In this,next module, we're going to talk about writing the introduction section.,And the good news is that the introduction section is actually easier to write than you might think.,The introduction section follows a fairly standard format, because it follows a definable format.,It's easier to write than you may think.,It's also fairly short. The typical introduction section is only three paragraphs long.,You may not have realized that before.,You may have thought it was much longer, but an introduction section should be no more than five paragraphs.,It typically ranges between two and five, and typically it's about three paragraphs long.,The biggest mistake that people make when they're writing the introduction section is that they think it's supposed to be some kind of long, exhaustive review of the general topic.,You've spent all this time collecting information and reading papers, and you feel like you need to stuff all of that into your introduction, but that is not the purpose of the introduction.,The introduction section is focused around the specific question or hypothesis or aim of your study.,You shape the whole introduction around that specific question or hypothesis.,E.g., if you're writing about a study that tested the association between breast cancer and smoking, ,you are not going to write a whole bunch of background information about breast cancer in general or about smoking in general.,You're not going to talk about papers that are just about smoking and how bad it is, or just about breast cancer and how bad it is.,Rather, you're going to keep your introduction section focused on the potential relationship between, specifically, smoking and breast cancer.,You're only going to talk about previous studies that addressed this link, not studies that looked at breast cancer in general, not studies that looked at smoking in general.,So it's a very narrow section, which actually means that it's pretty easy to write.,I'm going to take you now through this standard format.,A good way to think of the introduction is as a cone, as is pictured here. This is a figure I'm using from one of Thomas andley's papers in the journal Clinical Chemistry.,He represents the introduction as a cone.,The idea is that you're going to start with something general, and you're going to narrow down very quickly to your specific study.,So you start your introduction by briefly giving some context, some background information about what is known on your topic, what's known about breast cancer and smoking, about that link.,Then you quickly move from the what's known to the what's unknown.,You pinpoint for your reader the gaps and limitations of all those previous studies on smoking and breast cancer.,What were the flaws in those studies that make us still unsure of whether breast cancer causes smoking?,Then you narrow down even further to your specific hypothesis or question or aim of your statement, ,and you're going to make a statement of purpose, where you're going to say, quite clearly, we hypothesize that or we wanted to answer the question of or we aimed to.,It's good to use that explicit language with those key words in there.,We hypothesize we aimed because it helps the reader to find the statement of purpose of your study.,So you quickly tell the reader what's the main hypothesis of or aim of your study.,Then you tell them a little bit about your experimental approach, and you say how your experiment on breast cancer and smoking is different and new and better than previous studies.,Tell your reader how your study is going to fill in all the gaps and limitations of the previous studies.,Similarly, mimi's Eiger, in her book that I've referenced before, gives a similar structure for the introduction.,So she says, you start with what's known, those are the previous studies.,Then you give the what's unknown, those are the gaps and limitations in those previous studies.,And then you move into the specific question or aim or hypothesis of your study, though we aim too, we hypothesize too.,Then you give away just enough about your experimental approach to show how your study is going to fill in at the gaps and limitations of previous studies. You can think of this as roughly three paragraphs.,You don't always have to have it structured this way, but you can see how it neatly fits into three paragraphs.,Paragraph might be the what's known, paragraph two can be the what's unknown, and paragraph three can discuss your specific study.,Now, authors may also go back and forth between the known and unknown in those early paragraphs.,You see that as well. But this gives you a rough feel of the breakdown of the introduction section.,Now, a couple of tips for writing an introduction Section 1st I've told you it's only about three paragraphs, ,so that might make you think that you need to be to write really long paragraphs, but I actually mean three short paragraphs.,They should be crisp and short.,Also,,as much as you can try to write for a general audience.,Your manuscript, of course, is going to have technical details, but save those technical details for the materials and methods.,Give a friendly introduction to what you did in your study.,As I've said in the previous slides, you want to go from broad to narrow, from the noon to the unknown to the question.,And you want to have that specific purpose statement where you say, we asked whether or we hypothesized that r ames were something like that.,When I'm reviewing papers, I often scan the introduction for that statement so that I can figure out very quickly what was the point of the paper.,So make sure it's there and it's clear and easy to find.,Don't forget to emphasize how your study fills in the gaps of previous studies, and again, explicitly state your research question.,We asked whether our hypothesis was our aims work.,The introduction section should not contain results or implications.,You don't want to answer the research question, just set up the research question.,Finally, in the introduction section, you're going to summarize the previous literature at a high level.,That means we're tempted, when we've read all these studies, to go into details about each individual study. E.g. you might say, jones and Elle did this case control study, but that study had problems with X-Y and Z, ,and then spit that out, did this other cross sectional study, and the problems without study were A-B.,See, you're gonna be tempted to go into this level of individual detail, but you're supposed to actually summarize the study at a high level.,So what you want to do is say, you know, if there were nine studies that have looked at breast cancer and smoking, summarize for the reader.,While two found an association, and seven didn't give a high level summary.,And when you're talking about the problems in the previous studies, again, you don't want to go into the nitty gritty of each individual study, especially if there's a lot of them.,Just tell the reader broadly what were the problems with the previous studies.,I love the BMJ Christmas issue, so I'm going to start with an article from that.,This was the study I mentioned before that looked at spm emails to academics.,And I think this is a great example of an introduction section.,It's nice and short, and I can fit it all in one powerpoint slide.,So I notice it's only two paragraphs long.,Uh, this is partly because it's in the BMJ Christmas issue, which is a humorous issue, but really, introduction sections aren't going to be much longer than this.,Notice that the 1st paragraph is all the what's known the background information on unsolicited academic spam.,Unsolicited and unwanted spam. Electronic invitations to speak at a at or attend conferences or to write for or edit journals are a burgeoning aspect of academic life.,Colleagues regarded such invitations with ry amusement, intense frustration or resignation.,Two of us have reviewed travel grant applications from colleagues who receive SPAM invitation to give conference presentations.,Um Then we get to the unknown.,There's just a one sentence statement of the unknown here.,Few studies have focused on academic spam.,Here they are identifying the gap in the literature.,It's an easy gap to figure out. The gap is that no one has studied this formally before.,Then we get to the specific study in the academic spam study.,That's their study. We investigated the amount relevance, content and suppressibility of academic emails.,They're definitely filling in a gap here, because they may be the 1st study to ever look at this, ,and they've explicitly stated what they want to look at, amount relevance, content and suppressibility.,So that's a very simple example of an introduction section to start with.,Now we'll move onto something slightly more complex.,Here's another example. Notice again that this one is only two paragraphs long.,It's slightly longer than the last example, but still only two paragraphs.,This one was looking at whether or not obesity and overweight was related to mortality from cancer.,So they start with the what's known.,We know that if you are overweight or obese, you're more likely to die from all causes as well as from heart disease.,Those relationships are well established. We also know that excess weight is important in cancer in general, but there's a whole bunch of gaps in that.,So here's the unknown We don't know the magnitude of that relationship.,How much does being overweight increase your risk of cancer?,And we don't have a good idea of exactly which cancers, which individual cancers, are related to excess weight.,All right, so now they're jumping from noon to unknown.,Now they're going to go back to the noon.,So previous studies, What do we know for sure?,Previous studies have consistently shown associations between atoposity, excess weight, an increased risk of,certain cancer. So indomitrium, kidney and gall bladder for women, breast in postmen,,aposal women and colin in men.,Those have all been well established.,Then we jump back to the,what's unknown. So data on cancers of the pancreas, prostate, liver, cervix, in ovary and on blood cancers are scarce or inconsistent.,So they summarize a pile of studies.,In just this one sentence, we have a bunch of studies on cancers of the pancreas, prostate, liver, cervis, over in blood cancers. They list them all here, but they they're inconsistent.,The notice that they don't give any details of the individual studies listed here.,They just tell you, really, they're inconsistent.,We haven't answered the question. And then they tell you specifically, what's been wrong with previous studies, what are the gaps and limitations of previous studies?,Why are these questions answered?, And so the lack of consistency may be due to the fact that just there aren't a lot of studies, especially there aren't prospective studies, which is a superior study design.,People categorize overweight and obesity differently in different studies.,There can be biased introduced with respect to smoking and um.,So there's a whole bunch of gaps and limitations that they identify, and then they jump into how this study will answer the question with better methods.,So they say, ,we conducted a prospective investigation in a large cohort of U-S men and women to determine the relations between body mass index and the risk of death from cancer at specific sites.,So the aim of this study is to look at death from cancer and from specific cancers, ,and they're going to use body mass index, rather than categorizing, uh, overweight or obesity, which involve some arbitrary categorization.,So they've already told you how they're filling in some of the gaps.,It's prospective, it's large. It's a trusted data set.,They tell us in the next sentence, and they're looking at BMI rather than an arbitrary cut off for obesity or overweight.,Okay, one more example. This one is actually three paragraphs long.,So this is a study looking at exogenous estrogens in young women to see whether it affects their bone density.,So this one starts with the what's known.,So we know that exogenous estrogens, that is giving women estrogen in post menopause, that increases bone mineral density.,That's well established. Okay, now we jump to the what's unknown.,It's unclear whether, when you give exogenous estrogens in the form of the oral contraceptive pill to young women, it's unclear whether that affects their bone density. And here we get a review of, um, a bunch of studies, and you can see it just one sentence.,We are summarizing all of these studies.,Several studies suggest that exposure to oral contraceptives during the premenopposal years has a favorable effect increases bone mineral density, and other studies show no effect.,So we get just a quick summary of what the literature shows us.,It's it's unclear. It's inconsistent. Some studies do show, in it effect, a increase in bodancy, but a lot of studies also showed no effect.,Then we get the gaps in the previous research.,Why isn't this question answered? Well, past studies of the relationship of ocus and bone mineral density have had several limitations, ,so authors used measures that were kind of crude, such as current past and never use of oral contraceptives, which isn't going to tell you about the dos of estrogen.,And many studies also didn't account for things like lifestyle characteristics.,And then finally, there aren't many studies that look in races women of races other than white, so those are the gaps.,And then we get to this study.,The aim of this study was to evaluate the associations of oral contraceptives with spine hip and whole body.,BMD Notice that it says the aim of the study was in black and white premenopausal women.,So we get a statement of the aim of the study.,Notice that we're including both black and white premenopausal women.,That's filling in a gap in the literature.,was that there would be an association between cumulative exposure to estrogen from oral contraceptives and bone mineral density.,So they tell us that they are going to be using a measure of cumulative exposure, rather than just a simple, ever, never use of oral contraceptives.

在下一个模块中，我们将讨论如何编写介绍部分，好消息是，简介部分实际上比你想象的要容易写。介绍部分遵循相当标准的格式。因为它遵循可定义的格式，所以写起来比你想象的要容易。它也相当短。典型的介绍部分只有三段长。你以前可能没有意识到这一点。你可能以为要长得多，但介绍部分不应超过五段。它通常介于两到五之间，通常长度约为三段。人们在撰写介绍部分时犯的最大错误是，他们认为这应该是对一般主题的某种漫长而详尽的回顾。你花了所有这些时间收集信息和阅读论文，你觉得你需要把所有这些都塞进简介中，但这不是介绍的目的。导言部分侧重于您的研究的具体问题、假设或目标。你围绕这个特定的问题或假设来塑造整个导言。例如，如果你写的是一项测试乳腺癌与吸烟之间关联的研究，那么你就不会写一大堆关于乳腺癌或一般吸烟的背景信息。你不会谈论仅仅是关于吸烟及其严重程度的论文，也不会只谈论乳腺癌及其严重程度的论文。相反，你将把介绍部分的重点放在吸烟与乳腺癌之间的潜在关系上。你只想谈论先前针对这一联系的研究，而不是针对一般乳腺癌的研究，也不会谈论总体上针对吸烟的研究。因此，这是一个非常狭窄的部分，这实际上意味着它很容易编写。我现在要带你了解一下标准格式。如图所示，将引言视为圆锥体。这是我在托马斯·安内斯利在《临床化学》杂志上发表的一篇论文中使用的数字。他把介绍描述成一个圆锥体。这个想法是，你要从一些笼统的东西开始，然后很快就会缩小到具体的研究范围。因此，你首先要简要介绍一些背景信息，一些背景信息，关于你的话题的已知情况，对乳腺癌和吸烟的了解与该链接。然后，你很快就会从已知的事情转移到未知的事物。你向读者指出了以前所有关于吸烟和乳腺癌的研究的差距和局限性。这些研究中有哪些缺陷使我们仍然不确定乳腺癌是否会导致吸烟？然后，你可以进一步缩小到你的具体假设、问题或陈述的目的。然后你要发表一份目的陈述，明确地说，我们假设或者我们想回答的问题或我们的目标。我们假设，使用这种带有关键词的露骨语言是件好事，我们的目标是，因为它可以帮助读者找到学习目的陈述。因此，你可以快速告诉读者你的研究的主要假设或目标是什么，然后告诉他们一些关于你的实验方法的信息。你说你对乳腺癌和吸烟的实验与以前的研究有何不同、新颖和更好。告诉你的读者你的研究将如何填补先前研究的所有空白和局限性。同样，咪咪·齐格（MimiZeiger）在我之前引用的书中也给出了类似的导言结构。所以，她说你从已知的事情开始——这些是以前的研究。然后你给出未知的东西——这些是先前研究中的差距和局限性。然后你进入研究的具体问题、目标或假设，所以，我们的目标是，我们假设是。然后，你提供的实验方法刚好足以证明你的研究将如何填补先前研究的空白和局限性。你可以把它想象成大约三段。你不必总是这样构造它，但你可以看到它如何巧妙地融入三个段落中。第一段可能是已知的，第二段可能是未知的，第三段可以讨论你的具体研究。现在，在前面的段落中，作者也可能在已知和未知之间来回切换，你也可以看到，但这会让你粗略地感受到介绍部分的细分。现在有几个关于撰写介绍部分的技巧。首先，我已经告诉过你只有大约三段，所以这可能会让你认为写出非常长的段落需要这样做。但实际上我的意思是三个简短的段落。它们应该清晰而简短。另外，尽你所能尝试为普通读者写作。当然，你的手稿会有技术细节，但要保存这些技术细节作为材料和方法，友好地介绍你在学习中的所作所为。正如我在之前的幻灯片中所说的那样，你想从宽泛到狭窄，从已知到未知再到问题，你想在具体的目的陈述中说，我们问或假设，我们的目标就是这样。当我查看论文时，我经常浏览引言中的陈述，这样我就能很快弄清楚论文的重点是什么。因此，请确保它在那里，而且清晰易找。别忘了强调你的研究是如何填补先前研究的空白的，再说一遍，明确说明你的研究问题，我们问，我们的假设是，我们的目标是否是。导言部分不应包含结果或影响。你不想回答研究问题，只需设置研究问题即可。最后，在介绍部分中，您将从较高的层面上总结先前的文献。这意味着，当我们阅读所有这些研究时，我们很想详细介绍每项研究。例如，你可能会说，琼斯等人做了这个案例对照研究，但是那项研究在x、y和z方面存在问题，然后史密斯等人做了另一项横断面研究，那项研究的问题是a、b和c。你会很想深入研究这个层次的个人细节，但实际上你应该在高层次上总结这项研究。所以你想说的是，你知道，如果有九项研究研究了乳腺癌和吸烟，总结一下，好吧，有两项发现了关联，七项没有——给出一个高水平的总结。而且，当你谈论先前研究中的问题时，再说一遍，你不想深入研究每项研究的细节，特别是如果研究很多，只需广泛地告诉读者以前的研究存在什么问题即可。我喜欢《英国医学杂志》的圣诞节专刊，所以我将从一篇关于该问题的文章开始。这是我之前提到的研究，它着眼于发给学者的垃圾邮件，我认为这是介绍部分的一个很好的例子。它既漂亮又简短，我可以把所有内容放在一张PowerPoint幻灯片中。所以请注意它只有两段长。部分原因是它出现在英国医学杂志的圣诞节专刊中，这是一个幽默的问题，但实际上，介绍部分不会比这长很多。请注意，第一段是所有已知信息，即不请自来的学术垃圾邮件的背景信息。不请自来的和不想要的（垃圾邮件）电子邀请函，邀请他们在会议上发言或参加会议，或者为期刊撰稿或编辑期刊，是学术生活中一个新兴的方面。同事们对这样的邀请感到非常高兴、极度沮丧或辞职。我们当中有两个人审查了同事的差旅补助申请，他们收到了垃圾邮件邀请，要求他们发表会议演讲。然后我们进入未知世界。这里只有一句话对未知事物的陈述。很少有研究侧重于学术垃圾邮件。在这里，他们指出了文献中的空白。差距很容易弄清楚。差距在于，以前没有人对此进行过正式研究。然后我们来看学术垃圾邮件研究中的具体研究，那就是他们的研究。我们调查了学术电子邮件的数量、相关性、内容和可抑制性。他们肯定是在填补这里的空白，因为它们可能是有史以来第一项研究这个问题的研究，而且他们已经明确说明了他们想要研究的内容——数量、相关性、内容和抑制性。因此，这是一个非常简单的介绍部分示例。现在我们将继续讨论稍微复杂一点的内容。这是另一个例子，请再次注意这个只有两段长。它比上一个例子稍长一点，但仍然只有两段。这个研究的是肥胖和超重是否与癌症死亡有关。因此，他们从已知的内容开始。我们知道，如果你超重或肥胖，你更有可能死于各种原因以及心脏病。这些关系已经根深蒂固。我们也知道，总的来说，体重过重对癌症很重要，但这方面还有很多差距。所以这是未知数。我们不知道这种关系有多大。超重会在多大程度上增加患癌症的风险？而且我们不太清楚究竟哪些癌症，哪些个体癌症与体重过重有关。好吧。所以现在他们正在从已知跳到未知现在他们要回到已知世界。那么以前的研究，我们肯定知道什么？先前的研究一直表明，肥胖、体重过重与某些癌症风险增加之间存在关联，因此女性子宫内膜、肾脏和胆囊，绝经后女性为乳房，男性为结肠。这些都已得到充分证实。然后我们回到未知领域，因此有关胰腺癌、前列腺癌、肝癌、子宫颈癌和子宫癌以及血液癌的数据很少或不一致。因此，他们用这句话总结了一大堆研究。我们对胰腺癌、前列腺癌、肝癌、子宫颈癌、子宫癌和血液癌进行了大量研究。他们在这里全部列出，但前后矛盾。你会注意到他们没有提供此处列出的个别研究的任何细节。他们只是在告诉你他们确实前后矛盾。我们还没有回答这个问题。然后他们会具体告诉你以前的研究出了什么问题。先前研究的差距和局限性是什么？为什么这些问题没有得到解答？因此，缺乏一致性可能是由于研究不多，尤其是没有更好的研究设计的前瞻性研究。在不同的研究中，人们对超重和肥胖的分类是否有所不同？在@@吸烟方面可能存在偏见。因此，他们发现了很多差距和局限性，然后他们开始探讨这项研究将如何用更好的方法回答这个问题。因此，他们说，在这项调查中，我们对一大批美国男性和女性进行了前瞻性研究，以确定他们在特定部位的体重指数与癌症死亡风险之间的关系。因此，这项研究的目的是研究癌症和特定癌症造成的死亡。而且他们将使用体重指数，而不是对超重或肥胖进行分类，后者涉及一些任意的分类。因此，他们已经告诉你他们是如何填补一些空白的——这是前瞻性的，很大，这是他们在下一句话中告诉我们的一个值得信赖的数据集，他们关注的是体重指数，而不是肥胖或超重的任意临界点。好吧。再举一个例子。这篇文章实际上有三段长。因此，这是一项针对年轻女性的外源性雌激素的研究，以了解它是否会影响她们的骨密度。因此，这篇文章从已知的内容开始。因此，我们知道外源性雌激素，即在绝经后为女性提供雌激素，会增加骨矿物质密度。这是公认的。好吧。现在我们跳到未知的事物。目前尚不清楚当你以口服避孕药的形式给年轻女性服用外源性雌激素时，目前尚不清楚这是否会影响她们的骨密度。在这里，我们对许多研究进行了回顾，你可以用一句话看到我们在总结所有这些研究。多项研究表明，在绝经前时期服用口服避孕药具有良好的效果，可以增加骨矿物质密度，而其他研究则显示无效。因此，我们只能快速总结一下文献向我们展示的内容，不清楚的是，它前后矛盾。一些研究确实显示了骨密度增加的效果，但是许多研究也显示出没有效果。然后我们了解了先前研究中的空白。为什么这个问题没有得到解答？好吧，过去关于OC使用与骨矿物质密度关系的研究存在一些局限性，因此作者使用的衡量标准有点粗糙，例如当前、过去和从未使用过口服避孕药，这并不能告诉你雌激素的剂量。而且许多研究也没有考虑生活方式特征之类的东西，最后没有多少研究针对种族，你知道，除白人以外种族的女性。因此，这些是差距，然后我们开始这项研究。这项研究的目的是评估世界避孕药与脊柱、臀部和全身骨密度的关联。请注意，它说这项研究的目的是针对绝经前的黑人和白人女性。因此，我们得到了一份关于研究目的的陈述。请注意，我们包括了绝经前的黑人和白人女性，这填补了文献中的空白。我们的主要假设，也就是说，我们在这里得到一个假设陈述，是，口服避孕药中雌激素的累积暴露量与骨矿物质密度之间存在关联。因此，他们告诉我们，他们将使用累积暴露的衡量标准，而不仅仅是简单地使用口服避孕药。这就是介绍部分的基本结构。