

Unit 4: USA

Free notes at pharmacolearn.fyi

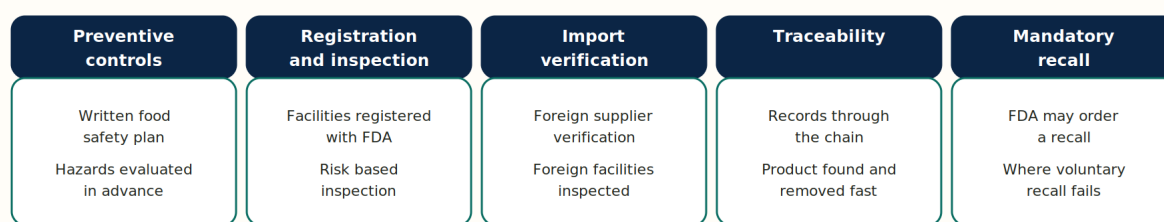
4.1 Introduction: two statutes, two jobs

United States regulation of this product family rests on two statutes with different tempers, and the first task of the unit is to keep them apart. The **Dietary Supplement Health and Education Act of 1994 (DSHEA)** is the category statute: it defines the dietary supplement, decides what ingredients may be used, and builds the labelling and claims regime. The **FDA Food Safety Modernization Act of 2011 (FSMA)** is the food safety statute for the whole food supply: it reorients the Food and Drug Administration (FDA) from reacting to food safety failures toward preventing them, and its machinery reaches supplement facilities as food facilities. Around them stands the parent statute, the Federal Food, Drug, and Cosmetic Act, under which supplements are regulated as a subcategory of food. The governing fact of the American system, from which everything else in this unit follows, is negative: **there is no premarket approval for dietary supplements**. A supplement may be marketed without the FDA ever having examined it, provided its ingredients are lawful, its manufacture follows GMP, its label is compliant and its claims stay inside the fence. The state's power is exercised before marketing only at defined gates (the new dietary ingredient notification of section 4.4) and otherwise after marketing, against products that are adulterated or misbranded. NSF certification in Unit 2 exists because this gate is open; the Indian positive list system in Unit 3 exists because India chose to close it.

4.2 The Food Safety Modernization Act (FSMA), 2011

FSMA, signed in 2011, is described by the FDA itself as the most sweeping reform of United States food safety law in decades, and its philosophy is its first examinable point: **prevention over reaction**. Its pillars, as they touch this subject, are these. **Preventive controls**: food facilities must evaluate the hazards in their operation and implement and monitor preventive controls, with a written food safety plan, replacing reliance on end product inspection. **Registration and inspection**: food facilities, including supplement facilities, register with the FDA and face risk based inspection, foreign as well as domestic. **Imported food safety**: importers carry responsibility for verifying that their foreign suppliers meet United States standards, through the foreign supplier verification machinery, and foreign facilities face inspection and certification arrangements. **Mandatory recall**: FSMA gave the FDA, for the first time, the power to order the recall of food it reasonably believes is adulterated or misbranded in a way that threatens serious health consequences, where the responsible firm will not recall voluntarily. And **traceability and records** duties run through the scheme, so that when prevention fails the product can be found and removed quickly. For the supplement sector specifically, FSMA works alongside, and does not replace, the supplement specific GMP rule of section 4.4: the facility is a food facility for registration, preventive control and import purposes, and a supplement manufacturer for its product specific quality duties. The examination contrast is with the older reactive model: FSMA assumes contamination and failure will be attempted by circumstance, and requires the system that prevents, detects and corrects them to exist on paper and in practice before anything goes wrong.

FSMA 2011: the prevention pillars



Prevention over reaction: the system must exist before anything goes wrong

© 2026 PharmacoLearn, pharmacolearn.fyi

Figure: The FSMA pillars of section 4.2 as they reach a supplement facility: preventive controls under a written food safety plan, facility registration and risk based inspection, foreign supplier verification for imports, records and traceability, and the FDA mandatory recall power standing behind voluntary recall (Unit 4, section 4.2).

4.3 The Dietary Supplement Health and Education Act (DSHEA), 1994

DSHEA amended the Federal Food, Drug, and Cosmetic Act to settle, after years of conflict between the FDA and the supplement industry, what a dietary supplement is and how it is governed. Its **definition** is the one taught in section 1.4: a product intended to supplement the diet, bearing one or more dietary ingredients (vitamins, minerals, herbs or other botanicals, amino acids, dietary substances, and their concentrates, metabolites, constituents and extracts), for ingestion in measured form, and not represented as a conventional food or sole item of a meal or diet. Its **safety settlement** reverses the drug burden of proof: the manufacturer is responsible for ensuring its product is safe before marketing, but it need not prove safety to the FDA in advance; the FDA bears the burden of showing a marketed product is adulterated, for example because it presents a significant or unreasonable risk, before it can act against it on safety grounds. Its **ingredient gate** is the new dietary ingredient rule of the next section. Its **claims settlement**, the structure and function regime, is the subject of section 4.6. And its **labelling settlement** created the Supplement Facts panel of section 4.5. DSHEA also directed the good manufacturing practice authority under which the supplement GMP rule was later made. Read DSHEA whole and its character is plain: it is a statute of **access with responsibility**, deliberately keeping supplements out of the drug approval system while fixing the maker with the duties of safety, quality manufacture and truthful labelling, and the decades of argument about the American system are arguments about whether that balance was struck correctly.

4.4 US regulations for manufacture and sale of nutraceuticals and dietary supplements

The operative duties on an American supplement business assemble from DSHEA, FSMA and their rules into a coherent checklist, which is how the syllabus topic should be learned. **Ingredients**: a dietary ingredient marketed in the United States before DSHEA's 1994 enactment is treated as an existing ingredient; a **new dietary ingredient (NDI)**, one not so marketed, may only be used where the manufacturer notifies the FDA before marketing, with information supporting the conclusion that the supplement will reasonably be expected to be safe, or where another lawful basis applies, such as the ingredient's presence in the food supply in a chemically unaltered form. The notification is a gate, not an approval: the FDA may object, and marketing a supplement with an unnotified NDI renders it adulterated in law. **Manufacture**: the current good manufacturing practice rule for dietary supplements (21 CFR Part 111) requires specifications for identity, purity, strength and composition, identity testing of dietary ingredients, production and process controls, batch records, laboratory and labelling controls, and complaint handling, the nutraceutical GMP of section 2.6 in its American statutory form. Facilities register under the food facility registration system FSMA strengthened. **Sale**: a supplement is adulterated if it presents a significant or unreasonable risk, contains a poisonous or deleterious substance in a harmful quantity, was made in

breach of GMP, or contains an unlawful NDI; it is misbranded if its labelling is false or misleading or lacks what the labelling rules require. Serious adverse event reporting by the manufacturer to the FDA is a statutory duty, the vigilance limb of a system that, having no premarket gate, must watch the market it has allowed. Enforcement runs from warning letters through seizure, injunction and the FSMA mandatory recall, and border control over imports completes the scheme.

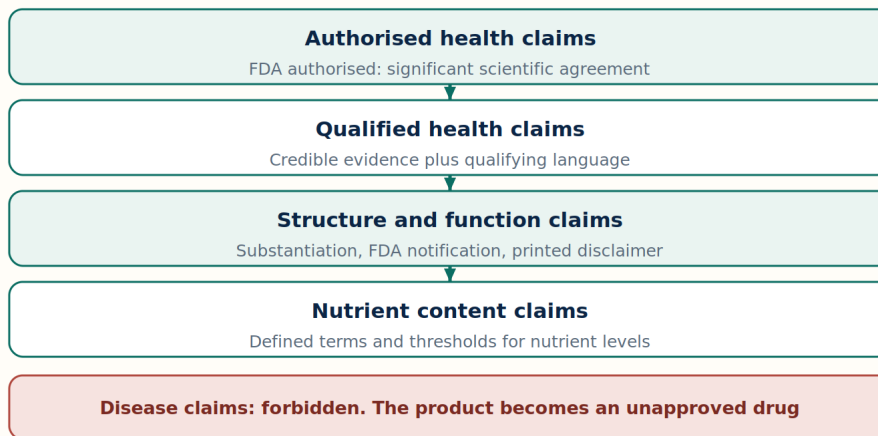
4.5 Labelling requirements for dietary supplements

The American supplement label is a prescribed document, and its centrepiece is the **Supplement Facts** panel, the supplement counterpart of the Nutrition Facts panel on conventional foods. It declares the serving size and servings per container, the amount per serving of each dietary ingredient, and the percentage of the Daily Value where a Daily Value exists (the label RDA machinery of section 4.7). Around the panel the label must carry the product's identity statement as a dietary supplement, the net quantity, the ingredient list in the required order and form, the name and address of the manufacturer, packer or distributor, and the directions and warnings the product needs, including the allergen and safety warnings particular products require. Two labelling duties carry special examination weight. The **structure and function claim disclaimer** of the next section must appear on the label where such a claim is made. And the label is the boundary of legality in the most literal sense: a statement that would be permissible in a textbook becomes, printed on this label, a claim the statute judges, and a disease claim on the label converts the product in law toward an unapproved drug. Label review is therefore a regulatory act, not a design act, in this industry.

4.6 Label claims for dietary supplements: the claims ladder

American supplement claims stand on a ladder of four rungs, and placing a proposed claim on the right rung is the core professional skill of this unit. At the top, **authorised health claims** describe a relationship between a substance and a disease or health related condition, and may be used only where the FDA has authorised the claim on the strength of significant scientific agreement, in the authorised wording or close to it. Below them, **qualified health claims** rest on evidence that is credible but does not meet that standard: the FDA exercises enforcement discretion for them only with qualifying language that accurately states the weakness of the evidence, so the consumer is not misled about certainty. The third rung is the DSHEA creation, **structure and function claims**: statements that describe the role of a nutrient or ingredient in affecting the normal structure or function of the body, or general wellbeing, such as language about supporting immune health or helping maintain joints. They need no FDA authorisation, but three conditions bind them: the manufacturer must have substantiation that the claim is truthful and not misleading, must notify the FDA of the claim after marketing within the period the rules prescribe, and must carry the disclaimer that the statement has not been evaluated by the FDA and that the product is not intended to diagnose, treat, cure or prevent any disease. **Nutrient content claims**, characterising the level of a nutrient in the product, run beside the ladder under their own defined terms and thresholds. Below the ladder altogether, forbidden, are **disease claims**: any statement that the product diagnoses, treats, cures, mitigates or prevents a disease, which makes the product an unapproved new drug whatever its ingredient list says. The ladder is a calibrated instrument: the stronger the medical meaning of the words, the stronger the evidence and authorisation the law demands before they may be printed.

The DSHEA claims ladder



© 2026 PharmacoLearn, pharmacolearn.fyi

Figure: The American claims ladder of section 4.6: authorised health claims on significant scientific agreement, qualified health claims with their qualifying language, structure and function claims on manufacturer substantiation with notification and the FDA disclaimer, and disease claims below the line, forbidden to supplements entirely (Unit 4, section 4.6).

4.7 Recommended Dietary Allowances in the US

The American reference value system has two related instruments, and the syllabus topic is knowing both and which body owns each. The scientific instrument is the **Dietary Reference Intakes (DRIs)**, the family of reference values developed by the Food and Nutrition Board of the National Academies of Sciences, Engineering, and Medicine, of which the **Recommended Dietary Allowance (RDA)** is the best known member: the average daily dietary intake level sufficient to meet the nutrient requirements of nearly all healthy individuals in a particular life stage and sex group, derived from the estimated average requirement with a margin for population variation. Beside the RDA the DRI family carries the estimated average requirement itself, the adequate intake used where evidence cannot support an RDA, and the tolerable upper intake level, the ceiling concept that disciplines high dose supplement formulation. The labelling instrument is the FDA's **Daily Value**: the reference figure printed on the Supplement Facts and Nutrition Facts panels, against which the percentage per serving is declared, set by the FDA by regulation for labelling purposes and updated by rulemaking rather than by each scientific revision. The professional distinctions follow. The RDA is a **scientific recommendation for planning and assessing diets**, set by an independent scientific board; the Daily Value is a **legal labelling reference**, set by the regulator; and neither is a product limit, though formulators use the DRI family, including the upper level, as the evidence frame for deciding what a supplement may sensibly contain.

More free M.Pharm notes and unit wise PDFs at pharmacolearn.fyi
Free video lectures on the PharmacoLearn YouTube channel