

Putnam VT Global Health Care Fund

Before you invest, you may wish to review the fund’s prospectus, which contains more information about the fund and its risks. You may obtain the prospectus and other information about the fund, including the statement of additional information (SAI) and most recent reports to shareholders, at no cost by visiting putnam.com/individual/annuities, calling 1-800-225-1581, or e-mailing Putnam at funddocuments@putnam.com.

The fund’s prospectus and SAI, both dated 4/30/23, are incorporated by reference into this summary prospectus.

Fund summary

Goal

Putnam VT Global Health Care Fund seeks capital appreciation.

Fees and expenses

The following table describes the fees and expenses you may pay if you buy, hold and sell shares of the fund. You may pay other fees, such as brokerage commissions and other fees to financial intermediaries, which are not reflected in the tables and examples below. The fees and expenses information does not reflect insurance-related charges or expenses borne by contract holders indirectly investing in the fund. If it did, expenses would be higher.

Annual fund operating expenses

(expenses you pay each year as a percentage of the value of your investment)

Share class	Management fees	Distribution and service (12b-1) fees	Other expenses*	Total annual fund operating expenses
Class IA	0.62%	N/A	0.14%	0.76%
Class IB	0.62%	0.25%	0.14%	1.01%

* Restated to reflect current fees.

Example

The following hypothetical example is intended to help you compare the cost of investing in the fund with the cost of investing in other funds. The example does not reflect insurance-related charges or expenses. If it did, expenses would be higher. It assumes that you invest \$10,000 in the fund for the time periods indicated and then redeem or hold all your shares at the end of those periods. It assumes a 5% return on your investment each year and that the fund’s operating expenses remain the same. Your actual costs may be higher or lower.

Share class	1 year	3 years	5 years	10 years
Class IA	\$78	\$243	\$422	\$942
Class IB	\$103	\$322	\$558	\$1,236

Portfolio turnover

The fund pays transaction-related costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher turnover rate may indicate higher transaction costs. These costs, which are not reflected in annual fund operating expenses or the above example, affect fund performance. The fund’s turnover rate in the most recent fiscal year was 72%.

Investments, risks, and performance

Investments

For this non-diversified fund concentrating in the health care industries, we invest mainly in common stocks (growth or value stocks or both) of large and midsize companies worldwide that we believe have favorable investment potential. Under normal circumstances, we invest at least 80% of the fund’s net assets in securities of companies in the health care industries. This policy may be changed only after 60 days’ notice to shareholders. Potential investments include companies that manufacture health care supplies or provide health care-related services, and companies in the research, development, production and marketing of pharmaceuticals and biotechnology products. We may purchase stocks of companies with stock prices that reflect a value lower than that which we place on the company. We may consider, among other factors, a company’s valuation, financial strength, growth potential, competitive position in its industry, projected future earnings, cash flows and dividends when deciding whether to buy or sell investments. We may also consider other factors that we believe will cause the stock price to rise. We may also use derivatives, such as futures, options, certain foreign currency transactions, warrants and swap contracts, for both hedging and non-hedging purposes, and may engage in short sales of securities. For example, we typically use foreign currency forward contracts in connection with the fund’s investments in foreign securities in order to hedge the fund’s currency exposure relative to the fund’s benchmark index.

The use of the term “global” in the fund’s name is meant to emphasize that we look for investment opportunities on a worldwide basis and that our investment strategies are not constrained by the countries or regions in which companies are located. Under normal market conditions, the fund intends to invest in at least five different countries and at least 40% of its net assets in securities of foreign companies (or, if less, at least the percentage of net assets that is ten percentage points less than the percentage of the fund’s benchmark represented by foreign companies, as determined by the providers of the benchmark).

Risks

It is important to understand that you can lose money by investing in the fund.

George Putnam Balanced Fund	Putnam Research Fund
Putnam BDC Income ETF	Putnam Small Cap Value Fund
Putnam BioRevolution ETF	Putnam Sustainable Future ETF
Putnam Convertible Securities Fund	Putnam Sustainable Future Fund
Putnam Core Equity Fund	Putnam Sustainable Leaders ETF
Putnam Dynamic Asset Allocation Balanced Fund	Putnam Sustainable Leaders Fund
Putnam Dynamic Asset Allocation Growth Fund	Putnam Ultra Short Duration Income Fund
Putnam Emerging Markets Equity Fund	Putnam VT Core Equity Fund
Putnam Emerging Markets ex-China ETF	Putnam VT Diversified Income Fund
Putnam ESG Core Bond ETF	Putnam VT Emerging Markets Equity Fund
Putnam ESG High Yield ETF	Putnam VT Focused International Equity Fund
Putnam ESG Ultra Short ETF	Putnam VT George Putnam Balanced Fund
Putnam Focused International Equity Fund	Putnam VT Global Asset Allocation Fund
Putnam Focused Large Cap Growth ETF	Putnam VT Global Health Care Fund
Putnam Global Health Care Fund	Putnam VT Government Money Market Fund
Putnam Government Money Market Fund	Putnam VT High Yield Fund
Putnam High Yield Fund	Putnam VT Income Fund
Putnam Income Fund	Putnam VT International Equity Fund
Putnam International Capital Opportunities Fund	Putnam VT International Value Fund
Putnam International Equity Fund	Putnam VT Large Cap Growth Fund
Putnam Large Cap Growth Fund	Putnam VT Large Cap Value Fund
Putnam Large Cap Value Fund	Putnam VT Mortgage Securities Fund
Putnam Money Market Fund	Putnam VT Research Fund
Putnam Mortgage Opportunities Fund	Putnam VT Small Cap Growth Fund
Putnam Multi-Asset Income Fund	Putnam VT Small Cap Value Fund
	Putnam VT Sustainable Future Fund
	Putnam VT Sustainable Leaders Fund

On January 1, 2024 (the “Effective Date”), a subsidiary of Franklin Resources, Inc. (“Franklin Resources”) acquired Putnam U.S. Holdings I, LLC (“Putnam Holdings”) in a stock and cash transaction (the “Transaction”). As a result of the Transaction, Putnam Investment Management, LLC (“Putnam Management”), a wholly-owned subsidiary of Putnam

Holdings and the investment manager to the Putnam family of funds (the “Putnam Funds”), Putnam Investments Limited (“PIL”), an indirect, wholly-owned subsidiary of Putnam Holdings and a sub-adviser to certain of the Putnam Funds, and The Putnam Advisory Company, LLC (“PAC”), an indirect, wholly-owned subsidiary of Putnam Holdings and a sub-adviser to certain of the Putnam Funds, became indirect, wholly-owned subsidiaries of Franklin Resources.

Franklin Resources, whose principal executive offices are at One Franklin Parkway, San Mateo, California 94403, is a global investment management organization operating, together with its subsidiaries, as Franklin Templeton. As of November 30, 2023, after giving effect to the Transaction, Franklin Templeton’s asset management operations had aggregate assets under management of approximately \$1.546 trillion. As a result of the Transaction, Putnam Management, PIL, and PAC will be able to draw on the broader investment resources, including portfolio management, investment research, trading expertise and other capabilities, of Franklin Templeton to the benefit of the Putnam Funds.

Under the Investment Company Act of 1940, as amended (the “1940 Act”), the Transaction resulted in the automatic termination of the investment management contract between each Putnam Fund and Putnam Management and any related sub-advisory contracts that were in place for each Putnam Fund before the Transaction. However, Putnam Management and, where applicable, the Putnam Funds’ sub-adviser(s) continue to provide uninterrupted services with respect to the Putnam Funds listed above pursuant to new investment management and sub-advisory contracts that were previously approved by shareholders of each above-listed Putnam Fund at shareholder meetings held in connection with the Transaction. The terms of the new investment management and sub-advisory contracts are substantially similar to those of the previous investment management and sub-advisory contracts.

The Summary Prospectus for each of the Putnam Funds listed above is amended to reflect the foregoing.

Shareholders should retain this Supplement for future reference.

The value of investments in the fund's portfolio may fall or fail to rise over extended periods of time for a variety of reasons, including general economic, political or financial market conditions, investor sentiment and market perceptions, government actions, geopolitical events or changes, outbreaks of infectious illnesses or other widespread public health issues, and factors related to a specific issuer, geography, industry or sector. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio, may negatively impact the fund's performance, and may exacerbate other risks to which the fund is subject. Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. These risks are generally greater for small and midsize companies. The health care industries may be affected by product obsolescence, dependence on patents and intellectual property rights, expenses and losses from product liability and similar claims, changes in government programs or regulatory requirements (including approval policies for drugs, medical devices or procedures), and pricing pressures (including as a result of increased competition, changes in governmental and private reimbursement rates and payment systems, or other reforms).

Our policy of concentrating on a limited group of industries and the fund's "non-diversified" status, which means the fund may invest a greater percentage of its assets in fewer issuers than a "diversified fund," can increase the fund's vulnerability to adverse developments affecting a single industry or issuer, which may result in greater losses and volatility for the fund. The value of international investments traded in foreign currencies may be adversely impacted by fluctuations in exchange rates. International investments, particularly investments in emerging markets, may carry risks associated with potentially less stable economies or governments (such as the risk of seizure by a foreign government, the imposition of currency or other restrictions, or high levels of inflation), and may be or become illiquid.

Our use of derivatives may increase the risks of investing in the fund by increasing investment exposure (which may be considered leverage) or, in the case of many over-the-counter instruments, because of the potential inability to terminate or sell derivative positions and the potential failure of the other party to the instrument to meet its obligations. The risk of a party failing to meet its obligations may increase if the fund has significant exposure to that counterparty. The value of derivatives may move in unexpected ways due to unanticipated market movements, the use of leverage, imperfect correlation between the derivative instrument and the reference asset, or other factors, especially in unusual market conditions, and volatility in the value of derivatives could adversely impact the fund's returns, obligations and exposures. Derivatives are also subject to other risks, including liquidity risk (e.g., liquidity demands arising from the requirement to make payments to a derivative counterparty), operational risk (e.g., settlement issues or system failures), and legal risk (e.g., insufficient legal documentation or contract enforceability issues). Our use of short selling may result in losses if the securities appreciate in value.

There is no guarantee that the investment techniques, analyses, or judgments that we apply in making investment decisions for the fund will produce the intended outcome or that the investments we select for the fund will perform as well as other securities that were

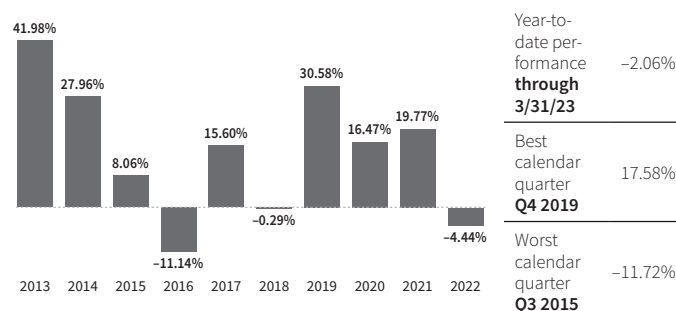
not selected for the fund. We, or the fund's other service providers, may experience disruptions or operating errors that could negatively impact the fund.

The fund may not achieve its goal, and it is not intended to be a complete investment program. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Performance

The performance information below gives some indication of the risks associated with an investment in the fund by showing the fund's performance year to year and over time. The performance information does not reflect insurance-related charges or expenses. If it did, performance would be lower. Please remember that past performance is not necessarily an indication of future results.

Annual total returns for class IA shares



Average annual total returns

(for periods ended 12/31/22)

Share class	1 year	5 years	10 years
Class IA	-4.44%	11.66%	13.35%
Class IB	-4.67%	11.38%	13.07%
MSCI World Health Care Index (ND) (no deduction for fees, expenses or taxes, other than withholding taxes on reinvested dividends)	-5.41%	10.20%	12.02%

Your fund's management

Investment advisor

Putnam Investment Management, LLC

Portfolio manager

Michael Maguire, Portfolio Manager, Analyst, portfolio manager of the fund since 2016

Sub-advisors

Putnam Investments Limited*

The Putnam Advisory Company, LLC*

* Though the investment advisor has retained the services of both Putnam Investments Limited (PIL) and The Putnam Advisory Company, LLC (PAC), PIL and PAC do not currently manage any assets of the fund.

Purchase and sale of fund shares

Fund shares are offered to separate accounts of various insurers. The fund requires no minimum investment, but insurers may require minimum investments from those purchasing variable insurance products for which the fund is an underlying investment option. Insurers may purchase or sell shares on behalf of separate accounts by submitting an order to Putnam Retail Management any day the New York Stock Exchange (NYSE) is open. Some restrictions may apply.

Tax information

Generally, owners of variable insurance contracts are not taxed currently on income or gains realized with respect to such contracts. However, some distributions from such contracts may be taxable at ordinary income tax rates and distributions to contract owners younger than 59½ may be subject to a 10% penalty tax. For more information, please see the prospectus (or other offering document) for your variable insurance contract.

Payments to insurance companies

The fund is offered as an underlying investment option for variable insurance contracts. The fund and its related companies may make payments to the sponsoring insurance company (or its affiliates) and dealers for distribution and/or other services. These payments may create an incentive for the insurance company to include the fund, rather than another investment, as an option in its products and may create a conflict of interest for dealers in recommending the fund over another investment. The prospectus (or other offering document) for your variable insurance contract may contain additional information about these payments.

Information about the Summary Prospectus, Prospectus, and SAI

The summary prospectus, prospectus, and SAI for a fund provide information concerning the fund. The summary prospectus, prospectus, and SAI are updated at least annually and any information provided in a summary prospectus, prospectus, or SAI can be changed without a shareholder vote unless specifically stated otherwise. The summary prospectus, prospectus, and the SAI are not contracts between the fund and its shareholders and do not give rise to any contractual rights or obligations or any shareholder rights other than any rights conferred explicitly by federal or state securities laws that may not be waived.

Additional information is available at putnam.com/individual/annuities, by calling 1-800-225-1581, or by e-mailing Putnam at funddocuments@putnam.com.

