a specified time period); and
- including the impact of any non-vesting conditions (for example, the requirement for employees to save).

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Non-market performance and service conditions are included in assumptions about the number of options that are expected to vest. The total expense is recognised over the vesting period, which is the period over which all of the specified vesting conditions are to be satisfied.

The grant by the Company of options over its equity instruments to the employees of subsidiary undertakings in the Group is treated as a capital contribution. The fair value of employee services received, measured by reference to the grant date fair value, is recognised over the vesting period as an increase to investment in subsidiary undertakings, with a corresponding credit to equity in the parent entity financial statements.

The Group's employees participate in various share option schemes as disclosed in note 26. Equity settled share based payments are measured at fair value at the date of grant and expensed on a straight line basis over the vesting period of the award. At the end of each reporting period the Group revises its estimate of the number of options with non-market performance conditions that are expected to become exercisable. The financial consequences of revisions to the original estimates, if any, are recognised in the income statement, with a corresponding adjustment to equity.

The fair value of share options is measured using either the Black Scholes option pricing model or the Monte Carlo Simulation. This is dependent on the conditions attached to each of the issued options. Where conditions are non-market based the Black Scholes option pricing model is used. Where market based conditions are attached to options, the fair value is determined using the Monte Carlo Simulation.

Other employee benefits
The expected cost of compensated short-term absence (e.g. holidays) is recognised when employees render services that increase their entitlement. An accrual is made for holidays earned but not taken, and prepayments recognised for holidays taken in excess of days earned.

Revenue
Revenue is accounted for under IFRS 15. Revenue comprises the fair value of consideration received or receivable for the sale of goods and services in the ordinary course of the Group's activities. Revenue is shown net of value added tax and trade discounts and after elimination of intra-Group sales. Income is reported as follows:

Sale of goods
The Group sells medical technology equipment that enables inflammation of the airways to be measured as well as consumable items and spare parts. Revenue is recognised when a contractual promise to a customer (performance obligation) has been fulfilled by transferring control of the product to the customer, substantially all of which is on confirmation of delivery to the customer.

Rendering of services
Under the AstraZeneca collaboration agreement, the Group promotes the chronic obstructive pulmonary disease (COPD) treatment Tudorza® in the United States. Revenues recognised are the amounts invoiced to AstraZeneca pursuant to the right to collaborate with AstraZeneca on the commercialisation and development of Tudorza® in the United States. Revenue is recognised in the accounting periods in which the services are rendered.

Foreign currency translation
Monetary assets and liabilities in foreign currencies are translated into Sterling at the rates of exchange ruling at the end of the financial year. Transactions in foreign currencies are translated into Sterling at the rates of exchange ruling at the date of the transaction. Foreign exchange differences are taken to the income statement in the year in which they arise and presented within 'Other gains and losses'.

Foreign exchange differences on translation of foreign operations into the Group presentational currency, are recognised as a separate element of other comprehensive income. Cumulative exchange differences are presented in a separate component of equity entitled 'Translation reserve'.

Notes to the financial statements

1. Summary of significant accounting policies (continued)

Taxation including deferred tax

The charge for current tax is based on the results for the year, adjusted for items which are non-assessable or disallowed. It is calculated using tax rates that have been enacted or substantively enacted at the end of each reporting period.

The Group is entitled to claim tax credits in the United Kingdom for certain research and development expenditure. The amount included in the financial statements at the year end represents the credit receivable by the Group for the year and adjustments to prior years.

Deferred tax is accounted for using the liability method in respect of temporary differences arising from differences between the carrying amount of assets and liabilities in the financial information and the corresponding tax bases used in the computation of taxable profit. In principle, deferred tax liabilities are recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised.

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries and joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred tax is calculated at the average tax rates that are expected to apply to the period when the asset is realised or the liability is settled. Deferred tax is charged or credited in the statement of comprehensive income, except when it relates to items credited or charged directly to equity, in which case the deferred tax is also dealt with in equity.

2. Financial and capital risk management

Capital risk management

The Group's objectives when managing capital are to safeguard the ability to continue as a going concern and ensure that sufficient capital is in place to fund the Group's activities. The Group's principal method of adjusting the capital available has been through issuing new shares. During 2018, the Company issued 23,725,800 ordinary shares with a value of £20.4 million to AstraZeneca (AZ). The Group's capital is comprised of share capital and share premium, which are disclosed in notes 25 and 27 respectively. The Group monitors the availability of capital through forecasting future expenditure on an ongoing basis.

Transaction and translation risk

Foreign exchange fluctuations may adversely affect the Group's results and financial condition. The Group prepares its financial statements in British pound sterling, but a significant proportion of its expenditure and subsidiary results are in various currencies including United States dollar, Swedish krona, euro and Chinese yuan. The Group does not currently hedge against translation risk.

Financial risk factors

The Group's simple structure and the lack of external debt financing reduces the range of financial risks to which it is exposed. Monitoring of financial risk is part of the Board's ongoing risk management, the effectiveness of which is reviewed annually. The Group's agreed policies are implemented by the Chief Executive Officer, who submits periodic reports to the Board.

Foreign exchange risk

The majority of operating costs are denominated in British pound sterling, United States dollar, Swedish krona or euro. Foreign exchange risk arises from future commercial transactions and recognised assets and liabilities.

In relation to foreign currency risk, the Group's policy is to hold the majority of its funds in sterling, monitor foreign currency rates and purchase foreign currency at spot rates. The change in foreign exchange rates that is assessed to be reasonably likely for each currency in 2018 is 10% (2017: 10%).

At 31 December 2018, if the euro had weakened/strengthened by 10% against sterling with all other variables held constant, the post tax loss for the year would have been £0.5 million (2017: £0.4 million) lower/higher, as a result of net foreign exchange gains/losses on translation of euro denominated payables, receivables and foreign exchange losses/gains on translation of euro denominated bank balances.

The impact on post tax loss at 31 December 2018 of a 10% weakening/strengthening of the US dollar against British pound sterling with all other variables held constant would have been a decrease/increase of £0.7 million (2017: £2.7 million), as a result of net foreign exchange gains/losses on translation of dollar denominated payables, receivables and foreign exchange losses/gains on translation of dollar denominated bank balances.

Notes to the financial statements

2. Financial and capital risk management (continued)

Interest rate risk

The Group's policy in relation to interest rate risk is to monitor short and medium term interest rates and to place cash on deposit for periods that optimise the amount of interest earned while maintaining access to sufficient funds to meet day to day cash requirements.

The Group does not have any committed external borrowing facilities, as its cash and cash equivalents and short-term deposit balances are sufficient to finance its current operations. Consequently, there is no material exposure to interest rate risk in respect of interest payable.

If interest rates had been 10 basis points higher/lower the impact on net loss in 2018 would have been an increase/decrease of £0.0 million (2017: £0.1 million) due to changes in the amount of interest receivable.

Credit risk

Credit risk arises from cash and cash equivalents, deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables.

i) Risk management

The Group's policy is to place funds with financial institutions which have a minimum credit rating with Fitch IBCA of A-long-term/F1 short-term. During 2018, the Group opened a bank account with China Merchant Bank which has a Fitch IBCA rating of BBB. This is a short-term arrangement until a permanent solution is implemented.

During 2018 the Group placed funds on deposit with 8 banks (2017: 6 banks). The Group does not allocate a quota to individual institutions but seeks to diversify its investments, where this is consistent with achieving competitive rates of return. It is the Group's policy to place not more than £35 million (or the equivalent in other currencies) with any one counterparty.

The value of financial instruments held represents the maximum exposure that the Group has to them. There is no collateral held for this type of credit risk.

No credit limits were exceeded during any of the periods reported, and management does not expect any material losses from non-performance by these counterparties.

ii) Impairment of financial assets

The Group only has one type of financial asset that is subject to the expected credit loss model being trade receivables. The Company only has one type of financial asset that is subject to the expected credit loss model being receivables from subsidiary undertakings. While cash and cash equivalents are also subject to the impairment requirements of IFRS 9, the identified impairment loss was immaterial.

The Group and Company applies the IFRS 9 simplified approach to measuring expected credit losses which uses an expected loss allowance for all trade receivables and receivables from subsidiary undertakings. To measure the expected credit losses, trade receivables and receivables from subsidiary undertakings have been grouped based on the days past due.

The expected loss rates are based on the payment profiles of sales over a period of 36 months before 31 December 2018 and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward looking information on macroeconomic factors affecting the ability of the customers to settle the receivables.

On that basis, the loss allowance as at 31 December 2018 was determined as follows:

Group **31 December 2018**	**Current** **£m**	**More than 30 days past due** **£m**	**More than 60 days past due** **£m**	**More than 90 days past due** **£m**	**Total** **£m**
Expected loss rate	2%	12%	10%	8%	
Gross trade receivables carrying amount	3.4	0.1	0.1	0.2	3.8
Loss allowance	**(0.1)**	**-**	**-**	**-**	**(0.1)**

Company **31 December 2018**	**Current** **£m**	**More than 30 days past due** **£m**	**More than 60 days past due** **£m**	**More than 90 days past due** **£m**	**Total** **£m**
Expected loss rate	24%	0%	0%	0%	
Gross receivables from subsidiary undertakings carrying amount	373.1	-	-	-	373.1
Loss allowance	**(91.4)**	**-**	**-**	**-**	**(91.4)**

Notes to the financial statements

2. Financial and capital risk management (continued)

The closing loss allowance as at 31 December 2018 reconciles to the opening loss allowances as follows:

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Opening loss allowance as at 1 January	**-**	(0.2)	**-**	-
Increase in loss allowances recognised in profit or loss during the year	**(0.1)**	-	**(91.4)**	-
Receivables written off during the year as uncollectible	**-**	0.1	**-**	-
Unused amount reversed	**-**	0.1	**-**	-
At 31 December	**(0.1)**	-	**(91.4)**	**-**

Trade receivables are written off where there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include, amongst others, the failure of a debtor to engage in a repayment plan with the Group, and a failure to make contractual payments for a period of greater than 120 days past due.

Impairment losses on trade receivables and receivables from subsidiary undertakings are presented within operating profit. Subsequent recoveries of amounts previously written off are credited against the same line item.

Cash flow and liquidity risk

Funds are generally placed on deposit with the maturity profile of investments being structured to ensure that sufficient liquid funds are available to meet operating requirements. The directors do not consider that there is presently a material cash flow or liquidity risk.

The table below analyses the Group's financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The only financial liability outstanding for periods greater than one year in 2018 is a proportion of the contingent royalty consideration relating to sales of Duaklir® and Tudorza® made in 2020 and onwards. Financial liabilities outstanding for periods greater than one year in 2017 included non-contingent consideration, contingent royalty consideration and R&D contribution payable to AstraZeneca. The amounts disclosed in the table are the contracted cash flows discounted to present value where such impact is material:

At 31 December	**Less than 1 year 2018 £m**	**Over 1 year 2018 £m**	Less than 1 year 2017 £m	Over 1 year 2017 £m
Non-contingent consideration	**80.3**	**-**	-	68.7
Contingent consideration	**15.4**	**46.2**	-	33.6
Trade and other payables	**28.7**	**-**	30.8	20.4
Total	**124.4**	**46.2**	30.8	122.7

As at 31 December 2018, the Group is in a net current liability position. This is mainly due to the $125 million consideration payable to AstraZeneca. Payment of this amount is addressed by a loan provided by AstraZeneca.

Derivative financial instruments and hedging

There were no derivatives at 31 December 2018 or 31 December 2017.

3. Operating segments

The chief operating decision-maker (the Chief Executive Officer) is responsible for making key operating decisions in the Group. Assessment of performance and decisions regarding the allocation of resources are made by operating segment. The 2018 operating segments are identified within the Group by product portfolios:

- NIOX® relates to the portfolio of products used to improve asthma diagnosis and management by measuring fractional exhaled nitric oxide (FeNO); and
- US AZ collaboration relates to the US collaboration agreement with AstraZeneca regarding the commercialisation of Tudorza® and Duaklir®.

The allergy and respiratory operating segments have been classified as discontinued operations. Information about these discontinued segments is provided in note 10.

There were no sales between the segments in either reporting year.

The table below presents information regarding the Group's operating segments for the years ended 31 December 2018 and 2017. Costs shared between the segments are not allocated to individual segments for decision making purposes. These are disclosed under the column headed 'Unallocated'.

Notes to the financial statements

3. Operating segments (continued)

Segment operating loss

Year ended 31 December 2018	NIOX® £m	US AZ collaboration £m	Unallocated £m	Total £m
Revenue (from external customers by country, based on the destination of the customer)				
US	9.4	20.9	-	30.3
EU	8.4	-	-	8.4
Asia Pacific	9.5	-	-	9.5
Rest of world	0.1	-	-	0.1
Total segment revenue	**27.4**	**20.9**	**-**	**48.3**
Research and development	(3.2)	(1.0)	(6.6)	(10.8)
Sales and marketing	(32.3)	(22.1)	-	(54.4)
Administrative expenses	-	-	(11.4)	(11.4)
Operating loss from continuing operations	**(17.0)**	**(2.2)**	**(18.0)**	**(37.2)**
Depreciation, amortisation & impairment included in the expenditure above	(3.8)	-	(0.6)	(4.4)

Year ended 31 December 2017 Restated[1]	NIOX® £m	US AZ collaboration £m	Unallocated £m	Total £m
Revenue (from external customers by country, based on the destination of the customer)				
US	9.5	19.0	-	28.5
EU	8.4	-	-	8.4
Asia Pacific	9.3	-	-	9.3
Rest of world	0.1	-	-	0.1
Total segment revenue	**27.3**	**19.0**	**-**	**46.3**
Research and development	(4.4)	(45.1)	(8.9)	(58.4)
Sales and marketing	(32.6)	(16.8)	(0.1)	(49.5)
Administrative expenses	-	-	(10.6)	(10.6)
Operating loss from continuing operations	**(19.7)**	**(42.9)**	**(19.6)**	**(82.2)**
Depreciation, amortisation & impairment included in the expenditure above	(4.2)	-	(0.7)	(4.9)

Assets by segment

As at 31 December 2018	NIOX® £m	US AZ collaboration £m	Unallocated £m	Total £m
Cash, cash equivalents and short term deposits	7.1	4.9	28.7	40.7
Property, plant and equipment	-	0.5	-	0.5
Goodwill	5.2	4.1	-	9.3
Intangible assets	50.7	170.7	-	221.4
Deferred tax assets	8.2	10.9	-	19.1
Investment in joint venture	-	0.1	-	0.1
Non-current tax assets	-	3.0	-	3.0
Inventories	4.2	-	-	4.2
Trade and other receivables	6.1	2.0	-	8.1
Current tax assets	-	1.0	-	1.0
Total assets	**81.5**	**197.2**	**28.7**	**307.4**

As at 31 December 2017 Restated[1]	NIOX® £m	US AZ collaboration £m	Unallocated £m	Total £m
Cash, cash equivalents and short term deposits	3.7	55.8	-	59.5
Property, plant and equipment	-	1.4	-	1.4
Goodwill	5.4	0.2	4.4	10.0
Intangible assets	74.9	124.8	-	199.7
Deferred tax assets	-	15.7	-	15.7
Investment in joint venture	-	0.5	-	0.5
Prepayment for business combination	-	77.9	-	77.9
Non-current tax assets	-	7.3	-	7.3
Inventories	-	5.0	-	5.0
Trade and other receivables	-	18.9	-	18.9
Current tax assets	-	6.5	-	6.5
Total assets	**84.0**	**314.0**	**4.4**	**402.4**

[1]Restated to show the results of the respiratory business in discontinued operations, see note 10 for further details.

Notes to the financial statements

4. Revenue from contracts with customers

The Group derives the following types of revenue:

	2018 £m	2017 £m
Sale of goods	**27.0**	27.2
Rendering of services	**21.3**	19.0
Licence and milestone revenue	**-**	0.1
Total revenue from contracts with customers	**48.3**	46.3

All revenue is recognised at a point in time, rather than over time.

5. Employees and directors

The average monthly number of persons (including Executive Directors) employed during the year was:

	Group		**Company**	
By activity	**2018 Number**	2017 Number	**2018 Number**	2017 Number
Office and management	**43**	42	**8**	7
Sales and marketing	**285**	256	**-**	-
Research and development	**39**	68	**-**	-
Total average headcount	**367**	366	**8**	7

The average number of administration staff employed by the Group during the year, including Executive and Non-Executive Directors, was 2 (2017: 2).

Employee benefit costs	**Group**		**Company**	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Wages and salaries	**39.1**	39.6	**1.5**	1.4
Social security costs	**5.7**	3.2	**0.2**	0.2
Other pension costs	**1.5**	1.5	**-**	0.1
Share options expense	**2.7**	2.5	**-**	-
Total employee benefit costs	**49.0**	46.8	**1.7**	1.7

The Group contributes to defined contribution pension schemes for its Executive Directors and employees. Contributions of £0.1 million (included in other payables) were payable to the funds at the year end (2017: £0.1 million).

The details of directors of the Group who received emoluments from the Group during the year are shown in the Remuneration Committee report.

Key management personnel

The average number of key management personnel employed by the Group during the year including directors (Executive and Non-Executive) was 13 (2017: 13).

Key management personnel during the year included directors (Executive and Non-Executive), Senior VP of Commercial US, Senior VP of General Counsel and Chief Compliance Officer, Senior VP of Human Resources and Senior VP of Commercial EU & RoW. The compensation paid or payable to key management is set out below.

	2018 £m	2017 £m
Short-term employee benefits (including bonus)	**3.7**	3.0
Post-employment benefits	**0.1**	0.2
Share based payment	**1.0**	0.8
Total	**4.8**	4.0

Notes to the financial statements

6. Other gains and losses

	2018 £m	2017 £m
Net foreign exchange gain/ (loss)	**1.9**	(1.1)
Change in fair value of contingent Duaklir® royalty consideration	**(1.1)**	3.2
Change in fair value of deferred consideration	**5.4**	-
Foreign exchange (loss)/ gain on non-contingent consideration	**(4.4)**	5.4
Foreign exchange (loss)/ gain on contingent royalty consideration	**(2.5)**	2.9
Foreign exchange loss on exercise of Tudorza® option	**(2.7)**	-
Foreign exchange loss on contingent consideration	**(0.3)**	-
Total other gains and losses	**(3.7)**	10.4

A £5.4 million gain on change in fair value of the deferred non-contingent consideration between date of the initial business combination and Tudorza® option exercise has been recognised. This gain has arisen due to the unwinding of the discount on the consideration payable between initial recognition on 12 April 2017 and 23 October 2018, being the date that Circassia Limited had the substantive rights to exercise the Tudorza® option. See note 35.

7. Finance income and costs

	2018 £m	2017 £m
Finance costs:		
Bank charges and interest payable	**(0.1)**	(0.1)
Non-contingent consideration: unwinding of discount	**(7.2)**	(2.7)
Contingent royalty consideration: unwinding of discount	**(3.5)**	-
Non-current trade payables: unwinding of discount	**(1.2)**	-
Total finance costs	**(12.0)**	(2.8)
Finance income:		
Bank interest receivable	**0.3**	0.4
Total finance income	**0.3**	0.4

8. Operating expenses by nature

Operating loss is stated after charging the following:

	2018 £m	2017 £m
Employee benefit costs (note 5)	**49.0**	46.8
Externally contracted research and development[1]	**1.6**	52.7
Marketing costs	**10.7**	10.0
Legal and professional fees including patent costs	**7.5**	3.6
Depreciation[2]	**0.6**	0.8
Amortisation[2]	**3.8**	4.1
Impairment of goodwill and other intangible assets	**75.0**	37.0
Operating lease payments	**0.8**	0.8

[1] 2017 includes AZ R&D contribution of £45.1 million, see note 11.
[2] Depreciation and amortisation is included on the face of the statement of comprehensive income within 'Research and development costs', 'Sales and marketing' and 'Administrative expenses'

9. Auditors' remuneration

Services provided by the Group's auditors and its associates
During the year the Group obtained the following services from the Group's auditors and its associates:

	2018 £m	2017 £m
Fees payable to the Group's auditors and its associates for the audit of the Parent Company and consolidated financial statements	**0.2**	0.2
Fees payable to the Group's auditors and its associates for other services:		
- The audit of the Company's subsidiaries	**0.1**	0.1
- Other assurance services[1]	**-**	0.2
Total	**0.3**	0.5

[1] Other assurance services in 2017 mainly relate to reporting accountant services performed on prospective acquisitions. 2017 costs were offset against the share premium reserve.

Notes to the financial statements

10. Discontinued operations

During 2017 it was announced that the Group would no longer continue development of the allergy programmes. Subsequently during 2018, it was announced that the Group would cease investment in the in-house respiratory pipeline. As such, the allergy and respiratory programme costs and the associated research and development tax credit are classified as discontinued operations in the consolidated statement of comprehensive income to comply with IFRS 5 requirements.

Loss for the year	Notes	**2018**	2017 Restated[1]
		£m	£m
Expenditure		**(3.7)**	(8.7)
Goodwill and intangible assets impairment		**(75.0)**	(37.0)
Share of loss of joint venture	18	**(0.1)**	(0.2)
Loss before tax		**(78.8)**	(45.9)
Taxation	12	**8.3**	7.3
Loss from discontinued operations		**(70.5)**	(38.6)

Cash flow	**2018**	2017 Restated[1]
	£m	£m
Net cash outflow from operating activities	**(0.3)**	(4.7)
Net decrease in cash from discontinued operations	**(0.3)**	(4.7)

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details

The disposal groups constituting discontinued operations are all held at fair value less cost to sell.

11. Non-underlying items

Management primarily manage the business and measure performance based on the results of "underlying operations". Significant irregularly occurring and exceptional items are excluded from the underlying measures. The following non-underlying items have been recognised in the income statement for the period:

	Notes	**2018**	2017 Restated[1]
		£m	£m
Charged to research and development costs			
AZ R&D contribution		**-**	(45.1)
		-	(45.1)
Charged to sales and marketing costs			
Restructuring costs		**(2.9)**	-
		(2.9)	-
(Charged)/credited to administrative expenses			
AIM transfer costs		**(0.3)**	-
Restructuring costs		**-**	0.1
		(0.3)	0.1
(Charged)/credited to other gains and losses			
Foreign exchange movement on non-contingent consideration	35	**(4.4)**	5.4
Change in fair value of deferred consideration	35	**5.4**	-
Foreign exchange movement on contingent consideration	35	**(0.3)**	-
Change in fair value of contingent Duaklir® royalty consideration	35	**(1.1)**	3.2
Foreign exchange movement on exercise of Tudorza® option exercise	35	**(2.7)**	-
Foreign exchange movement on contingent royalty consideration	35	**(2.5)**	2.9
		(5.6)	11.5
Charged to finance costs			
Contingent royalty consideration: unwinding of discount	35	**(7.1)**	-
Contingent consideration: unwinding of discount	35	**(0.1)**	-
Non-contingent consideration: unwinding of discount	35	**(3.5)**	(2.7)
Non-current trade payables: unwinding of discount	35	**(1.2)**	-
		(11.9)	(2.7)
Loss before tax		**(20.7)**	(36.2)
Credited to taxation		**-**	10.2
Loss from continuing operations		**(20.7)**	(26.0)
Loss from discontinued operations	10	**(70.5)**	(38.6)
Total loss		**(91.2)**	(64.6)

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details

Notes to the financial statements

11. Non-underlying items (continued)

AstraZeneca R&D contribution
2017 includes a R&D contribution of £45.1 million for Tudorza® and Duaklir® product development.

Restructuring costs
Restructuring costs comprise cost optimisation initiatives including severance payments, compensation for loss of office, property and other contract termination costs. Restructuring in 2018 relates to the resizing of the US field force, and as such allocated to sales and marketing. Restructuring in 2017 related to property costs in relation to the closure of the Solna office in Sweden, and therefore allocated to administrative expenses.

AIM transfer costs
AIM transfer costs comprise professional fees in relation to the transfer of Circassia Pharmaceuticals plc shares from the Main Market to AIM.

Non-contingent consideration
The £4.4 million (2017: £5.4 million) foreign exchange movement on non-contingent consideration relates to the impact of the strengthening dollar on translation of the $100 million and $5 million deferred non-contingent consideration payable to AstraZeneca. The consideration was measured by discounting the liability with £3.5 million (2017: £2.7 million) increase in the liability due to the passage of time (unwinding of discount) recognised as a finance cost in the year.

Contingent consideration
Contingent consideration relates to the $20 million payable to AstraZeneca on approval of Duaklir®. The consideration was measured by discounting the liability with £0.1 million (2017: £nil) increase in the liability due to the passage of time (unwinding of discount) recognised as a finance cost in the year. The £0.3 million (2017: £nil) foreign exchange movement on non-contingent consideration relates to the impact of the strengthening dollar.

Contingent royalty consideration
Contingent royalty consideration relates to the amount of royalties payable to AstraZeneca on the future Tudorza® and Duaklir® sales. The liability was remeasured to fair value at the year end with the resulting £1.1 million (2017: £3.2 million credit) charge recorded in other gains and losses in the income statement. The £2.5 million (2017: £2.9 million) foreign exchange movement relates to the impact of the strengthening dollar on translation of the contingent royalty consideration.

Taxation
The R&D tax credit of £10.2 million for the year ended 31 December 2017 relates to the above R&D contribution to AstraZeneca.

Loss from discontinued operations
The costs relating to the discontinued allergy and respiratory operations are deemed to be an exceptional item to be excluded from the underlying operations, see note 10 for further details.

Notes to the financial statements

12. Taxation

The Group is entitled to claim tax credits in the United Kingdom for certain research and development expenditure. The amount included in the financial statements for the years ended 31 December 2018 and 2017 represents the credit receivable by the Group for the year and adjustments to prior years. The 2018 amounts have not yet been agreed with the relevant tax authorities.

	2018	2017 Restated[1]
	£m	£m
Current tax		
United Kingdom corporation tax research and development credit	**(1.0)**	(13.8)
Adjustments in respect of prior year	**-**	(0.2)
Total current tax	**(1.0)**	(14.0)
Deferred tax		
Decrease/(increase) in deferred tax assets	**(3.5)**	0.6
(Decrease)/increase in deferred tax liabilities	**(13.9)**	(7.0)
Adjustments in respect of prior year	**0.9**	(0.6)
Total deferred tax	**(16.5)**	(7.0)
Total tax	**(17.5)**	(21.0)
Tax is attributable to:		
Loss on continuing operations	**(9.2)**	(13.7)
Loss on discontinued operations	**(8.3)**	(7.3)
	(17.5)	(21.0)

The tax credit for the year is lower (2017: lower) than the standard rate of corporation tax in the UK of 19.00% (2017: 19.25%). The differences are explained below:

	2018	2017 Restated[1]
	£m	£m
Loss from continuing operations before tax	**(55.8)**	(74.2)
Loss from discontinued operation before tax	**(78.8)**	(45.9)
Loss before tax	**(134.6)**	(120.1)
Loss on ordinary activities before tax multiplied by the standard rate of corporation tax in the UK of 19.00% (2017: 19.25%)	**(25.6)**	(23.1)
Expenses not deductible for tax purposes (permanent differences)	**-**	0.5
Employee share options	**0.3**	-
Research & development relief uplift	**(0.4)**	(5.8)
Adjustments in respect of prior year	**0.9**	(0.8)
Tax losses for which no deferred income tax asset was recognised	**7.3**	8.2
Tax credit for the year	**(17.5)**	(21.0)

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details.

At 31 December 2018, the Group has tax losses to be carried forward of approximately £341.3 million (2017: 354.7 million). These can be utilised against future taxable profits. At 31 December 2018, Circassia Limited had tax losses to be carried forward of approximately £148.1 million (2017: £131.2 million). The utilisation of these losses will be restricted to 50% of profits generated in the United Kingdom.

At 31 December 2018, the Group has tax assets arising from tax credits in the United Kingdom for certain research and development expenditure of £4.0 million (2017: £13.8 million). Of this £3.0 million (2017: £7.3 million) tax is receivable after more than one year and is classified as a non-current tax asset.

A reduction in the rate of UK corporation tax to 17% from 1 April 2020 has been substantively enacted. UK deferred tax assets and liabilities are recognised at a rate of 17% (2017: 17%).

Notes to the financial statements

13. Loss per share

Basic loss per share is calculated by dividing the loss attributable to ordinary equity holders of the Company by the weighted average number of ordinary shares in issue during the year. As net losses were recorded in both 2018 and 2017, the dilutive potential shares are anti-dilutive and therefore excluded from the earnings per share calculation.

For the year ended 31 December 2018

	Continuing operations				
	Underlying operations	**Non-underlying operations**	**Total**	**Discontinued operations**	**Total**
Loss attributable to ordinary equity owners of the Parent Company (£m)	**(25.9)**	**(20.7)**	**(46.6)**	**(70.5)**	**(117.1)**
Weighted average number of ordinary shares in issue (Number)	**344,347,267**	**344,347,267**	**344,347,267**	**344,347,267**	**344,347,267**
Loss per share	**(0.08)**	**(0.06)**	**(0.14)**	**(0.20)**	**(0.34)**

For the year ended 31 December 2017 (Restated[1])

	Continuing operations				
	Underlying operations	Non-underlying operations	Total	Discontinued operations	Total
Loss attributable to ordinary equity owners of the Parent Company (£m)	(34.5)	(26.0)	(60.5)	(38.6)	(99.1)
Weighted average number of ordinary shares in issue (Number)	319,541,498	319,541,498	319,541,498	319,541,498	319,541,498
Loss per share	(0.11)	(0.08)	(0.19)	(0.12)	(0.31)

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details.

14. Property, plant and equipment

Group	**Leasehold improvements £m**	**Fixtures and fittings £m**	**Plant and equipment £m**	**Total property, plant and equipment £m**
At 1 January 2017				
Cost	0.6	0.3	1.7	2.6
Accumulated depreciation	(0.4)	(0.1)	(0.7)	(1.2)
Net book amount	**0.2**	**0.2**	**1.0**	**1.4**
Year ended 31 December 2017				
Opening net book amount	0.2	0.2	1.0	1.4
Additions	0.2	0.2	0.4	0.8
Depreciation	(0.1)	(0.1)	(0.6)	(0.8)
Exchange differences	-	-	-	-
Closing net book amount	**0.3**	**0.3**	**0.8**	**1.4**
At 31 December 2017				
Cost	0.8	0.5	2.1	3.4
Accumulated depreciation	(0.5)	(0.2)	(1.3)	(2.0)
Net book amount	**0.3**	**0.3**	**0.8**	**1.4**
Year ended 31 December 2018				
Opening net book amount	0.3	0.3	0.8	1.4
Additions	-	0.1	-	0.1
Depreciation	(0.1)	(0.1)	(0.4)	(0.6)
Disposals	-	-	(0.4)	(0.4)
Closing net book amount	**0.2**	**0.3**	**-**	**0.5**
At 31 December 2018				
Cost	0.8	0.6	1.7	3.1
Accumulated depreciation	(0.6)	(0.3)	(1.7)	(2.6)
Net book amount	**0.2**	**0.3**	**-**	**0.5**

Notes to the financial statements

15. Goodwill

	2018 £m	2017 £m
At 1 January		
Cost	84.5	84.2
Accumulated impairment	(74.5)	(74.5)
Net book amount	**10.0**	**9.7**
Year ended 31 December		
Opening net book amount	10.0	9.7
Acquisition of business (note 35)	3.9	0.2
Impairment	(4.4)	-
Exchange differences	(0.1)	0.1
Closing net book amount	**9.3**	**10.0**
At 31 December		
Cost	88.2	84.5
Accumulated impairment	(78.9)	(74.5)
Net book amount	**9.3**	**10.0**

During 2018, Circassia Limited exercised its option to acquire the full US commercial rights over Tudorza® resulting in goodwill of £3.9 million being recognised.

In 2018, following the decision to cease investment in the in-house respiratory portfolio, the respiratory portfolio value was written off in full resulting in an impairment charge for the respiratory CGU of £75.0 million, of which £4.4 million related to goodwill.

The carrying value of goodwill is allocated to the following CGUs:

Cash generating unit	2018 £m	2017 £m
NIOX®	**5.2**	5.4
Respiratory	**-**	4.4
AstraZeneca collaboration	**4.1**	0.2
	9.3	10.0

The recoverable amount of the CGUs is assessed using a value in use model. Value in use is calculated as the net present value of the projected risk-adjusted pre-tax cash flows plus a terminal value of the CGU to which the goodwill is allocated.

The value in use for the NIOX® CGU was calculated over a ten year period using a discount factor of 12.5% (being a weighted average cost of capital rate for the CGU). The calculations use pre-tax cash flow projections. Cash flows over ten years have been considered appropriate based on the product lifecycle. Cash flows beyond the ten year period were extrapolated using the estimated terminal growth rate stated below. The growth rate does not exceed the long-term average growth rate for the business. The discount rate used is pre-tax and reflects specific risks relating to the Group and uncertainties surrounding the cash flow projections.

The value in use for the AstraZeneca collaboration CGU was calculated over a ten year period using a discount factor of 17.0% (being a weighted average cost of capital rate for the CGU). The calculations use risked pre-tax cash flow projections. Cash flows over ten years have been considered appropriate based on the product lifecycle. Cash flows beyond the ten year period were extrapolated using the estimated terminal growth rate stated below. The growth rate does not exceed the long-term average growth rate for the business. The discount rate used is pre-tax and reflects specific risks relating to the Group and uncertainties surrounding the cash flow projections.

Notes to the financial statements

15. Goodwill (continued)

The key assumptions used for the valuations of the CGUs are as follows:

NIOX CGU	
Valuation basis	Value in use
Research and development costs	Based on management forecasts of testing and development costs for its product candidates, as well as related expenses associated with the regulatory approval process and commercialisation
Sales value, volume and growth rates	Estimates of sales value, volume and growth rates are internal forecasts based on both internal and external market information
Advertising and promotion investment	Based on management forecasts of advertising and promotion required in the key territories
Profit margins	Margins reflect management's forecasts of sales values and costs of manufacture adjusted for its expectations of market developments
Period of specified projected cash flows	10 years
Terminal growth rate	Terminal growth rates based on management's estimate of future long-term average growth rate 2018 – 1% 2017 – 1%
Discount rate	Discount rates based on weighted average cost of capital for the CGU, adjusted where appropriate. 2018 – 12.5% 2017 – 10.0%

AstraZeneca collaboration CGU	
Valuation basis	Value in use
Anticipated launch dates	2019
Research and development costs	Based on management forecasts of testing and development costs for its product candidates, as well as related expenses associated with the regulatory approval process and commercialisation
Sales value, volume and growth rates	Estimates of sales value, volume and growth rates are internal forecasts based on both internal and external market information
Advertising and promotion investment	Based on management forecasts of advertising and promotion required in the United States
Profit margins	Margins reflect management's forecasts of sales values and costs of manufacture adjusted for its expectations of market developments
Period of specified projected cash flows	10 years
Terminal growth rate	Terminal growth rates based on management's estimate of future long-term average growth rate 2018 – (5%) 2017 – 1%
Discount rate	Discount rates based on weighted average cost of capital for the CGU, adjusted where appropriate. 2018 – 17.0% 2017 – 11.5%

Period of projected cash flows of 10 years is in line with management's forecasts. This is deemed to be the most appropriate period to assess cash flows due to the time taken to reach peak sales.

In each case the valuations of NIOX® and AstraZeneca collaboration indicate sufficient headroom such that a change to key assumptions that are reasonably possible is unlikely to result in an impairment of the related goodwill.

Impact of possible changes in key assumptions
Reduction in revenue growth in the NIOX® and AstraZeneca collaboration CGUs
Management have, in their sensitivity analysis, assessed the impact of the possibility that sales growth in the NIOX® and AstraZeneca collaboration CGUs is less than that of internal forecasts.

No change in the key assumptions mentioned above would have resulted in a goodwill or intangible assets impairment charge.

Notes to the financial statements

16. Intangible assets

Group	IPR&D £m	CMP £m	Customer relationships £m	Technology £m	Other £m	Total intangible assets £m
At 1 January 2017						
Cost	88.9	-	34.3	50.0	1.6	174.8
Accumulated amortisation and impairment	(0.1)	-	(2.9)	(3.1)	(1.6)	(7.7)
Net book amount	**88.8**	-	**31.4**	**46.9**	**-**	**167.1**
Year ended 31 December 2017:						
Opening net book amount	88.8	-	31.4	46.9	-	167.1
Acquisition of business (note 35)	73.0	-	-	-	-	73.0
Amortisation charge	(0.1)	-	(1.9)	(2.1)	-	(4.1)
Impairment charge	(37.0)	-	-	-	-	(37.0)
Exchange differences	0.1	-	0.3	0.3	-	0.7
Closing net book amount	**124.8**	-	**29.8**	**45.1**	**-**	**199.7**
At 31 December 2017						
Cost	161.9	-	34.6	50.3	1.6	248.4
Accumulated amortisation and impairment	(37.1)	-	(4.8)	(5.2)	(1.6)	(48.7)
Net book amount	124.8	-	29.8	45.1	-	199.7
Year ended 31 December 2018:						
Opening net book amount	124.8	-	29.8	45.1	-	199.7
Additions	-	97.4	-	-	0.3	97.7
Amortisation charge	-	-	(1.8)	(2.0)	-	(3.8)
Impairment charge	(51.7)	-	-	(18.9)	-	(70.6)
Exchange differences	-	-	(0.8)	(0.8)	-	(1.6)
Closing net book amount	**73.1**	**97.4**	**27.2**	**23.4**	**0.3**	**221.4**
At 31 December 2018						
Cost	161.9	97.4	34.6	50.3	1.9	346.1
Accumulated amortisation and impairment	(88.8)	-	(7.4)	(26.9)	(1.6)	(124.7)
Net book amount	**73.1**	**97.4**	**27.2**	**23.4**	**0.3**	**221.4**

The Group tests annually whether goodwill and intangible assets have suffered any impairment and tests more frequently when events or circumstances indicate that the current carrying value may not be recoverable. An impairment test is based on the value in use of the intangible assets. Key assumptions and sensitivities used in the impairment review at a CGU level are disclosed in note 15.

An impairment charge of £70.6 million has been recognised in research and development in the income statement in relation to product candidates in the respiratory portfolio following the inability to find an out-licensing partner.

In-Process Research & Development (IPR&D)
IPR&D comprise a portfolio of asthma and chronic obstructive pulmonary disease product candidates.

The IPR&D has been initially valued using the Excess Earnings Method. This valuation method is based on discounting the cash flows that are attributable to the intangible asset, after taking into account the contribution of other assets. IPR&D assets are tested for impairment on the same basis.

Currently Marketed Product (CMP)
CMP comprises the Tudorza® product, which is currently marketed in the United States. This has a useful economic life of 13 years, based on the cumulative present value of the positive excess earnings.

The CMP has been initially valued using the Excess Earnings Method. This valuation method is based on discounting the cash flows that are attributable to the intangible asset, after taking into account the contribution of other assets. CMP assets are tested for impairment on the same basis.

Customer relationships
Customer relationships represent the existing customers, as at the date of acquisition that are expected to continue to support the business. A remaining useful life of 18 years was determined at acquisition. Amortisation has been calculated on a straight line basis over this period from the date of acquisition.

Notes to the financial statements

16. Intangible assets (continued)

Technology
Aerocrine developed its technology to measure fractional exhaled nitric oxide ("FeNO") since the mid-1990s. The Company was the first to develop an instrument for the measurement of FeNO as a valuable tool in the management of airway inflammation. The valuation of the Technology was based on pre-determined hypothetical royalty rate attributable to the use of the Technology. The estimated remaining useful life of the Technology is 15 years. Amortisation has been calculated on a straight line basis over this period from the date of acquisition.

Other
Other intangible assets relate to licences and software. Current year additions relate to the development costs of the new ERP software. Amortisation will be charged once the software has been fully developed and is operational.

17. Investments in subsidiaries

Company	**2018 £m**	2017 £m
Investments in subsidiaries at 1 January	**273.5**	262.0
Additional investment in Prosonix Limited	**-**	9.0
Equity settled instruments granted to employees of subsidiaries	**2.7**	2.5
Investment in Circassia Beijing	**1.7**	-
Provision against investments	**(210.3)**	-
Investments in subsidiaries at 31 December	**67.6**	273.5

Investments in subsidiaries are recorded at cost, which is the fair value of the consideration paid.

The Group tests annually whether investments in subsidiaries have suffered any impairment and tests more frequently when events or circumstances indicate that the current carrying value may not be recoverable. An impairment test is based on the value in use of the subsidiaries. Key assumptions and sensitivities used in the impairment review are disclosed in note 15.

A credit loss provision of £210.3 million has been recognised due to the cessation of investment in the in-house respiratory portfolio.

Changes in the value in use of the subsidiaries might result in a significantly higher or lower fair value of investments. 10% higher or lower value in use would result in £35.4 million lower or higher fair value of investments.

The capital contribution relating to share based payment is for 5,103,400 (2017: 4,141,200) 0.08p share options granted by the Company to employees of subsidiary undertakings in the Group. Further details on the Group's share option schemes can be found in note 26.

Transfer of trade and certain assets from Prosonix Limited to Circassia Limited
On 2 March 2017, Prosonix Limited allotted one new ordinary share to Circassia Pharmaceuticals plc for £9.0 million. This consisted of share capital of £0.001 and share premium of £8,999,999.999. Immediately following the share issue, Prosonix Limited reduced its issued share capital from £35,394,779.66 to £1,189.72 by cancelling and extinguishing 2,284,294 ordinary shares of £0.001 each, 1,891,840 A shares of £0.001 each and 9,941,261 B shares of £0.001 each, and by cancelling and extinguishing the entire share premium account, leaving behind 1,189,724 C shares of £0.001 each. The reduction in share capital was credited to a Capital reduction reserve account.

On 3 March 2017, Prosonix Limited fully repaid the intercompany loan due to Circassia Pharmaceuticals plc of £10,906,586.98. In addition, Prosonix Limited sold its business and certain assets for the price of £1,284,321.55 to Circassia Limited, representing the net book value of its business and certain assets, as part of a bona fide solvent reorganisation of the Circassia Group, subject to and on the terms and conditions of an asset purchase agreement between Prosonix Limited and Circassia Limited. Consequently, the majority of the Company's investment in Prosonix Limited was reclassified to investment in Circassia Limited.

Notes to the financial statements

17. Investments in subsidiaries (continued)

The Group had the following subsidiaries at 31 December 2018:

Name	Registered address	Nature of business	Proportion of ordinary shares held
Circassia Limited	The Magdalen Centre, Robert Robinson Avenue, Science Park, Oxford, OX4 4GA, UK	Pharmaceutical research and sale of devices for management of asthma	100%
Circassia Pharma Limited	The Magdalen Centre, Robert Robinson Avenue, Science Park, Oxford, OX4 4GA, UK	Dormant	100%
Circassia Pharmaceuticals Inc	5151 McCrimmon Parkway, Suite 260, Morrisville, North Carolina 27560, USA	Pharmaceutical research and sale of asthma and respiratory products	100%
Circassia AB	Fyrislundsgatan 80, 754 50, Uppsala, Sweden	Development and sale of devices for management of asthma	100%
Circassia AG	Louisenstraße 21, 61348, Bad Homburg, Germany	Sale of devices for management of asthma	100%
Prosonix Limited	The Magdalen Centre, 1 Robert Robinson Avenue, Oxford Science Park, Oxford, OX4 4GA, UK	Dormant	100%
Circassia (Beijing) Medical Device Co. Limited	Room 1109 Jing Guang Center Office Building, No 1 Chao Yang Men Wai Avenue, Hu Jia Lou, Chao Yang District, Beijing, 100020, P.R. China	Sale of devices for management of asthma	100%

All subsidiary undertakings are included in the consolidation. The proportion of the voting rights in the subsidiary undertakings held directly by the Parent Company does not differ from the proportion of ordinary shares held. The Parent Company does not have any shareholdings in the preference shares of subsidiary undertakings included in the Group.

Notes to the financial statements

18. Investment in joint venture

	2018 £m	2017 £m
At 1 January	**0.5**	0.9
Share of loss	**(0.1)**	(0.2)
Distributions to owners	**(0.3)**	(0.2)
At 31 December	**0.1**	0.5

The joint venture listed below has share capital consisting solely of ordinary shares, which is held directly by the Group.

Nature of investment in joint venture 2018 and 2017:

Name of entity	Registered address	% of ownership interest	Nature of the relationship	Measurement method
Adiga Life Sciences	McMaster Innovation Park, Suite 305, 175 Longwood Road South Hamilton, Ontario, Canada	50	Note 1	Equity

Note 1.
Adiga Life Sciences ("Adiga") is a joint venture with McMaster University in Canada for early epitope and mechanistic clinical studies. Adiga is a private company and there is no quoted market price available for its shares.

Adiga Life Sciences is a private company and there is no quoted market price available for its shares.

There are no contingent liabilities or commitments relating to the Group's interest in the joint venture.

Summarised financial information for joint venture

Set out below is the summarised financial information for Adiga which is accounted for using the equity method.

Summarised statement of financial position at 31 December	**2018 £m**	2017 £m
Current assets		
Trade and other receivables	**0.1**	0.8
Cash	**0.1**	0.2
	0.2	1.0
Net assets	**0.2**	1.0

Summarised statement of comprehensive income for the year ended 31 December	**2018 £m**	2017 £m
Revenue	**-**	0.1
Research and development costs	**-**	(1.0)
Administrative expense	**(0.2)**	(0.1)
Loss from operation	**(0.2)**	(1.0)
Income tax	**-**	0.6
Post tax loss from operation	**(0.2)**	(0.4)

The information above reflects the amounts presented in the financial statements of the joint venture adjusted for differences in accounting policies between the Group and the joint venture (and not Circassia Pharmaceuticals plc's share of those amounts).

Notes to the financial statements

18. Investment in joint venture (continued)

The Adiga Life Sciences joint venture managed clinical research organisations (CROs) in Canada in respect of allergy programmes on behalf of Circassia Pharmaceuticals plc. As the allergy programmes are no longer being continued, the results of the joint venture for the year ended 31 December 2018 and 2017 have been included within discontinued operations in the consolidated statement of comprehensive income, see note 10.

Reconciliation of summarised financial information
Reconciliation of the summarised financial information presented to the carrying amount of the Company's interest in the joint venture.

Summarised financial information	**2018 £m**	2017 £m
Opening net assets 1 January	**1.0**	1.8
Loss for the year	**(0.2)**	(0.4)
Dividends paid	**(0.6)**	(0.4)
Closing net assets	**0.2**	1.0
Interest in joint venture @ 50%	**0.1**	0.5
Carrying value	**0.1**	0.5

19. Inventories

	2018 £m	2017 £m
Finished goods	**4.2**	5.0

Inventories recognised as an expense during the year ended 31 December 2018 amounted to £7.5 million (2017: £8.5 million). These were included in 'Cost of sales'.

Write-down of inventories to net realisable value amounted to £0.5 million (2017: £0.9 million). These were recognised as an expense during the year and included in 'Cost of sales'. There has been no reversal of any write down in the year ended 31 December 2018.

20. Trade and other receivables

	Group		**Company**	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Trade receivables	**3.7**	3.7	**-**	-
Prepayments and accrued income	**3.9**	6.0	**-**	-
Other receivables	**0.5**	9.2	**0.9**	0.7
Receivables from subsidiary undertakings	**-**	-	**281.7**	327.5
Total trade and other receivables	**8.1**	18.9	**282.6**	328.2

Included within trade receivables is £0.4 million (2017: £0.7 million) of invoices that were more than 30 days past due at the end of the reporting year but have not been impaired.

Receivables from subsidiary undertakings are amounts provided by the Company to its subsidiaries in order to undertake commercial operations and research studies. The receivables are unsecured, interest free and have no fixed date of repayment. Recoverability of the amounts are dependent on the success of those studies and future profitability of subsidiary undertakings. As at 31 December 2018, an expected credit loss of £91.4 million (2017: £nil) was recognised against receivables from subsidiary undertakings.

The carrying amounts of the Group and Company receivables, excluding prepayments and recoverable taxes, are denominated in the following currencies:

	Group		**Company**	
	2018 £m	2017 £m	**2018 £m**	2017 £m
British pound sterling	**0.7**	0.2	**181.7**	263.4
United States dollar	**3.7**	7.0	**100.9**	64.8
Swedish krona	**0.1**	0.1	**-**	-
Euro	**1.8**	1.6	**-**	-
	6.3	8.9	**282.6**	328.2

Notes to the financial statements

21. Cash and cash equivalents and short-term bank deposits

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Short-term bank deposit, with original maturity:				
More than 3 months	**-**	15.0	**-**	15.0
Total short-term bank deposits	**-**	15.0	**-**	15.0
Cash and cash equivalents:				
Cash at bank and in hand	**40.7**	44.5	**0.1**	0.3
Total cash and cash equivalents	**40.7**	44.5	**0.1**	0.3

The Group and Company cash and cash equivalents and short-term deposits are held with institutions with the following Fitch IBCA long-term rating:

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
AA	**0.6**	0.3	**-**	-
AA-	**31.4**	19.3	**0.1**	0.3
A+	**-**	20.1	**-**	-
A	**7.1**	19.8	**-**	15.0
BBB	**1.6**	-	**-**	-
	40.7	59.5	**0.1**	15.3

The Group and Company cash and cash equivalents and short-term deposits are held in the following currencies at 31 December:

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
British pound sterling	**23.2**	39.6	**0.1**	15.3
United States dollar	**13.0**	16.6	**-**	-
Canadian dollar	**-**	0.2	**-**	-
Euro	**4.0**	2.6	**-**	-
Swedish krona	**0.5**	0.5	**-**	-
	40.7	59.5	**0.1**	15.3

22. Trade and other payables

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Payable within one year				
Trade payables	**19.1**	22.7	**0.1**	0.1
Social security and other taxes	**0.3**	0.3	**-**	-
Accruals	**7.6**	6.7	**0.5**	0.2
Other payables	**1.7**	1.1	**-**	-
Payables to subsidiary undertakings	**-**	-	**5.5**	3.7
Total trade and other payables	**28.7**	30.8	**6.1**	4.0
Payable after one year				
Trade payables	**-**	20.4	**-**	-
Total non-current trade payables	**-**	20.4	**-**	-

Non-current trade payables in 2017 related to an R&D contribution payable to AZ on 31 December 2019. As at 31 December 2018 the amount is due within 1 year therefore the balance has been reclassified as trade payables.

Notes to the financial statements

23. Financial instruments

The Group's financial instruments comprise cash and cash equivalents, short-term bank deposits, trade and other receivables, trade and other payables and contingent consideration. Additional disclosures are set out in the accounting policies relating to financial and capital risk management (note 2).

The Group had the following financial instruments at 31 December each year:

Assets	**2018 £m**	2017 £m
Cash and cash equivalents	**40.7**	44.5
Short-term bank deposits	**-**	15.0
Trade and other receivables	**8.1**	8.9
Financial assets held at amortised cost (2017: Loans and receivables)	**48.8**	68.4

Liabilities	**2018 £m**	2017 £m
Trade and other payables - current	**28.7**	29.9
Trade payables - non-current	**-**	20.4
Non-contingent consideration - current	**80.3**	**-**
Non-contingent consideration - non-current	**-**	68.7
Contingent consideration - current	**15.4**	-
Contingent consideration - non-current	**46.2**	33.6
Financial liabilities held at amortised cost	**170.6**	152.6

The Company had the following financial instruments at 31 December each year:

Assets	**2018 £m**	2017 £m
Cash and cash equivalents	**0.1**	0.3
Short-term bank deposits	**-**	15.0
Other receivables	**0.9**	0.7
Receivable from subsidiary undertaking	**281.7**	327.5
Financial assets held at amortised cost (2017: Loans and receivables)	**282.7**	343.5

Liabilities	**2018 £m**	2017 £m
Trade and other payables - current	**0.6**	0.3
Payables to subsidiary undertakings	**5.5**	3.7
Financial liabilities held at amortised cost	**6.1**	4.0

Cash balances comprise floating rate instant access deposits earning interest at prevailing bank rates.
Short-term deposits earn interest at fixed rates.

In accordance with IFRS 9 the Group has reviewed all contracts for embedded derivatives that are required to be separately accounted for if they do not meet certain requirements set out in the standard. There were no such derivatives identified at 31 December 2018 or 31 December 2017.

Fair value
The directors consider that the fair values of the Group's financial instruments do not differ significantly from their book values except as described below.

Contingent consideration is remeasured to fair value calculated using a discounted cash flow approach. The valuation methodology uses significant inputs which are not based on observable market data (unobservable inputs), therefore this valuation technique is classified as level 3 in the fair value hierarchy. See note 35 for further detail.

Notes to the financial statements

24. Deferred taxation

	Intangibles £m	Tax losses £m	Net deferred tax liability £m
As at 1 January 2017	31.9	(16.6)	15.3
(Credit)/charge to the income statement	(7.8)	0.9	(6.9)
As at 31 December 2017	**24.1**	**(15.7)**	**8.4**
As at 1 January 2018	24.1	(15.7)	8.4
Credit to the income statement	(13.2)	(3.4)	(16.6)
As at 31 December 2018	**10.9**	**(19.1)**	**(8.2)**

	2018 £m	2017 £m
Deferred tax liabilities	**10.9**	24.1
Deferred tax assets	**(19.1)**	(15.7)
Total deferred tax position	**(8.2)**	8.4

The £3.4 million credit to the income statement in relation to tax losses consists of a £8.2 million credit relating to the recognition of a deferred tax asset for expected future profits generated by Circassia AB, and a £4.8 million charge relating to the derecognition of a deferred tax asset held by Prosonix Limited due to no future taxable profits expected to be generated.

The Group has the following unrecognised potential deferred tax assets as at 31 December:

	2018 £m	2017 £m
Losses	**58.0**	60.3
Total unrecognised deferred tax asset	**58.0**	60.3

25. Ordinary shares

Authorised, called up and fully paid	2018 £m	2017 £m
357,286,434 (2017: 333,466,262) ordinary shares of 0.08p each	**0.3**	0.3

On 18 July 2018, Circassia Pharmaceuticals plc issued 23,725,800 ordinary shares with a value of £20.4 million to AstraZeneca such that AstraZeneca's holding increased from 14.2% to 19.9%. Costs of £0.1 million related to the deal which are offset against the share premium reserve.

Movements in ordinary shares

	Number of shares	Par value £m
As at 1 January 2018	333,466,262	0.3
Share issue to AZ	23,725,800	-
Employee share scheme issues	94,372	-
As at 31 December 2018	**357,286,434**	**0.3**

Notes to the financial statements

26. Share based payments

Share options

Options have been awarded under the Circassia PSP Share Option Scheme ("the PSP Scheme") and the Circassia Unapproved Share Option Scheme ("the Unapproved Scheme").

The share options outstanding can be summarised as follows:

	2018 Number of ordinary shares ('000)	2017 Number of ordinary shares ('000)
PSP Scheme [(i)]	**10,671**	8,855
Unapproved Scheme [(ii)]	**187**	187
	10,858	9,042

The contractual life of all options is 10 years and the options cannot normally be exercised before the third anniversary of the date of grant.

[(i)] Options granted under the PSP Scheme have a fixed exercise price and are subject to additional vesting performance conditions. The exercise price of options granted under the 2014 PSP scheme is £nil and all subsequent PSP scheme awards have an exercise price of £0.0008. The performance conditions state that a proportion of an award shall vest subject to the Company Total Shareholder Return (TSR) ranking against the Comparator Index TSR and the remaining shall vest subject to the meeting of certain strategic Company objectives.

[(ii)] Options granted under the Unapproved Scheme also have a fixed exercise price based on the market price at the date of grant.

The movement in share options outstanding is summarised in the following table:

	2018 Number ('000)	**2018 Weighted average exercise price (£)**	2017 Number ('000)	2017 Weighted average exercise price (£)
Outstanding at 1 January	**9,042**	**0.05**	7,661	0.06
Granted	**5,103**	**0.0008**	4,141	0.0008
Expired	**-**	**n/a**	-	n/a
Forfeited/lapsed	**(3,129)**	**0.0007**	(1,879)	0.0003
Exercised	**(158)**	**0.0005**	(881)	0.0008
Outstanding at 31 December	**10,858**	**0.04**	**9,042**	**0.05**
Vested and exercisable at 31 December	**762**	**0.59**	535	0.84

Share options outstanding at the end of the year have the following expiry and exercise prices:

Scheme	Grant year	Expiry year	Exercise price (£)	**2018 Number ('000)**	2017 Number ('000)
PSP 2014	2014	2024	0	**284**	348
PSP 2015	2015	2025	0.0008	**291**	1,925
PSP 2016	2016	2026	0.0008	**2,510**	2,760
PSP 2017	2017	2027	0.0008	**3,029**	3,822
PSP 2018	2018	2028	0.0008	**4,557**	-
Unapproved	2013 - 2014	2023 – 2024	2.416	**187**	187
Total				**10,858**	9,042

The weighted average remaining contractual life of share options outstanding at the end of the year was 8.4 years (2017: 8.4 years).

Options exercised in 2018 resulted in 158,044 (2017: 880,532) shares being issued at a weighted average price of £0.0005 (2017: £0.0008) each. The related weighted average share price at the time of exercise was £0.74 (2017: £0.88) per share.

Notes to the financial statements

26. Share based payments (continued)

Valuation models
The fair value of PSP share options granted during the year was determined using the Monte Carlo Simulation model and Black Scholes model dependent on the performance vesting conditions.

There have been no Unapproved Scheme options granted during the year (2017: nil), all options granted in previous years were valued using the Black Scholes model.

Black Scholes
There were no options granted during the year (2017: nil) that were valued solely using the Black Scholes model.

Monte Carlo Simulation
The following weighted average assumptions were used in the Monte Carlo Simulation model in calculating the fair values of the options granted during the year:

	2018	2017
Exercise price	**£0.0008**	£0.0008
Share price	**£0.90**	£0.96
Expected volatility	**35%**	30%
Expected life	**3 years**	3 years
Expected dividends	**0%**	0%
Risk free interest rate	**0.89%**	0.1%

The Monte Carlo Simulation model has been used to value the portion of the awards which have a market performance vesting condition (Total Shareholder Return (TSR)). The model incorporates a discount factor reflecting this performance condition into the fair value of this portion of the award.

The weighted average fair value of options granted during the year determined using the Monte Carlo Simulation model at the grant date was £0.90 per option (2017: £0.75).

For the options valued using the Monte Carlo Simulation, expected volatility is measured by calculating the standard deviation of the natural logarithm of share price movements of comparable companies. This is a standard approach to calculating volatility. The risk free rate of return is the rate of interest obtainable from government securities as at the date of grant (i.e. Gilts in the UK) over the expected term (i.e. three years).

Restricted shares
The Company previously made awards of ordinary shares to employees and Non-Executive Directors by entering into a form of restricted share agreement with each participant, under which the participant subscribed for or purchased ordinary shares in the Company at 10p per ordinary share (converted into 0.08p shares post capital reorganisation). These shares are subject to certain restrictions on transfer and forfeiture, as set out in the restricted share agreement. The restrictions lift on the earlier of a sale of the Company and the expiry of a vesting period of between two and three years (depending on the date of award of the restricted shares).

There were no restricted shares in issue at 31 December 2018 and 31 December 2017.

Deferred shares
During the year the Group awarded nil (2017: nil) deferred shares to Executive Directors as part of a deferred bonus for 2018. The shares are held by the Group's Employee Benefit Trust until the third anniversary of the grant date when they will transfer to the Executive Directors so long as they are still an officer or employee of the Group.

Income statement
See note 5 for the total expense recognised in the income statement in respect of the above equity settled instruments granted to directors and employees.

Notes to the financial statements

27. Share premium

Group and Company	2018 £m	2017 £m
At 1 January	**602.2**	563.8
Issue of new shares	**20.4**	40.0
Expenses relating to share issue	**(0.1)**	(1.6)
At 31 December	**622.5**	602.2

28. (Accumulated losses)/retained earnings

	Group		Company	
	2018 £m	2017 £m	**2018 £m**	2017 £m
At 1 January	**(394.9)**	(295.8)	**1.9**	0.4
(Loss)/profit for the year	**(117.1)**	(99.1)	**(291.8)**	1.5
At 31 December	**(512.0)**	(394.9)	**(289.9)**	1.9

29. Other reserves

Group	Share option reserve £m	Translation reserve £m	Treasury shares reserve £m	Transactions with non-controlling interests £m	Total other reserves £m
At 1 January 2017	6.4	12.9	(0.7)	(6.1)	12.5
Employee share option scheme	2.5	-	-	-	2.5
Currency translation differences	-	2.2	-	-	2.2
At 31 December 2017	**8.9**	**15.1**	**(0.7)**	**(6.1)**	**17.2**
Employee share option scheme	2.7	-	-	-	2.7
Currency translation differences	-	(4.8)	-	-	(4.8)
At 31 December 2018	**11.6**	**10.3**	**(0.7)**	**(6.1)**	**15.1**

Company	Share option reserve £m	Total other reserves £m
At 1 January 2017	6.1	6.1
Employee share option scheme	2.5	2.5
At 31 December 2017	**8.6**	**8.6**
Employee share option scheme	2.7	2.7
At 31 December 2018	**11.3**	**11.3**

Notes to the financial statements

30. Cash used in operations

Reconciliation of (loss)/profit before tax to net cash used in operations

	Group		Company	
	2018	2017 Restated[1]	**2018**	2017
	£m	£m	**£m**	£m
(Loss)/profit from continuing operations before tax	**(55.8)**	(74.2)	**(291.8)**	1.5
Loss from discontinued operation before tax	**(78.8)**	(45.9)	**-**	-
Loss before tax	**(134.6)**	(120.1)	**(291.8)**	1.5
Adjustment for:				
Interest income	**(0.3)**	(0.4)	**(0.2)**	(0.3)
Interest expense	**12.0**	2.8	**(4.6)**	1.5
Depreciation (note 8)	**0.6**	0.8	**-**	-
Amortisation (note 8)	**3.8**	4.1	**-**	-
Goodwill impairment charge (note 15)	**4.4**	-	**-**	-
Intangible assets impairment charge (note 16)	**70.6**	37.0	**-**	-
Profit on sale of fixed assets	**(0.1)**	-	**-**	-
Impairment of investments (note 17)	**-**	-	**210.3**	-
Share of joint venture profit	**0.1**	0.2	**-**	-
Fair value gain on contingent royalty consideration	**1.1**	(3.2)	**-**	-
Change in fair value of deferred consideration	**(5.4)**	-	**-**	-
Share based payment charge (note 5)	**2.7**	2.5	**-**	-
Foreign exchange on non-operating cash flows	**6.7**	(8.5)	**6.2**	(3.5)
Changes in working capital:				
Decrease/ (increase) in trade and other receivables	**10.9**	(11.4)	**(0.1)**	1.2
Increase/ (decrease) in credit loss provision	**0.1**	(0.2)	**91.4**	-
Increase in inventories	**(0.1)**	-	**-**	-
(Decrease)/ increase in trade and other payables	**(23.8)**	30.0	**0.5**	-
Cash (used in)/generated from operations	**(51.3)**	(66.4)	**11.7**	0.4

[1] Restated to show the results of the respiratory business as discontinued. See note 10 for details.

In the statement of cash flows, proceeds from sale of property, plant and equipment comprise:

	2018	2017
	£m	£m
Net book amount (note 14)	0.4	-
Profit on disposal of property, plant and equipment	0.1	-
Proceeds from disposal of property, plant and equipment	**0.5**	-

31. Contingent liabilities

There were no contingent liabilities at 31 December 2018 or at 31 December 2017.

During 2017, the Group received a notification about an arbitration claim raised for up to $4.0 million for the non-performance of certain obligations of the contract against one of the subsidiary companies. On 4 October 2018, a settlement of $2.5 million was agreed. As at 31 December 2018, $1.5 million remains unpaid and is recognised within accruals.

32. Operating lease commitments

The total of future minimum lease payments payable under the Group's non-cancellable operating lease for each of the following periods is as follows:

	2018	2017
	£m	£m
Due within one year	**1.2**	0.8
Due between one and five years	**1.4**	1.8
Over five years	**1.1**	0.5

The Group leases various offices and warehouses under non-cancellable operating leases expiring within one to over five years.

The total of future minimum sublease payments expected to be received for the Chicago property no longer utilised by the Group is £1.3 million (2017: £1.5 million).

Notes to the financial statements

33. Commitments

As per the signed Tudorza® transition services agreement, on the date that the Tudorza® NDA and sNDA are transferred to Circassia Limited, Circassia Limited has the commitment to purchase from AstraZeneca any remaining Tudorza® inventory and replenishment stock, up to a maximum of one batch. The maximum payable is $1.4 million.

There were no capital commitments as at 31 December 2017.

34. Related party transactions

Group

There is no ultimate controlling party of the Group as ownership is split between the Company's shareholders. The most significant shareholders as at 31 December 2018 are as follows: Invesco Asset Management (24.1% of total voting rights); Woodford Investment Management (23.8% of total voting rights); AstraZeneca PLC (19.9% of total voting rights); OppenheimerFunds Inc (7.9% of total voting rights); Imperial Innovations Businesses LLP (7.4% of total voting rights); Neptune Investment Management (6.1% of total voting rights).

Transactions with related parties during the year and balances with related parties at 31 December are as follows:

Related party	**2018 Purchases £'000**	2017 Purchases £'000	**2018 Payables £'000**	2017 Payables £'000
Adiga Life Sciences (Joint venture)	**-**	330	**-**	-
Touchstone Innovations[1]	**-**	46	**-**	-

[1] 'Purchases' include compensation paid or payable in respect of services provided by Russell Cummings as Non-Executive Director of the Company.

Company

The following transactions with subsidiaries occurred in the year:

Related party	**2018 £m**	2017 £m
Rendering of services to Circassia Limited [(1)]	**1.2**	1.2
Settlement of liabilities on behalf of the subsidiaries	**(2.5)**	(2.8)
Net transfer of funds to subsidiaries	**89.2**	69.8
Deed of assignment transfer	**-**	42.1
	87.9	110.3

[(1)] Remuneration costs (excluding share options charges) relating to Steven Harris and Julien Cotta in respect of services rendered to Circassia Limited.

	2018 £m	2017 £m
Balances due from subsidiary companies	**281.7**	327.5
Balances due to subsidiary companies	**(5.5)**	(3.7)

The amounts due are unsecured and have no fixed date of repayment. Interest is charged at a rate of LIBOR + 4%.

Employee benefit trust
In 2014 the Company set up an Employee benefit trust for the purposes of buying and selling shares on the employees' behalf. No funding was paid into the Trust by the Company during the year ended 31 December 2018 (2017: £nil).

No shares were purchased by the Trust during the year ended 31 December 2018 (2017: 373,299). As at 31 December 2018 a cash balance of £4,733 (2017: £4,733) was held by the Trust.

Notes to the financial statements

35. Business combinations

Duaklir®

On 12 April 2017, Circassia Pharmaceuticals plc's collaboration and profit share arrangement with AstraZeneca became unconditional. Under the agreement, Circassia Pharmaceuticals plc secured certain US commercial rights to Tudorza® and Duaklir®. On that day Circassia Pharmaceuticals plc issued 47,355,417 ordinary shares with a value of $50 million to AstraZeneca. In addition, Circassia Pharmaceuticals plc will pay AstraZeneca deferred non-contingent consideration of $100 million on the earlier of: (i) 30 June 2019; and (ii) the approval of Duaklir® by the FDA; and royalties on sales of Duaklir® in the United States.

Following positive results from the AMPLIFY Phase III study, the filing of a New Drug Application (NDA) for Duaklir® with the United States Food and Drug Administration (FDA) took place in 2018, with approval granted on 29 March 2019. Circassia Pharmaceuticals plc has exclusive commercialisation rights to Duaklir® in the United States and as such it is considered that the Group assumed control over the Duaklir® business when the collaboration agreement became unconditional.

The future royalty payments to third-parties on Duaklir® are recognised as an additional intangible asset and contingent consideration liability. A contingent consideration arrangement is initially measured at fair value on the acquisition date based on discounted future cash outflows. Contingent consideration that is classified as a liability is remeasured to fair value at each reporting date, with changes taken to the income statement. The amount of royalties payable as determined in the collaboration agreement is based on the future Duaklir® sales. As the valuation methodology uses this significant input which is not based on observable market data, this valuation technique is classified as level 3 in the fair value hierarchy. The fair values are calculated using the discount rate of 17.0% (2017: 20.5%).

Transaction costs totalling £1.9 million were incurred on the collaboration arrangement with AstraZeneca, of which £0.3 million is included within the operating loss (administrative expenses line) for the year ended 31 December 2017 and £1.6 million was offset against the share premium reserve.

The consideration for the Duaklir® business was determined to be £73.2 million. Intangible assets (IPR&D) of £73.0 million have been recognised in the accounts. The difference between total value of the business and identifiable assets resulted in a recognition of £0.2 million goodwill.

Tudorza® option

The net sales report was received from AstraZeneca on 23 October 2018 and the net sales for the 12 month period to 30 September 2018 exceeded the minimum sales requirement. The threshold was met and therefore Circassia Limited had the ability to exercise the option. On 23 October 2018, Circassia Limited had substantive rights to exercise the option, and therefore this is the date that Circassia Pharmaceuticals plc had control over the Tudorza® business.

Circassia Limited exercised the option on 11 December 2018. Based on the net sales achieved, further consideration of $25 million is payable to AstraZeneca within 30 days of Duaklir® approval. Of the maximum $25 million payable, $20 million is contingent on the approval of Duaklir®. Under the terms of the agreement, the completion date was 31 December 2018, at which point the licence will transfer to Circaasia Limited.

The future royalty payments to third-parties on Tudorza® are recognised as an additional intangible asset and contingent consideration liability. A contingent consideration arrangement is initially measured at fair value on the acquisition date based on discounted future cash outflows. Contingent consideration that is classified as a liability is remeasured to fair value at each reporting date, with changes taken to the income statement. The amount of royalties payable as determined in the collaboration agreement is based on the future Tudorza® sales. As the valuation methodology uses this significant input which is not based on observable market data, this valuation technique is classified as level 3 in the fair value hierarchy. The fair values are calculated using the discount rate of 19.0%.

Notes to the financial statements

35. Business combinations (continued)

Consideration	2018 £m	2017 £m
Ordinary share capital 47,355,417 shares at £0.0008	**-**	-
Share premium	**40.0**	40.0
Deferred non-contingent consideration	**77.9**	71.4
Contingent Duaklir® royalty consideration	**39.7**	39.7
Deferred contingent consideration	**14.2**	-
Contingent Tudorza® royalty consideration	**2.7**	-
	174.5	151.1

Recognised amounts of identifiable assets acquired	£m	£m
Duaklir® IPR&D	**33.3**	33.3
Duaklir® royalty IPR&D	**39.7**	39.7
Tudorza® CMP	**94.7**	-
Tudorza® royalty CMP	**2.7**	-
Total identifiable net assets	**170.4**	73.0
AZ collaboration goodwill (Duaklir®)	**0.2**	0.2
AZ collaboration goodwill (Tudorza®)	**3.9**	-
Prepayment for Tudorza® business combination	**-**	77.9
	174.5	151.1

The value of the contingent and non-contingent consideration payable on exercise of Tudorza® was calculated by discounting the liability using a pre-tax discount rate of 5.4%.

Deferred non-contingent consideration	2018 £m	2017 £m
At 1 January	**68.7**	71.4
Additional non-contingent consideration payable on exercise of Tudorza®	**3.7**	-
Unwinding of discount	**3.5**	2.7
Foreign exchange movement	**4.4**	(5.4)
At 31 December	**80.3**	68.7

Deferred contingent consideration	2018 £m	2017 £m
At 1 January	**-**	-
Consideration payable on exercise of Tudorza®	**14.2**	-
Unwinding of discount	**0.1**	-
Foreign exchange movement	**0.3**	-
At 31 December	**14.6**	-

Contingent Duaklir® royalty consideration	2018 £m	2017 £m
At 1 January	**33.6**	39.7
Unwinding of discount	**7.0**	-
Change in fair value	**1.1**	(3.2)
Foreign exchange movement	**2.4**	(2.9)
At 31 December	**44.1**	33.6

Contingent Tudorza® royalty consideration	2018 £m	2017 £m
At 1 January	**-**	-
Consideration payable on exercise of Tudorza®	**2.7**	-
Unwinding of discount	**0.1**	-
Foreign exchange movement	**0.1**	-
At 31 December	**2.9**	-

Duaklir® and Tudorza® royalties payable within 1 year amount to £0.0 million and £0.8 million respectively (2017: £nil and £nil).

Until the Tudorza® option completion date, the Group promoted the chronic obstructive pulmonary disease (COPD) treatment Tudorza® in the US in accordance with the collaboration and profit share arrangement. The commission fees receivable are based on Tudorza® product in-market sales and promotion activities performed by Circassia Pharmaceuticals Inc. In 2018 revenue recognised for rendering this service was £20.9 million (2017: £19.0 million).

Notes to the financial statements

35. Business combinations (continued)

A £5.4 million gain on change in fair value of the deferred non-contingent consideration between date of the initial business combination and Tudorza® option exercise is included in 'Other (losses)/gains' in the income statement. This gain has arisen due to the unwinding of the discount on the consideration payable between initial recognition on 12 April 2017 and 23 October 2018, being the date that Circassia Limited had the substantive rights to exercise the option. This is offset by a £2.7 million loss due to fluctuations in foreign exchange. See note 6.

Changes in fair value and foreign exchange movements relating to contingent Duaklir® and Tudorza® royalty consideration are included in 'Other (losses)/gains' in the income statement. See note 6.

Changes in future Duaklir® and Tudorza® sales might result in a significantly higher or lower fair value of contingent royalty consideration (see the table below for list of key inputs used in the fair value measurement). 10% higher or lower Duaklir® sales would result in £4.4 million lower or higher fair value of the liability. 10% higher or lower Tudorza® sales would result in £0.3 million lower or higher fair value of the liability.

Significant estimates relating to contingent royalty consideration valuation
The assessment of the fair value of the contingent Duaklir® and Tudorza® royalty consideration requires the selection of an appropriate valuation model at the date of acquisition, consideration as to the inputs necessary for the valuation model chosen and the estimation of the future cash flows of the product discounted at the risk adjusted rate. Key assessments and judgements included in the calculation of deferred royalty consideration are as follows:

Duaklir®	
Valuation model	Discounted cash flow
Anticipated launch date	2019 – reviewed and amended to take into account development, regulatory and marketing risks
Sales value, volume and growth rates	Estimates of sales value, volume and growth rates are internal forecasts based on both internal and external market information and market research commissioned by the Company
Period of specified projected cash flows	17 years
Discount rate	2018: 17.0% 2017: 20.5%
Tudorza®	
Valuation model	Discounted cash flow
Anticipated launch date	Product already launched with Circassia Pharmaceuticals plc full ownership from 1 January 2019
Sales value, volume and growth rates	Estimates of sales value, volume and growth rates are internal forecasts based on previous product performance and market research commissioned by the Company
Period of specified projected cash flows	7 years
Discount rate	2018: 19.0%

On 1 September 2017, a deed of assignment was signed between Circassia Pharmaceuticals plc and Circassia Limited and Circassia Limited was assigned all rights, powers, interests and benefits of the agreement. Under the terms of the agreement, Circassia Limited had the option to secure the remaining commercial rights and economic benefits of Tudorza® based on the sales performance of Tudorza® in the preceding 12 month period.

36. Events occurring after the reporting date

On 24 January 2019, Circassia Pharmaceuticals plc announced that Circassia Limited had entered into a definitive agreement with AIT Therapeutics Inc. ("AIT") to acquire the exclusive commercialisation rights from to its ventilator compatible nitric oxide product, AirNOvent, in the United States and China.

Under the terms of the agreement, the consideration is structured as follows:

- Circassia Pharmaceuticals plc issued 12,300,971 ordinary shares with a value of $7.35 million to AIT;
- Circassia Pharmaceuticals plc issued 5,271,844 ordinary shares with a value of $3.15 million to AIT following the successful completion of a pre-submission meeting with FDA;
- Circassia Limited will pay AIT $12.6 million upon the sooner of the product's US launch in PPHN or 90 days post FDA approval;
- Circassia Limited will pay AIT $8.4 million upon label expansion in a related indication in the US;
- Circassia Limited will pay AIT $1.05 million on launch in China.