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 . 2015 Aug 24;5(5):442–453. doi: 10.1016/j.apsb.2015.07.003 The emerging trends in the combinatorial chemistry and drug design have led to the development of drug candidates with greater lipophilicity, high molecular weight and poor water solubility. Majority of the failures in new drug development have been attributed to poor water solubility of the drug. Issues associated with poor solubility can lead to low bioavailability resulting in suboptimal drug delivery. About 40% of drugs with market approval and nearly 90% of molecules in the discovery pipeline are poorly water-soluble. With the advent of various insoluble drug delivery technologies, the challenge to formulate poorly water soluble drugs could be achieved. Numerous drugs associated with poor solubility and low bioavailabilities have been formulated into successful drug products. Several marketed drugs were reformulated to improve efficacy, safety and patient compliance. In order to gain marketing exclusivity and patent protection for such products, revitalization of poorly soluble drugs using insoluble drug delivery technologies have been successfully adopted by many pharmaceutical companies. This review covers the recent advances in the field of insoluble drug delivery and business prospects. KEY WORDS: Bioavailability, Cocrystals, Solubility, Inclusion complexation, Nanoparticles, Self-emulsifying formulations, Proliposomes The improved formulation of existing drugs is turning out to be lucrative business for pharmaceutical industry which is facing innovation deficit these days for new molecules. New dosage form, change of forms of drugs (ester/salt), prodrug/active metabolite of drug, different routes of administration are few changes that pharmaceutical companies are exploring for 505(b)(2) fillings. Significant number of insoluble drugs in the market provides profitable strategies for pharmaceutical companies to file NDA under 505(b)(2) with improved formulations providing faster dissolution and enhanced bioavailability. Hence this review summarizes various solubilization technologies. The recent advances, clinical benefits and business potentials of these technologies are discussed in detail. The search for innovative medicines in disease management without compromising on safety and efficacy is a challenge. In spite of significant success in the discovery of new drugs, there are still unmet medical conditions which need effective therapy. Market potential, competition among companies, dry pipeline of developmental candidates of various companies have hastened the drug discovery and development process. As a result, a significant number of drugs getting approvals have poor biopharmaceutical properties. An estimated 40% of approved drugs and nearly 90% of the developmental pipeline drugs consist of poorly soluble molecules1. Several marketed drugs suffer from poor solubility, low permeability, rapid metabolism and elimination from the body along with poor safety and tolerability2. Recent studies have revealed that discovery and development of new drugs alone are not sufficient to achieve therapeutic excellence and capture market economies3. Therefore, modified formulations of existing drugs are gaining more importance. The improved formulation of existing drugs is turning out to be lucrative business for pharmaceutical industry which is facing innovation deficit these days for new molecules4. New dosage form, change of forms of drugs (ester/salt), prodrug/active metabolite of drug, different routes of administration are few changes that pharmaceutical companies are exploring for 505(b)(2) fillings5. Significant number of insoluble drugs in the market provides profitable strategies for pharmaceutical companies to file NDA under 505(b)(2) with improved formulations providing faster dissolution and enhanced bioavailability. Hence this review summarizes various solubilization technologies. The recent advances, clinical benefits and business potentials of these technologies are discussed in detail. The potential benefits of insoluble drug delivery technologies are depicted in Fig. 1. Benefits of insoluble drug delivery strategies. Nearly 70% of drugs are reported to be ionizable, of which a majority are weakly basic. A pH-dependent solubility is exhibited by ionizable drugs, wherein weakly acidic drugs are more soluble at pH>pKa (ionization constant) and weakly basic drugs are soluble at pH