Chapter 5. Future Research

Questions 1 and 2

If the relationship between short stature and disability is to be elucidated, future research is needed. This is true for both short stature caused by medical conditions and skeletal dysplasia. Such research would be most beneficial if it focused on functional deficits (including disability, as defined by the Social Security Administration). Especially helpful would be studies that look at physical limitations related to short stature such as difficulties in using public restrooms due to the height of the toilet or difficulties in climbing stairs. Such studies may need to focus more on more extreme short stature (i.e. 5 to 7 standard deviations below the mean) to see a significant difference. Also studies on short children have tended to focus on functional ability and have not specifically evaluated functional deficits. For example, many studies evaluated intelligence in children with short stature but few have evaluated the proportion of short children who have mental retardation.

Question 3

To properly answer the question of whether a decreasing growth velocity may indicate worsening severity of disease, prospective, longitudinal studies are needed. Studies should be prospective to minimize bias related to treatment, severity of disease and to allow accurate and consistent measurement of disease severity and growth. Longitudinal studies will allow accurate measurement of growth velocity and avoid using height as a proxy. Studies are also needed of children at various ages including puberty to account for different growth rates at different ages. The severity of disease in such studies needs to be clearly defined. In classifying children by severity of disease, researchers should clearly define the severity categories and use well-established definitions of severity. The severity definitions should not be confounded by treatment or management decisions. Finally other factors that affect height should be controlled for such as parental height, age and socioeconomic status. This is also why growth velocity is the best way to evaluate growth in an individual since it tends to remove the influence of some of these confounding factors, especially parental height.