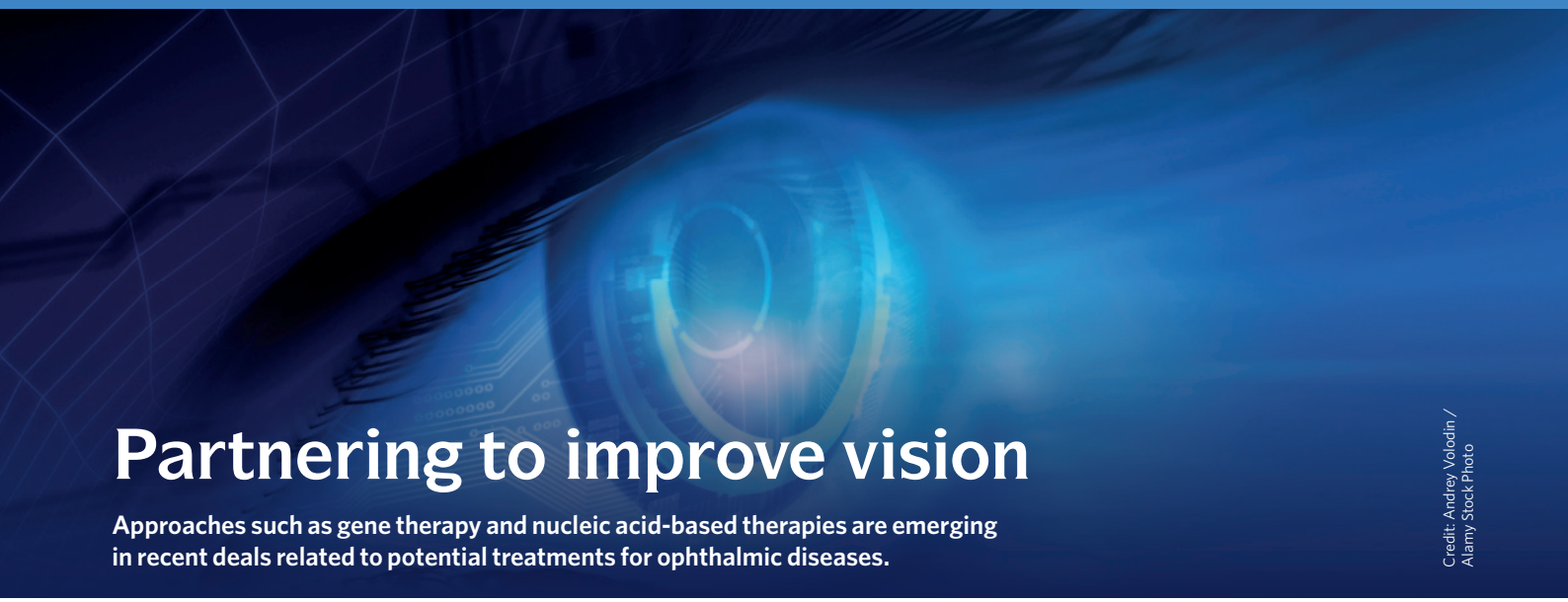

Partnering to improve vision

Approaches such as gene therapy and nucleic acid-based therapies are emerging in recent deals related to potential treatments for ophthalmic diseases.

Credit: Andrey Volodin / Alamy Stock Photo

Biopharma Dealmakers

With the help of DealForma, in this data page we look at recent deals (Table 1) and mergers and acquisitions (M&As) (Table 2) made in the ophthalmology field, providing details of those with high values. During the past 5 years, more than 100 deals have been signed to target ophthalmic diseases, and more than half of these were made at the platform/discovery stage (Fig. 1), illustrating the push for new therapies in this area. Since the US Food and Drug Administration approved Spark Therapeutics' Luxturna (voretigene neparvovec) for a rare type of inherited blindness in 2017, more companies are exploring gene therapy approaches to treat ophthalmic diseases, including Roche, which acquired Spark in 2019, and Biogen, which acquired Nightstar Therapeutics soon after (Table 2). Nucleic acid-based therapies are also being pursued, illustrated by Alnylam's $1 billion deal with Regeneron—the highest value deal in recent years—to develop RNAi therapeutics in April 2019 and Ionis' pact with Roche on an antisense oligonucleotide candidate a year earlier (Table 1).

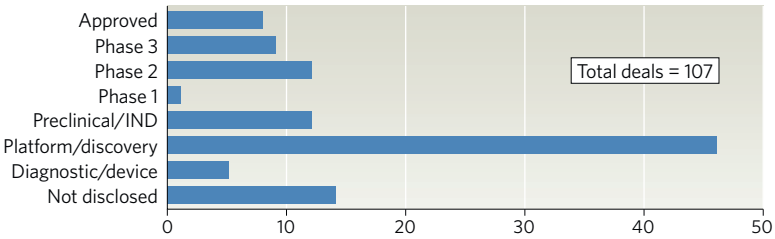

Fig. 1 | Number of ophthalmology deals by stage of development from 2017–2021

Table 2 | Selected high-value M&As in ophthalmology from 2017–2021

Date	Buyer	Purchase	Value ($ million)
February 2019	Roche	Spark Therapeutics	4,300
March 2019	Biogen	Nightstar Therapeutics	800
March 2019	Alcon (Novartis)	PowerVision	285

Table 1 | Selected high-value deals in ophthalmology from 2017–2021

Companies 1 and 2	Date	Total deal value (upfront payment) ($ million)	Deal headline
Alnylam Pharmaceuticals, Regeneron Pharmaceuticals	April 2019	1,035 (800)	Alnylam partners with Regeneron for the development of RNAi therapeutics for neurologic and ophthalmic diseases.
KalVista Pharmaceuticals, Merck & Co.	October 2017	761 (37)	KalVista signs option deal with Merck for KVD-001, a plasma kallikrein inhibitor in development for the treatment of diabetic macular edema.
Ionis Pharmaceuticals, Roche	October 2018	760 (75)	Ionis agrees to collaborate with Roche on the clinical development of its antisense oligonucleotide drug targeting factor B, IONIS-FB-LRx, including a phase 2 study for the treatment of geographic atrophy, a late stage of dry AMD.
Parion Sciences, Shire (Takeda)	May 2017	535 (20)	Parion partners with Shire in collaborative license deal for P-321, an ENaC inhibitor for dry eye disease.
CDR-Life, Boehringer Ingelheim	May 2020	487 (n/a)	CDR-Life joins forces with Boehringer for the development of CDR-Life's antibody fragment-based therapeutics targeting geographic atrophy.
MeiraGTx Holding, Janssen Pharmaceuticals	January 2019	340 (100)	MeiraGTx partners with Janssen (Johnson & Johnson) on the development of gene therapies for inherited retinal diseases.
Catalyst Biosciences, Biogen (formerly Biogen Idec)	December 2019	355 (15)	Catalyst partners with Biogen to develop and commercialize pegylated CB 2782, a complement factor C3-inactivating protease, for the treatment of geographic atrophy.
Santen Pharmaceutical, jCyte	May 2020	190 (62)	Santen signs development and commercialization deal with jCyte for jCell, a phase 2 cell therapy candidate for retinitis pigmentosa.
Halozyme Therapeutics, Horizon Therapeutics	November 2020	190 (30)	Horizon Therapeutics signs deal with Halozyme to license their ENHANZE drug delivery technology to enable the subcutaneous formulation of Tepezza (teprotumumab), a monoclonal antibody against IGF-1R that is approved for thyroid eye disease.

AMD, age-related macular degeneration; ENaC, epithelial sodium channel; IGF-1R, insulin-like growth factor 1 receptor; n/a, not available. Source: DealForma April 2021.