

Oregon Health & Science University
School of Medicine

Scholarly Projects Final Report

Title:

MEDFINOMA: A resource aimed at improving financial literacy among medical students

Student Investigator's Name:

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Date of Submission:

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Graduation Year:

2023

Project Course:

Scholarly Projects curriculum

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Concentration Lead's Name:

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Project/Research Question:

Building an online resource and video library called MEDFINOMA that aims to increase financial literacy among health professional trainees.

Type of Project:

Educational Project

Key words (4-10 words describing key aspects of your project):

Finance; economics, accounting, investing, insurance, loans

Meeting Presentations:

N/A

Publications:

N/A

Submission to Archive:

Final reports will be archived in a central library to benefit other students and colleagues. Describe any restrictions below (e.g., hold until publication of article on a specific date):

N/A

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Next Steps

What are possible next steps that would build upon the results of this project? Could any data or tools resulting from the project have the potential to be used to answer new research questions by future medical students?:

Next steps include students in the OHSU personal finance interest group (which was created this year under the auspices of the mentor for the MEDFINOMA project) expanding MEDFINOMA. This can include making new videos and spreading awareness of MEDFINOMA.

Please follow the link below and complete the archival process for your Project in addition to submitting your final report.

https://ohsu.ca1.qualtrics.com/jfe/form/SV_3Is2z8V0goKiHZP

Student's Signature/Date (Electronic signatures on this form are acceptable.)

This report describes work that I conducted in the Scholarly Projects Curriculum or alternative academic program at the OHSU School of Medicine. By typing my signature below, I attest to its authenticity and originality and agree to submit it to the Archive.

Christian Bonilla

03/05/2023

Mentor's Approval (Signature/date)

3/6/2023

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Report: Information in the report should be consistent with the poster, but could include additional material. Insert text in the following sections targeting 1500-3000 words overall; include key figures and tables. Use Calibri 11-point font, single spaced and 1-inch margin; follow JAMA style conventions as detailed in the full instructions.

Introduction (≥250 words)

While many physicians in training have expressed a desire for a personal finance curriculum, few trainees report getting financial education during their medical training, as financial literacy is not emphasized within the Accreditation Council for Graduate Medical Education's (ACGME) required competencies or milestones.^{1,2,3} According to the National Center for Education statistics, the average medical student graduates with over \$240,000 in student loans and many graduates are forced to let their loans increase during residency training.^{4,5}

A national survey of over 4,000 medical students showed that less than 10% of students felt knowledgeable on personal finance or student loan repayment options.^{4,6} In context, three out of four medical students take out student loans. Most medical students never have a formal financial education before entering graduate school, as just 12 states require students to take a personal finance course before they graduate high school.⁴ The lack of personal finance education coupled with rising student debt alarmed the US government enough to issue a report. In 2019, with the cost of education soaring and 44 million Americans owing a collective \$1.5 trillion in student loans, the U.S. Treasury Department issued a recommendation that financial literacy should be made mandatory for college students.⁷

The aim of the MEDFINOMA scholarly project was to increase financial literacy among health professional trainees through the creation of an online resource and video library called MEDFINOMA. This resource included topics related to personal finance, economics, and accounting. The videos and resources in MEDFINOMA included those made by OHSU medical students as well as other resources made by third parties.

Methods (≥250 words)

This project is educational in nature. The MEDFINOMA website was built by two medical students and included education in the forms of videos and other resources such as websites and tutorials either made by medical students or reputable third parties.

The topics included in the MEDFINOMA website include: economics, accounting, personal finance, investment, retirement planning, how to read the financial section of newspapers like *The Wall Street Journal*, how to read company financial statements, student loans and repayment, insurance (health, disability, malpractice), physician reimbursement, and taxes.

Because many medical students have never had formal financial education, it was necessary to have an introductory course to expose students to fundamental and basic terminology (see Figure 1). The beginning of the MEDFINOMA website included a series of videos totaling approximately 3 hours aimed at providing a basis of financial literacy for the user in order to introduce the user to essential financial terms that are necessary to understand more complex financial concepts (see Figure 2 and 3). This introductory video series included a brief personal finance video course from Missouri State University (covers goal setting, budgeting, credit, insurance, investing, time value of money) and a financial primer made by OHSU medical students (covers interest rates, financial statements, the stock market, and personal finance).

In order to assess the reception of this content, qualitative feedback in the form of anonymous comments was requested from medical students who used this platform. The goal of this feedback was to elucidate whether medical students would be willing to use MEDFINOMA and whether they would recommend the

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platform to other medical students.

Results (≥500 words)

The private website link and introductory MEDFINOMA video were distributed to OHSU medical students and faculty. Qualitative feedback in the form of anonymous comments was requested from users. As of March 2023, there have been over 70 views and user interactions to MEDFINOMA (See Figure 4).

Some of the comments provided by medical students regarding the MEDFINOMA website are listed below:

- "I wish I had this resource starting medical school so that student loans wouldn't be so scary."
- "This is the first time I've received education on finance throughout my entire high school, college and medical school career. That is insane. This should be mandatory learning."
- "There is a reason why websites like *The White Coat Investor* are popular. Not many people are teaching this stuff to physicians and thus we are often forced to learn from friends, parents, and worst off our own mistakes."
- "Why don't we learn personal finance, something we will use every day in our lives and need to know about, instead of memorizing things like the Krebs cycle and the number of ATP, something which we will never use as physicians?"
- "As sad as it sounds, I have never had any formal financial education in my life. I was a science major in college and went straight out from college to medical school so I never had a formal job with a paycheck. I'm going into residency next year and will have a paycheck as well as the responsibility of paying back my student loans. All this finance stuff is scary so to have a resource that explains everything in one website before all this craziness starts makes life easier."
- "I had friends in college who went onto pursue careers in finance. Whenever I would talk to them about their jobs, I felt a little lost since I have never been interested in or exposed to words like stocks, bonds, the Dow Jones, or whatever. I just expected that I would not have to familiarize myself with these terms, but now that graduation is upon us, it definitely has motivated me to learn more about finance since I'm inevitably going to have to know what things like 401ks are or what to do when I am in the position to potentially buy a house."
- "I think the idea of introducing these financial concepts in medical school is great because all of us are eventually going to have to deal with personal finance in one way or another and it would be nice to have some background in it before we graduate."
- "I am still shocked that stuff like personal finance isn't talked about. It is something we all deal with and it's just going to get more complex in the future. There should not be a stigma to talk about finance during medical training and it is sad that many feel ashamed to bring this topic up. I'm glad that people are starting to talk about this stuff."

Discussion (≥500 words)

Based from the feedback and video viewership, there appeared to be a desire among a select number of medical students for resources to increase financial literacy. Medical school is not the only educational level where financial literacy has not been addressed. Today less than a quarter of states in the United States require a personal finance course as a graduation requirement.⁸

There are many studies that corroborate the notion that medical students lack sufficient financial literacy. In an assessment of first and fourth year medical students across seven U.S. medical schools, researchers at the University of Pennsylvania found that on average, medical students only answer less than 50% of financial literacy questions correctly.^{3,9} Another study published in *The International Journal of Medical*

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Education demonstrated that medical trainees routinely have high debt and low financial literacy, with a third of trainees reporting difficulty covering monthly expenses, even with a median income around the national average.¹⁰

The absence of financial literacy among medical trainees is alarming given the context of both physician burnout and growing amount of student debt reported by graduating medical students. The median debt of US medical students upon graduation is higher than any other post graduate student population.¹¹ Over 80% of recent medical school graduates have over \$100,000 in student loans.^{12,13} Taking into account inflation, the price of medical education has increased over 100% over the past two decades.¹⁴ Medical trainees are part of the population of 44 million Americans who collectively owe over \$1.5 trillion in student debt. This figure was so alarming to the US government, that in 2019 the US treasury department issued a recommendation for financial literacy courses to be made mandatory at the college level.

Additionally, financial stress from outstanding student loans has been linked to deleterious health outcomes such as anxiety, alcohol and substance dependency, and depression, which are conditions that medical students are at a disproportionately higher risk of suffering from compared to the general population.^{15,16}

Money and debt burden are important to medical trainees as they are consistently cited as determining factors in major personal life decisions such as when to start a family and when to buy a home as well as professional decisions such as choice of specialty and resident consideration of private versus academic practice.¹⁶⁻²² The impact of low financial literacy on depression and burnout is prevalent across all levels of training and medical specialties.²³⁻²⁶ It is imperative to enhance financial literacy as poor financial decisions in purchasing homes, managing student loans, and planning retirement have been shown to lead to distressing familial and emotional consequences among medical professionals.²⁷

Some studies suggest that financial education helps alleviate physician burnout.²⁸ However, one burden that medical trainees face is getting access to unbiased and knowledgeable financial educators²⁹. Many medical trainees have expressed concern over the reliability and motivation of financial marketing professionals that many graduate medical education programs rely on to provide financial advice. This suggests that there is a need for unbiased and trustworthy sources of financial education for medical trainees.

Conclusions (2-3 summary sentences)

Formal financial education has traditionally been excluded from medical education as well as much of primary, secondary, and post-secondary education in the United States and many physicians complete medical training without a basic knowledge of finance. Medical students may benefit from mandatory financial education in their curriculum given that 3 out of every 4 medical students will have student debt upon graduation. Further polling and research, with a larger sample size, on the views of medical students regarding a mandatory financial course in medical school should be conducted in order to elucidate the extent to which financial education is desired amongst health professionals and trainees.

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FIGURES AND TABLES

MEDFINOMA - Financial Resource Video Library for Oregon Health and Science University Medical Students

Creators: Bennett Sorensen and Christian Bonilla (OHSU 4th year Medical Students) and Omar Nazir, MD

Introductory Videos:

Missouri State University Personal Playlist:

Video series covers Goal-setting, Budgeting, Credit, Insurance, Investing, Time Value of Money

<https://youtube.com/playlist?list=PLdLiRaajwSX8B5gr1CvCwQ16OsmcZlls>

MEDFINOMA: Financial Primer

2 hour video covers basic economic, accounting, and investing principles. Students will walk away with an understanding of interest rates, the three main financial statements (balance sheet, income statement, cash flow) that companies use to keep track of their operations, how companies raise capital, the differences in basic securities (stocks vs. bonds), as well as how to read the financial section of major newspapers like The Wall Street Journal.

<https://youtu.be/WT81MoiRmfq>

Before scrolling down to each topic, we want to introduce three different general resources that we think stand out and should be used to add or supplant this guide. The following three will likely cover anything you want to know that I do not cover here.

[Personal Finance Wiki](#) - unbiased, detailed guide to any topic in personal finance

[White Coat Investor](#) (WCI) - tackling financial issues particular to physicians

[MoneyCoach](#) on Youtube - illustrated explanations for those lost on a given topic

Also - if at any point a term or word is confusing, utilize [this excellent dictionary](#).

Debt & Repayment ([WCI Overview](#))

Borrowing

[OHSU's Guidance on Loans, Debt, and Advising](#)

AAMC Resources

[AAMC Education Manager](#) (DEEP dive on student loans)

[AAMC Medloans Organizer](#) (way to formally organize your student loan data with template)

[AAMC FIRST Youtube Series](#) (series of helpful financial videos)

Wait, how much have I borrowed? Go to [studentaid.gov/dashboard](#)

Repayment

Disclaimer - The Biden Administration is planning changes to Income Driven Repayment (IDR) including 0% interest on federal student loans if monthly payments are met. There is no timeline on the rollout yet and it would likely change the approach to repayment, likely reducing benefits of consolidation. Keep this in mind as this resource has been produced before the introduction of these changes.

[NYT Link / Dept of Ed Website](#)

Income Driven Repayment (IDR) - aka what you will likely be doing for residency

The **three** main IDR plans are Income-Based Repayment (**IBR**), Pay As You Earn (**PAYE**), and Revised Pay As You Earn (**REPAYE**). Refer to the section in the [WCI Overview](#) for detailed explanation. **You select your plan with your loan servicing company.**

AAMC's videos on [Student Loans and Repayment Strategies & Repayment Testimonies](#)

Figure 1 – First Page of MEDFINOMA website

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STOCK RATIOS

- Market Price for the company / Net income = P/E.
- \$1,000/\$100 = 10 = P/E.
- \$800/\$100 = 8 = P/E.
 - Generally, a low P/E is preferable to a high P/E.
 - Buffett likes P/E around 15.
- Example:
 - Earnings for the business (or net income from the P&L) = \$100.
 - Have a 100 shares each selling for 10 dollars.
 - 100 shares x 10 dollars = Market Cap.
 - Income of \$100 divided by 100 shares = \$1 of Earnings per share.
 - Market Price per share/ Earnings per share (EPS).
 - P/E = \$10/\$1 = 10.

$$\frac{\text{Net earnings}}{\text{Number of shares}} = \frac{\$5,000}{500 \text{ shares}} = \$10 / \text{share}$$

$$P/E = \frac{\$100}{10} = 10 \times$$

A quick valuation tool			
Market Price	Earnings		
\$10	\$2	P/E = 25	Return = 4%
		P/E = 20	Return = 5%
		P/E = 15	Return = 6.6%
P/E = \$10/\$2 = 5	Potential returns	P/E = 10	Return = 10%
P/E = 5		P/E = 5	Return = 20%
Return = 20%			

$$\text{Book value} = \frac{\text{Total assets} - \text{Total liabilities}}{\text{Number of shares}}$$

$$= \frac{\$140,000 - \$50,000}{500 \text{ shares}} = \frac{\$90,000}{500 \text{ shs.}} = \$180 / \text{share}$$

QUICK LESSON ON BONDS

- Bond is a loan; an agreement that you're lending someone else money.
 - The borrower has an obligation to pay back your loan. A bond consists of three components:
 - **Par Value or Face Value:** The amount that the bond is issued for
 - Also, the amount you get back (principal) when the bond matures.
 - **Term:** Duration of the bond until it matures.
 - **Coupon or Interest Rate:** The amount of money you get back every year as a percentage of the par value.

EXAMPLE:

- Par Value: \$1,000.
- Term: 30 years.
- Coupon Rate: 5%.
 - Total: \$2,500 ([30 years x \$50] + \$1,000).
 - Profit of \$1,500 in nominal dollars.



Figure 2 – Two slides from the video series explaining stocks and bonds

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52-WEEK HI	52-WEEK LO	STOCK (DIV)	YLD %	PE	VOL 100s	CLOSE	NET CHG
60.19	28.29	Hallibrtn .50	.9	62	40098	57.67	-0.89
13.21	5.28	HnckFabrcs .24	4.1	dd	787	5.91	0.01
23.84	12	Handleman .32	2.2	11	2759	14.27	0.39
8.39	4.45	HangerOrtho ...	...	...	1402	7.99	0.15
14.93	10.13	HanovrCmprsr ...	...	dd	4209	14.58	0.03
53.39	33.99	Hanson ADS 1.74e	3.4	...	133	51.70	0.49
42.50	29.25	Harland .60f	1.5	17	790	41.24	-0.13
63.23	45.14	HarleyDav .64f	1.3	16	7337	50.30	0.25
131.74	68.54	HarmanInt .05	...	33	8591	107.97	-0.31
14.29	5.96	HrmyGld ADS .05e	.7	...	13350	7.59	-0.19
79.69	47.08	HarrahEntn 1.45f	2.0	21	20952	73.37	2.96
38.10	23.46	Harris s .24	.6	26	8487	37.90	0.63
63.74	42.75	Harsco 1.20	2.1	18	1164	57.97	1.08
31.47	24.10	HarteHanks .20	.7	22	1202	27.10	0.30
82.50	52.73	HrtfrdFnl 1.16	1.5	10	5554	75.72	0.11

- **Market capitalization** refers to the total dollar **market** value of a company's outstanding shares of stock.
 - Commonly referred to as "**market cap**," it is calculated by multiplying the total number of a company's outstanding shares by the current **market** price of one share.
- **Shares outstanding** represent the total number of **shares** issued by a corporation and held by its shareholders
 - **Float** represents the percentage of those **shares** in the hands of investors, excluding the closely held **shares**, which can be freely traded.
- A **treasury stock** or reacquired **stock** is **stock** which is bought back by the issuing company, reducing the amount of outstanding **stock** on the open market ("open market" including insiders' holdings).

Figure 3 – A slide from the video series explaining how to read stock prices and the business section of newspapers like *The Wall Street Journal*

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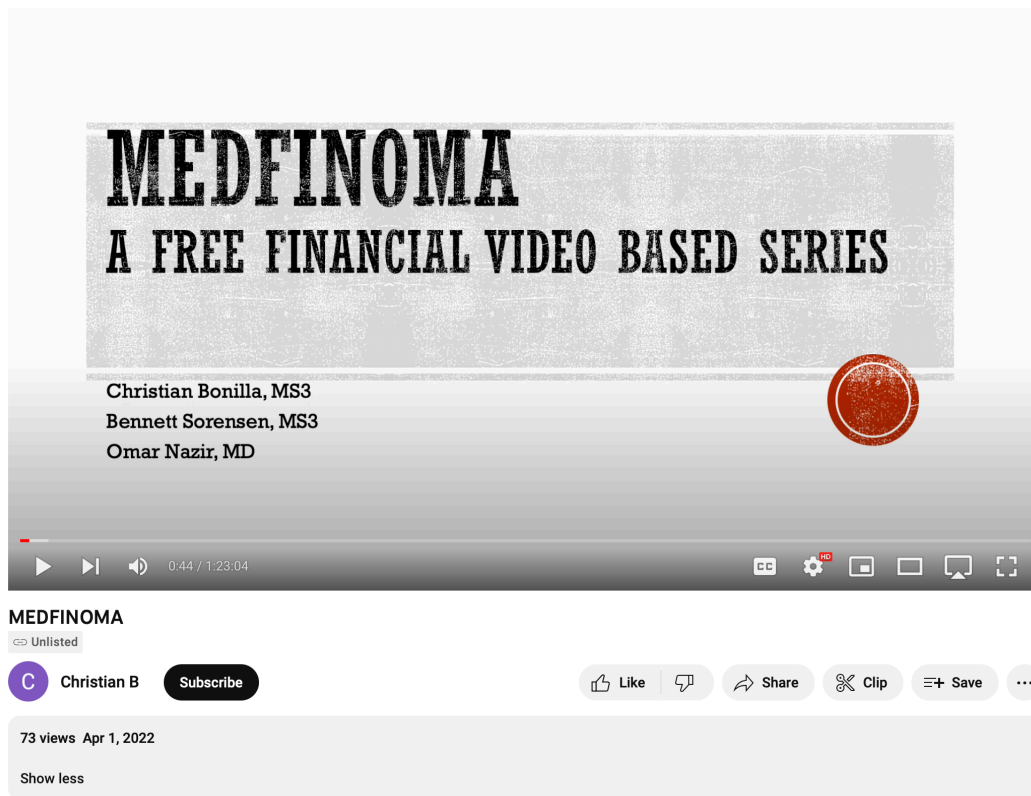


Figure 4 – The initial slide of the MEDFINOMA financial primer showing over 70+ views since being posted in the Spring of 2022.

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