Via Facsimile and U.S. Mail
Mail Stop 6010

January 18, 2007

Mr. Frank Rizzo
President
XenaCare Holdings, Inc.
3275 W. Hillsboro Boulevard, Suite 300
Deerfield Beach, Florida 33442

Re: Xenacare Holdings, Inc.
Registration Statement on Form SB-2
Filed December 22, 2006
File No. 333-139595

Dear Mr. Rizzo:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

FORM S-1

General

1. Please provide us proofs of all graphic, visual, or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note we may have comments regarding these materials.

2. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not complete lists. If our comments are applicable to portions of the filing that we have not cited as examples, please make the appropriate changes in accordance with our comments.

3. To the extent practicable, the discussion in the prospectus should be updated to the most recent date practicable.

4. Please refer to Item 310(g)(2) of Regulation S-B and file an amended registration statement on Form SB-2 to include audited financial statements and related information as of and for the year ended December 31, 2006. In doing so, please also file as an exhibit an updated, signed consent report from your independent accountants.

Explanatory note

5. The note indicates a separate prospectus will be used by the selling shareholders, however the cover page of the prospectus indicates a combined prospectus will be used. Please advise or revise.

Cover page

6. Please revise to include a specific date for the termination of the offering.

7. Please expand the discussion to clarify that the offering price for the primary and secondary offering of the shares covered by the prospectus will remain $5 per share throughout the offering period. In the alternative, you may want to consider including a statement to the effect that the selling shareholders will sell at a price of $x.xx per share until your shares are quoted on the OTC Bulletin Board and thereafter at prevailing market prices or privately negotiated prices.

Prospectus Summary, page 1

8. Please expand the discussion to briefly indicate that you have never been profitable.

9. Please expand the discussion to define the terms “turn-key” and “physicians’ healthcare offices.”

10. Please revise your discussion to briefly explain why you changed the focus of your business and whether and the extent to which you anticipate continuation of the business activities of the XenaCare Clinical division. This should be discussed in greater detail in the “Business” section.

Public Market

11. Please clarify whether you intend to seek a trading listing or registration with an exchange or the over the counter market.

Summary Financial and Statistical Data

Results of Operations Data, page 3

12. Please revise the summary statement of operations data presented for the nine months ended September 30, 2006 to reflect that you incurred a net loss, rather than net income. Please also revise the "header" for the summary balance sheet data to reflect "balance sheet data."

Risk Factors, page 5

"We have a history of losses….," page 5

13. Please expand the discussion to quantify the amount of losses as of the end of the latest fiscal periods, the last fiscal year end, and cumulatively.

"Our shares of common stock are not traded….," page 5

14. Please expand the discussion to briefly indicate how investors may be able to sell their shares in the absence of a public market or quotation for their shares.

"Our common stock is covered by SEC "penny stock" rules….," page 5

15. Please expand the discussion to define the term "penny stock."

"Because there is a disparity in the price paid….," page 5

16. Please expand the discussion to also state that shareholders will contribute __% of the total amount to fund the registrant but will only own __% of the outstanding shares.

17. You state that if you raise gross proceeds of $250,000, the net tangible book value per common share will be $0.04 or 1.0% and if you raise gross proceeds of $150,000, the net tangible book value per common share will be $0.04 or 1.0%. Please explain why the net tangible book value per common share does not change as more shares are sold.

"Our offering price has been arbitrarily determined…..," page 6

18. Please revise the subheading to the extent it refers to dilution since this risk has already been described in the last risk factor on page 5.

"We do not anticipate paying dividends," page 6

19. Please expand the discussion to explain why the fact you are not paying dividends makes this offering speculative or risky.

"The use of proceeds in this offering is not specific and management has broad discretion to allocate such proceeds," page 6

20. We note your statement that you intend to allocate funds to development. However, the "Use of Proceeds" discussion on page 14 does not indicate that you intend to allocate funds to development. If you do not intend to allocate funds to the development of new products, delete the reference to "development" from this discussion. If you do intend to use some of the proceeds for development activities, please revise the use of proceeds to indicate the amount of funds you expect to allocate to development activities, identify the product candidates you expect to be developing and disclose how far along in the development process you expect to proceeds using the proceeds from this offering. Additionally, revise the "Business" section to describe your planned development activities.

"We rely on limited intellectual property protection…..," page 7

21. Please expand the discussion to clarify the extent to which you already have trademark protection or registration for any of your products and the extent to which you may have applied for such protection.

"If our products are alleged to be harmful…..," page 8

"Like other retailers, distributors and manufacturers of products that are ingested …..," page 8

"In the event that anyone alleges…..," page 8

"Due to the nature of our business…..," page 8

"Our business may be adversely affected by unfavorable publicity," page 9

22. These factors appear to describe substantially the same risk, i.e. risks as a result of adverse publicity associated with illness or other adverse effects from use of your products. To the extent practicable, please revise to combine related risks into one risk factor.

23. These risks could apply to any company in your industry or many other industries. Please expand the discussion to clarify how they may apply to you specifically and the extent to which you may have been affected by such risks in the past.

24. Please disclose your insurance coverage limitations.

Risk factors – general

25. Please consider whether the risk factor section should be expanded to include a discussion of risks pertaining to:

- The extent you which you are dependent upon certain members of management or key employees;
- In the absence of a minimum offering, all of the proceeds raised by the registrant may be utilized solely for offering expense and it is possible that none of the investors' funds will be utilized to enhance registrant's business or objectives;
- Whether the concurrent offering of shares by the selling shareholders may impact the registrant's own attempt to raise additional capital; and
- How the "overhang" of the shares to be sold by the selling stockholders may affect the development of a market for your common stock and the price at which the common stock may trade, if ever.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Results of Operations, page 15

26. Throughout the "Business" section of the document, beginning on page 16, you refer to having engaged in various development activities with respect to the formulation of your personal performance and lifestyle non-prescription pharmaceuticals (NPPs). You also disclose that part of the increase in your selling, general and administrative expense for the nine months ended September 30, 2006 relates to "the development of personal performance and lifestyle performance NPPs;" however, you do not separately discuss research and development expense in describing the changes in your operating results from period to period. Please tell us whether you have incurred research and development expense during the financial statement periods presented and revise your "Results of Operations" discussion accordingly.

27. Please revise your disclosure to clarify how the increase in inventory of personal performance and lifestyle performance NPPs affected your cost of revenue. It does not appear that an increase in inventory would affect cost of revenue until the inventory is sold. Please also tell us and disclose what "other" revenue of $100,000 represents for the nine months ended September 30, 2005.

28. Please revise your disclosure to clarify how you attribute an "increase in inventory" for the year ended December 31, 2005 to the year-over-year decrease in your total cost of revenues. Your explanation appears inconsistent with your December 31, 2005 balance sheet, which reflects a year-over-year decrease in inventory compared to December 31, 2004. In addition, it is generally unclear how a change in inventory without a corresponding sale would affect your cost of revenues.

29. Additionally, in all cases where you attribute a material change in financial statement amounts to more than one factor, please revise your disclosure to quantify the effect of each material factor on the related financial statement amount. For example, you attribute $1,326,911 of the increase in your selling, general and administrative expense from the period ended September 30, 2006 to several items, but do not separately quantify each despite the fact that the aggregate increase is material. We believe that Financial Reporting Codification Section 501.04 requires such quantification. Please also refer to Item 303(b)(v) of Regulation S-B and to the Commission's guidance regarding management's discussion and analysis of financial condition and results of operations (Release No. 33-8350).

Business, page 17

30. In multiple locations throughout your document you have described your development of your NPPs for personal performance and lifestyle performance products as a change in focus. Please revise to clarify what your plans are for the XenaCare SOC products. We note your statement on page 17 that you intend this business division will be restructured. As sales from these products currently account for substantially all of your revenue, your plans for this line of business and these products should be clearly explained

31. We note that you currently describe the XenaCare Soc products, the Personal and Lifestyle Performance products and the Replenishment Systems products as NPPs. The use of the term "non-prescription pharmaceutical" may lead many readers to believe that these products are drugs that may be sold over the counter. Please revise the descriptions of your products to identify your products that are considered dietary supplements. If any of your products are considered to be drugs that are available over the counter, please identify them. Additionally, explain your use of the term "non-prescription pharmaceutical" and how the

meaning of that term differs from the meaning of the term "over-the counter drug" or "over-the-counter pharmaceutical."

XenaCare SOC, page 17

32. Please expand the discussion to describe the specific relationship with the physicians, the nature of any agreements between the parties, and how you obtain your site of care locations. Your disclosure seems to imply that you acquire and operate physician offices, please clarify.

33. If a contract, or form of contract, exists with respect to these relationships, tell us why these contract(s) have not been filed as an exhibit.

34. You have stated that you provide a nurse at the site of care and that you currently operate in 22 physician offices. We also note your disclosure on page 21 that a significant portion of your labor force is engaged on an out-sourced basis. Do you depend on agreements with third parties to provide nursing personnel? If you do, please describe the material terms of these agreements and if any of these agreements are material on an individual basis, file them as exhibits to the registration statement. Please also consider whether risk factor disclosure is appropriate.

35. You state you anticipate the SOC division will be restructured. Please expand the discussion to indicate how you intend to restructure the division and the effect of the restructuring on your financial condition and results of operations.

36. Substantially all of your revenues have been generated from sales of XenaCor, XenaTri and XenaZyme, please revise your discussion to describe each of these products. We note your statement that these products "address key multi-factors in disease processes, such as atherosclerosis and diabetes." Please explain what you mean when you say that it means when you say that they "address" these factors and explain the difference between addressing these factors and treating these diseases.

Personal Performance Products, page 18

Replenishment Systems, page 18

37. You have stated in several places throughout your document that you refocused your business to development, marketing and sales of personal performance and lifestyle performance products. Additionally, the change in focus and development of these products is stated as the reason for the increased expenses since mid 2005. Please provide a discussion of your activities relating to this change in focus.

38. With respect to your personal performance products, please expand the discussion to describe the nature and extent of FDA regulation and approval, if any.

39. With respect to your replenishment systems, please clarify the relationship of these systems with the planned restructuring and your change of focus to the development of NPP formulations for personal performance and lifestyle performance products. In this regard, please explain the apparent redirection of your efforts away from a high revenue opportunity to focus on your performance products. We may have additional comments.

40. Please expand the discussion to indicate when Dr. Xenakis wrote "When Good Medicines do Bad Things to Healthy Bodies." In addition, please indicate when you commenced the marketing of replenishment products in independent pharmacies in New York and Florida.

Competition, page 19

41. Please expand the discussion to identify your principle competitors in the area of personal performance and replenishment products.

Government Regulation, page 20

42. Please describe the Stark laws and their impact on your XenaCare SOC division. Please consider providing a risk factor discussing the consequences if your compliance with the Stark laws is challenged. If you believe the Stark laws do not impact your business or risk factor discussion is not appropriate, please tell us the basis for your belief.

Management, page 22

43. For purposes of consistency, please expand the discussion pertaining to Mr. Story to describe generally his employment during the period of 1981 to April 2006.

44. Please note that when you file an amendment responding to these comments, you will be required to comply with the executive compensation rules. Please see "Executive Compensation and Related Person Disclosure," Release No. 333-8732A (August 29, 2006).

Selling shareholders, page 27

45. Please expand the discussion concerning the transfer of shares to Interactive Investment Group including when such transfer occurred, by whom, the consideration paid, and under what circumstances. Please describe the

relationship, if any, between the registrant and Interactive. In this regard, we note both companies are apparently located at the same address. We may have additional comments.

46. If there were additional shareholders who participated in the July 2005 rights offering, please explain supplementally why the shares they received in connection with such rights offering have not been registered.

47. Please expand the discussion to explain why these shares are the subject of a registration statement at this time as opposed to, for example, after completion of your initial public offering.

Plan of Distribution, page 30

48. Please expand the discussion to describe whether and how the concurrent offerings will be implemented and coordinated. For example, will both offerings occur at the same time, how will investors know whether they are purchasing shares from the registrant or selling shareholders, and will prospective investors have an opportunity to choose which shares they will purchase, i.e. shares the proceeds from which will flow to the registrant or shares the proceeds of which will not go towards the further development of registrant's business?

Notes to Consolidated Financial Statements (Unaudited), page F-6

49. Please tell us and disclose your accounting policy with respect to the 250,000 common shares issued in satisfaction of product development services not yet rendered as disclosed on page F-16. Tell us your GAAP basis for your accounting treatment. If your note receivable is from a related party, please clarify that fact in the notes to your unaudited financial statements.

Consolidated Statements of Changes in Shareholders' Equity, page F-10

50. Please tell us why the additional paid-in capital and share amounts do not correlate to your balance sheet as of December 31, 2005 on page F-2 or revise your financial statements accordingly.

Notes to Consolidated Financial Statements

Note 1.- Organization and Nature of Business, page F-12

51. We refer to your disclosure throughout the filing whereby you state that Xenacare Holdings, Inc. is the "successor" to XenaCare LLC, which you appear to have effected during June/July 2005 via the issuance of 800,000 shares of your common stock at $2/share for the aggregate membership interests in XenaCare

LLC. Please tell us what percentage ownership the XenaCare LLC membership interest holders had in Xenacare Holdings, Inc. upon the closing of that transaction. Tell us if there were other shareholders of Xenacare Holdings, Inc. prior to the transaction and, if so, tell us the number of shares they owned. Please tell us and disclose how you accounted for this transaction and your subsequent issuance of the 19,780,545 in restricted founders shares and why you present the financial statement information of XenaCare LLC for the periods preceding the incorporation of Xenacare Holdings, Inc. Reference the applicable authoritative accounting literature as necessary.

Note 2.- Summary of Significant Accounting Policies, page F-12

General

52. Throughout the "Business" section of the document, you refer to having engaged in various development activities with respect to the formulation of your personal performance and lifestyle non-prescription pharmaceuticals (NPPs); however, you do not separately disclose research and development expense on your statements of operations for any of the financial statement periods presented in your filing. Please tell us whether you have incurred any such expenses to date and revise your statements of operations accordingly to distinguish research and development expense from selling, general and administrative expense. Please also revise your disclosure herein to outline your accounting policy with respect to research and development expenses, including a description of the types of costs you incur. Refer to the provisions of SFAS No. 2.

Impairment of Long-Lived Assets, page F-13

53. Please revise your disclosure to indicate whether you have adopted and how you have applied the provisions of SFAS No. 144, which superseded SFAS No. 121 for financial statements issued for fiscal years beginning after December 15, 2001. Refer to paragraph C1 of SFAS No. 144. Additionally, please revise your disclosure in Management's Discussion and Analysis to indicate the circumstances surrounding management's decision to impair the $46,189 in net software assets at December 31, 2005.

Revenue Recognition, page F-13

54. Please expand your revenue recognition policy disclosure to clarify your consideration of the applicable authoritative literature under U.S. GAAP. For example, refer to SAB No. 104, Topic 13A.1. Tell us and disclose whether you accept product returns and clarify your accounting policy with expect to those returns pursuant to SFAS No. 48, as applicable. Please also clarify when you recognize revenue in your statements of operations, as it appears that you do not

do so until you have received payment from the customer. Finally, please clarify under "Accounts Receivable, Processor Reserves and Concentrations of Credit Risk" on page F-12 that you receive payment at the time of each sales transaction.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the

securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Amy Bruckner at (202) 551-3657 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact John Krug at (202) 551-3862, Suzanne Hayes, Branch Chief, at (202) 551-3675, or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Brian A. Pearlman, Esq.
Arnstein & Lehr LLP
200 East Las Olas Boulevard
Suite 1700
Fort Lauderdale, FL 33301