

Independent Auditors' Reports, as Required by Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative* Requirements, Cost Principles, and Audit Requirements for Federal Awards and Government Auditing Standards and Related Information

Year Ended December 31, 2022

(With Independent Auditors' Report Thereon)

Independent Auditors' Reports as Required by Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and *Government Auditing Standards* and Related Information

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KPMG LLP Two Financial Center 60 South Street Boston, MA 02111

Independent Auditors' Report on Compliance for Major Federal Program; Report on Internal Control Over Compliance; and Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

The Board of Trustees
The Jackson Laboratory:

Report on Compliance for Major Federal Program

Opinion on Major Federal Program

We have audited The Jackson Laboratory's (the Laboratory) compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on the Laboratory's major federal program for the year ended December 31, 2022. The Laboratory's major federal programs is identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the Laboratory complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended December 31, 2022.

Basis for Opinion on Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Laboratory and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for the major federal program. Our audit does not provide a legal determination of the Laboratory's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Laboratory's federal program.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Laboratory's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS,



Government Auditing Standards, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Laboratory's compliance with the requirements of its major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and
 perform audit procedures responsive to those risks. Such procedures include examining, on a test basis,
 evidence regarding the Laboratory's compliance with the compliance requirements referred to above and
 performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the Laboratory's internal control over compliance relevant to the audit in order
 to design audit procedures that are appropriate in the circumstances and to test and report on internal
 control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an
 opinion on the effectiveness of the Laboratory's internal control over compliance. Accordingly, no such
 opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control Over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the consolidated financial statements of the Laboratory as of and for the year ended December 31, 2022, and have issued our report thereon dated May 31, 2023, which contained an unmodified opinion on those consolidated financial statements. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

KPMG LLP

Boston, Massachusetts June 20, 2023



KPMG LLP Two Financial Center 60 South Street Boston, MA 02111

Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With Government Auditing Standards

The Board of Trustees
The Jackson Laboratory

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States, the consolidated financial statements of The Jackson Laboratory (the Laboratory) which comprise the Laboratory's consolidated balance sheet as of December 31, 2022, and the related consolidated statements of activities and changes in net assets, and cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated May 31, 2023.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered the Laboratory's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Laboratory's internal control. Accordingly, we do not express an opinion on the effectiveness of the Laboratory's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Laboratory's consolidated financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.



Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Boston, Massachusetts May 31, 2023

Schedule of Findings and Questioned Costs Year ended December 31, 2022

(1) Summary of Auditors' Results

Financial Statements

- (a) Type of report issued on whether the financial statements were prepared in accordance with U.S. generally accepted accounting principles: **Unmodified**
- (b) Internal control deficiencies over financial reporting disclosed by the audit of the financial statements:
 - Material weaknesses: No
 - Significant deficiencies: None reported
- (c) Noncompliance material to the financial statements: No

Federal Awards

- (d) Internal control deficiencies over major program disclosed by the audit:
 - Material weaknesses: No
 - Significant deficiencies: None reported
- (e) Type of report issued on compliance for major program: Unmodified
- (f) Audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?: No
- (g) Major program:
 - Research and Development Cluster various assistance listing numbers
- (h) Dollar threshold used to distinguish between Type A and Type B programs: \$2,865,456
- (i) Auditee qualified as a low-risk auditee: Yes
- (2) Findings Relating to the Financial Statements Reported in Accordance with Government Auditing Standards

None.

(3) Findings and Questioned Costs Relating to Federal Awards

None.



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Independent Auditors' Report

The Board of Trustees
The Jackson Laboratory:

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of The Jackson Laboratory (the Laboratory), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the related consolidated statements of activities and changes in net assets, and cash flows for the years then ended, and the related notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Laboratory as of December 31, 2022 and 2021, and the changes in their net assets and their cash flows for the years then ended in accordance with U.S. generally accepted accounting principles

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Laboratory and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Laboratory's ability to continue as a going concern for one year after the date the consolidated financial statements are issued.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and Government Auditing Standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion,



forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with GAAS and Government Auditing Standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether
 due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures
 include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated
 financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are
 appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of
 the Laboratory's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting
 estimates made by management, as well as evaluate the overall presentation of the consolidated financial
 statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Laboratory's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued our report dated May 31, 2023, on our consideration of the Laboratory's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Laboratory's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the Laboratory's internal control over financial reporting and compliance.

KPMG LLP

Boston, Massachusetts May 31, 2023

Consolidated Balance Sheets

December 31, 2022 and 2021

(Dollars in thousands)

Assets		2022	2021
Cash and equivalents	\$	21,368	22,240
Short-term investments, at fair value	•	241,607	275,667
Accounts receivable, net		67,990	59,558
Contributions receivable, net		3,574	2,918
Goodwill and other intangible assets		48,908	44,428
Other assets		49,123	49,698
Long-term investments, at fair value		376,169	445,636
Long-lived assets, net		622,002	602,564
Total assets	\$	1,430,741	1,502,709
Liabilities			
Accounts payable and accrued expenses	\$	93,028	87,601
Deposits and deferred revenue		14,907	15,871
Long-term debt, net		368,641	345,076
Other liabilities		13,704	16,778
Total liabilities		490,280	465,326
Net assets without donor restrictions:			
The Jackson Laboratory		850,545	905,271
Noncontrolling interest			28,973
Total net assets without donor restrictions		850,545	934,244
Net assets with donor restrictions		89,916	103,139
Total net assets		940,461	1,037,383
Total liabilities and net assets	\$	1,430,741	1,502,709

Consolidated Statement of Activities and Changes in Net Assets

Year ended December 31, 2022

(Dollars in thousands)

	Without donor restrictions	With donor restrictions	Total
Operating activities:			
Revenue and other support:			
Grants and research contracts	\$ 111,712	_	111,712
Contributions	1,095	3,132	4,227
Genetic resources and clinical and research services	460,105	_	460,105
Long-term investment return utilized	8,776	2,525	11,301
Other investment return	(4,332)	_	(4,332)
Other revenue	725		725
Total revenue	578,081	5,657	583,738
Net assets released from restrictions	5,033	(5,033)	
Total revenue and other support	583,114	624	583,738
Expenses:			
Research	160,602	_	160,602
Genetic resources and clinical and research services	327,387	_	327,387
Training	10,305	_	10,305
Institutional support	77,078		77,078
Total expenses	575,372		575,372
Increase in net assets from operating activities	7,742	624	8,366
Nonoperating activities:			
Grants and contributions for capital and long-term investments	1,735	1,805	3,540
Long-term investment losses	(56,702)	(15,881)	(72,583)
Other, net	(6,867)	229	(6,638)
Decrease in net assets from nonoperating activities	(61,834)	(13,847)	(75,681)
Decrease in net assets	(54,092)	(13,223)	(67,315)
Other changes in net assets:			
Cumulative translation adjustments	(5,301)	_	(5,301)
Contributed capital from noncontrolling interest partner	2,518	_	2,518
Distribution of contributed capital	(26,824)		(26,824)
Total other changes in net assets	(29,607)		(29,607)
Total decrease in net assets	(83,699)	(13,223)	(96,922)
Net assets, beginning of year	934,244	103,139	1,037,383
Net assets, end of year	\$ 850,545	89,916	940,461

Consolidated Statement of Activities and Changes in Net Assets

Year ended December 31, 2021

(Dollars in thousands)

	Without donor restrictions	With donor restrictions	Total
Operating activities:			
Revenue and other support:			
Grants and research contracts	\$ 109,479	_	109,479
Contributions	881	3,573	4,454
Genetic resources and clinical and research services	419,043	_	419,043
Long-term investment return utilized	6,768	2,380	9,148
Other investment return	647	_	647
Other revenue	2,500		2,500
Total revenue	539,318	5,953	545,271
Net assets released from restrictions	4,493	(4,493)	
Total revenue and other support	543,811	1,460	545,271
Expenses:			
Research	155,701	_	155,701
Genetic resources and clinical and research services	271,945	_	271,945
Training	8,508	_	8,508
Institutional support	79,650		79,650
Total expenses	515,804		515,804
Increase in net assets from operating activities	28,007	1,460	29,467
Nonoperating activities:			
Grants and contributions for capital and long-term investments	2,726	4,099	6,825
Long-term investment gains	34,036	18,105	52,141
Loss on extinguishment of debt	(67)	_	(67)
Other, net	(80)		(80)
Increase in net assets from nonoperating activities	36,615	22,204	58,819
Increase in net assets	64,622	23,664	88,286
Other changes in net assets:			
Cumulative translation adjustments	(291)	_	(291)
Contributed capital from noncontrolling interest partner	30,824		30,824
Total other changes in net assets	30,533		30,533
Total increase in net assets	95,155	23,664	118,819
Net assets, beginning of year	839,089	79,475	918,564
Net assets, end of year	\$ 934,244	103,139	1,037,383

Consolidated Statements of Cash Flows

Years ended December 31, 2022 and 2021

(Dollars in thousands)

		2022	2021
Cash flows from operating activities:			
Change in net assets	\$	(96,922)	118,819
Adjustments to reconcile change in net assets to cash provided		, ,	•
by operating activities:			
Noncontrolling interest		28,973	(28,973)
Foreign currency translation adjustment		(5,301)	(291)
Loss on extinguishment of debt		_	67
Depreciation and amortization		58,911	51,384
Realized and unrealized net investment losses (gains)		79,180	(47,026)
(Loss) gain on disposal of long-lived assets		(871)	213
Contributions restricted for long-term investment and assets		(4,570)	(5,934)
Changes in operating assets and liabilities	_	(7,600)	26,631
Net cash provided by operating activities		51,800	114,890
Cash flows from investing activities:			
Acquisition and construction of long-lived assets		(108,417)	(68,817)
Refund of Charles River Lab Japan Purchase Price		948	(55,511) —
Acquisition of Charles River Laboratory Japan, Inc., net of cash acquired		_	(67,300)
Capital contribution from joint venture partner		2,518	4,000
Proceeds from sales of investments		107,213	240,745
Purchases of investments	_	(105,601)	(355,717)
Net cash used in investing activities	_	(103,339)	(247,089)
Cash flows from financing activities:			
Repayment of bonds		(4,990)	(56,350)
Bond proceeds, net		_	201,597
Loan proceeds, net		29,615	· —
Repayment of note payable		(1,263)	(144)
Contributions restricted for long-term investment and assets	_	4,570	5,934
Net cash provided by financing activities		27,932	151,037
Net (decrease) increase in cash and equivalents		(23,607)	18,838
Cash and cash equivalents beginning of year		53,995	35,157
Cash and cash equivalents end of year	\$_	30,388	53,995
Cash paid for interest	\$	13,045	8,049

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

(1) Background

The Jackson Laboratory (the Laboratory) is a not-for-profit independent research organization focused on the advancement of human health. The purposes of the Laboratory are scientific, medical, charitable, and educational. The Laboratory strives to discover precise genomic solutions for disease and empower the global biomedical community in its shared quest to improve human health. This mission is carried out through: (1) conducting basic biomedical research; (2) training and educating scientists worldwide; and (3) developing and providing scientific services, genetic resources, and genetic and clinical information related to genetic resources to the global scientific community.

All amounts presented in the notes to the consolidated financial statements are in thousands.

In August 2021 the Laboratory's wholly-owned US subsidiary, Jackson Laboratory Holdings, LLC (JAX LLC) established a wholly-owned Japanese Subsidiary, The Jackson Laboratory Japan Holdings, Inc. (JAX Japan Holdings), incorporated under Japan law. On October 12, 2021 JAX Japan Holdings purchased the outstanding stock of Charles River Laboratory Japan, Inc. and renamed the entity as The Jackson Laboratory Japan, Inc. (JAX Japan). JAX Japan develops and provides scientific services, genetic resources and clinical information related to genetic resources primarily to the Japanese scientific community.

The Laboratory transferred consideration totaling \$86,450, including cash of \$75,097 and the assumption of liabilities of \$11,353.

Cash consideration	\$ 75,097
Liabilities assumed	 11,353
Total consideration	86,450
Working capital received	 19,150
Net consideration	\$ 67,300

The Laboratory accounted for the business combination by applying the acquisition method of accounting in accordance with Accounting Standards Codification Topic 958-805, *Not-For-Profit Entities-Business Combinations*.

The following table summarizes the estimated fair values of the assets acquired and the liabilities assumed at the acquisition date. Determining the fair value of the assets acquired and the liabilities assumed requires judgment and involves the use of significant accounting estimates and assumptions, including assumptions with respect to future cash flows and discount rates, among others.

	_	Total at October 12, 2021
Assets acquired: Cash and cash equivalents Accounts receivable	\$	7,935 11,215

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

	_	Total at October 12, 2021
Prepaid and other current assets	\$	1,294
Long-lived assets		17,599
Intangible assets		14,430
Other assets		3,979
Goodwill	_	29,998
Total assets acquired	_	86,450
Liabilities assumed:		
Accounts payable and accrued expenses		11,188
Other liabilities	_	165
Total liabilities assumed	_	11,353
Total assets acquired, liabilities assumed, and change in		
net assets	\$_	75,097

At the acquisition date the Laboratory recorded a preliminary fair value of goodwill in the amount of \$29,998. In 2022, to determine the final value of goodwill within twelve months of the acquisition, and with the assistance of an independent subject-matter specialist, management determined the final step-up fair value of certain acquired long-lived and intangible assets. Factors contributing to the final valuation of these assets include, but are not limited to, the increase in business opportunities from the Laboratory's presence in the Japanese market. The resultant net step-up adjustment to the long-lived and intangible assets, and the resultant decrease in goodwill, totaled \$6,582 as of October 12, 2022.

In accordance with the purchase agreement, the final determination of working capital at the date of acquisition was agreed on with the seller of Charles River Laboratory Japan, Inc. As a result, in 2022 the Laboratory received a partial refund of the acquisition purchase price of \$948, which was recognized as a decrease in the value of goodwill.

As a result of the foregoing, the final value of goodwill included in the Laboratory's consolidated balance sheet, is \$22,468 at December 31, 2022.

Through its wholly-owned subsidiary, Jackson Laboratory Hong Kong Holdings Limited (JAX HK), the Laboratory holds a controlling interest in an operating venture in the People's Republic of China, The Jackson Laboratory Anitech Biotechnology (Beijing) Limited (JAX Beijing). In accordance with the JAX Beijing joint-venture agreement, the non-controlling interest partner contributed and provided the following to JAX Beijing:

Capital of \$2,518 and \$4,000 during 2022 and 2021, respectively;

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

• In 2021, an exclusive right to utilize certain buildings and related land for JAX Beijing's operations. The value of the land and buildings, subject to the exclusive-use right, totaled \$26,824, which has been recognized as an in-kind capital contribution and is included as a component of long-lived assets in the Laboratory's consolidated balance sheet as of December 31, 2021. The value of the land and buildings contributed in 2021 is based on the historical cost to acquire these assets by the non-controlling interest partner.

In November 2022, prior to JAX Beijing commencing operations, the shareholders of JAX Beijing voted on a plan to dissolve the entity. As a result, the exclusive right to utilize certain buildings and related land for JAX Beijing's operations was revoked in 2022 and was recognized as a distribution of capital for the year ended December 31, 2022.

The reconciliation of a noncontrolling interest reported in net assets without donor restrictions is as follows:

		The Laboratory	JAX Beijing	Total
Net assets without donor restrictions at December 31, 2021	\$	905,271	28,973	934,244
Operating income (loss) Nonoperating income	•	12,220 (61,834)	(4,478)	7,742 (61,834)
Excess (deficit) of revenues over expenses		(49,614)	(4,478)	(54,092)
Cumulative translation adjustments Contributed capital from non-controlling		(5,112)	(189)	(5,301)
interest partner Distribution of capital			2,518 (26,824)	2,518 (26,824)
Change in net assets	·	(54,726)	(28,973)	(83,699)
Net assets without donor restrictions at December 31, 2022	\$	850,545		850,545
			2021	
		The Laboratory	JAX Beijing	Total
Net assets without donor restrictions at December 31, 2020	\$	839,089	_	839,089
Operating income (loss) Nonoperating income		29,894 36,615	(1,887)	28,007 36,615
Excess (deficit) of revenues over expenses		66,509	(1,887)	64,622

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

	2021						
	Th	e Laboratory	JAX Beijing	Total			
Cumulative translation adjustments Contributed capital from non-controlling	\$	(327)	36	(291)			
interest partner			30,824	30,824			
Change in net assets		66,182	28,973	95,155			
Net assets without donor restrictions at December 31, 2021	\$	905,271	28,973	934,244			

The Laboratory's financial results include the operations of its wholly-owned US subsidiary, JAX LLC, JAX LLC's wholly-owned subsidiaries, The Jackson Laboratory Medical Science and Technology (Shanghai) Co., Ltd. (JAX Shanghai), JAX HK, and JAX Japan Holdings, and their respective subsidiaries, JAX Beijing and JAX Japan. All intercompany transactions have been eliminated in consolidation.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The Laboratory presents its consolidated financial statements on the accrual basis in accordance with U.S. generally accepted accounting principles (GAAP).

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities, at the dates of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates. Management estimates, requiring the application of significant judgments, include the valuation of goodwill and intellectual property, obligations under a postretirement plan, liabilities under self-insured plans, allowances for uncollectible receivables and certain alternative investments.

(b) Classification of Net Assets

The Laboratory follows the reporting requirements of GAAP which require that net assets be classified for reporting purposes based on the existence or absence of donor-imposed restrictions. This is accomplished by classifying net assets into two classes: without donor restrictions and with donor restrictions. Descriptions of the two net asset categories and the types of transactions affecting each category follow:

• Without Donor Restrictions – Net assets that are not subject to donor-imposed restrictions. This net asset category principally consists of revenues and related expenses associated with the core activities of the Laboratory: conduct of sponsored research, genetic resources and clinical and research services, and training. Additionally, changes in this category include investment returns on funds without donor restrictions, including those designated by the Board of Trustees (the Board) to function as an endowment, restricted gifts whose donor-imposed restrictions were met during the fiscal year, and previously restricted gifts and grants for buildings and equipment that have been placed in service.

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Notes to Consolidated Financial Statements

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• With Donor Restrictions – Net assets subject to donor-imposed restrictions that will be met either by actions of the Laboratory or the passage of time. This net asset category consists of gifts for which donor-imposed restrictions have not been met in the year of receipt, including gifts and grants for buildings and equipment not placed in service; endowment, pledges, and investment return on endowments funds; and endowments where the principal may be expended over a stated period of time (term endowments). Expirations of restrictions on net assets with donor restrictions are reported as net assets released from restrictions.

Also included in this category are net assets subject to donor-imposed restrictions, including gifts and pledges wherein donors stipulate that the corpus of the gift be held in perpetuity and that only the income be made available for program operations and other purposes.

Revenue is reported as an increase in net assets without donor restrictions unless its use is limited by donor-imposed restrictions or it is a pledge and included in net assets with donor restrictions until collected. Expenditures of net assets with donor restrictions are reported in the program where expended with the release of the restriction shown as a decrease in net assets with donor restrictions and an offsetting increase in net assets without donor restrictions.

(c) Revenue

Revenue from Provision of Genetic Resources and Clinical and Research Services

The Laboratory recognizes revenue from providing genetic resources and clinical and research services when the resources are shipped or the services are provided; these revenues are included in Genetic Resources and Clinical and Research Services revenue. These transactions are considered to be exchange transactions. Accounts receivable from such activities are reported net of allowance for uncollectible accounts.

Revenue from Grants and Research Contracts

Grants and contracts awarded by federal and other sponsors, which generally are considered nonexchange transactions restricted by sponsors for certain purposes, are recognized as revenue when qualifying expenditures are incurred or other conditions under the agreements are met. The Laboratory has elected the simultaneous release policy which allows a not-for-profit organization to recognize a restricted contribution directly in net assets without donor restrictions if the restriction is met in the same period that the revenue is recognized. Payments received in advance of expenditures are recorded as deferred revenue until expended. The Laboratory received approximately 87% and 80%, respectively, of its revenue from grants and contracts from the National Institutes of Health (NIH) for the years ended December 31, 2022 and 2021. Indirect costs are billed and recovered in accordance with the terms of the grant agreements and represented \$39,652 and \$37,680, respectively, of revenue from grants for the years ended December 31, 2022 and 2021. Most NIH grants reimburse for indirect costs at an agreed percentage of direct costs incurred.

Revenue from Contributions

Contributions, including unconditional promises to give, are generally considered non-exchange transactions, and are recognized at fair value and increase net assets in the period received.

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Written promises to give that are scheduled to be received after the balance sheet date are shown as increases in net assets with donor restrictions and are reclassified to net assets without donor restrictions when the purpose or time restrictions are met. Promises to give subject to donor-imposed stipulations that the corpus be maintained permanently are recognized as increases in net assets with donor restrictions. Contributions are considered conditional when the underlying agreement includes a performance barrier and a right of return or a right to release promised assets exists. Conditional promises to give are not recognized as revenue until the performance barrier and the right of return or release have been overcome. Contributions to be received after one year are discounted at rates commensurate with the estimated risk of receipt of the pledge. Amortization of the discount is recorded as additional contribution revenue in the appropriate net asset category.

Contributions of cash or other assets that must be used to acquire long-lived assets or the contribution of long-lived assets are reported in nonoperating support as a component of net assets with donor restrictions until the assets are placed in service.

(d) Functional Classification of Expenses

Program services consist of research, genetic resources and clinical and research services, and training. Expenses are presented on the consolidated statements of activities on a functional or programmatic basis, consisting of direct costs and indirect facility-related costs. Facility-related expenses, including costs for the operation and maintenance of long-lived assets, financing costs and depreciation, are allocated on the basis of square footage utilized by each of the programs. Facility-related costs related to information technology are allocated primarily on the basis of the estimated level of effort.

Functional expenses incurred by type for the years ended December 31, 2022 and 2021 are presented below:

	December 31, 2022					
	_	Research	Genetic resources and clinical and research services	Training	Institutional support	Total
Salaries and wages	\$	71,063	124,465	3,581	37,098	236,207
Benefits		21,472	37,608	1,082	11,209	71,371
Employee recruitment, training,						
memberships and subscriptions	3	1,846	1,276	185	2,669	5,976
Purchased services and stipends		14,001	21,337	1,755	12,856	49,949
Supplies and shipping		17,926	60,881	353	735	79,895
Maintenance, utilities and						
insurance		11,383	26,836	655	4,846	43,720
Travel and meals		1,669	2,610	1,168	2,572	8,019
Interest expense		272	7,648	30	110	8,060
Depreciation		20,706	32,126	1,291	2,691	56,814
Other expenses	_	264	12,600	205	2,292	15,361
Total	\$_	160,602	327,387	10,305	77,078	575,372

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	December 31, 2021						
	_	Research	Genetic resources and clinical and research services	Training	Institutional support	Total	
Salaries and wages	\$	67,475	98,395	3,136	34,852	203,858	
Benefits		21,745	31,710	1,011	11,232	65,698	
Employee recruitment, training,							
memberships and subscriptions		1,431	827	190	2,026	4,474	
Purchased services and stipends		13,601	15,971	1,822	17,274	48,668	
Supplies and shipping		18,147	63,170	322	1,384	83,023	
Maintenance, utilities and							
insurance		10,692	20,369	511	5,122	36,694	
Travel and meals		405	985	265	1,069	2,724	
Interest expense		323	7,484	27	34	7,868	
Depreciation		21,747	24,965	1,123	3,361	51,196	
Other expenses	_	135	8,069	101	3,296	11,601	
Total	\$_	155,701	271,945	8,508	79,650	515,804	

All direct and indirect costs of fundraising are expensed as incurred and are included in institutional support in the consolidated statements of activities. Direct fundraising expenses were \$3,857 and \$4,511 for the years ended December 31, 2022 and 2021, respectively.

(e) Operating and Nonoperating Activities

The consolidated statements of activities report changes in net assets from operating and nonoperating activities.

Operating activities consist of the Laboratory's ongoing research and training programs, including the provision of genetic resources and clinical and research services. Included in operating revenue is investment return appropriated to support operations under the endowment income spending formula approved by the Board, as described in note 5(c). Also included in operating revenue are research grant reimbursements of \$482 and \$184 for the years ended December 31, 2022 and 2021, for the purchase of equipment that became the property of the Laboratory upon acquisition. Depreciation charged to operating activities from research grant-funded equipment was \$814 and \$921 for the years ended December 31, 2022 and 2021, respectively.

Nonoperating revenue includes items not related to the Laboratory's recurring activities or revenue that may not be used for operations. Contributions for the acquisition of long-lived assets, net assets released from restrictions for the acquisition of long-lived assets, unrestricted bequests, investment return in excess of the amount appropriated under the Laboratory's spending formula, and grants to acquire land, buildings, and equipment are all reported as nonoperating activities. Postretirement plan charges above periodic benefit costs are also all presented as nonoperating activities.

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(f) Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments with original maturities of three months or less when purchased, excluding amounts whose use is limited by internal designation.

The following table provides a reconciliation of cash and cash equivalents within the consolidated balance sheet that sums to the total of such amounts as shown on the consolidated statement of cash flows as of December 31:

	 2022	2021
Cash included in short-term investments on the consolidated		
balance sheets	\$ 9,020	31,755
Cash and cash equivalents as reported in the consolidated		
balance sheets	21,368	22,240
Total cash and cash equivalents as shown in		
the consolidated statement of cash flows	\$ 30,388	53,995

(g) Self-Insurance Reserves

The Laboratory is self-insured for healthcare benefits offered to active employees who meet eligibility requirements. These costs are accounted for on an accrual basis, which requires estimates to be made for claims incurred but not yet reported as of the consolidated balance sheet date.

(h) Long-Lived Assets, Intellectual Property and Goodwill

Long-lived assets and intellectual property are reported at cost at date of acquisition or at fair value at date of donation in the case of gifts. For long-lived assets and intangible assets placed in service, depreciation and amortization, respectively, is provided using the straight-line method over the estimated useful lives of the assets. For long-lived assets the cost of normal maintenance and repairs that does not add to the value of the asset or materially extend asset lives is not capitalized.

For long-lived assets depreciation is provided on a straight-line basis over the following estimated useful lives:

	Years
Buildings and improvements	15–50
Land improvements	5–15
Equipment and software	3–15

For intellectual property amortization is provided on a straight-line basis over an estimated useful life of fifteen years. Goodwill is recorded at fair value. Goodwill is not amortized but is assessed on a recurring basis for impairment.

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Management reviews long-lived assets, intellectual property and goodwill for impairment whenever events or circumstances indicate that the carrying value of these assets may not be recoverable. The Laboratory recorded no impairment for the years ended December 31, 2022 and 2021.

The Laboratory receives awards from various granting agencies that allow for the purchase of certain assets, scientific equipment and construction of buildings. These assets are depreciated in accordance with the aforementioned policy. The assets become the property of the Laboratory upon acquisition, unless the grant or funding agreement specifically states otherwise. Grant-funded assets are typically restricted as to use and disposal.

(i) Foreign currency translation

The Laboratory's accounting records in Japan, China and Hong Kong are maintained in Japanese Yen, Chinese Yuan, and the Hong Kong Dollar, respectively. The Foreign currency equivalents used to translate into U.S. Dollars as of and for the respective periods ended December 31 are as follows:

		2022	
	Japanese Yen	Chinese Yuan	Hong Kong
	to one	to one	Dollar to one
	U.S. Dollar	U.S. Dollar	U.S. Dollar
Revenues and expenses at the average rate for the fiscal year ended			
December 31, 2022	0.00742	0.14340	0.12840
Assets, liabilities, and net assets at the			
current rate as of December 31, 2022	0.00763	0.14500	0.12810
		2021	
	Japanese Yen	Chinese Yuan	Hong Kong
	to one	to one	Dollar to one
	U.S. Dollar	U.S. Dollar	U.S. Dollar
Revenues and expenses at the average rate since acquisition date Through December 31, 2021	0.00878	_	_
-			
Revenues and expenses at the average rate for the fiscal year ended December 31, 2021	_	0.15700	0.12870
Assets, liabilities, and net assets at the current rate as of December 31, 2021	0.00869	0.15730	0.12830

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An analysis of the unrestricted cumulative adjustments from foreign currency translation are as follows for the years ended December 31:

	2	022	2021
Beginning balance	\$	(291)	
Translation adjustment		(5,301)	(291)
Ending balance	\$	(5,592)	(291)

(j) Income Taxes

The Laboratory is a not-for-profit organization as described in Section 501(c)(3) of the Internal Revenue Code (the Code), as amended, and is generally exempt from income taxes pursuant to the Code. JAX Shanghai and JAX Beijing are taxable entities organized under the regulations of the People's Republic of China. JAX HK is a taxable entity organized under the regulations of Hong Kong. JAX Japan Holdings and JAX Japan are taxable entities organized under the regulations of Japan.

In accordance with GAAP, the Laboratory assesses whether there are uncertain tax positions and determined that there were no uncertain tax positions that would have a material effect on the consolidated financial statements.

(k) Fair Value Measurements

The Laboratory determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- **Level 1 inputs**: Unadjusted quoted and published prices for identical assets or liabilities in active markets accessible to the entity at the measurement date.
- Level 2 inputs: Other than quoted prices included in Level 1, inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- **Level 3 inputs**: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. In determining fair value, the Laboratory utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. Levels are determined based on the aforementioned hierarchy, except for investments measured using net asset value (NAV) as a practical expedient to estimate fair value, as described in note 3.

It is the Laboratory's policy to review and reflect transfers between levels as of the consolidated financial statement reporting date. Transfers between different levels of the fair value hierarchy are recorded as of the end of the reporting period.

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The categorization of an investment within the fair value hierarchy is based on the inputs described above and does not necessarily correspond to the Laboratory's management's perceived risk of that investment. Moreover, the methods used by management may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Laboratory believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments and nonfinancial assets and liabilities could result in a different fair value measurement at the reporting date.

(3) Investments

(a) Overall Investment Objective

The overall investment objective of the Laboratory is to invest its long-term assets in a prudent manner to achieve a long-term rate of return sufficient to fund a portion of its annual operating activities, and increase investment value after inflation. The investment objective for short-term investments is preservation of value and liquidity, relying primarily on highly rated short-term interest-bearing investments. The Laboratory diversifies its long-term investments among various asset classes incorporating multiple strategies and managers. The Investment Committee oversees the Laboratory's endowment in accordance with the investment policy statement.

(b) Basis of Reporting

Investments, including endowment and operating investments without donor restrictions are reported at estimated fair value. If an investment is held directly by the Laboratory and an active market with quoted prices exists, the market price of an identical security is used as the reported fair value. Reported fair values for shares in registered mutual funds are based on share prices reported by the funds as of the last business day of the fiscal year. The Laboratory's interests in commingled investment funds (multiple strategies) are generally reported at the net asset value (NAV) reported by the fund managers, which is used as a practical expedient to estimate the fair value of the Laboratory's interest therein, unless it is probable that all or a portion of the investment will be sold for an amount different from NAV.

(c) Classification in the Fair Value Hierarchy

The Laboratory owns interests in alternative investment funds that are generally reported at the NAV reported by the fund managers, unless the fund has a readily determinable fair value that is used as a practical expedient to estimate the fair value of the Laboratory's interest therein, or it is probable that all or a portion of the investment will be sold for an amount different from the NAV. Such valuations are determined by fund managers who generally consider variables such as operating results, comparable earnings multiples, projected cash flows, recent sales prices, and other pertinent information, and also may reflect discounts for the liquid nature of certain investments held. As of December 31, 2022 and 2021 the Laboratory had no plans or intentions to sell investments at amounts different from NAV.

The inputs or methodology used for valuing or classifying investments for financial reporting purposes are not necessarily an indication of the risk associated with investing in those investments or a reflection on the liquidity of each fund's underlying assets and liabilities.

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There were no transfers between Level 1 and Level 2 for the fiscal years ended December 31, 2022 and 2021.

The following tables summarize the Laboratory's investments by major category in the fair value hierarchy as of December 31, 2022 and 2021, as well as related strategy, liquidity and funding commitments:

			December	31, 2022	
	_			NAV or	
	_	Level 1	Level 2	equivalent	Total
Short-term investments:					
Cash and cash equivalents U.S. and global fixed income	\$	84,227	10,000	_	94,227
funds	_	147,380			147,380
Total short-term investments		231,607	10,000		241,607
Long-term investments (endowment): Money market accounts and	_				
certificates of deposit U.S. and global fixed		1,534	_	_	1,534
income funds		27,426	_	_	27,426
Equities: U.S. mid and large cap					
value funds		121,525	_	_	121,525
Global large cap	_	73,217		18,776	91,993
Total equities		194,742	_	18,776	213,518
Multiple hedged strategies ¹ Private equity and real		19,344	_	32,118	51,462
assets ¹	_			82,229	82,229
Total long-term investments	_	243,046		133,123	376,169
Total	\$	474,653	10,000	133,123	617,776

The redemption or liquidation is monthly to locked up. The lock-up periods have various terms with extensions of one to three years. As of December 31, 2022, the average remaining life of these partnerships is approximately six years.

Notes to Consolidated Financial Statements

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		December 31, 2021			
				NAV or	
	_	Level 1	Level 2	equivalent	Total
Short-term investments:					
Cash and cash equivalents U.S. and global fixed income	\$	62,095	_	_	62,095
funds	_		213,572		213,572
Total short-term					
investments		62,095	213,572		275,667
Long-term investments (endowment): Money market accounts and					
certificates of deposit		2,223	_	_	2,223
U.S. and global fixed income funds		51,649	_	_	51,649
Equities:					
U.S. mid and large cap value funds		154,077	_	_	154,077
Global large cap		90,296	_	33,650	123,946
Total equities		244,373		33,650	278,023
Multiple hedged strategies ¹ Private equity and real		20,272	_	26,531	46,803
assets ¹	_			66,938	66,938
Total long-term investments		318,517		127,119	445,636
Total	\$	380,612	213,572	127,119	721,303

The redemption or liquidation is monthly to locked up. The lock-up periods have various terms with extensions of one to three years. As of December 31, 2021, the average remaining life of these partnerships is approximately six years.

(d) Commitments

Private equity investments are generally made through private limited partnerships. Under the terms of the partnership agreements, the Laboratory makes a commitment of a specific amount of capital to a partnership and is obligated to remit committed funding periodically when capital calls are exercised by the General Partner as the partnership executes on its investment strategy. Private equity funds are typically structured with investment periods of three-to-ten years. The aggregate amounts of unfunded commitments associated with private limited partnerships as of December 31, 2022 and 2021 were

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\$31,111 and \$29,644, respectively. The timing and amount of future capital calls expected to be exercised in any particular future year is uncertain.

(4) Financial Assets and Liquidity Resources

As of December 31, 2022 and 2021 financial assets and liquidity resources available within one year for general expenditure, such as operating and program expenditure, scheduled principal and interest payments on debt, and capital constructions costs not financed with debt, were as follows:

	_	2022	2021
Financial assets:			
Cash and cash equivalents	\$	21,368	22,240
Contributions and accounts receivable, net		68,438	59,893
Short-term investments		241,607	275,667
Budgeted endowment payouts:			
Board-designated		10,855	8,777
Donor-restricted	_	2,977	2,525
Total financial assets available within one year		345,245	369,102
Liquidity resources:			
Bank line of credit	_	57,500	50,000
Total financial assets and liquidity resources			
available within one year	\$	402,745	419,102

The Laboratory actively manages its resources utilizing a combination of short, medium and long-term operating investment strategies to align its cash inflows with anticipated outflows in accordance with policies approved by the Board. As disclosed in note 8(a), the Laboratory may draw upon an unsecured revolving credit facility to manage cash flows.

Additionally, as of December 31, 2022 and 2021, the Laboratory had an additional \$281,933 and \$340,183, respectively, in Board-designated endowments not budgeted for spending which is available for general expenditure with Board approval.

(5) Endowment

The Laboratory's endowment consisted of 83 individual donor-restricted funds, as well as Board-designated funds held for the long-term support of the Laboratory's mission.

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Both donor-restricted and Board-designated endowment funds were invested with a total return objective and long-term goal of attaining an average annualized nominal return equal to, or above the rate of inflation, based on the Consumer Price Index (CPI), plus the Laboratory's spending rate.

(a) Interpretation of Relevant Law

The Laboratory is subject to the Maine Uniform Prudent Management of Institutional Funds Act (MUPMIFA).

For reporting purposes the Laboratory classifies as net assets with donor restrictions the historical value of donor-restricted endowment funds, which includes: (a) the original value of gifts donated to the endowment, (b) the original value of subsequent gifts to the endowment, and (c) changes to the endowment made in accordance with the direction of the applicable donor instrument. Also included in net assets with donor restrictions is accumulated appreciation on donor-restricted endowment funds which are available for expenditure in a manner consistent with the standard of prudence prescribed by MUPMIFA, and deficiencies associated with funds where the value of the fund has fallen below the original value of the gift as disclosed in note 5(d).

(b) Investment Strategies

The endowment provides financial support for programs through the generation of income and gains while preserving capital for future support. The endowment is managed to maximize long-term, risk-adjusted investment returns. The investment objective for both donor-restricted and Board-designated funds can be met through a common investment pool with liquidity sufficient to meet the needs of the Laboratory.

(c) Endowment Spending Policy

The Laboratory employs a total-return approach to endowment management. Income and dividends are used to fund spending first, with net realized and unrealized appreciation providing incremental funding as needed. Taking into consideration the factors continued in MUPMIFA for the appropriation and accumulation of endowment funds, the annual spending policy distribution rate from the endowment shall be a target percentage as adopted by the Investment Committee from time to time, of the twelve-quarter moving average market value, with the final quarter in the spending formula determined on December 31 of the last audited year preceding the fiscal year of spending. The spending distribution is reviewed and approved annually by the Finance Committee in conjunction with the recommended adoption of the annual budget.

(d) Funds with Deficiencies

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the historic dollar value of permanently restricted contributions. Deficiencies of this nature are reported in net assets with donor restrictions as underwater funds when they occur. Deficiencies totaled \$229 at December 31, 2022. There were no deficiencies in 2021.

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(e) Net Assets by Type of Fund and Changes in Endowment Investments

Total

Net assets by type of fund consisted of the following at December 31, 2022 and 2021:

292,788

		2022					
	•	Without	With donor re	estrictions			
	_	donor restrictions	Underwater funds	Other funds	Total		
Donor-restricted endowments:							
Historical gift value	\$	_	3,290	29,352	32,642		
(Depreciation)/Appreciation		_	(229)	50,968	50,739		
Board-designated endowments		292,788	_	_	292,788		

3,061

			2021	
	_	Without donor restrictions	With donor restrictions	Total
Donor-restricted endowments: Historical gift value Appreciation	\$		30,081 66,595	30,081 66,595
Board-designated endowments	_	348,960		348,960
Total	\$_	348,960	96,676	445,636

Changes in endowment assets for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022				
		Without donor restrictions	With donor restrictions	Total	
Endowment, December 31, 2021	\$	348,960	96,676	445,636	
Cash contributions		_	2,562	2,562	
Board transfer from operating funds					
to endowment		370	_	370	
Investment return		(47,926)	(13,356)	(61,282)	
Long-term investment return utilized		(8,776)	(2,525)	(11,301)	
In-transit transactions		160	24	184	
Endowment, December 31, 2022	\$	292,788	83,381	376,169	

80,320

376,169

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		December 31, 2021	1		
	 ithout donor restrictions	With donor restrictions	Total		
Endowment, December 31, 2020	\$ 311,656	75,301	386,957		
Cash contributions	_	3,358	3,358		
Board transfer from operating funds					
to endowment	3,507	_	3,507		
Investment return	40,804	20,485	61,289		
Long-term investment return utilized	(6,768)	(2,380)	(9,148)		
In-transit transactions	 (239)	(88)	(327)		
Endowment, December 31, 2021	\$ 348,960	96,676	445,636		

In-transit transactions are due to timing of transfers between the Laboratory's operational accounts and endowment accounts for gifts received and reimbursement of expenditures. Gifts are shown as the amount of cash received and therefore include the collection of pledge payments and exclude uncollected pledges.

(6) Accounts Receivable

Accounts receivable consisted of the following as of December 31, 2022 and 2021:

	2022	2021
Due from provision of genetic resources and services	\$ 50,528	48,191
Amounts reimbursable under grants and contracts	14,942	11,002
Miscellaneous accounts receivable	 3,485	1,479
	68,955	60,672
Less allowance for uncollectibles	 (965)	(1,114)
Accounts receivable, net	\$ 67,990	59,558

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(7) Long-Lived Assets

Long-lived assets consisted of the following as of December 31, 2022 and 2021:

	-	2022	2021
Land and improvements	\$	15,453	17,956
Buildings and improvements		769,531	758,045
Construction in progress		115,503	78,126
Equipment and software	_	234,850	219,684
		1,135,337	1,073,811
Less accumulated depreciation		(513,335)	(471,247)
Long-lived assets, net	\$	622,002	602,564

The change in accounts payable for acquisition and construction of long-lived assets was an increase of \$1,705 for the year ended December 31, 2022 and an increase of \$4,175 for the year ended December 31, 2021.

Commitments to third parties for the purchase of equipment, space renovation and construction projects were \$60,009 and \$56,005 as of December 31, 2022 and 2021, respectively.

(8) Debt

(a) Long-term debt, net

Long-term debt, net, consists of the following as of December 31, 2022 and 2021:

	_	2022	2021
Series 2021 taxable bonds	\$	203,340	203,340
Series 2018 taxable bonds		138,290	143,280
Term loan		29,376	
		371,006	346,620
Debt issuance costs		(3,563)	(2,891)
Bonds and term loan payable, net		367,443	343,729
Note payable		1,198	1,347
Long-term debt, net	\$	368,641	345,076

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

On June 24, 2022, the Laboratory entered into a five-year, \$30,000 loan agreement with a Japanese bank to fund a portion of the JAX Japan acquisition. The loan and related interest and principal payments are denominated in Japanese Yen. The loan agreement also provides for a \$7,500 revolving credit facility. The borrowing consists of a blended rate of 1.4%, payable semi-annually. Principal payments of \$1,100 and related interest payments are payable semi-annually, with a balloon payment for the remaining balance of \$19,100 in 2027. The borrowing is securitized by JAX Japan assets and contains several non-financial and financial reporting covenants. The financial covenants include the maintenance of a minimal net asset value, as well as the achievement of certain ordinary income levels, as of and for the year ended December 31, 2022, for the Laboratory's Japan operations on a stand-alone basis. As a result of the Laboratory's Japan operations, the Laboratory is in default of these financial covenants as of December 31, 2022. On May 25, 2023, the Laboratory received a waiver of these financial covenants from the bank. Interest expense incurred and paid during 2022 totaled \$242. The Laboratory did not utilize the revolving credit facility in 2022.

On March 16, 2021, the Laboratory issued taxable bonds in the amount of \$203,340. A portion of the proceeds were utilized to defease the remaining outstanding principal of \$48,435 on a former bond series, resulting in a loss of \$67 from the extinguishment of debt for the year ended December 31, 2021. The remainder of the proceeds are intended for capital improvements. The bonds have a stated rate of fixed interest ranging from 2.692% to 3.468%, payable semiannually, over a 30 year term. Interest expense incurred during 2022 and 2021 on the taxable bonds totaled \$6,924 and \$5,482, net of capitalized interest of \$5,104 and \$4,443, respectively. At December 31, 2022 and 2021 accrued interest of \$3,462 and \$3,462, respectively, is included in accrued expenses on the consolidated balance sheets. The remaining bond proceeds on hand of \$88,600 at December 31, 2022 are included in working capital on the consolidated balance sheet. Under the terms of the bonds, the Laboratory is to meet certain reporting covenants.

The Series 2018 taxable bonds have a stated rate of fixed interest ranging from 2.25% to 4.334%, payable semiannually, over a 30 year term. Interest expense incurred during 2022 and 2021 on the taxable bonds totaled \$5,749 and \$5,900, net of capitalized interest of \$0 and \$0, respectively. At December 31, 2022 and 2021 accrued interest of \$2,836 and \$2,914, respectively, is included in accrued expenses on the consolidated balance sheets.

The Laboratory maintains a \$50,000 unsecured line of credit with a financial institution, to provide general working capital needs and other corporate purposes. The line of credit has been extended until January 4, 2024. Interest is payable monthly at the rate of BSBY plus 0.65%. The Laboratory did not utilize the unsecured line of credit during the year ended December 31, 2022 or 2021. The line of credit documents require the Laboratory to maintain certain reporting covenants but contains no financial covenants.

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

(b) Maturities of Long-Term Debt

Maturities of long-term debt as of December 31, 2022, were as follows:

	 Amounts due		
Year ending December 31:			
2023	\$ 7,260		
2024	7,406		
2025	7,568		
2026	7,749		
2027	25,863		
Thereafter	 316,358		
Total	\$ 372,204		

(9) Employee Benefits

(a) Defined Contribution Retirement Plan

Subject to meeting certain eligibility requirements, all employees participate in a defined contribution 403(b) retirement plan administered by the Laboratory. Contribution expense was \$18,247 and \$16,661 for the years ended December 31, 2022 and 2021, respectively.

(b) Postretirement Medical Plan

The Laboratory maintains a non-contributory postretirement medical plan covering certain retired employees with hire dates before 2003 and faculty members eligible to retire on May 31, 2008, and their dependents. Other than the payment of current benefits totaling \$477 and \$589 in the years ended December 31, 2022 and 2021, respectively, the Laboratory has not funded the postretirement plan. The benefit obligation as of December 31, 2022 and 2021, respectively, is \$5,215 and \$6,726, and are included in other liabilities on the consolidated balance sheet.

(c) Deferred Compensation Program

The Laboratory maintains a nonqualified salary deferral plan authorized under Section 457(b) of the Internal Revenue Code. The Laboratory holds an investment matching the employee investment selections to assure funding is available to meet future liabilities. The liability and matching investments related to the salary deferral plan each totaled \$8,489 and \$10,052 at December 31, 2022 and 2021, respectively. Investments related to the non-qualified salary deferral plan are categorized as Level 1 in the fair value hierarchy as more fully described in note 3(c).

The Laboratory also maintains a deferred compensation program under Section 457(f) of the Internal Revenue Code for management and certain highly compensated employees under which a portion of the employee's compensation is deferred and vested over time. The liability of \$703 and \$1,333 at December 31, 2022 and 2021, respectively, is included in accounts payable and accrued expenses, and the corresponding assets are included in other assets.

Notes to Consolidated Financial Statements

December 31, 2022 and 2021

(10) Net Assets

Net assets without donor restrictions include Board-designated endowments that are used to support the Laboratory's strategic initiatives and general operations. The Laboratory classifies gift pledges based on donor purpose restriction. Unrestricted pledges are shown as a component of net assets with donor restrictions until collected. Net assets with donor restrictions consisted of the following at December 31:

	2022	2021
Donor-restricted endowments:		
Research	\$ 26,535	24,363
Training	2,408	2,029
Other programs	899	888
General purpose	2,800	2,801
Pledges receivable for endowment	724	1,093
Total endowment	33,366	31,174
Purpose and time-restricted, and other:		
Unappropriated return	50,739	66,595
Other	5,811	5,370
Total net assets with donor restrictions	\$ 89,916	103,139

(11) Legal Claims

The Laboratory is subject to certain legal proceedings and claims that arise in the ordinary course of conducting its activities. While it is not possible to predict accurately or determine the eventual outcome of such actions, management believes that the outcome of proceedings will not have a material adverse effect on the Laboratory's financial position.

(12) Related Party Transactions

Members of the Laboratory's Board and senior management may, from time to time, be associated, either directly or indirectly, with companies doing business with the Laboratory. The Laboratory has a written conflict of interest policy that requires, among other things, that no member of the Board may participate in any decision in which he or she has a material financial interest.

(13) Subsequent Events

The Laboratory has evaluated subsequent events from the consolidated balance sheet date of December 31, 2022 through May 31, 2023, the date on which the consolidated financial statements were issued.

Supplementary Schedule of Expenditures of Federal Awards Year ended December 31, 2022

Federal Direct or Passed Total assistanc Federal grantor/pass-through grantor/ program or cluster title expenditures listing number ntifying numb Research and Development Cluster: Department of Health and Human Services: Environmental Health 93.113 R01 ES029916A Contract 23.778 827.519 Subtotal 23 778 827.519 Oral Diseases and Disorders Research The Forsyth Institute R01 DE031750A Contract R01 DE016937D Forsyth Contract 123,833 93.121 34,545 Subtotal 158.378 Human Genome Research 119,447 138,222 920,701 698,031 93.172 K99 HG011542A Contrac R01 HG009900A Contract R01 HG010679A Contract R01 HG011253A Contract R01 HG007053B Contract 90 949 93.172 4,193 Human Genome Research 93.172 R25 HG010611A Contract 80,158 Human Genome Research 93.172 R35 HG011329A Contract 461,798 Human Genome Research 93.172 U24 HG000330I Contract 3.350.733 U24 HG000330 Contract U24 HG007497C Contract U24 HG011449A Contract U24 HG011735A Contract UM1 HG009409A Contract UM1 HG012651A Contract U24 HG010859A CALTECH Contract 3,350,733 2,616,364 734,467 1,167,602 662,925 267,395 Human Genome Research 93 172 1 432 656 221,596 497,357 Human Genome Research California Institute of Technology 93.172 668,993 Geisinger Clinic NYU School of Medicine 93.172 R01 HG011799A Geisinger Contract 137.327 93.172 U24 HG011851A NYU Contract 234 867 The Broad Institute, Inc. 93.172 UM1 HG009435A Broad Institute Contract 352.886 The Broad Institute, Inc
The Ohio State University
University Of Colorado
University Of Southern California
University Of Southern California
University Of Washington 93.172 93.172 93.172 93.172 93.172 R01 HG011469A Contract RM1 HG010860B Colorado Contract 12,447 189,921 184,434 108,566 U24 HG012212A USC Contract U41 HG002273F USC Contract R01 HG010169A UW Contract 17,701 Subtotal 2,727,188 13,129,178 (2) 507,204 633,709 Research Related to Deafness and Communication Disorders 93 173 R01 DC015242A Contract Research Related to Deafness and Communication Disorders R01 DC015242A Contract R01 DC015242B Contract R01 DC018304A Contract R13 DC019012A Contract 312,746 34,250 312,746 1,175,161 National Center on Sleep Disorders Research: Trustees of the University of Pennsylvania Trustees of the University of Pennsylvania 93 233 P01 HL094307B PENN Contract 9 482 R21 HL163717A UPenn Contract 1,694 11,176 Mental Health Research Grants 93.242 R25 MH129298A Contract 6.907 82.541 11,183 University Of Connecticut 93 242 R01 MH112739A Uconn Contract Subtotal 6,907 93,724 Alcohol Research Programs: University of Connecticut Health Center R21 AA027858A UCHC Contract 93.273 5,306 5,306 Subtotal P50 DA039841A Contract 119,666 333,012 Drug Abuse and Addiction Research Programs 93 279 327 Drug Abuse and Addiction Research Programs P50 DA039841A Contract P50 DA039841B Contract R01 DA028420C Contract R01 DA037927B Contract 93.279 93.279 27,930 906,441 877,626 93.279 96.312 Drug Abuse and Addiction Research Programs 93.279 R01 DA048890A Contract 646.784 Drug Abuse and Addiction Research Programs Emport Inhieration 93 279 R13 DA052199A Contract 19.296 93 279 R25 DA051342A Contract 93,375 186,658 93 279 R33 DA050837B Contract 50 306 48,051 833,646 560,759 93 279 LIO1 DAO/1668A Contract U01 DA041666A Contract U01 DA043809A Contract U01 DA051235A Contract DP1 DA042103A Emory U Contract 8 672 12,070 Emory University 93.279 12,270 R01 DA042742A Emory U Contract **Emory University** 93.279 23,985 Virginia Commonwealth University 93.279 U01 DA045299A VCU Contract 214.028 Subtotal 195,617 4,875,597 Discovery and Applied Research for Technological Innovations to Improve Human Health University of Connecticut Health Center 93.286 U01EB028898A / HL156349 Contract 657,726 Subtotal 657.726 Trans-NIH Research Support 93.310 U54 DK107967A Contract 99,128 Trans-NIH Research Support 93.310 93.310 93.310 U01 CA235493B Contract DP2 GM126893A Contract R03 OD033657A Contract U01 CA239108A Contract 99,128 484,038 1,728,121 94,874 196,279 150.691 26,232 162,210 93.310 Trans-NIH Research Support 93.310 UM1 OD023222B Contract (14,816)Trans-NIH Research Support - COVID 19 93.310 UM1 OD023222BC3 Contract 17,113 California Institute of Technology Connecticut Children's Medical Center 93.310 U24 HG010859A CALTECH Contract 192.336 93.310 R61 HD105613A CCMC Contract 205.703 Emory University
Medical College of Wisconsin
University of Connecticut Health Center
University of Connecticut Health Center U2 ES030163A Emory Contract U24 HG010423A MCW Lutz Contract U01EB028898A / HL156349 Contract U54 AG075941A UCHC Contract 93.310 92 869 56,760 531,531 Subtotal 339,133 3,829,075 National Center for Advancing Translational Sciences: Tufts University School Of Medicine University Of Colorado 93 350 UL1 TR002544A Tufts Contract 22 880 U24 TR002306B Colorado Contract 35,394 58,274 Research Infrastructure Programs 93.351 R13 OD010920F Contract 30.055 Research Infrastructure Programs
Research Infrastructure Programs
Research Infrastructure Programs – COVID 19
Research Infrastructure Programs
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Research Infrastructure Programs
Research Infrastructure Programs 93.351 P40 OD011102F Contract 1.079.352 61,401 26,091 5,043 679,356 797,044 93 351 P40 OD011102E Contrac R21 OD023803A Contract R21 OD027052A Contract R21 OD027052A Contract R24 OD011190C Contract R24 OD021325B Contract 93.351 93.351 93.351 5,043 Research Infrastructure Programs 93.351

Research Infrastructure Programs

Research Infrastructure Programs

34 (Continued)

906,496

1.351.835

R24 OD030037A Contract

U42 OD010921C Contract

93.351

93.351

Supplementary Schedule of Expenditures of Federal Awards

Year ended December 31, 2022

Federal grantor/pass-through grantor/ program or cluster title	Federal assistance listing number	Direct or pass-through identifying number	Passed through to subrecipients	Total federa expenditi
Research Infrastructure Programs – COVID 19	93.351	U42 OD010921C Contract	\$ 133,627	136
Research Infrastructure Programs	93.351	U42 OD026635A Contract	_	820
Research Infrastructure Programs	93.351	U54 OD030187A Contract	7.500	2,477
Research Infrastructure Programs Research Infrastructure Programs	93.351 93.351	UM1 OD023222B Contract UM1 OD023222C Contract	7,560	2,187 1,081
University Of Colorado	93.351	R24 OD011883D CU Denver Contract	_	285
University Of Massachusetts	93.351	R24 OD026440A UMA Contract	_	280
University Of Southern California	93.351	R24 OD030033A USC Contract		350
Subtotal			146,230	12,556
21st Century Cures Act – Beau Biden Cancer Moonshot	93.353	U24 CA224067B Contract	205,906	1,825
Yale University	93.353	U2C CA252979A Yale Contract	200,300	367
Subtotal			205,906	2,192
			205,906	
Cancer Cause and Prevention Research	93.393	R01 CA255705A Contract	_	701
Cancer Cause and Prevention Research Moffitt Cancer Center	93.393 93.393	R21 CA256575A Contract R01 CA219389A Moffit Contract	_	268 31
University of Connecticut Health Center	93.393	R01 CA252045A UCHC Contract	_	37
Subtotal				1,37
Cancer Detection and Diagnosis Research	93.394	R33 CA236681A Contract	_	623
Cancer Detection and Diagnosis Research	93.394	R33 CA247669A Contract		552
Subtotal				1,175
Cancer Treatment Research	93.395	R01 CA219880A Contract	19,185	597
Cancer Treatment Research	93.395	R37 CA237307A Contract	62,695	42
Cancer Treatment Research	93.395	U24 CA263963A Contract		86
Subtotal			81,880	1,879
Cancer Biology Research	93.396	R01 CA089713E Contract		576
Cancer Biology Research	93.396	R01 CA009713E Contract	_	41
Cancer Biology Research	93.396	R01 CA237208A Contract	_	46
Cancer Biology Research	93.396	R01 CA248317A Contract	_	59
Cancer Biology Research	93.396	R01 CA251433A Contract	_	54
Cancer Biology Research	93.396	R01 CA265978A Contract	-	15
Cancer Biology Research Cancer Biology Research	93.396 93.396	U01 CA271830A Contract U01 AG077925A Contract	210,318 328,658	43i 72:
Cold Spring Harbor Laboratory	93.396	R01 CA249002A CSHL Contract	320,030	4:
Cold Spring Harbor Laboratory	93.396	U01 CA224013A CSHL PR Contract	_	38
University California San Diego	93.396	U24 CA220341A UCSD Contract		4:
Subtotal			538,976	4,39
	93.397	P30 CA034196H Contract		
Cancer Centers Support Grants	93.397	P30 CA034 196H Contract		2,19
Subtotal				2,19
Cancer Research Manpower	93.398	R25 CA122819D Contract	_	173
Cancer Research Manpower	93.398	R25 CA172010B Contract	_	11
Cancer Research Manpower	93.398	R25 CA233420A Contract		113
Subtotal				40
Cardiovascular Diseases Research:				
Medical College of Wisconsin	93.837	P01 HL149620A MCW Contract	_	9
University of Connecticut Health Center	93.837	R01 HL142787A UCHC Contract	_	17
University of Connecticut Health Center	93.837	R01 HL165220A UCHC Contract	_	1
University Of Pittsburgh	93.837	R01 HL142788A UPitt Contract		8
Subtotal				36
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	R01 AR078634A Contract	_	36
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	R21 AR075174A Contract	27,208	7(
Joan & Sanford I Weill Medical	93.846	P50 AR070594A Cornell Contract		11
Joan & Sanford I Weill Medical	93.846	P50 AR070594B Cornell Contract	_	5
University of Connecticut Health Center	93.846	R01 AR081659A UCHC Contract		19
Subtotal			27,208	80
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	F32 DK120298A Contract		
Diabetes, Digestive, and Kidney Diseases Extramural Research – COVID 19	93.847	F32 DK120298A Contract	_	5
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	R01 DK095735C Contract	4,988	13
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	R01 DK095735D Contract	_	52
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	R01 DK117137A Contract	63,408	24
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	R01 DK118011A Contract	63,216	79
Diabetes, Digestive, and Kidney Diseases Extramural Research Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847 93.847	R01 DK118072A Contract R01 DK131019A Contract	11,809	52 33
Joslin Diabetes Research Center	93.847	R01 DK131019A Contract	11,009	15
The Broad Institute, Inc	93.847	UM1 DK105554B Broad Contract	_	7
University Of Massachusetts	93.847	U01 DK104218B UMA Contract	_	21
University of Miami	93.847	R56 DK131087A U Miami Contract	_	1
University Of Wisconsin	93.847	RC2 DK125961A Wisc Contract	_	19
Yale University	93.847	R01 DK129523A Yale Contract		16
Subtotal			143,421	3,43
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	F31 NS125978A Contract	_	1
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	R01 NS102414A Contract	142,725	25
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	R01 NS102414B Contract	129,575	38
	93.853	R01 NS125742A Contract	56,072	19
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	R03 NS123787A Contract R21 NS105116A Contract		5
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	G3 0E3		- 010	26
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853 93.853			4
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	R21 NS116936A Contract R25 NS078795C Contract	_	81
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract	_	
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract	_	97
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract U54 NS105539A Contract	_	97 1,18
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Houston Methodist Research	93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract U54 NS105539A Contract R01 NS121405A JG MHRI Contract	_	97 1,18 9
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Houston Methodist Research Massachusetts General Hospital	93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract US4 NS105539A Contract R01 NS121405A JG MHRI Contract R71 NS124203A MGH Lutz Contract	_	97 1,18 9 42
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Houston Methodist Research Massachusetts General Hospital Massachusetts General Hospital	93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract U54 NS105539A Contract R01 NS121405A JG MHRI Contract RF1 NS124203A MGH Lutz Contract R01 NS113583A Scripps Contract	_	97 1,18 9 42 15
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Mustand Mustand Research Programs Scripts Translational Science Tuffs University School Of Medicine	93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract US4 NS105539A Contract R01 NS121405A JG MHRI Contract R71 NS124203A MGH Lutz Contract	217,291 — — — — — —	97 1,18 9 42 15
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Houston Methodist Research Massachusetts General Hospital Scripps Translational Science Tufts University School Of Medicine Subtotal	93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS054154E Contract R61 NS115129A Contract U54 NS105539A Contract R01 NS121405A JG MHRI Contract RF1 NS124203A MGH Lutz Contract R01 NS113583A Scripps Contract	_	97 1,18 9 42 15
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Industrial Research Massachusetts General Hospital Scripps Translational Science Tufts University School Of Medicine Subtotal Allergy and Infectious Diseases Research	93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 NS078795C Contract R37 NS064154E Contract R61 NS115129A Contract US4 NS105539A Contract R01 NS121405A JG MHRI Contract R01 NS124405A JG MHRI Contract R01 NS124305A MGH Lutz Contract R01 NS113583A Scripps Contract R21 NS119958A Tufts Contract R01 Al121920A Contract	217,291 — — — — — —	97 1,18 9 42 15 4,87
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Houston Methodist Research Massachusetts General Hospital Scripps Translational Science Tufts University School Of Medicine Subtotal Allergy and Infectious Diseases Research Allergy and Infectious Diseases Research	93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853	R25 N8078795C Contract R37 N8054154E Contract R61 NS115129A Contract U54 NS105539A Contract U54 NS105539A Contract R61 NS124203A M6H Lutz Contract R71 NS124203A M6H Lutz Contract R71 NS112538A Scripps Contract R21 NS119958A Tufts Contract R21 NS119958A Tufts Contract R01 A1121920A Contract R01 A1121920A Contract	217,291 	97: 1,18 9 42: 15: 4,87: 62:
Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Programs in the Neurosciences and Neurological Disorders Extramural Research Research General Hospital Scripps Translational Science Tuffs University School Of Medicine Subtotal Allergy and Infectious Diseases Research Allergy and Infectious Diseases Research	93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.853 93.855 93.855 93.855	R25 N8078795C Contract R37 N8054154E Contract R61 N8115129A Contract U54 N8105539A Contract U54 N8105539A Contract R61 N8124203A M6H Lutz Contract R71 N8124203A M6H Lutz Contract R71 N8113583A Scripps Contract R71 N8113583A Scripps Contract R71 N81135958A Tufts Contract R71 N81135958A Tufts Contract R71 N8113596A Contract R71 N8141609A Contract R71 N8141609A Contract R71 N8141609A Contract R71 N8141609A Contract	217,291 	97/ 1,18 9 42 15 4,87 62 4
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35 (Continued)

Supplementary Schedule of Expenditures of Federal Awards

Year ended December 31, 2022

Federal grantor/pass-through grantor/ program or cluster title	Federal assistance listing number	Direct or pass-through identifying number	Passed through to subrecipients	Total federa expenditu
Allergy and Infectious Diseases Research	93.855	U01 Al165452A Contract	\$ 409,377	899,
Allergy and Infectious Diseases Research	93.855	U19 Al142733A Contract	655,864	2,002,
Illergy and Infectious Diseases Research – COVID 19	93.855	U19 AI142733ACV Contract	535,523	601,
righam And Women's Hospital	93.855	R01 Al141529A BWH Contract	_	90,
mory University	93.855	U19 Al090023C Emory Contract	_	6,
arvard Pilgrim Health Care	93.855	R56 AI150864B HPHC Contract	_	6,
ationwide Children's Hospital	93.855	U01 AI131386A NCH Contract	_	372,
ationwide Children's Hospital - COVID 19	93.855	U01 AI131386ACV NCH Contract	_	294,
lew York Blood Center, Inc.	93.855	U01 Al160421A NYBC Contract	_	396,
he University of Texas – COVID 19	93.855	R21 Al145400A Texas Contract	_	8.
Frustees of Boston University	93.855	R01 Al151051A BU Contract	_	258,
University Of Colorado Denver	93.855	R21 Al155257A UC Denver Contra	_	6,
			_	
University Of Massachusetts	93.855	R01 Al132963A UMA Contract	_	225,
/ale University	93.855	R01 Al136942A Yale Contract		9,
Subtotal			1,745,275	7,174,
Biomedical Research and Research Training	93.859	F32 GM134599A Contract	_	49,
Siomedical Research and Research Training	93.859	K99 GM135540A Contract	_	(4,
Biomedical Research and Research Training	93.859	R01 GM070683D Contract	127,765	471
Siomedical Research and Research Training	93.859	R01 GM115518A Contract		
Biomedical Research and Research Training	93.859	R01 GM125736A Contract	30,371	162
				856
Nomedical Research and Research Training	93.859	R01 GM127531A Contract	52,447	
Siomedical Research and Research Training	93.859	R01 GM138541A Contract	_	287
Biomedical Research and Research Training	93.859	R01 GM141309A Contract	_	283
Siomedical Research and Research Training	93.859	R25 GM113979B Contract	_	70
iomedical Research and Research Training	93.859	R25 GM141520A Contract	_	79
iomedical Research and Research Training	93.859	R25 GM142036A Contract	6,654	245
iomedical Research and Research Training	93.859	R35 GM124922A Contract	2,562	292
			2,002	
iomedical Research and Research Training	93.859	R35 GM133415A Contract	_	338
iomedical Research and Research Training	93.859	R35 GM133495A Contract	_	371
iomedical Research and Research Training	93.859	R35 GM133562A Contract	_	625
Siomedical Research and Research Training	93.859	R35 GM133711A Contract	_	
Siomedical Research and Research Training	93.859	R35 GM133724A Contract	_	386
Partmouth College	93.859	P20 GM130454A Dartmouth Contra	_	31
Vinci Interactive, Inc	93.859	R44 GM133222B d'Vinci Contract	_	219
Seorgia Regents University	93.859	R01 GM121551A UGA Contract	_	37
MDI Biological Laboratory	93.859	P20 GM104318C MDIBL Contract	_	30
The Ohio State University	93.859	R01 GM136886A OSU Contract	_	27
Jniversity of Connecticut Health Center	93.859	R35 GM133600A UCHC Contract	_	307
Iniversity Of Michigan	93.859	R01 GM124251A U Michigan Contract		59
Subtotal			219,799	5,229
Child Health and Human Development Extramural Research	93.865	F31 HD108973A Contract		20
Child Health and Human Development Extramural Research	93.865	F32 HD107804A Contract	_	61
	93.865	P41 HD062499C Contract	_	2,223
Child Health and Human Development Extramural Research				
Child Health and Human Development Extramural Research	93.865	R01 HD093778A Contract	_	423
Child Health and Human Development Extramural Research	93.865	R01 HD102363A Contract	_	351
Child Health and Human Development Extramural Research	93.865	R01 HD103805A Contract	244,200	698
Child Health and Human Development Extramural Research	93.865	R25 HD079344B Contract	_	294
Child Health and Human Development Extramural Research	93.865	T32 HD007065H Contract	_	(1
Emory University	93.865	R01 HD102534A Emory Contract	_	218
Massachusetts General Hospital	93.865	P01 HD068250B MGH Bult Contract		43
Jniversity California San Diego	93.865	U54 HD104393A UCSD Contract	_	129
			_	
Jniversity of California San Francisco Jniversity of Colorado Denver	93.865 93.865	R01 HD107190A UCSF Contract R01 HD107793A UC Denver Contract	_	29
	55.555	TOTAL TOTAL CONTROL CONTROL		
Subtotal			244,200	4,50
iging Research	93.866	P30 AG038070C Contract		1,23
ging Research	93.866	R01 AG054180A Contract	5,493	31
ging Research	93.866	R01 AG057914A Contract	_	1,32
uging Research	93.866	R01 AG069010A Contract	50,375	507
iging Research	93.866	R01 AG074012A Contract	500,047	1,172
ging Research	93.866	R01 AG075818A Contract	71,924	430
ging Research	93.866	R01 AG076129A Contract	121,386	
				363
ging Research	93.866	R13 AG069519A Contract	_	37
ging Research	93.866	R13 AG072861A Contract	_	54
ging Research	93.866	R21 AG075496A Contract	_	26
ging Research	93.866	R56 AG060746A Contract	72,101	170
ging Research	93.866	R56 AG071766A Contract	_	22
ging Research	93.866	R61 AG078530A Contract	_	39
ging Research	93.866	RF1 AG055104A Contract	_	841
ging Research	93.866	RF1 AG063755A Contract	141,704	765
		RF1 AG003733A Contract	141,704	
ging Research	93.866		_	74
	93.866	T32 AG062409A Contract	_	222
ging Research		U01 AG022308D Contract	_	1,670
ging Research	93.866	U01 AG022308D Contract	_	8
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Supplementary Schedule of Expenditures of Federal Awards

Year ended December 31, 2022

Vision Research 93.867 R01 EY019943C Contract — 456 Vision Research 93.867 R01 EY027305A Contract — Vision Research 93.867 R01 EY027860A Contract — Vision Research 93.867 R01 EY027860A Contract — 3	3,295 5,225 27 3,972 6,987 1,434 9,353 9,563 3,163 2,405
Vision Research 93.867 R01 EY019943C Contract — 456 Vision Research 93.867 R01 EY027305A Contract — Vision Research 93.867 R01 EY027860A Contract — Vision Research 93.867 R01 EY027860A Contract — 3	5,225 27 3,972 5,987 1,434 9,353 9,563 3,163
Vision Research 93.867 R01 EY027305A Contract — Vision Research 93.867 R01 EY027860A Contract — 3	27 3,972 6,987 1,434 9,353 9,563 3,163
Vision Research 93.867 R01 EY027860A Contract — 3	3,972 5,987 1,434 9,353 9,563 3,163
	6,987 1,434 9,353 9,563 3,163
Vision Research 93.867 R01 FY028175A Contract — 396	1,434 9,353 9,563 3,163
	9,563 3,163
	3,163
	2,405
University of Rochester 93.867 R01 EY027701A Univ Rochester Contract 232	
Subtotal	
Total Department of Health and Human Services 8,467,473 94,800),421
Department of Agriculture, National Institute of Food and Agriculture:	
Agriculture and Food Research Initiative (AFRI)	4.50
University of Connecticut 10.310 2020-67018-30852 UCHC	4,150
	4,150
Total Department of Agriculture, National Institute of Food and Agriculture	4,150
National Science Foundation (NSF):	
Computer and Information Science and Engineering 47.070 CCF 1955712	3,052
Subtotal <u>8</u>	3,052
Biological Sciences 47.074 DBI 1851697 — 126	6,749
Biological Sciences 47.074 DEB 1942620 <u></u>	3,807
Subtotal <u></u> 385	5,556
Education and Human Resources:	
Carleton College 47.076 IUSE 1829135 Carleton Contract — 14.	1,394
Subtotal 14.	1,394
Total National Science Foundation 408	8,002
Department of Defense (DOD):	
Military Medical Research and Development 12.420 DOD Stitzel W81XWH2110275 Cont 18,536 268	3,602
Connecticut Children's Medical Center 12.420 CCMC W81XWH2210177 Gell Contra 24	4,031
Subtotal	2,633
Total Department of Defense 18,536 292	2,633
Total Research and Development Cluster 8,486,009 95,515	5,206
Total Expenditures of Federal Awards 8,486,009 95,515	5,206

See accompanying notes to supplementary of expenditures of federal awards.

Notes to Supplementary Schedule of Expenditures of Federal Awards Year ended December 31, 2022

(1) Definition of Reporting Entity and Basis of Presentation

The accompanying schedule of expenditures of federal awards presents expenditures of all federal awards programs of The Jackson Laboratory (the Laboratory), including awards passed through to the Laboratory from other organizations (i.e., primary recipients), for the year ended December 31, 2022. The schedule is presented using the modified cash basis of accounting. Negative amounts (if any) on the schedule represent cash transfer adjustments to expenditures reported in a prior year. The Laboratory has not elected to utilize the 10% de minimus indirect cost rate in Part 200.514 of the Uniform Guidance.

For purposes of the schedule, federal awards include grants, contracts, and similar agreements entered into directly between the Laboratory and agencies and departments of the federal government and all subawards to the Laboratory by nonfederal organizations pursuant to federal grants, contracts, and similar agreements. The awards are categorized in accordance with the provisions of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the schedule presents only a selected portion of the operations of the Laboratory, it is not intended to and does not present the financial position, changes in net assets or cash flows of the Laboratory.